ANNUAL SCIENTIFIC REPORT 2018

IDIBAPS

ANNUAL SCIENTIFIC REPORT 2018

IDIBAPS

Published by:
IDIBAPS
Rosselló, 149-153
08036 Barcelona

Editorial board
IDIBAPS Scientific Coordination Office

Art direction & graphic design
Marc Montalà
www.marcmontala.com

Cover photo
© Irene Portolés

© IDIBAPS 2019
http://creativecommons.org/licenses/by-nc-sa/4.0/

Institució CERCA
Centres de Recerca de Catalunya

HR EXCELLENCE IN RESEARCH

ANNUAL SCIENTIFIC REPORT 2018

IDIBAPS

IDIBAPS

Institut
D'Investigacions
Biomèdiques
August Pi i Sunyer

ANNUAL
SCIENTIFIC REPORT
2018

INDEX

08 **Foreword IDIBAPS**
Director's foreword
About IDIBAPS
Staff
Research and innovation outputs
Funding
Institutional projects
Scientific facilities
Training
Communication and public engagement
News

56 **Area 1**
Biological aggression and response mechanisms

94 **Area 2**
Respiratory, cardiovascular and renal pathobiology and bioengineering

152 **Area 3**
Liver, digestive system and metabolism

218 **Area 4**
Clinical and experimental neuroscience

276 **Area 5**
Oncology and haematology

332 **Transversal research groups**

343 **Team and group leaders index**

ANNUAL
SCIENTIFIC REPORT
2018

FOREWORD IDIBAPS

© Patricia Solé

Director's foreword

It is a great privilege and satisfaction to present in this 2018 Annual Report the activities and outstanding achievements of all the people working at IDIBAPS. Our scientific contributions are improving the understanding of the diseases we study and are changing the way we practice medicine. Our commitment to society stimulates us to spread this knowledge and these values to citizens of all ages.

From the **institutional perspective**, I would like to highlight the work to culminate our new strategic plan (2018-2022), which was discussed by a broad representation of the research and management communities. An analysis of the current situation of biomedical research and the social and scientific challenges that we all face have led us to define the strategic objectives and actions that will serve as a roadmap for addressing the complex situation in which we work. Major effort will be dedicated to consolidating and improving excellence in translational research, attracting and retaining talent, particularly with the crucial task of generational renewal and the need to promote the clinician scientist career. We need to reinforce innovation and technology translation to attain the highest impact in clinical practice and optimize the resources to achieve the desired objectives. Next year will be crucial for the institutional fusion of IDIBAPS and Fundació Clínic per a la Recerca Biomèdica (SUMA project), which should facilitate research in the Clínic Barcelona Campus.

This year, the Board of Governors accepted the nomination of Prof José María Mato as new President of the Scientific Advisory Board (SAB), replacing Prof Jesús Ávila, who remains as member of the SAB. We welcome Prof Amparo Cano, Full Professor of the Autonomous University of Madrid and researcher at the Institute of Biomedical Research "Alberto Sols", and Dr Pura Muñoz, ICREA researcher at Pompeu Fabra University, as new members of the SAB,replacing Dr Guadalupe García-Tsa, Roberto Grozman, Bartolome Celli and Miguel Ángel Pozo. We are extremely grateful to all of them for their contributions to the success of IDIBAPS. The SAB is instrumental in guaranteeing the high standards in the scientific goals of the Institute.

This year, the Direction and Administration of IDIBAPS also made an extra effort to provide all the key performance Indicators (KPIs) required by the Instituto de Salud Carlos III Health Institute (ISCIII) to renew our accreditation as . In addition, we compiled all the documents requested by Fundación Científica de la Asociación Española Contra el Cáncer (FC-AECC) to obtain the new accreditation as a recognized center in Cancer Research.

The major strength of IDIBAPS continues to be the intense and excellent **scientific production** of its researchers, who in 2018 have maintained the high level reached in previous years. Of more than 1,100 original articles published, almost 350 (31%) were in first-decile journals and 170 (16%) in top journals (impact factor over 10). Our researchers also published 314 reviews and editorial articles, which underscores the high level of international leadership of our researchers. These excellent contributions encompass a broad spectrum of activities, from novel discoveries that are changing treatment standards to basic studies that improve understanding of the diseases in question. It would be difficult to summarize the tremendous amount of contributions, but some examples worthy of mention include the seminal contributions in the treatment of hepatocellular carcinoma, nosocomial pneumonia, cardiac arrhythmias, and the use of stem cells for the treatment of chronic inflammatory bowel disease. They have also provided important novel information on the evolution of diseases such as autoimmune encephalitis and hepatitis C. From a more basic perspective, our scientists have developed animal models for understanding liver fibrosis and treatment of cirrhosis, and have elucidated the genome-wide epigenomic modifications that shape the development of chronic lymphocytic leukemia. I should also mention the 39 international clinical guidelines, in which our researchers have participated, setting the standards for diagnostic procedures and therapeutic management of a variety of diseases–clear proof of the institutional spirit and commitment to translate research into clinical practice.

To sustain this production activity, IDIBAPS researchers have raised a significant amount of **national and international funds**, with more than 200 new projects from competitive and private sources. Indeed, IDIBAPS appears to be one of the national institutions with a better success rate in the ISCIII and H2020 programs. In 2018, two groups from IDIBAPS obtained a prestigious ERC Synergy grant in collaboration with two groups from CNAG-CRG to participate in the international project of the Human

Cell Atlas and study the chronic lymphocytic leukemia at a single cell level. Three groups obtained the highly competitive grants from the La Caixa Health program, two groups participate in major European consortiums funded by the FC-AECC, together with charities from the UK (CRUK) and Italy (AIRC) to study hepatocellular carcinoma and early manifestations of hematological disorders, and one group obtained a PO1 grant from the National Institutes of Health of the USA.

A special extraordinary achievement that deserves our deepest gratitude is the commitment and generosity of more than 1,600 donors raising more than one million euros, which has made it possible to initiate the immunotherapy program with the innovative CAR-T cell strategies in the project that we have named the ARI-project, after the lovely person who inspired all of us in this endeavor and who we all miss.

None of all this would have been possible without the commitment of our researchers. In 2018, we welcomed two new junior group leaders, Patricia Pérez-Galán as head of the group Microenvironment in lymphoma pathogenesis and therapy and Virginia Amador as head of the group Functional characterization of oncogenic mechanisms in lymphomagenesis. Our Junior Group Leader Iñaki Martín-Subero was also awarded an ICREA professor position. We should all be proud of the recognition of Dr Àlvar Agustí as the 2018 Clinical Biomedical Research awardee of the Lilly Foundation and of the inclusion of 13 of our researchers among the 1% most cited investigators according to Clarivate Analytics.

IDIBAPS is firmly committed to promoting the education of the young scientific community. In 2018, 96 students defended their theses. We have organized 41 institutional seminars and a special mention goes to our Stepping-Stone training program, which seeks to provide young researchers at IDIBAPS with the non-scientific tools and skills that are key to the development of their careers. One of the major difficulties we have continued to face in 2018 is limited institutional funding for renewing and improving our **support infrastructure**. Nevertheless, IDIBAPS core facilities are making a tremendous effort to help our scientists reach their objectives. The activity of our five core facilities has increased significantly, providing almost 600 services. In 2018, the Biobank, the KTT and the Clinical Trials Unit, were recognized by the ISCIII as key participants in the respective national networks, Red Nacional de Biobancos, ITEMAS and SCREN. Of particular importance was the grant obtained from the Spanish Ministry of Science, Innovation and Universities to renew our informatics infrastructure. This support will allow us to meet the needs of our groups and expand the power of the many projects developed in our institution on the generation and analysis of biomedical big data.

Science needs to reach and permeate our **society**. We have developed new initiatives to reinforce our commitment in this regard. In 2018, we organized 48 activities that reached 2,131 people of all ages, from 4 years old in the Science Summer Camps and programs for young students who want to follow a scientific career, to the most elderly attending the talks at the Urgell Civic Center. It is notable that some of these activities received competitive funding from Barcelona City Council. We also began construction of the **new website**, which will improve the visibility of our researchers and of the institution. This new website will be linked to the new website of Hospital Clínic de Barcelona and the Portal Clínic, to reinforce collaboration between the two institutions.

We are well prepared to face the challenges that 2019 will bring us. Of particular importance is the continuing implementation of our Strategic Plan in a context of social change and economical constraint that, conditions that, we must acknowledge, are jeopardizing the high levels of scientific achievement not only of IDIBAPS but of the entire scientific community in our country. Our commitment as an institution and as individual researchers is unquestionably pushing science forward. Our greatest reward is to experience for ourselves how this work improves the life of our patients. IDIBAPS will continue to be an excellent benchmark center in this endeavor.

Elías Campo
Director

About IDIBAPS

The Institut d'Investigacions Biomèdiques August Pi i Sunyer (IDIBAPS) is a biomedical research institute of excellence. It combines clinical and basic research in order to accelerate the translation of the knowledge to the benefit of the patients. IDIBAPS is a CERCA (Research Centers of Catalonia) center and was first accredited as Instituto de Investigación Sanitaria (Instituto de Salud Carlos III) in 2009.

Founded in 1996, it is a public consortium formed by the Generalitat de Catalunya, Hospital Clínic de Barcelona, School of Medicine and Health Sciences of the University of Barcelona and, as an associated partner, the CSIC's Barcelona Biomedical Research Institute.

The Fundació Clínic per a la Recerca Biomèdica (FCRB) is a key institution to understand the functioning of IDIBAPS as a whole. It is a research foundation that provides researchers with administrative and management support. The IDIBAPS research community is composed of more than 1,500 people, grouped into 107 groups organized across 5 different areas of knowledge.

AREA 1
Biological aggression and response mechanisms

AREA 2
Respiratory, cardiovascular and renal pathobiology and bioengineering

AREA 3
Liver, digestive system and metabolism

AREA 4
Clinical and experimental neuroscience

AREA 5
Oncology and haematology

Additionally, 3 transversal groups perform research in Primary Care, Nursing, Pharmacology and Clinical Trials.

Scientific breakthroughs are never the result of chance. They are the fruit of long-term commitments that involve not only researchers, but also society as a whole.

IDIBAPS is a consortium that has made such a commitment, to encourage translational research, innovation and technological progress in the field of biomedicine, through different programmes addressing diseases with a high prevalence, morbidity and mortality in our society.

The data presented in this Annual Scientific Report details the ever-growing scientific achievements made by IDIBAPS investigators and their capacity for attracting public and private funding. This enormous potential for capturing resources and their translation into applied results for clinical practice constitute the best guarantee for securing the future of the Institute and its impact on society and industry.

Organisation chart

IDIBAPS requires a solid administrative infrastructure to support the state of the art research developed by its researchers.

IDIBAPS works together with the Fundació Clínic per a la Recerca Biomèdica (FCRB) to ensure efficiency and quality in the services offered to its research staff, in particular, in the areas of research project management and administration.

Elías Campo, MD PhD
Director of IDIBAPS and of FCRB

Gemma Pedrola
Secretary
direccio@idibaps.org
T. +34 93 312 94 11
CEK, mezzanine floor

Marga Nadal, PhD
Director of Strategy

Arantxa Fernández
Secretary
arantxa.fernandez@idibaps.org
T.+34 93 227 18 30
CEK, mezzanine floor

Gemma Llaverías
Head of the Scientific Coordination Office

Elisenda Vendrell
Head of the KTT Office

Daniel Arbós
Head of the Communication Office

Gemma Pascual
Head of the Institutional Actions Office

Sandra Piquer
Coordinator of IDIBAPS laboratories

Aina Rodríguez
Head of IDIBAPS core facilities and Biobank coordinator

Rosa Vilavella
General Manager

Laura Lopera
Secretary
llopera@clinic.cat
T. +34 93 227 18 42
CEK, mezzanine floor

Marta Fernández
Head of the Human Resources Office

Sònia Meléndez
Head of the Accounting and Finance Office

Ernest Costa
Head of the TIC Office

Juan Suero
Head of the Purchasing and General Services Office

Guillem Masdeu
Head of the Legal Office

RESEARCH MANAGEMENT OFFICE
Sandra Pérez
Head of the Pre-Award Office for National Grants

Juan Abolafia
Head of the Pre-Award Office for International Grants

Judit Martínez
Head of the Post-award Grants Office

Governance and structure

Governance is exercised through the following boards and committees:

THE BOARD OF GOVERNORS

Conformed by representatives of the different institutions of the consortium, supervises IDIBAPS actions, budget and results. Its mission is to take scientific decisions in consultation with the Scientific Advisory Board, and to evaluate the implementation of the strategic plan.

CHAIRMAN
Joan Gómez Pallarés
General Director, Direcció General de Recerca, Departament d' Empresa i Coneixement. Generalitat de Catalunya

VICE-CHAIRMAN
Josep Maria Campistol
General Manager, Hospital Clínic de Barcelona

BOARD MEMBERS
Albert Barberà
General Director, Direcció General de Recerca I Innovació en Salut, Departament de Salut, Generalitat de Catalunya

Domènec Espriu
Research Vice-Dean, Universitat de Barcelona

Lluís Calvo
Institutional Coordinator, Consejo Superior de Investigaciones Científicas (CSIC) in Catalonia

Francesc Cardellach
Dean of the School of Medicine, Universitat de Barcelona

Elías Campo
Director, IDIBAPS

Antoni Castells
Medical Director, Hospital Clínic de Barcelona

Roser Cortés
Director, Instituto de Investigaciones Biomédicas de Barcelona (IIBB-CSIC)

SECRETARY
Lluís Rovira
Director, CERCA

THE SCIENTIFIC ADVISORY BOARD

External leading scientists chosen by the Board of Governors, compose this board to advise IDIBAPS on the different scientific issues affecting its activities. These leading scientists have in-depth knowledge of the Spanish, European and/or American R+D+I systems as they hold positions in prestigious research institutions.

CHAIRMAN
José María Mato
CIC bioGUNE, Bilbao

BOARD MEMBERS
Jesús Ávila
Centro de Biología Molecular Severo Ochoa (CBM), Madrid

Fernando Arenzana-Seisdedos
Institut Pasteur, Shangai, China

Amparo Cano
Instituto de Investigaciones Biomédicas "Alberto Sols", CSIC-UAM, Madrid

Francisco Fernández Avilés
Hospital Gregorio Marañón, Madrid

Ramon Gomis
IDIBAPS, Barcelona

José López Barneo
Instituto de Biomedicina de Sevilla (IBiS)

Carlos López Otín
Universidad de Oviedo

Carlos Macaya
Hospital Clínico San Carlos, Madrid

Óscar Marín
King's College London, UK

Federico Mayor
Centro de Biología Molecular Severo Ochoa, Madrid

Pura Muñoz
ICREA, Universitat Pompeu Fabra

Angel Pellicer
NYU School of Medicine, New York, US

Ciril Rozman
Hospital Clínic de Barcelona, Universitat de Barcelona

Jesús San Miguel
Hospital Clínico de Salamanca

Francisco Sánchez-Madrid
Hospital La Princesa, Madrid
Eugenio Santos
Centro de Investigación del Cáncer (CIC), Salamanca

Antonio Vidal-Puig
School of Clinical Medicine, University of Cambridge, UK

THE STEERING COMMITTEE

Which is responsible for the supervision of the progress achieved by the five IDIBAPS research areas, the recruitment of new scientists within the framework of different research programmes, and the evaluation of IDIBAPS training programmes.

CHAIRMAN
Elías Campo
Director

MEMBERS
Neus Agell
Vice-Dean of School of Medicine and Health Sciences
Universitat de Barcelona

Cristina Fillat
Group Leader
Gene therapy and cancer

Joan Carles García-Pagán
Research Deputy Director (HCB)

Josep Maria Llovet
Group Leader
Translational research in hepatic oncology

Anna Planas
Coordinator of the IDIBAPS Research Area 4

Rosa Vilavella
General Manager

SECRETARY
Marga Nadal
Strategy Director

THE INTERNAL ADVISORY COMMITTEE

IDIBAPS researchers representing all research areas advise the IDIBAPS director to implement the strategic decisions taken by the Board of Governors.

CHAIRMAN
Elías Campo
Director

STEERING COMMITTEE REPRESENTATIVES
Josep Maria Llovet
Group Leader
Translational research in hepatic oncology

Joan Carles García-Pagán
Research Deputy Director
Hospital Clínic de Barcelona

INSTITUTIONAL REPRESENTATIVES
Joan Cid
Physicians' Representatives
Hospital Clínic de Barcelona

Guadalupe Mengod
Deputy Director
Instituto de Investigaciones Biomédicas de Barcelona (IIBB-CSIC)

AREA REPRESENTATIVES
AREA 1
Josep Maria Miró, Coordinator
Maria Cinta Cid, Representative

AREA 2
Ramón Farré, Coordinator
Joan Albert Barberà, Representative

AREA 3
Jordi Bruix, Coordinator
Francesc Balaguer, Representative

AREA 4
Anna Planas, Coordinator
Josep Dalmau, Representative

AREA 5
Dolors Colomer, Coordinator
Aleix Prat, Representative

TRAINING COORDINATOR
Neus Agell
Vice-Dean of School of Medicine and Health Sciences
Universitat de Barcelona

GUEST MEMBERS
Montserrat Batlle
Works Committee President

Jaume Bosch
Researcher
Hepatic hemodynamics and portal hypertension

Francesc Cardellach
Dean of the School of Medicine
Universitat de Barcelona

Fàtima Crispi
Researcher
Fetal and perinatal medicine

Roser Cortés
Director
Instituto de Investigaciones Biomédicas de Barcelona (IIBB-CSIC)

Josep M. Gatell
National Coordinator of the RETIC on AIDS

Francesc Graus
Cellex building representative

Anna Novials
Group Leader
Pathogenesis and prevention of diabetes

Carmen Peralta
Group Leader
Liver transplantation and graft viability

Azucena Salas
Researcher
Inflammatory bowel disease (IBD)

Antonio Sisó
CAPSBE, Primary Care
Research Coordinator

Gisela Sugranyes
Junior Group Leader
Multimodal neuroimaging in high risk and early psychosis

SECRETARY
Marga Nadal
Strategy Director

The Clinical Research Ethics Committee (Comitè d'Ètica d'Investigació amb Medicaments - CEIm) of the HCB
ceic@clinic.cat

The Animal Experimentation Ethics Committee (Comitè d'Ètica d'Experimentació Animal - CEEA) of the UB

Biosafety Committee (CBS)
bioseguretat@idibaps.org

Core Facilities Committees
aina.rodriguez@idibaps.org

Mentoring Committee

Training Committee
stepping.stone@idibaps.org

Clinicians and Research Committee

Ombuds Committee
Anna Novials
Francesca Pons
Marc Roda
Joan Serratosa
ombudscomittee@idibaps.org

Works council
comite.empresa@idibaps.org
cefcrb@clinic.cat

Research areas, teams and groups

AREA 1.
BIOLOGICAL AGRESSION AND RESPONSE MECHANISMS

1.1. Inflammatory joint diseases (IJDs)
1.2. Systemic autoimmune diseases
- *1.2.1. Systemic vasculitis*

1.3. Infectious diseases and AIDS
- *1.3.1. AIDS and HIV Infection*
- *1.3.2. Endocarditis. Cardiovascular infections. Experimental Model*
- *1.3.3. Infections in solid-organ transplant recipients*
- *1.3.4. Nosocomial infection study group*

1.4. Immune receptors of the innate and adaptive system
1.6. Immunogenetics of the autoinflammatory response
1.7. Emergencies: processes and pathologies
1.8. Molecular and cellular bases of inflammation
Structural and biological mass spectrometry
1.9. Ocular inflammation: clinical and experimental studies

AREA 2.
RESPIRATORY, CARDIOVASCULAR AND RENAL PATHOBIOLOGY AND BIOENGINEERING

2.1. Atherosclerosis, coronary disease and heart failure
2.2. Arrhythmias, resynchronization and cardiac imaging
- *2.2.1. Vascular cell biology*
- *2.2.2. Arrythmias and physical activity*
- *2.2.3. Atrial fibrillation biopathology and therapy*
- *2.2.4. Cardiac imaging*

2.3. Nephro-urological diseases and kidney transplantation
- *2.3.1. Translational research in posttrasplant neoplasia*

2.4. Cardiovascular, nutrition and aging unit
2.5. Respiratory biophysics and bioengineering
2.6. Applied research in infectious respiratory diseases, critically ill patients and lung cancer
- *2.6.1. Breathing disturbances in sleep*

2.7. Physiopathological mechanisms of respiratory illnesses
- *2.7.1. Translational research in pulmonary vascular diseases: cell proliferation and apoptotic mechamism in pulmonary arterial hypertension.*

2.8. Clinical and experimental respiratory immunoallergy
- *2.8.1. Sinofasal inflammatory and olfactory research group (INGENIO)*

2.9. Inflammation and repair in respiratory illnesses
2.10. Genetic and urological tumors

AREA 3.
LIVER, DIGESTIVE SYSTEM AND METABOLISM

3.1. Gynecological endocrinology and human reproduction
3.2. Fetal and perinatal medicine
3.3. Viral, toxic and metabolic hepatopathies
3.4. Mechanisms of liver disease and complications of cirrhosis
- *3.4.1. Inflammation and liver disease*
- *3.4.2. Chronic liver diseases: molecular mechanisms and clinical consequences*
- *3.4.3. Translational research in new therapeutic and diagnostic strategies in liver diseases*
- *3.4.4. Liver plasticity and tissue repair*

3.5. Hepatic oncology
- *3.5.1. Translational research in hepatic oncology*
- *3.5.2. Hepatocelular signaling and cancer*

3.6. Hepatic hemodynamics and portal hypertension. Hemorrhage from ruptured gastroesophageal varices
- *3.6.1. Angiogenesis in liver diseases*
- *3.6.2. Regulation of liver microcirculation in cirrhosis and hepatic vascular diseases*
- *3.6.3. Vascular biology of the liver*

3.7. Inflammatory bowel disease
3.8. Cholestasis and bone pathology
- *3.8.1. Cholestasis*
- *3.8.2. Bone metabolic disease*

3.9. Mitochondrial regulation of cell death and steatohepatitis
3.10. Liver transplantation and graft viability
- *3.10.1. Protective strategies against hepatic ischemia-reperfusion injury*

3.11. Gastrointestinal and pancreatic oncology
- *3.11.1. Genetic predisposition to gastrointenstinal cancer*
- *3.11.2. Gene therapy and cancer*

3.12. Inherited metabolic diseases
3.13. Genomic programming of beta cells and diabetes
3.14. Diabetes: metabolic and molecular networks
- *3.14.1. Neuronal control of metabolism (NEUCOME)*
- *3.14.2 Pancreatic islets: biomarkers and function*
- *3.14.3. Endocrine disorders: crosstalk between molecular and metabolic determinants*
- *3.14.4. Pathogenesis and treatment of autoimmunity*
- *3.14.5. Translational research in diabetes, lipids and obesity*

3.15. Pathogenesis and prevention of diabetes

AREA 4.
CLINICAL AND EXPERIMENTAL NEUROSCIENCE

4.1. Neuropharmacology and experimental neuropathology
- *4.1.1. Systems neuropharmacology*
- *4.1.2. Molecular neuropharmacology*
- *4.1.3. Cellular neurobiology*
- *4.1.4. Neurotoxicity and neurodegeneration mechanisms*

4.2. Brain ischemia: clinical and experimental studies

4.3. Parkinson disease and other neurodegenerative movement disorders: clinical and experimental research

4.4. Neurophysiology and functional studies of the nervous system
- *4.4.1. Neurophysiology*

4.5. Muscle research and mitochondrial function

4.6. Pathophysiology and treatment of neurodegenerative disorders

4.7. Biological bases of psychiatric disorders and nuclear psychiatry
- *4.7.1. Schizophrenia*
- *4.7.2. Child and adolescent psychiatry and psychology*
- *4.7.3. Addictions group*
- *4.7.4. Multimodal neuroimaging in high risk and early psychosis*
- *4.7.5. Bipolar disorders*

4.8. Neuropsychology

4.9. Systems neuroscience
- *4.9.1. Theoretical neurobiology of cortical circuits*
- *4.9.2. Cortical circuit dynamics*

4.10. Clinical and experimental neuroimmunology
- *4.10.1. Pathogenesis of autoimmune neuronal disorders*
- *4.10.2. Advanced imaging in neuroimmunological diseases (IMAGINEM)*
- *4.10.3. Pathogenesis and new treatments in multiple sclerosis*

4.11. Neurobiology unit

4.12. Alzheimer's disease and other cognitive disorders

AREA 5.
ONCOLOGY AND HAEMATOLOGY

5.1. Oncological molecular pathology
- *5.1.1. Molecular pathology of lymphoid neoplasms*
- *5.1.2. Molecular pathology of solid tumors*
- *5.1.3. Transcriptional regulation of gene expression*
- *5.1.4. Biomedical epigenomics*
- *5.1.5. Functional characterization of oncogenic mechanisms in lymphomagenesis*

5.2. Diagnosis and therapy in oncology

5.3. Molecular biology of reproduction and development

5.4. Genetics

5.5. Melanoma: imaging, genetics and immunology

5.6. Hematopoietic progenitor cell transplantation

5.7. Hematological oncology
- *5.7.1. Myeloma and other monoclonal gammapathies*
- *5.7.2. Myeloid neoplasmas*
- *5.7.3. Mechanisms of progression in monoclonal gammopathies*
- *5.7.4. Lymphoid neoplasms*

5.8. Physiopathology and molecular bases in hematology
- *5.8.1. Microenvironment in lymphoma pathogenesis and therapy*

5.9. Hemotherapy - hemostasis

5.10. Molecular and translational oncology

5.11. Cell proliferation and signaling

5.12. Cell compartments and signalling
- *5.12.1. Signal transduction and cell cycle*
- *5.12.2. Endocytosis and intracellular trafficking of proteins and cholesterol*
- *5.12.3. Lipid trafficking and disease*

5.13. Translational genomics and targeted therapeutics in solid tumors

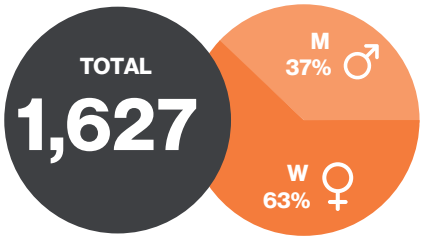
TRANSVERSAL RESEARCH GROUPS

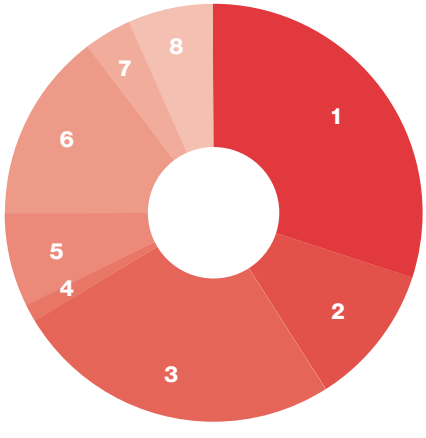
T.1. Primary healthcare transversal research group

T.2. Research in nursing

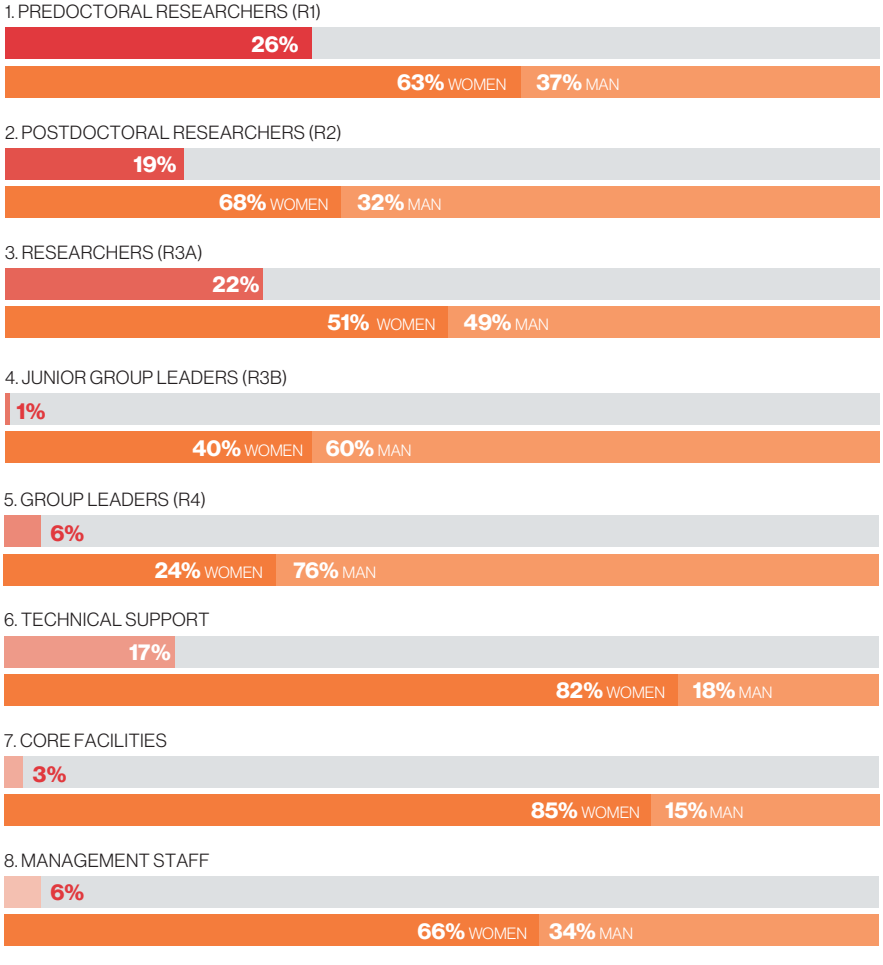
T.3. Clinical pharmacology

Staff





1. PREDOCTORAL RESEARCHERS (R1)
2. POSTDOCTORAL RESEARCHERS (R2)
3. RESEARCHERS (R3A)
4. JUNIOR GROUP LEADERS (R3B)
5. GROUP LEADERS (R4)
6. TECHNICAL SUPPORT
7. CORE FACILITIES
8. MANAGEMENT STAFF



Recruitment and retention of talent programs

INSTITUCIÓ CATALANA DE RECERCA I ESTUDIS AVANÇATS (ICREA)

ICREA, the Catalan Institute for Research and Advanced Studies, is a foundation supported by the Catalan Government that recruits top scientists for the Catalan R&D system. Currently IDIBAPS has six ICREA Research Professors:

Josep Dalmau
Pathogenesis of autoimmune neuronal disorders

Josep M. Llovet
Translational research in hepatic oncology

José Ignacio Martín-Subero
Biomedical epigenomics

Albert Pol
Lipid trafficking and disease

Antonio Postigo
Transcriptional regulation of gene expression

María Victoria Sánchez-Vives
Systems neuroscience

IDIBAPS 80/20 PROGRAMME

With the final mission to strengthen translational clinical research IDIBAPS launched this program in 2013. The 80/20 researchers are consolidated clinical investigators from Hospital Clinic and IDIBAPS with no reductions in the care load due to management positions within the Hospital organization and strategic research projects to develop. The beneficiaries of this program release 30 hours devoted to weekly care activities (80% of a full-time dedication) to dedicate to research. It consists in a 3-year position extendable for additional 2 years prior positive evaluation.

Maria Cinta Cid
Systemic vasculitis

Josep M. Miró
Endocarditis. Cardiovascular infections. Experimental model

IDIBAPS 50/50 PROGRAMME

With the final mission to strengthen translational clinical research, IDIBAPS and Hospital Clinic of Barcelona started in 2012 this pioneering program designed to facilitate the combination of research and clinical activity. The 50/50 researchers are young medical staff specialists (MD) with a strong research career (PhD) built up, at least in part, in the most prestigious foreign research centers. These junior group leaders are called to be the future clinical research group leaders that this institution will need.

Felicia Alexandra Hanzu
Endocrine disorders: crosstalk between molecular and metabolic determinants

Ignacio Revuelta
Translational research in posttransplant neoplasia

Isabel Blanco
Translational research in pulmonary vascular diseases: cell proliferation and apoptotic mechanisms in pulmonary arterial hypertension

Gisela Sugranyes
Multimodal neuroimaging in high risk and early psychosis

Carlos Fernández de Larrea
Mechanisms of progression in monoclonal gammopathies

Eduard Guasch
Arrhythmias and physical activity

Sara Llufriu
Advanced imaging in neuroimmunological diseases (ImaginEM)

PHD4MD PROGRAMME

The health system requires an increasing number of physician-scientists with a deep understanding of research and medicine to ensure that discoveries in fundamental research can reach clinical practice. The objective of the PhD4MD programme is to provide medical doctors with advanced hands-on training on the latest fields of research and cutting-edge technologies. Ultimately, the medical professionals enrolled in the program will obtain their PhD title from one of the associated Universities.
Medical professionals who enroll in the PhD4MD programme will carry out a project in translational research jointly coordinated by a basic and a clinical research investigator, belonging to one of the four participating institutions: the CRG (Centre for Genomic Regulation), the IRB Barcelona, the IDIBAPS and the VHIR (Vall d'Hebron Research Institute).
The PhD4MD programme was launched for the first time in 2015 and 2 new positions were awarded in 2018. During this year, 7 awardees of the programme have been working at IDIBAPS.

Juan Miguel Cejalvo

PROJECT
Uncovering the molecular and cellular mechanisms of metastatic dormancy in luminal breast cancer.
PRINCIPAL INVESTIGATORS
Aleix Prat (IDIBAPS) and Roger Gomis (IRB Barcelona)

Csaba Fehér

PROJECT
Systems vaccinology to guide effective and safe hiv therapeutic vaccines.
PRINCIPAL INVESTIGATORS
Felipe García / Mireia Arnedo (IDIBAPS) and Patrick Aloy (IRB Barcelona)

Elisa Pose

PROJECT
A systems biology approach to understanding the molecular pathogenesis of chronic liver disease progression.
PRINCIPAL INVESTIGATORS
Pere Ginés (IDIBAPS) and Patrick Aloy (IRB Barcelona)

Irene López

PROJECT
Splicing factor mutations in hematological malignancies.
PRINCIPAL INVESTIGATORS
Dolors Colomer (IDIBAPS) and Juan Valcárcel (CRG)

Alexandra Pérez

PROJECT
Multiple system atrophy: synuclein regulation and biomarkers discovery.
PRINCIPAL INVESTIGATORS
M José Martí (IDIBAPS) and Gian Tartaglia (CRG)

Francisco Aya

PROJECT
Targeting of BRAF mutant mRNA alternative splicing in melanoma.
PRINCIPAL INVESTIGATORS
Ana Arance (IDIBAPS) and Juan Valcárcel (CRG)

Fernanda Inés Hernández

PROJECT
Cellular senescense in fibrosing interstitial lung diseases
PRINCIPAL INVESTIGATORS
Jacobo Sellarés (IDIBAPS) and Manuel Serrano (IRB)

Research and innovation outputs

Scientific publications

Publication output and indicators.

	OUTPUT	TOTAL IF	MEAN IF	%Q1	%D1
Original articles	**1.111**	**7.237**	**6,51**	**67%**	**31%**
Reviews	253	1.534	6,06	49%	28%
Editorials	61	466	7,64	67%	44%
Clinical guidelines	39	261	6,69	54%	38%
Case reports	40	136	3,40	45%	10%
Letters	96	993	10,34	70%	51%
Consortium publications	41	616	15,02	88%	68%
TOTAL	**1.641**	**11.242**	**6,85**	**64%**	**33%**

FIGURE LEGEND

Output
Total number of documents published in scholarly journals indexed in the ISI Web of Science.

Total IF
Accumulated impact factor of all the scientific publications.

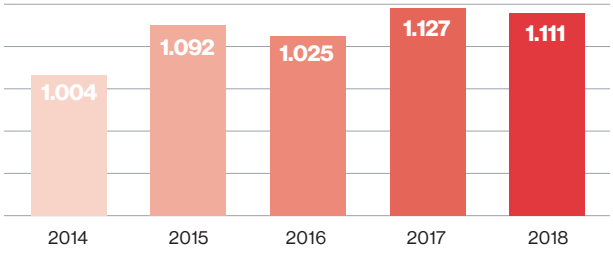
Mean IF
Mean impact factor of all the scientific publications.

% Q1
% of publications published in journals ranked in the first quartile (top 25%) of their category as ordered by the 2017 Journal Citation Reports.

% D1
% of publications published in journals ranked in the first decile (top 10%) of their category as ordered by the 2017 Journal Citation Reports.

Evolution of the total number of original articles (A) and the total number of original articles per area (B).

A) Number of original articles



B) Number of original articles per area

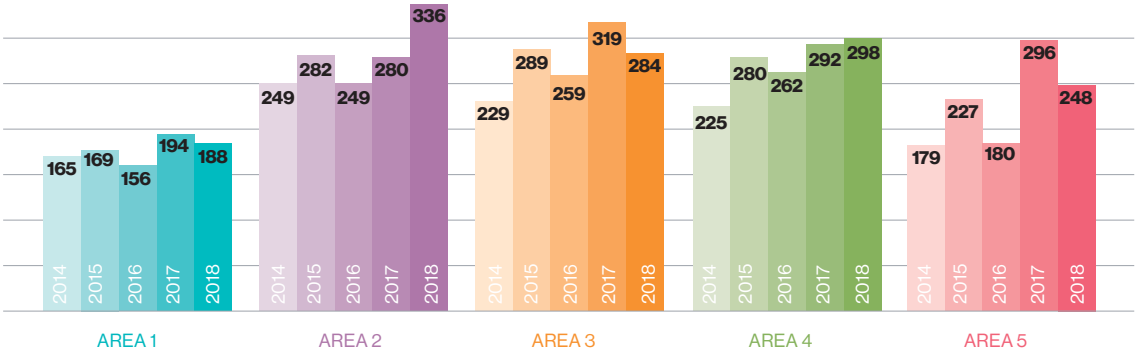
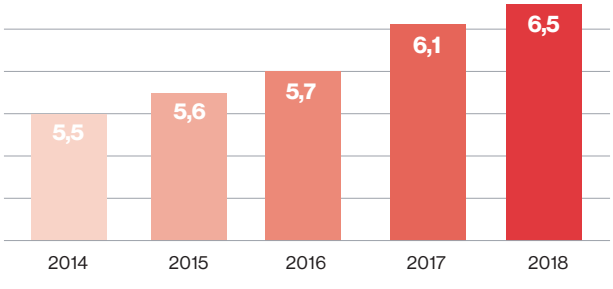


FIGURE LEGEND

Only original articles were taken into consideration. Publications resulting from collaboration between teams from different areas have been counted once for each area, so the sum of the articles per area is higher than the total.

Evolution of the mean IF (A) and % Q1 (B).

A) Mean IF



B) % Q1

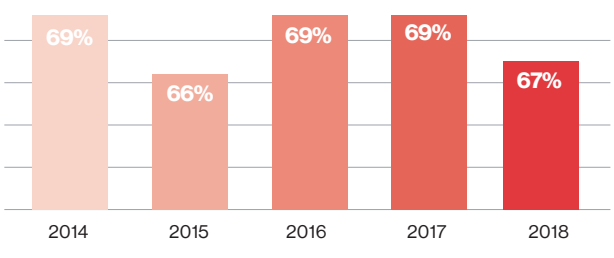


FIGURE LEGEND

Only original articles were taken into consideration.
%Q1: % of publications published in journals ranked in the first quartile (top 25%) of their category as ordered by the 2017 Journal Citation Reports.

Original articles in the highest impact factor journals (IF>10).

170

Number of original articles in IF>10 journals.
(see table A).

54

Originals with IDIBAPS main contribution.
(see table B).

TABLE A

JOURNAL	IF	TOTAL ORIGINAL ARTICLES
New England journal of medicine	79,26	**6**
Lancet	53,254	**3**
Jama-journal of the american medical association	47,661	**3**
Nature	41,577	**1**
Science	41,058	**1**
Lancet oncology	36,421	**5**
Nature medicine	32,621	**1**
The lancet neurology	27,144	**4**
The lancet infectious diseases	25,148	**2**
European heart journal	23,425	**4**
Cell stem cell	23,29	**1**
The lancet. Respiratory medicine	21,466	**1**
Jama oncol	20,871	**1**
Gastroenterology	20,773	**7**
Cell metabolism	20,565	**1**
Nature cell biology	19,064	**1**
Circulation	18,881	**6**
European urology	17,581	**1**
Gut	17,016	**6**
Journal of the american college of cardiology	16,834	**7**
Science translational medicine	16,71	**1**
Jama psychiatry	16,642	**5**
American journal of respiratory and critical care medicine	15,239	**5**
Blood	15,132	**5**
Journal of hepatology	15,04	**11**
Intensive care medicine	15,008	**2**
Neuron	14,319	**1**
Annals of the rheumatic diseases	12,35	**2**
Hepatology	14,079	**12**
Annals of oncology	13,93	**4**
Acs nano	13,709	**1**
Diabetes care	13,397	**2**
American journal of psychiatry	13,396	**1**
J Allergy clin immunol pract	13,258	**1**
Journal of clinical investigation	13,251	**3**
Alzheimer's and dementia	12,764	**5**
Nature communications	12,353	**5**
Annals of the rheumatic diseases	12,35	**1**
European respiratory journal	12,244	**8**
Nano letters	12,08	**1**
Molecular psychiatry	11,64	**1**
Journal of pineal research	11,613	**1**
Nucleic acids research	11,561	**1**
Science advances	11,511	**1**
Jama neurology	11,46	**1**
Journal of the national cancer institute	11,238	**1**
Autophagy	11,1	**1**
Brain; A journal of neurology	10,848	**2**
The lancet haematology	10,698	**2**
European journal of heart failure	10,683	**3**
Annals of neurology	10,25	**2**
Jacc: cardiovascular imaging	10,247	**1**
American journal of gastroenterology	10,231	**3**
Clinical cancer research	10,199	**6**
Leukemia	10,023	**7**
TOTAL		**170**

TABLE B

AUTHORS	TITLE	REFERENCE	IF	TEAMS INVOLVED
Estruch R, Ros E, Salas-Salvadó J, Covas MI, Corella D, Arós F, Gómez-Gracia E, Ruiz-Gutiérrez V, Fiol M, Lapetra J, Lamuela-Raventos RM, Serra-Majem L, Pintó X, Basora J, Muñoz MA, Sorlí JV, Martínez JA, Fitó M, Gea A, Hernán MA, Martínez-González MA, PREDIMED Study Investigators.	**Primary Prevention of Cardiovascular Disease with a Mediterranean Diet Supplemented with Extra-Virgin Olive Oil or Nuts.**	Journal New england journal of medicine. 378(25):e34	**79,26**	1.03 / 2.04 / 4.08
Rimassa L, Assenat E, Peck-Radosavljevic M, Pracht M, Zagonel V, Mathurin P, Rota Caremoli E, Porta C, Daniele B, Bolondi L, Mazzaferro V, Harris W, Damjanov N, Pastorelli D, Reig M, Knox J, Negri F, Trojan J, López López C, Personeni N, Decaens T, Dupuy M, Sieghart W, Abbadessa G, Schwartz B, Lamar M, Goldberg T, Shuster D, Santoro A, **Bruix J.**	**Tivantinib for second-line treatment of MET-high, advanced hepatocellular carcinoma (METIV-HCC): a final analysis of a phase 3, randomised, placebo-controlled study.**	Lancet oncology. (18):30146-3	**36,421**	3.05
Beekman R, Chapaprieta V, Russiñol N, Vilarrasa-Blasi R, Verdaguer-Dot N, Martens JHA, Duran-Ferrer M, Kulis M, Serra F, Javierre BM, Wingett SW, Clot G, Queirós AC, Castellano G, Blanc J, Gut M, Merkel A, Heath S, Vlasova A, Ullrich S, Palumbo E, Enjuanes A, Martín-García D, Beà S, Pinyol M, Aymerich M, Royo R, Puiggros M, Torrents D, Datta A, Lowy E, Kostadima M, Roller M, Clarke L, Flicek P, Agirre X, Prosper F, Baumann T, Delgado J, López-Guillermo A, Fraser P, Yaspo ML, Guigó R, Siebert R, Martí-Renom MA, Puente XS, López-Otín C, Gut I, Stunnenberg HG, Campo E, **Martin-Subero JI.**	**The reference epigenome and regulatory chromatin landscape of chronic lymphocytic leukemia.**	Nature medicine. 24(6):868-880	**32,621**	5.01 / 5.07 / 5.08
Armangue T, Spatola M, Vlagea A, Mattozzi S, Cárceles-Cordon M, Martinez-Heras E, Llufriu S, Muchart J, Erro ME, Abraira L, Moris G, Monros-Giménez L, Corral-Corral Í, Montejo C, Toledo M, Bataller L, Secondi G, Ariño H, Martínez-Hernández E, Juan M, Marcos MA, Alsina L, Saiz A, Rosenfeld MR, Graus F, **Dalmau J**, Spanish Herpes Simplex Encephalitis Study Group.	**Frequency, symptoms, risk factors, and outcomes of autoimmune encephalitis after herpes simplex encephalitis: a prospective observational study and retrospective analysis.**	The lancet neurology. 17(9):760-772	**27,144**	1.06 / 4.10
Torres A., Zhong N., Pachl J., Timsit J., Kollef M., Chen Z., Song J., Taylor D., Laud P., Stone G., Chow J.	**Ceftazidime-avibactam versus meropenem in nosocomial pneumonia, including ventilator -associated pneumonia (REPROVE): A randomised, double-blind, phase 3 non-inferiority trial.**	The lancet infectious diseases. 18(3):285-295	**25,148**	2.06
Brignole, Michele; Pokushalov, Evgeny; Pentimalli, Francesco; Palmisano, Pietro; Chieffo, Enrico; Occhetta, Eraldo; Quartieri, Fabio; Calo, Leonardo; Ungar, Andrea; Mont, Lluis; Menozzi, Carlo; Alboni, Paolo; Bertero, Giovanni; Klersy, Catherine; Noventa, Franco; Brignole, M.; Oddone, D.; Donateo, O.; Maggi, R.; Croci, F.; Solano, A.; Pentimalli, F.; Palmisano, P.; Landolina, M.; Chieffo, E.; Taravelli, E.; Occhetta, E.; Quartieri, F.; Bottoni, N.; Iori, M.; Calo, L.; Sgueglia, M.; Pieragnoli; Giorni, A.; Nesti, M.; Giannini, I.; Ungar, A.; Padeletti, L.; Pokushalov, E.; Romanov, A.; Peregudov, I.; Vidorreda, S.; Nunez, R.; **Mont, L**.; APAF-CRT Investigators	**A randomized controlled trial of atrioventricular junction ablation and cardiac resynchronization therapy in patients with permanent atrial fibrillation and narrow QRS.**	European heart journal. 39(45):3999-4008	**23,425**	2.02
Coll M., **Perea L**., Boon R., Leite S., Vallverdú J., Mannaerts I., Smout A., El Taghdouini A., Blaya D., Rodrigo-Torres D., Graupera I., Aguilar-Bravo B., Chesne C., Najimi M., Sokal E., Lozano J., van Grunsven L., Verfaillie C., **Sancho-Bru P**.	**Generation of Hepatic Stellate Cells from Human Pluripotent Stem Cells Enables In Vitro Modeling of Liver Fibrosis.**	Cell stem cell. 23(1):101-113.E7	**23,29**	3.04
Tripathi DM, Vilaseca M, Lafoz E, Garcia-Calderó H, Viegas Haute G, Fernández-Iglesias A, Rodrigues de Oliveira J, García-Pagán JC, Bosch J, **Gracia-Sancho J.**	**Simvastatin Prevents Progression of Acute on Chronic Liver Failure in Rats With Cirrhosis and Portal Hypertension.**	Gastroenterology. 155(5):1564-1577	**20,773**	3.06
Panés J, García-Olmo D, Van Assche G, Colombel JF, Reinisch W, Baumgart DC, Dignass A, Nachury M, Ferrante M, Kazemi-Shirazi L, Grimaud JC, de la Portilla F, Goldin E, Richard MP, Diez MC, Tagarro I, Leselbaum A, Danese S, ADMIRE CD Study Group Collaborators.	**Long-term Efficacy and Safety of Stem Cell Therapy (Cx601) for Complex Perianal Fistulas in Patients With Crohn's Disease.**	Gastroenterology. 154(5):1334-1342.E4	**20,773**	3.07

Bonacci M, Lens S, Mariño Z, Londoño MC, Rodriguez-Tajes S, Sánchez-Tapias JM, Ramos-Casals M, Hernández-Rodríguez J, **Forns X**.	**Long-Term Outcomes of Patients With HCV-Associated Cryoglobulinemic Vasculitis After Virologic Cure.**	Gastroenterology. 155(2):311-315.E6.	**20,773**	1.02 / 3.03 / 3.04
Ortega-Paz L, Brugaletta S, Ariotti S, Akkerhuis KM, Karagiannis A, Windecker S, Valgimigli M, HI-TECH investigators.	**Adenosine and Ticagrelor Plasma Levels in Patients With and Without Ticagrelor-Related Dyspnea.**	Circulation. 138(6):646-648.	**18,881**	2.01
Luna J, Boni J, Cuatrecasas M, Bofill-De Ros X, Núñez-Manchón E, Gironella M, Vaquero EC, Arbones ML, de la Luna S, **Fillat C.**	**DYRK1A modulates c-MET in pancreatic ductal adenocarcinoma to drive tumour growth.**	Gut. 68(8):1465-1476	**17,943**	3.11 / 5.01
Carballal S, Maisterra S, López-Serrano A, Gimeno-García AZ, Vera MI, Marín-Garbriel JC, Díaz-Tasende J, Márquez L, Álvarez MA, Hernández L, De Castro L, Gordillo J, Puig I, Vega P, Bustamante-Balén M, Acevedo J, Peñas B, López-Cerón M, Ricart E, Cuatrecasas M, Jimeno M, **Pellisé M**, EndoCAR group of the Spanish Gastroenterological Association and Spanish Digestive Endoscopy Society.	**Real-life chromoendoscopy for neoplasia detection and characterisation in long-standing IBD.**	Gut. 67(1):70-78	**17,016**	3.07 / 3.11 / 5.01
Fernández J, Acevedo J, Wiest R, Gustot T, Amoros A, Deulofeu C, Reverter E, Martínez J, Saliba F, Jalan R, Welzel T, Pavesi M, Hernández-Tejero M, Ginès P, **Arroyo V**, European Foundation for the Study of Chronic Liver Failure.	**Bacterial and fungal infections in acute-on-chronic liver failure: Prevalence, characteristics and impact on prognosis.**	Gut. 67(10):1870-1880	**17,016**	3.04
Ekren PK, Ranzani OT, Ceccato A, Li Bassi G, Muñoz Conejero E, Ferrer M, Niederman MS, **Torres A.**	**Evaluation of the 2016 Infectious Diseases Society of America/American Thoracic Society Guideline Criteria for Risk of Multi- drug Resistant Pathogens in Hospital- acquired and Ventilator-associated Pneumonia Patients in the Intensive Care Unit.**	American journal of respiratory and critical care medicine. 197(6):826-830	**15,239**	2.06
Almagro P, De la Sierra A, Acosta E, Navarro A, Garcia ME, Valdivieso S, Castañeda T, **Agustí A.**	**Spirometrically Confirmed COPD Worsens Long-term Prognosis After Percutaneous Coronary Intervention.**	American journal of respiratory and critical care medicine. 197(6):824-826	**15,239**	2.09 / 5.01
Mendez, Raul; Menendez, Rosario; Cilloniz, Catia; Amara-Elori, Isabel; Amaro, Rosanel; Gonzalez, Paula; Posadas, Tomas; Gimeno, Alexandra; Espana, Pedro P.; Almirall, Jordi; **Torres, Antoni.**	**Initial Inflammatory Profile in Community-acquired Pneumonia Depends on Time since Onset of Symptoms.**	American journal of respiratory and critical care medicine. 198(3):370-378	**15,239**	2.06
Clot G, Jares P, Giné E, Navarro A, Royo C, Pinyol M, Martín-Garcia D, Demajo S, Espinet B, Salar A, Ferrer A, Muntañola A, Aymerich M, Rauert-Wunderlich H, Jaffe ES, Connors JM, Gascoyne RD, Delabie J, López-Guillermo A, Ott G, Wright GW, Staudt LM, Rosenwald A, Scott DW, Rimsza LM, Beà S, **Campo E.**	**A gene signature that distinguishes conventional and leukemic nonnodal mantle cell lymphoma helps predict outcome.**	Blood. 132(4):413-422	**15,132**	5.01 / 5.07 / 5.08
Crespo G., Trota N., Londoño M., Mauro E., Baliellas C., Castells L., Castellote J., Tort J., Forns X., **Navasa M.**	**The efficacy of direct anti-HCV drugs improves early post-liver transplant survival and induces significant changes in waiting list composition.**	Journal of hepatology. 69(1):11-17	**15,04**	3.03 / 3.10
Agarwal K, Castells L, Müllhaupt B, Rosenberg WMC, McNabb B, Arterburn S, Camus G, McNally J, Stamm LM, Brainard DM, Mani Subramanian G, Mariño Z, Dufour JF, **Forns X**.	**Sofosbuvir/Velpatasvir for 12 Weeks in Genotype 1-4 HCV-Infected Liver Transplant Recipients.**	Journal of hepatology. 69(3):603-607	**15,04**	3.03
Londoño M., Souza L., Lozano J., Miquel R., Abraldes J., Llovet L., Quaglia A., Rimola A., Navasa M., Sánchez-Fueyo A.	**Molecular profiling of subclinical inflammatory lesions in long-term surviving adult liver transplant recipients.**	Journal of hepatology. 69(3):626-634	**15,04**	3.03 / 3.10
Finn R., Merle P., Granito A., Huang Y., Bodoky G., Pracht M., Yokosuka O., Rosmorduc O., Gerolami R., Caparello C., Cabrera R., Chang C., Sun W., LeBerre M., Baumhauer A., Meinhardt G., **Bruix J.**	**Outcomes of sequential treatment with sorafenib followed by regorafenib for HCC: Additio- nal analyses from the phase III RESORCE trial.**	Journal of hepatology. 69(2):353-358	**15,04**	3.05
Solà E, Solé C, Simón-Talero M, Martín-Llahí M, Castellote J, Garcia-Martínez R, Moreira R, Torrens M, Márquez F, Fabrellas N, de Prada G, Huelin P, Lopez Benaiges E, Ventura M, Manríquez M, Nazar A, Ariza X, Suñé P, Graupera I, Pose E, Colmenero J, Pavesi M, Guevara M, Navasa M, Xiol X, Córdoba J, Vargas V, **Ginès P.**	**Midodrine &albumin for preventing complications in patients with cirrhosis awaiting Liver transplantation.**	Journal of hepatology. 69(6):1250-1259	**15,04**	3.04 / 3.10 / 4.08

Welte T, Dellinger RP, Ebelt H, Ferrer M, Opal SM, Singer M, Vincent JL, Werdan K, Martin-Loeches I, Almirall J, Artigas A, Ignacio Ayestarán J, Nuding S, Ferrer R, Sirgo Rodríguez G, Shankar-Hari M, Álvarez-Lerma F, Riessen R, Sirvent JM, Kluge S, Zacharowski K, Bonastre Mora J, Lapp H, Wöbker G, Achtzehn U, Brealey D, Kempa A, Sánchez García M, Brederlau J, Kochanek M, Reschreiter HP, Wise MP, Belohradsky BH, Bobenhausen I, Dälken B, Dubovy P, Langohr P, Mayer M, Schüttrumpf J, Wartenberg-Demand A, Wippermann U, Wolf D, **Torres A.**	**Efficacy and safety of trimodulin, a novel polyclonal antibody preparation, in patients with severe community-acquired pneumonia: a randomized, placebo-controlled, double-blind, multicenter, phase II trial (CIGMA study).**	Intensive care medicine. 44(4):438-448	**15,008**	2.06
Delia Blaya; Beatriz Aguilar-Bravo; Fengie Hao; Silvia Casacuberta-Serra; Mar Coll; Luis Perea; Julia Vallverdu; Isabel Graupera; Elisa Pose; Barquinero Mañez, Jordi; Francisco Javier Cubero; Juan Caballería; Pere Ginès; **Pau Sancho-Bru.**	**Expression of microRNA-155 in inflammatory cells modulates liver injury.**	Hepatology. 68(2):691-706	**14,079**	3.04 / 3.09
Alcaraz-Quiles J., Casulleras M., Oettl K., Titos E., Flores-Costa R., Duran-Güell M., López-Vicario C., Pavesi M., Stauber R., Arroyo V., **Clària J.**	**Oxidized Albumin Triggers a Cytokine Storm in Leukocytes Through P38 Mitogen-Activated Protein Kinase: Role in Systemic Inflammation in Decompensated Cirrhosis.**	Hepatology. 68(5):1937-1952	**14,079**	3.04
Rimola J, **Díaz-González Á**, Darnell A, Varela M, Pons F, Hernandez-Guerra M, Delgado M, Castroagudin J, Matilla A, Sangro B, Rodriguez de Lope C, Sala M, Gonzalez C, Huertas C, Minguez B, Ayuso C, Bruix J, **Reig M.**	**Complete response under sorafenib in patients with hepatocellular carcinoma. Relationship with dermatologic adverse events.**	Hepatology. 67(2):612-622	**14,079**	3.05 / 3.06 / 5.02
Mauro E, Crespo G, Montironi C, Londoño MC, Hernández-Gea V, Ruiz P, Sastre L, Lombardo J, Mariño Z, Díaz A, Colmenero J, Rimola A, Garcia-Pagán JC, Brunet M, Forns X, **Navasa M .**	**Portal pressure and liver stiffness measurements in the prediction of fibrosis regression after SVR in recurrent hepatitis C.**	Hepatology. 67(5):1683-1694	**14,079**	3.03 / 3.05 / 3.06 / 3.10
Reau N, Kwo PY, Rhee S, Brown RS, Agarwal K, Angus P, Gane E, Kao JH, Mantry PS, Mutimer D, Reddy KR, Tran TT, Hu YB, Gulati A, Krishnan P, Dumas EO, Porcalla A, Shulman NS, Liu W, Samanta S, Trinh R, **Forns X.**	**Glecaprevir/Pibrentasvir Treatment in Liver or Kidney Transplant Patients With Hepatitis C Virus Infection.**	Hepatology. 68(4):1298-1307	**14,079**	3.03
Blasi A, Calvo A, Prado V, Reverter E, Reverter JC, Hernández-Tejero M, Aziz F, Amoros A, Cardenas A, **Fernández J.**	**Coagulation failure in patients with Acute-on-Chronic Liver Failure (ACLF) and decompensated cirrhosis: beyond INR.**	Hepatology. 68(6):2325-2337	**14,079**	3.04 / 3.10 / 5.09
Paré L, Pascual T, Seguí E, Teixidó C, Gonzalez-Cao M, Galván P, Rodríguez A, González B, Cuatrecasas M, Pineda E, Torné A, Crespo G, Martin-Algarra S, Pérez-Ruiz E, Reig Ò, Viladot M, Font C, Adamo B, Vidal M, Gaba L, Muñoz M, Victoria I, Ruiz G, Viñolas N, Mellado B, Maurel J, Garcia-Corbacho J, Molina-Vila MÁ, Juan M, Llovet JM, Reguart N, Arance A, **Prat A.**	**Association between PD1 mRNA and response to anti-PD1 monotherapy across multiple cancer-types.**	Annals of oncology. 29(10):2121-2128	**13,93**	1.06 / 3.01 / 3.05 / 5.01 / 5.13
Nuciforo P, Pascual T, Cortés J, Llombart-Cussac A, Fasani R, Paré L, Oliveira M, Galvan P, Martínez N, Bermejo B, Vidal M, Pernas S, López R, Muñoz M, Garau I, Manso L, Alarcón J, Martínez E, Rodrik-Outmezguine V, Brase JC, Villagrasa P, **Prat A.**, Holgado E.	**A predictive model of pathological response based on tumor cellularity and tumor-infiltrating lymphocytes (CelTIL) in HER2-positive breast cancer treated with chemo-free dual HER2 blockade.**	Annals of oncology. 29(1):170-177	**13,93**	1.03 / 5.13
Singha S; Shao K; Ellestad KK; Yang Y; **Santamaria P.**	**Nanoparticles for Immune Stimulation Against Infection, Cancer, and Autoimmunity.**	Acs nano. 12(11):10621-10635	**13,709**	3.14
Gimenez M., Tannen AJ, Reddy M, Moscardo V, Conget I, Oliver N.	**Revisiting the Relationships Between Measures of Glycemic Control and Hypoglycemia in Continuous Glucose Monitoring Data Sets.**	Diabetes care. 41(2):326-332	**13,397**	3.14
Mariño-Sanchez F, Valls-Mateus M, Haag O, Alobid I, Bousquet J, **Mullol J.**	**Smell loss is associated with severe and uncontrolled disease in children and adolescents with persistent allergic rhinitis.**	J allergy clin immunol pract. 6(5):1752-1755.E3	**13,258**	2.08
Albero R, Enjuanes A, Demajo S, Castellano G, Pinyol M, García N, Capdevila C, Clot G, Suárez-Cisneros H, Shimada M, Karube K, López-Guerra M, Colomer D, Beà S, Martin-Subero JI, Campo E, **Jares P.**	**Cyclin D1 overexpression induces global transcriptional downregulation in lymphoid neosplasms.**	Journal of clinical investigation. 128(9):4132-4147	**13,251**	5.01 / 5.08

Liu Y., Siles L., Lu X., Dean K., Cuatrecasas M., **Postigo A.**, Dean D.	**Mitotic polarization of transcription factors during asymmetric division establishes fate of forming cancer cells.**	Nature communications. 9(1):2424	**12,353**	5.01
Cilloniz C, Ferrer M, Liapikou A, Garcia-Vidal C, Gabarrus A, Ceccato A, Puig de La Bellacasa J, Blasi F, **Torres A.**	**Acute Respiratory Distress Syndrome in Mechanically-Ventilated Patients with Community-Acquired Pneumonia.**	European respiratory journal. 51(3)	**12,244**	1.03 / 2.06
Alcázar-Navarrete B, Ruiz Rodríguez O, Conde Baena P, Romero Palacios PJ, **Agusti A.**	**Persistently elevated exhaled nitric oxide fraction is associated with increased risk of exacerbation in COPD.**	European respiratory journal. 51(1)	**12,244**	2.09
Celli, Bartolome R.; Locantore, Nicholas; Tal-Singer, Ruth; Riley, John; Miller, Bruce; Vestbo, Jorgen; Yates, Julie C.; Silverman, Edwin K.; Owen, Caroline A.; Divo, Miguel; Pinto-Plata, Victor; Wouters, Emiel F. M.; Faner, Rosa; **Agusti, Alvar**;ECLIPSE Study Investigators.	**Emphysema and extrapulmonary tissue loss in COPD: a multi-organ loss of tissue phenotype.**	European respiratory journal. 51(2)	**12,244**	2.09
Melgar-Lesmes P., Luquero A, Parra-Robert M, Mora A, Ribera J, Edelman ER, **Jiménez W.**	**Graphene-Dendrimer Nanostars for Targeted Macrophage Overexpression of Metalloproteinase 9 and Hepatic Fibrosis Precision Therapy.**	Nano letters. 18(9):5839-5845	**12,08**	3.04
Corpas R., Griñán-Ferré C., Palomera-Ávalos V., Porquet D., García de Frutos P., Franciscato Cozzolino S., Rodríguez-Farré E., Pallàs M., **Sanfeliu C.**, Cardoso B.	**Melatonin induces mechanisms of brain resilience against neurodegeneration.**	Journal of pineal research. 65(4):e12515	**11,613**	4.01 / 5.09
Ninfali C., Siles L., Darling D., **Postigo A.**	**Regulation of muscle atrophy-related genes by the opposing transcriptional activities of ZEB1/CtBP and FOXO3.**	Nucleic acids research. 46(20):10697-10708	**11,561**	5.01
Andorra M., Nakamura K, Lampert EJ, Pulido-Valdeolivas I, Zubizarreta I, Llufriu S, Martinez-Heras E, Sola-Valls N, Sepulveda M, Tercero-Uribe A, Blanco Y, Saiz A, Villoslada P, **Martinez-Lapiscina EH.**	**Assessing Biological and Methodological Aspects of Brain Volume Loss in Multiple Sclerosis.**	Jama neurology. 75(10):1246-1255	**11,46**	4.10
Petit-Pedrol M., Sell J., Planagumà J., Mannara F., Radosevic M., Haselmann H., Ceanga M., Sabater L., Spatola M., Soto D., Gasull X., **Dalmau J.**, Geis C.	**LGI1 antibodies alter Kv1.1 and AMPA receptors changing synaptic excitability, plasticity and memory.**	Brain; a journal of neurology. 141(11):3144-3159	**10,848**	4.04 / 4.10
Miró Ò, Tost J, Gil V, Martín-Sánchez FJ, Llorens P, Herrero P, Mebazaa A, Harjola VP, Ríos J, Marco-Hernández J, Collins SP, Peacock WF, Hollander JE, Lorca MT, Jacob J, ICA-SEMES Research Group.	**The BRONCH-AHF study: effects on short-term outcome of nebulized bronchodilators in emergency department patients diagnosed with acute heart failure.**	European journal of heart failure. 20(4):822-826	**10,683**	1.07
Acosta J, Fernández-Armenta J, Borràs R, Anguera I, Bisbal F, Martí-Almor J, Tolosana JM, Penela D, Andreu D, Soto-Iglesias D, Evertz R, Matiello M, Alonso C, Villuendas R, de Caralt TM, Perea RJ, Ortiz JT, Bosch X, Serra L, Planes X, Greiser A, Ekinci O, Lasalvia L, Mont L, **Berruezo A.**	**Scar Characterization to Predict Life-Threatening Arrhythmic Events and Sudden Cardiac Death in Patients With Cardiac Resynchronization Therapy: The GAUDI-CRT Study.**	Jacc: cardiovascular imaging. 11(4):561-572	**10,247**	2.01 / 2.02
Reig, Anna; Sese, Pilar; **Pares, Albert.**	**Effects of Bezafibrate on Outcome and Pruritus in Primary Biliary Cholangitis With Suboptimal Ursodeoxycholic Acid Response.**	American journal of gastroenterology. 113(1):49-55	**10,231**	3.08
Ordás I, Domènech E, Mañosa M, García-Sánchez V, Iglesias-Flores E, Rodríguez-Moranta F, Márquez L, Merino O, Fernández-Bañares F, Gomollón F, Vera M, Gutiérrez A, LLaó J, Gisbert JP, Aguas M, Arias L, Rodríguez-Lago I, Muñoz C, Alcaide N, Calvet X, Rodríguez C, Montoro MA, García S, De Castro ML, Piqueras M, Pareja L, Ribes J, Panés J, Esteve M, ENEIDA registry of GETECCU.	**Post-operative morbidity and mortality of a cohort of steroid refractory acute severe ulcerative colitis: Nationwide multicenter study of the GETECCU ENEIDA Registry.**	American journal of gastroenterology. 113(7):1009-1016	**10,231**	2.03 / 3.07 / 3.11
Lim, Ho Yeong; Merle, Philippe; Weiss, Karl Heinz; Yau, Thomas; Ross, Paul; Mazzaferro, Vincenzo; Blanc, Jean-Frederic; Ma, Yuk Ting; Yen, Chia Jui; Kocsis, Judit; Choo, Su Pin; Sukeepaisarnjaroen, Wattana; Gerolami, Rene; Dufour, Jean-Francois; Gane, Edward J.; Ryoo, Baek-Yeol; Peck-Radosavljevic, Markus; Thong Dao; Yeo, Winnie; Lamlertthon, Wisut; Thongsawat, Satawat; Teufel, Michael; Roth, Katrin; Reis, Diego; Childs, Barrett H.; Krissel, Heiko; **Llovet, Josep M.**	**Phase II Studies with Refametinib or Refametinib plus Sorafenib in Patients with RAS-Mutated Hepatocellular Carcinoma.**	Clinical cancer research. 24(19):4650-4661	**10,199**	3.05

Hernández-Boluda J., Pereira A., Correa J., Alvarez-Larrán A., Ferrer-Marín F., Raya J., Martínez-López J., Pérez-Encinas M., Estrada N., Velez P., Fox M., García-Gutiérrez V., Payer A., Kerguelen A., Cuevas B., Durán M., Ramírez M., Gómez-Casares M., Mata-Vázquez M., Mora E., Martínez-Valverde C., Gómez M., **Cervantes F.**	**Performance of the myelofibrosis secondary to PV and ET-prognostic model (MYSEC-PM) in a series of 262 patients from the Spanish registry of myelofibrosis.**	Leukemia. 32(2):553-555	**10,023**	5.07
Nadeu F., Clot G, Delgado J, Martín-García D, Baumann T, Salaverria I, Beà S, Pinyol M, Jares P, Navarro A, Suárez-Cisneros H, Aymerich M, Rozman M, Villamor N, Colomer D, González M, Alcoceba M, Terol MJ, Navarro B, Colado E, Payer ÁR, Puente XS, López-Otín C, López-Guillermo A, Enjuanes A, **Campo E.**	**Clinical impact of the subclonal architecture and mutational complexity in chronic lymphocytic leukemia.**	Leukemia. 32(3):645-653	**10,023**	5.01 / 5.07 / 5.08
Karube K, Enjuanes A, Dlouhy I, Jares P, Martin-Garcia D, Nadeu F, Ordóñez GR, Rovira J, Clot G, Royo C, Navarro A, Gonzalez-Farre B, Vaghefi A, Castellano G, Rubio-Perez C, Tamborero D, Briones J, Salar A, Sancho JM, Mercadal S, Gonzalez-Barca E, Escoda L, Miyoshi H, Ohshima K, Miyawaki K, Kato K, Akashi K, Mozos A, Colomo L, Alcoceba M, Valera A, Carrió A, Costa D, Lopez-Bigas N, Schmitz R, Staudt LM, Salaverria I, López-Guillermo A, **Campo E.**	**Integrating genomic alterations in diffuse large B-cell lymphoma identifies new relevant pathways and potential therapeutic targets.**	Leukemia. 32(3):675-684	**10,023**	5.01 / 5.04 / 5.07
De Larrea C., Isola I., Pereira A., Cibeira M., Magnano L., Tovar N., Rodríguez-Lobato L., Calvo X., Aróstegui J., Díaz T., Lozano E., Rozman M., Yagüe J., **Bladé J.**, **Rosiñol L**.	**Evolving M-protein pattern in patients with smoldering multiple myeloma: impact on early progression**	Leukemia. 32(6):1427-1434	**10,023**	1.06 / 5.07 / 5.08 / 5.09

FIGURE LEGEND

Original articles with main author (first, last or corresponding author) from IDIBAPS.

Translation of knowledge and innovation

CLINICAL GUIDELINES

As a general perspective of IDIBAPS' impact in society, it is worth mentioning that every year our researchers participate in the elaboration of international clinical guides. These guidelines have a remarkable impact in patients' care and medical practice.

39 **Clinical guidelines published in 2018.**

AUTHORS	TITLE	REFERENCE	IF	Q/D1	TEAMS INVOLVED
Masip J, Peacock WF, Price S, Cullen L, Martin-Sanchez FJ, Seferovic P, Maisel AS, **Miro O**, Filippatos G, Vrints C, Christ M, Cowie M, Platz E, McMurray J, DiSomma S, Zeymer U, Bueno H, Gale CP, Lettino M, Tavares M, Ruschitzka F, Mebazaa A, Harjola VP, Mueller C, Acute Heart Failure Study Group of the Acute Cardiovascular Care Association and the Committee on Acute Heart Failure of the Heart Failure Association of the European Society of Cardiology.	**Indications and practical approach to non-invasive ventilation in acute heart failure.**	European heart journal. 39(1):17-25	23,425	Q1/D1	1.07
Rutter MD, Beintaris I, Valori R, Chiu HM, Corley DA, **Cuatrecasas M**, Dekker E, Forsberg A, Gore-Booth J, Haug U, Kaminski MF, Matsuda T, Meijer GA, Morris E, Plumb AA, Rabeneck L, Robertson DJ, Schoen RE, Singh H, Tinmouth J, Young GP, Sanduleanu S.	**World Endoscopy Organization Consensus Statements on Post-Colonoscopy and Post-Imaging Colorectal Cancer.**	Gastroenterology. 155(3):909-925.E3	20,773	Q1/D1	5.01
Borgmann H, Cooperberg M, Murphy D, Loeb S, N'Dow J, **Ribal MJ**, Woo H, Rouprêt M, Winterbottom A, Wijburg C, Wirth M, Catto J, Kutikov A.	**Online Professionalism-2018 Update of European Association of Urology (@Uroweb) Recommendations on the Appropriate Use of Social Media.**	European urology. 74(5):644-650	17,581	Q1/D1	2.10
Angeli P., Bernardi M., Villanueva C., Francoz C., Mookerjee R., Trebicka J., Krag A., Laleman W., **Gines P.**	**EASL Clinical Practice Guidelines for the management of patients with decompensated cirrhosis.**	Journal of hepatology. 69(2):406-460	15,040	Q1/D1	3.04
Galle, PR.; **Forner, A**; **Llovet, JM**.; Mazzaferro, V; Piscaglia, F; Raoul, JL; Schirmacher, P; Vilgrain, V.	**EASL Clinical Practice Guidelines: Management of hepatocellular carcinoma.**	Journal of hepatology. 69(1):182-236	15,040	Q1/D1	3.05
European Association for the Study of the Liver.	**EASL Clinical Practice Guidelines: Management of alcohol-related liver disease.**	Journal of hepatology, supplement. 69(1):154-181	15,040	Q1/D1	4.07
Aapro M; Beguin Y; Bokemeyer C; Dicato M; **Gascon P**; Glaspy J; Hofmann A; Link H; Littlewood T; Ludwig H; Österborg A; Pronzato P; Santini V; Schrijvers D; Stauder R; Jordan K; Herrstedt J; ESMO Guidelines Committee.	**Management of anaemia and iron deficiency in patients with cancer: ESMO Clinical Practice Guidelines.**	Annals of oncology. 29(supplement_4):i-v96-iv110	13,930	Q1/D1	5.10
Cardoso F, Senkus E, Costa A, Papadopoulos E, Aapro M, André F, Harbeck N, Aguilar Lopez B, Barrios CH, Bergh J, Biganzoli L, Boers-Doets CB, Cardoso MJ, Carey LA, Cortés J, Curigliano G, Diéras V, El Saghir NS, Eniu A, Fallowfield L, Francis PA, Gelmon K, Johnston SRD, Kaufman B, Koppikar S, Krop IE, Mayer M, Nakigudde G, Offersen BV, Ohno S, Pagani O, Paluch-Shimon S, Penault-Llorca F, **Prat A**, Rugo HS, Sledge GW, Spence D, Thomssen C, Vorobiof DA, Xu B, Norton L, Winer EP.	**4th ESO-ESMO International Consensus Guidelines for Advanced Breast Cancer (ABC 4).**	Annals of oncology. 29(8):1634-1657	13,930	Q1/D1	5.13
Vogel A, Cervantes A, Chau I, Daniele B, **Llovet J**, Meyer T, Nault JC, Neumann U, Ricke J, Sangro B, Schirmacher P, Verslype C, Zech CJ, Arnold D, Martinelli E, ESMO Guidelines Committee.	**Hepatocellular carcinoma: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up.**	Annals of oncology. 29(4): iv238-iv255	13,930	Q1/D1	3.05
Guidi J, Brakemeier EL, Bockting CLH, Cosci F, Cuijpers P, Jarrett RB, Linden M, Marks I, Peretti CS, Rafanelli C, Rief W, Schneider S, Schnyder U, Sensky T, Tomba E, Vazquez C, **Vieta E**, Zipfel S, Wright JH, Fava GA.	**Methodological Recommendations for Trials of Psychological Interventions.**	Psychotherapy and psychosomatics. 87(5):276-284	13,122	Q1/D1	4.07

Harjola V., Parissis J., Brunner-La Rocca H., Celutkiene J., Chioncel O., Collins S., De Backer D., Filippatos G., Gayat E., Hill L., Lainscak M., Lassus J., Masip J., Mebazaa A., **Miró Ò.**, Mortara A., Mueller C., Mullens W., Nieminen M., Rudiger A., Ruschitzka F., Seferovic P., Sionis A., Vieillard-Baron A., Weinstein J., de Boer R., Crespo-Leiro M., Piepoli M., Riley J.	**Comprehensive in-hospital monitoring in acute heart failure: Applications for clinical practice and future directions for research. A statement from the Acute Heart Failure Committee of the Heart Failure Association (HFA) of the European Society of Cardiology (ESC).**	European journal of heart failure. 20(7):1081-1099	10,683	Q1/D1	1.07
Langlois MR; Chapman MJ; Cobbaert C; Mora S; Remaley AT; **Ros E**; Watts GF; Borén J; Baum H; Bruckert E; Catapano A; Descamps OS; Von Eckardstein A; Kamstrup PR; Kolovou G; Kronenberg F; Langsted A; Pulkki K; Rifai N; Sypniewska G; Wiklund O; Nordestgaard BRG; European Atherosclerosis Society (EAS) and the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM) Joint Consensus Initiative.	**Quantifying Atherogenic Lipoproteins: Current and Future Challenges in the Era of Personalized Medicine and Very Low Concentrations of LDL Cholesterol. A Consensus Statement from EAS and EFLM.**	Clinical chemistry. 64(7):1006-1033	8,636	Q1/D1	2.04
Augé J, Vent J, Agache I, Airaksinen L, Campo Mozo P, Chaker A, Cingi C, Durham S, Fokkens W, Gevaert P, Giotakis A, Hellings P, Herknerova M, Hox V, Klimek L, La Melia C, **Mullol J**, Muluk NB, Muraro A, Naito K, Pfaar O, Riechelmann H, Rondon C, Rudenko M, Samolinski B, Tasca I, Tomazic P, Vogt K, Wagenmann M, Yeryomenko G, Zhang L, Mösges R.	**Position Paper on the Standardization of Nasal Allergen Challenges.**	Allergy. 73(8): 1597-1608	6,048	Q1	2.08
Coelho Neto M, Ludwin A, **Borrell A**, Benacerraf B, Dewailly D, da Silva Costa F, Condous G, Alcazar J, Jokubkiene L, Guerriero S, Van den Bosch T, Martins W.	**Counting ovarian antral follicles by ultrasound: a practical guide.**	Ultrasound in obstetrics and gynecology. 51(1):10-20	5,654	Q1/D1	3.02
Kotecha D, Breithardt G, Camm AJ, Lip GYH, Schotten U, Ahlsson A, Arnar D, Atar D, Auricchio A, Bax J, Benussi S, Blomstrom-Lundqvist C, Borggrefe M, Boriani G, Brandes A, Calkins H, Casadei B, Castellá M, Chua W, Crijns H, Dobrev D, Fabritz L, Feuring M, Freedman B, Gerth A, Goette A, Guasch E, Haase D, Hatem S, Haeusler KG, Heidbuchel H, Hendriks J, Hunter C, Kääb S, Kespohl S, Landmesser U, Lane DA, Lewalter T, **Mont L**, Nabauer M, Nielsen JC, Oeff M, Oldgren J, Oto A, Pison L, Potpara T, Ravens U, Richard-Lordereau I, Rienstra M, Savelieva I, Schnabel R, Sinner MF, Sommer P, Themistoclakis S, Van Gelder IC, Vardas PE, Verma A, Wakili R, Weber E, Werring D, Willems S, Ziegler A, Hindricks G, Kirchhof P.	**Integrating new approaches to atrial fibrillation management: the 6th AFNET/EHRA Consensus Conference.**	Europace. 20(3):395-407	5,231	Q1	2.02
Calkins, Hugh; Hindricks, Gerhard; Cappato, Riccardo; Kim, Young-Hoon; Saad, Eduardo B.; Aguinaga, Luis; Akar, Joseph G.; Badhwar, Vinay; **Brugada, Josep**; Camm, John; Chen, Peng-Sheng; Chen, Shih-Ann; Chung, Mina K.; Nielsen, Jens Cosedis; Curtis, Anne B.; Davies, D. Wyn; Day, John D.; d'Avila, Andre; de Groot, N. M. S. (Natasja); Di Biase, Luigi; Duytschaever, Mattias; Edgerton, James R.; Ellenbogen, Kenneth A.; Ellinor, Patrick T.; Ernst, Sabine; Fenelon, Guilherme; Gerstenfeld, Edward P.; Haines, David E.; Haissaguerre, Michel; Helm, Robert H.; Hylek, Elaine; Jackman, Warren M.; Jalife, Jose; Kalman, Jonathan M.; Kautzner, Josef; Kottkamp, Hans; Kuck, Karl Heinz; Kumagai, Koichiro; Lee, Richard; Lewalter, Thorsten; Lindsay, Bruce D.; Macle, Laurent; Mansour, Moussa; Marchlinski, Francis E.; Michaud, Gregory F.; Nakagawa, Hiroshi; Natale, Andrea; Nattel, Stanley; Okumura, Ken; Packer, Douglas; Pokushalov, Evgeny; Reynolds, Matthew R.; Sanders, Prashanthan; Scanavacca, Mauricio; Schilling, Richard; Tondo, Claudio; Tsao, Hsuan-Ming; Verma, Atul; Wilber, David J.; Yamane, Teiichi;EHRA; AHA; Soc Latinoamer Estimulacion; APHRS; ACC; ECAS; STS; CHRS; JHRS; Soc Brasileira Arritmias Cardiacas.	**2017 HRS/EHRA/ECAS/APHRS/SOLAECE expert consensus statement on catheter and surgical ablation of atrial fibrillation.**	Europace. 20(1):e1-e160	5,231	Q1	2.02
Patel, Maxine X.; Sethi, Faisil N.; Barnes, Thomas R. E.; Dix, Roland; Dratcu, Luiz; Fox, Bernard; Garriga, Marina; Haste, Julie C.; Kahl, Kai G.; Lingford-Hughes, Anne; McAllister-Williams, Hamish; O'Brien, Aileen; Parker, Caroline; Paterson, Brodie; Paton, Carol; Posporelis, Sotiris; Taylor, David M.; **Vieta, Eduard**; Voellm, Birgit; Wilson-Jones, Charlotte; Woods, Laura.	**Joint BAP NAPICU evidence-based consensus guidelines for the clinical management of acute disturbance: De-escalation and rapid tranquillisation.**	Journal of psychopharmacology. 32(6):601-640	4,738	Q1/D1	4.07

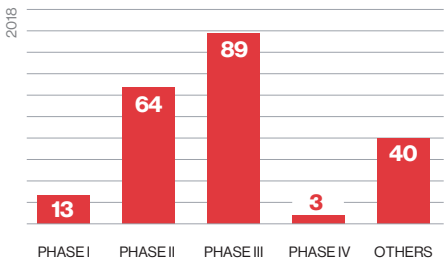
Yatham LN, Kennedy SH, Parikh SV, Schaffer A, Bond DJ, Frey BN, Sharma V, Goldstein BI, Rej S, Beaulieu S, Alda M, MacQueen G, Milev RV, Ravindran A, O'Donovan C, McIntosh D, Lam RW, Vazquez G, Kapczinski F, McIntyre RS, Kozicky J, Kanba S, Lafer B, Suppes T, Calabrese JR, **Vieta E,** Malhi G, Post RM, Berk M .	**Canadian Network for Mood and Anxiety Treatments (CANMAT) and International Society for Bipolar Disorders (ISBD) 2018 guidelines for the management of patients with bipolar disorder.**	Bipolar disorders. 20(2):97-170	4,490	Q1	4.07
Sanz M., **Ceriello A.**, Buysschaert M., Chapple I., Demmer R., Graziani F., Herrera D., Jepsen S., Lione L., Madianos P., Mathur M., Montanya E., Shapira L., Tonetti M., Vegh D.	**Scientific evidence on the links between periodontal diseases and diabetes: Consensus report and guidelines of the joint workshop on periodontal diseases and diabetes by the International Diabetes Federation and the European Federation of Periodontology.**	Journal of clinical periodontology. 45(2):138-149	4,046	Q1/D1	3.15
Alquézar-Arbé A, Sanchís J, Guillén E, Bardají A, **Miró Ò**, Ordóñez-Llanos J.	**Cardiac troponin measurement and interpretation in the diagnosis of acute myocardial infarction in the emergency department: a consensus statement.**	Emergencias. 30(5):336-349	3,608	Q1	1.07
Geberhiwot T, Moro A, Dardis A, Ramaswami U, Sirrs S, Marfa M, Vanier M, Walterfang M, Bolton S, Dawson C, Héron B, Stampfer M, Imrie J, Hendriksz C, Gissen P, Crushell E, **Coll MJ**, Nadjar Y, Klünemann H, Mengel E, Hrebicek M, Jones S, Ory D, Bembi B, Patterson M.	**Consensus clinical management guidelines for Niemann-Pick disease type C.**	Orphanet journal of rare diseases. 13(1):50	3,607	Q2	3.12
Martin-Loeches I, Rodriguez AH, **Torres A**.	**New guidelines for hospital-acquired pneumonia/ventilator-associated pneumonia: USA vs. Europe.**	Current opinion in critical care. 24(5):347-352	3,120	Q2	2.06
Ryom L, Boesecke C, Bracchi M, **Ambrosioni J**, Pozniak A, Arribas J, Behrens G, Mallon P, Puoti M, Rauch A, Miro JM, Kirk O, Marzolini C, Lundgren JD, Battegay M, EACS Governing Board.	**Highlights of the 2017 European AIDS Clinical Society (EACS) Guidelines for the treatment of adult HIV-positive persons version 9.0.**	Hiv medicine. 19(5):309-315	2,932	Q2	1.03
Barberà JA, Román A, Gómez-Sánchez MÁ, Blanco I, Otero R, López-Reyes R, Otero I, Pérez-Peñate G, Sala E, Escribano P .	**Guidelines on the Diagnosis and Treatment of Pulmonary Hypertension: Summary of Recommendations.**	Archivos de bronconeumologia. 54(4):205-215	2,633	Q2	2.07
Pleguezuelos E., Gimeno-Santos E., **Hernández C.**, Mata M., Palacios L., Piñera P., Molina J., Chiner E., Miravitlles M.	**Recommendations on non-Pharmacological Treatment in Chronic Obstructive Pulmonary Disease From the Spanish COPD Guidelines (GesEPOC 2017).**	Archivos de bronconeumologia. 54(11):568-575	2,633	Q2	2.07
Ceriello A., Gavin J., Boulton A., Blickstead R., McGill M., Raz I., Sadikot S., Wood D., Cos X., Khunti K., Kalra S., Das A., López C.	**The Berlin Declaration: A call to action to improve early actions related to type 2 diabetes. How can specialist care help?**	Diabetes research and clinical practice. 139:392-399	2,548	Q3	3.15
Wise SK, Lin SY, Toskala E, Orlandi RR, Akdis CA, Alt JA, Azar A, Baroody FM, Bachert C, Canonica GW, Chacko T, Cingi C, Ciprandi G, Corey J, Cox LS, Creticos PS, Custovic A, Damask C, DeConde A, DelGaudio JM, Ebert CS, Eloy JA, Flanagan CE, Fokkens WJ, Franzese C, Gosepath J, Halderman A, Hamilton RG, Hoffman HJ, Hohlfeld JM, Houser SM, Hwang PH, Incorvaia C, Jarvis D, Khalid AN, Kilpeläinen M, Kingdom TT, Krouse H, Larenas-Linnemann D, Laury AM, Lee SE, Levy JM, Luong AU, Marple BF, McCoul ED, McMains KC, Melén E, Mims JW, Moscato G, **Mullol J**, Nelson HS, Patadia M, Pawankar R, Pfaar O, Platt MP, Reisacher W, Rondón C, Rudmik L, Ryan M, Sastre J, Schlosser RJ, Settipane RA, Sharma HP, Sheikh A, Smith TL, Tantilipikorn P, Tversky JR, Veling MC, Wang Y, Westman M, Wickman M, Zacharek M.	**International Consensus Statement on Allergy and Rhinology: Allergic Rhinitis.**	Int forum allergy rh. 8(2):108-352	2,454	Q1	2.08
Balañá C., Alonso M., Hernandez A., Perez-Segura P., **Pineda E.**, Ramos A., Sanchez A., Teixidor P., Verger E., Benavides M.	**SEOM clinical guidelines for anaplastic gliomas (2017).**	Clinical and translational oncology. 20(1):16-21	2,392	Q3	5.13
Berrocal A., **Arance A.**, Castellon V., de la Cruz L., Espinosa E., Cao M., Larriba J., Márquez-Rodas I., Soria A., **Algarra S**.	**SEOM clinical guideline for the management of malignant melanoma (2017).**	Clinical and translational oncology. 20(1):69-74	2,392	Q3	5.13

Cassinello J., Arranz J., Piulats J., Sánchez A., Pérez-Valderrama B., **Mellado B.**, Climent M., Olmos D., Carles J., Lázaro M.	**SEOM clinical guidelines for the treatment of metastatic prostate cancer (2017).**	Clinical and translational oncology. 20(1):57-68	2,392	Q3	5.13
Lopez Lopez, R.; Camps Herrero, C.; Khosravi-Shahi, P.; Guillem Porta, V.; Carrato Mena, A.; Garcia-Foncillas, J.; Cruz Hernandez, J. J.; **Gascon Vilaplana, P.**; Anton Torres, A.; Diaz-Rubio, E.; Feyjoo Saus, M.; Aranda Aguilar, E.	**Oncologist's knowledge and implementation of guidelines for breakthrough cancer pain in Spain: CONOCE study.**	Clinical and translational oncology. 20(5):613-618	2,392	Q3	5.10
Gutzmer R., Harrington K., Hoeller C., Lebbé C., **Malvehy J.**, Öhrling K., Downey G., Dummer R.	**Practical clinical guide on the use of talimogene laherparepvec monotherapy in patients with unresectable melanoma in Europe.**	European journal of dermatology. 28(6):736-749	1,944	Q2	5.05
Garcia-Vidal C, Alastruey-Izquierdo A, Aguilar-Guisado M, Carratalà J, Castro C, Fernández-Ruiz M, Aguado JM, Fernández JM, Fortún J, Garnacho-Montero J, Gavaldà J, Gudiol C, Guinea J, Gómez-López A, Muñoz P, Pemán J, **Rovira M**, Ruiz-Camps I, Cuenca-Estrella M.	**Executive summary of clinical practice guideline for the management of invasive diseases caused by Aspergillus: 2018 Update by the GEMICOMED-SEIMC/REIPI.**	Enfermedades infecciosas y microbiologia clínica.	1,707	Q3	1.03; 5.06
Rivero, Antonio; Polo, Rosa; Lopez Aldeguer, Jose; Lozano, Fernando; Antela, Antonio; Ramon Arribas, Jose; Asensi, Victor; Berenguer, Juan; Ramon Blanco, Jose; Luis Casado, Jose; Clotet, Bonaventura; Crespo, Manuel; Domingo, Pere; Duenas, Carlos; **Maria Gatell, Jose**; Luis Gomez-Sirvent, Juan; Gonzalez-Garcia, Juan; Antonio Iribarren, Jose; Bernaldo de Quiros, Juan Carlos Lopez; Lopez Cortes, Luis Fernando; Emilio Losa, Juan; **Mallolas, Josep**; Marino, Ana; **Martinez, Esteban**; **Miro, Jose M.**; Moreno, Santiago; Palacios, Rosario; Pasquau, Juan; Antonio Pineda, Juan; Podzamczer, Daniel; Portilla, Joaquin; Poveda, Eva; Pulido, Federico; Rubio, Rafael; Santos, Jesus; Sanz Moreno, Jose; Sanz Sanz, Jesus; Jesus Tellez, Maria; de la Torre, Javier; Tuset, Montserrat; Perez Molina, Jose A.; AIDS Study Grp GESIDA Span.	**Executive summary of the GESIDA/National AIDS Plan Consensus Document on Antiretroviral Therapy in Adults Infected by the Human Immunodeficiency Virus (Updated January 2017).**	Enfermedades infecciosas y microbiologia clínica. 36(7):435-445	1,707	Q3	1.03
Alonso-Cerezo M., Calero Ruiz M., Chantada-Abal V., de la Fuente-Hernández L., García-Cobaleda I., García-Ochoa C., García-Sagredo J., Nuñez R., **Oliva R.**, Orera-Clemente M., Pintado-Vera D., Sanchez-Ramon S.	**Recommendations regarding the genetic and immunological study of reproductive dysfunction.**	Urgencias en pediatría. 151(4):161.E1-161.E12	1,168	Q3	5.03
Albéniz E, **Pellisé M**, Gimeno García AZ, Lucendo AJ, Alonso Aguirre PA, Herreros de Tejada A, Álvarez MA, Fraile M, Herráiz Bayod M, López Rosés L, Martínez Ares D, Ono A, Parra Blanco A, Redondo E, Sánchez Yagüe A, Soto S, Díaz Tasende J, Montes Díaz M, Téllez MR, García O, Zuñiga Ripa A, Hernández Conde M, Alberca de Las Parras F, Gargallo C, Saperas E, Navas MM, Gordillo J, Ramos Zabala F, Echevarría JM, Bustamante M, González Haba M, González Huix F, González Suárez B, Vila Costas JJ, Guarner Argente C, Múgica F, Cobián J, Rodríguez Sánchez J, López Viedma B, Pin N, Marín Gabriel JC, Nogales Ó, de la Peña J, Navajas León FJ, León Brito H, Remedios D, Esteban JM, Barquero D, Martínez Cara JG, Martínez Alcalá F, Fernández Urién I, Valdivielso E, en nombre del Grupo Español de Resección Endoscópica de la Sociedad Española de Endoscopia Digestiva.	**Clinical guidelines for endoscopic mucosal resection of non-pedunculated colorectal lesions.**	Gastroenterologia y hepatologia. 41(3):175-190	1,078	Q4	3.11
Aller R., Fernández-Rodríguez C., Io Iacono O., Bañares R., Abad J., Carrión J., García-Monzón C., **Caballería J.**, Berenguer M., Rodríguez-Perálvarez M., Miranda J., Vilar-Gómez E., Crespo J., García-Cortés M., **Reig M.**, Navarro J., Gallego R., Genescà J., Arias-Loste M., Pareja M., Albillos A., Muntané J., Jorquera F., **Solà E.**, Hernández-Guerra M., Rojo M., Salmerón J., Caballería L., Diago M., Molina E., Bataller R., Romero-Gómez M.	**Consensus document. Management of non-alcoholic fatty liver disease (NAFLD). Clinical practice guideline.**	Gastroenterologia y hepatologia. 41(5):328-349	1,078	Q4	3.05; 3.09
Cubiella J., Marzo-Castillejo M., Mascort-Roca J., Amador-Romero F., Bellas-Beceiro B., Clofent-Vilaplana J., **Carballal S.**, Ferrándiz-Santos J., Gimeno-García A., Jover R., Mangas-Sanjuán C., **Moreira L.**, **Pellisè M.**, Quintero E., Rodríguez-Camacho E., Vega-Villaamil P.	**Clinical practice guideline. Diagnosis and prevention of colorectal cancer. 2018 Update.**	Gastroenterologia y hepatologia. 41(9):585-596	1,078	Q4	3.11
Calleja, Jose L.; Macias, Juan; **Forns, Xavier**; Garcia, Federico; Berenguer, Marina; Garcia Deltoro, Miguel; Buti, Maria; Granados, Rafael; Carrion, Jose A.; Morano, Luis; Fernandez, Inmaculada; Coste, Pablo; Pineda, Juan A.;	**Guidelines on treatment of hepatitis C virus infection. Spanish Association for the Study of the Liver (AEEH).**	Gastroenterologia y hepatologia. 41(9):597-608	1,078	Q4	3.03

CLINICAL TRIALS

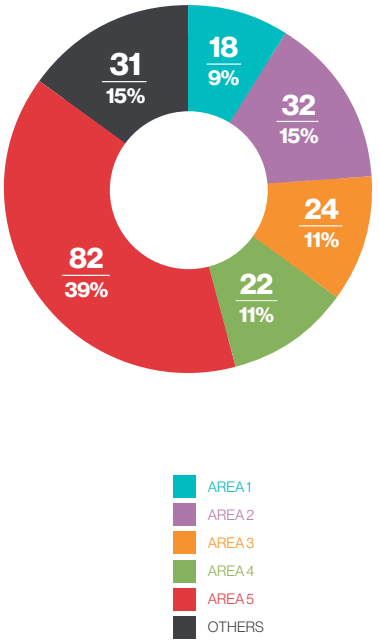
The IDIBAPS constitutes the ideal setting for completing a number of the crucial steps in the development of new medical products. Basic biomedical research and applied clinical research, together with specialized healthcare practice, are aspects of IDIBAPS that may be very useful for the development of drugs.

The adjacent graphics summarize the number of active clinical trials in 2018.
In 2018, 209 new clinical trials were opened and overall, there were 503 active clinical trials. Most of these clinical trials correspond to phase III (43%).



By scientific areas, most of the trials are performed in the area of hemato-oncology.

Clinical trials by research area (%)



PATENTS AND LICENSE AGREEMENTS

The Institute currently manages 52 patent families and 8 proprietary software, 38 license agreements have been signed with several industry partners.

During 2018 **10** new patent applications were filed: **4** priority patents, **3** PCTs, and **3** patents entered into National Phases in several countries. Besides, **2** new license agreements were signed with national and international companies.

PORTFOLIO OF SPIN-OFFS

The activity of IDIBAPS researchers gave rise to 1 new company based on the knowledge from IDIBAPS/HCB: Biomarkers Clinical Diagnosis and Applications, SL, a project led by Dr. Molina.

IDIBAPS researchers have founded 11 spin-offs since 2008, 10 of which are active companies that together employ more than 50 people.

Spinoffs from IDIBAPS researchers where IDIBAPS or FCRB **participate** as shareholders:

OWL METABOLOMICS (2008)
http://www.owlmetabolomics.com/
Dr. Joan Caballeria

OWL is a biotechnology company in the field of Metabolomics with pioneering diagnostics products and unique R&D services for the scientific community. The **OWLiver Test** is the first in vitro test for determining steatosis and NASH.

TRANSPLANT BIOMEDICALS (2014)
https://www.transplantbiomed.com/
Dr. Carmen Peralta

Transplant Biomedicals is a European company based in Barcelona aimed to become an international leader in the field of organ, tissue and cell preservation. The company is at the end-stage of the development of VIVIAN®, a new generation disposable organ preservation device for kidney and available for hospital use. The device integrates the Hypothermic Ultrasound Preservation Technology (HUPT), a revolutionary proprietary and patented technology that leads to superior preservation of organs during ex-vivo conditions.

VIRTUAL BODYWORKS (2015)
https://virtualbodyworks.com/
Dr. Maria Victoria Sanchez-Vives

Virtual Bodyworks is changing the the future of social, medical and psychological rehabilitation. They are developing several tools such as: **i-Cortex** (a tool that facilitates the neurological and physical rehabilitation of individuals who have experienced a wide range of traumas ranging from chronic pain management to stroke) and **VRespect.Me** (a powerful virtual reality experience designed to rehabilitate men with a history of domestic violence, the only scientifically proven product of its kind in the market).

ESTIMTRACK (2016)
http://www.estimtrack.com/
Dr. Jaume Balust

Estimtrack provides an intelligent set of tools to schedule, track and orchestrate all involved personnel in surgical procedures and operating rooms based on Machine Learning (ML), which improves the efficiency of operating room tracks in healthcare organizations by 31%

BARCELONA LIVER BIOSERVICES (2017)
http://liver.barcelona/
Dr. Jordi Gracia-Sancho

BLB is a contract research organization that offers cutting-edge research services and consultancy in the field of liver diseases. They provide tailored reliable solutions to different partners for successful strategic decision making. The ExoLiver, a patented product, allows co-culture of healthy or diseased hepatic cells, unravels key biological data obtained in a human-like system, therefore representing the ultimate pre-clinical step in any development pipeline.

BIOMARKERS CLINICAL DIAGNOSIS AND APPLICATIONS (2018)
Dr. Rafael Molina

BLB is a contract researchThe aim of this company is the development of tumour markers for clinical application through the creation of computer algorithms for the evaluation and detection of cancer.

Spinoffs from IDIBAPS researchers where IDIBAPS or FCRB **do not participate** as shareholders:

TRANSMURAL BIOTECH (2009)
www.transmuralbiotech.com
Dr. Eduard Gratacós

Transmural Biotech is developing innovative products and services in the perinatal field by applying image analysis technologies that facilitate a better diagnosis in a non-invasive way and representing a saving for the health system.

BIONURE (2009)
www.bionure.com
Dr. Pablo Villoslada

Bionure is a clinical stage biotechnology company. Based on more than 15-year of research in neuroprotection, the company develops new first-in-class disease-modifier drugs able to slow down, stop or reverse the damaging process affecting neurons for the treatment of degenerative, ischemic, toxic and inflammatory diseases of the nervous system.

AELIX THERAPEUTICS (2015)
www.aelixtherapeutics.com
Dr. Josep M. Gatell

AELIX Therapeutics is a clinical stage biotechnology company focused on the development of a therapeutic HIV vaccine to be used in cure/eradication strategies. The HIV Vaccine program is based on an innovative T cell vaccine immunogen design that directs the body's immune defence to the most vulnerable parts of HIV.

FREEOX BIOTECH (2017)
www.freeoxbiotech.com
Dr. Ángel Chamorro

Freeox Biotech is an innovative company born to discover and develop medicines addressed to reduce the effects of the oxidative stress in the organism, and especially those related to the neurological and cardiovascular system. The company is focused mainly in Stroke, a condition characterized by the interruption of blood flow to the brain which is a leading cause of death and disability worldwide.

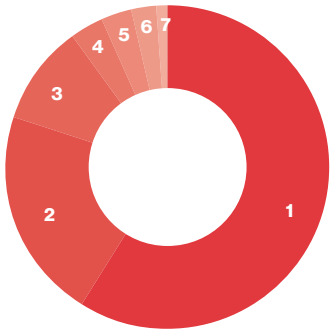
tecnio catalonia
Fins a 31/12/2019
ACCIÓ
Generalitat de Catalunya

The Agency for Business Competitiveness (ACCIÓ) of the Government of Catalonia awarded IDIBAPS in 2016 with the TECNIO logo, thus identifying the institute as a facilitator of access to technology and a body helping businesses to gain knowledge of the technology generated in their scientific and technical environment.

Funding

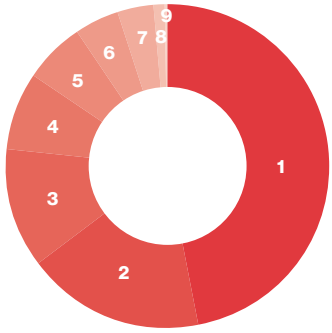
From a financial and managerial perspective, IDIBAPS and FCRB are managed in a global and consolidated manner.
The two institutions share the principal investigators (PI) accredited by IDIBAPS, who have funds, projects and resources in both entities. Annually, the research executed by IDIBAPS accredited PIs is almost 93% of the executed research activity, with the remaining 7% executed by non-accredited PIs

In 2018, the two entities recorded 53,8 M€ consolidated of income and 53 M€ of expenditure, of which 43.8 M€ were directly related to the execution of research projects. Around 11% of this amount corresponds to the contribution of the Generalitat de Catalunya from the Departament d'Empresa i Coneixement and the Departament de Salut



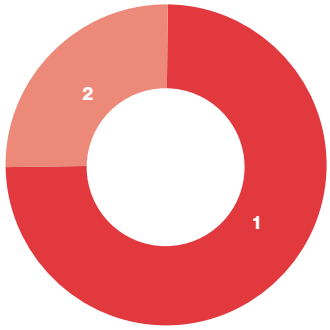
IDIBAPS EXECUTED FUNDS

1	COMPETITIVE PROJECTS	16,452,456 €
2	GENERALITAT DE CATALUNYA	5,947,412 €
3	PRIVATE PROJECTS	2,774,095 €
4	CAPITAL GRANT	924,237 €
5	OTHER INCOME	858,192 €
6	CORE FACILITIES	732,333 €
7	FINANCIAL INCOME	237,706 €
	TOTAL	**27,926,431 €**



FCRB EXECUTED FUNDS

1	CLINICAL TRIALS AND PRIVATE PROJECTS	13,494,764 €
2	COMPETITIVE PROJECTS	5,148,934 €
3	DONATIONS AND PATRONAGE	3,437,167 €
4	TEACHING FUNDING	2,206,500 €
5	INTERCOMPANY SERVICES	1,770,985 €
6	RENTAL INCOME	1,316,941 €
7	CAPITAL GRANT	1,031,998 €
8	MANAGEMENT CLINICAL TRIAL	329,531 €
9	FINANCIAL INCOME	963 €
	TOTAL	**28,737,784 €**



IDIBAPS EXTERNAL FUNDING PER SOURCE

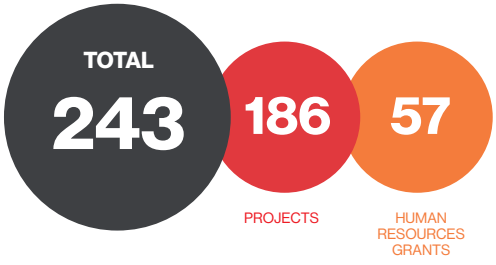
1	NATIONAL	14,384,677€
2	INTERNATIONAL	4,841,874€
	TOTAL	**19,226,552€**

EXTERNAL FUNDING BY RESEARCH AREA

1	BIOLOGICAL AGGRESSION AND...	1,958,527€
2	RESPIRATORY, CARDIOVASCULAR AND...	2,050,477€
3	LIVER, DIGESTIVE SYSTEM AND METABOLISM	7,049,431€
4	CLINICAL AND EXPERIMENTAL NEURO...	4,548,197€
5	ONCOLOGY AND HAEMATOLOGY	2,292,115 €
6	OTHERS	1,327,805 €
	TOTAL	**19,226,552€**

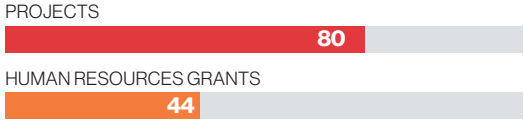
New competitive projects

The granted external funding supports mainly research projects and human resources grants. Some of these resources also fund scientific equipments or facilities.
IDIBAPS researchers are competitive in a wide range of opportunities launched at different levels (International, Spanish or Catalan). Regardless the funding's origin, many of the granted activities are co-funded by the European Regional Development Fund (ERDF).

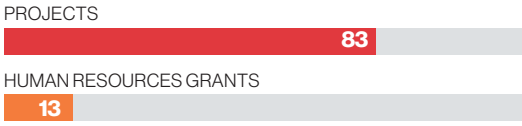


INTERNATIONAL **23**

SPANISH **124**



CATALAN **96**



The following table classifies the **243 new competitive projects** in 2018 per funding agency. Additionally, the funding institutions are grouped in two sections, **public (84%)** and **private (16%)**:

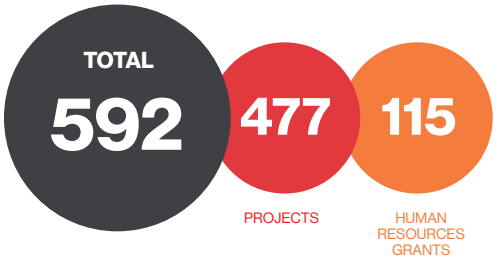
COMPETITIVE PUBLIC FUNDING	NUMBER OF PROJECTS
TOTAL	**204**
Catalan institutions	**92**
Ajuntament de Barcelona	2
Agència de Gestió d'Ajuts Universitaris i de Recerca (AGAUR)	73
Generalitat de Catalunya	17
National institutions	**97**
Instituto de Salud Carlos III (ISCIII)	78
Ministerio de Ciencia, Innovación y Universidades (MICIU)*	14
Ministerio de Educación, Cultura y Deporte	5
International institutions	**15**
European Commission	12
National Institute of Health (NIH)	3

**Previously known as MINECO*

COMPETITIVE PRIVATE FUNDING	NUMBER OF PROJECTS
TOTAL	**39**
Catalan institutions	**4**
Fundació Academia de Ciències Mèdiques i de la Salut de Catalunya i Balears	2
Fundació La Marató de TV3	2
National institutions	**27**
Asociación Duchenne Parent Project España	1
Asociación Española de Gastroenterología (AEG)	1
Bankia S.A.	1
Fundación Alicia Koplowitz	1
Fundación Bancaria "La Caixa"	5
Fundación BBVA	1
Fundación Científica Asociación Española Contra el Cáncer (AECC)	7
Fundación de Investigación Médica Mutua Madrileña	1
Fundación Española de Hematología y Hemoterapia (FEHH)	1
Fundación Quirón Salud	1
Fundación Sociedad Española de Endocrinología y Nutrición (SEEN)	1
Fundación Sociedad Española de Endoscopia Digestiva (SEED)	1
Fundación Sociedad Española de Oncología Médica (SEOM)	1
Fundación Telefónica	1
GILEAD Sciencies	2
Sociedad Española de Alergología e Inmunología Clínica (SEAIC)	1
International institutions	**8**
AMGEN	1
Breast Cancer Now	1
Cancer Research UK	2
European Crohn's and Colitis Organisation (ECCO)	1
Fundação BIAL	1
Gilead Sciences	1
The Guthy-Jackson Charitable Foundation	1

Active competitive projects

In 2018, there were 592 active competitive projects, 154 initiated during the year.



INTERNATIONAL **92**

PROJECTS

- 91
- 64 EC › 13 COORDINATED
- 5 NIH
- 22 OTHER INTERNATIONAL AGENCIES

HUMAN RESOURCES GRANT

- 1 EC › 1 COORDINATED

SPANISH **345**

PROJECTS

- 263

HUMAN RESOURCES GRANTS

- 82

CATALAN **155**

PROJECTS

- 123

HUMAN RESOURCES GRANTS

- 32

Leadership in EU funded projects

IDIBAPS has a strong background both participating and leading competitive projects supported by the European Commission.

In 2018, the European projects led by IDIBAPS researchers are listed below. They are classified in two sections:

MONOCONTRACT

EUROPEAN RESEARCH COUNCIL
MITOSENSING
Decoding mitochondrial nutrient-sensing programs in POMC neurons as key determinants of metabolic health.

Dr. Marc Claret
2017 – 2022
Call: CE_H2020-ERC-2016_Consolidator grant
Official code: 725004

EUROPEAN RESEARCH COUNCIL
PRIORS
Neural circuit dynamics underlying expectation and their impact on the variability of perceptual choices.

Dr. Jaime de la Rocha
2015 – 2021
Call: CE_H2020-ERC-2015_Consolidator grant
Official code: 683209

MARIE SŁODOWSKA CURIE ACTIONS
BITRECS
Biomedicine international training research programme for excellent clinician-scientists.

Dr. Elías Campo
2017 – 2022
Call: CE_H2020-MSCA-COF-16
Official code: 754550

MARIE SŁODOWSKA CURIE ACTIONS
NANOBreg
A new therapeutic platform based on nanotechnology to promote T- and B-regulatory networks.

Dr. Javier Vega
Lab: Dr. Pere Santamaría
2016 – 2018
Call: CE_H2020-MSCA-IF-15
Official code: 704522

COLLABORATIVE

FUTURIZE
A step ahead to tackle future trends in addictions.

Dr. Silvia Matrai / Dr. Antoni Gual
2018 – 2020
Call: CE_JUST-2017-AG-DRUG
Official code: 806964

HIVACAR
Evaluating a Combination of Immune-based Therapies to Achieve a Functional Cure of HIV Infection.

Dr. Felipe Garcia
2017 – 2021
Call: H2020-SC1-2016-RTD
Official code: 731626

IMLINFO
Red Transfronteriza de Immunoterapias Personalizadas para Linfomas no- Hodgkin.

Dr. Patricia Pérez Galán
2018 – 2020
Call: CE_Interreg-16_POCTEFA
Official code: EFA281/16

INTEGRATE
Joint Action on integrating prevention, testing and linkage to care strategies acros HIV, viral hepatitis, TB and STIs in Europe.

Dr. Agata Raquel León
2017 – 2020
Call: HP-JA-2016
Official code: 761319

LIVERHOPE
Simvastatin and rifaximin as new therapy for patients with decompensated cirrhosis.

Dr. Pere Ginès
2017 – 2022
Call: H2020-SC1-2016-RTD
Official code: 731875

LIVERSCREEN
Screening for liver fibrosis. A population-based study in European countries.

Dr. Pere Ginès
2018 – 2019
Call: EIT Health 2017
Official code: 18258

SloW-Dyn
Dinámica de las oscilaciones lentas: experimentos, análisis, modelos e intervenciones terapéuticas.

Dr. Maria Victoria Sanchez-Vives
2015 – 2018
Call: FlaG-ERA ministerio de Economía y Competividad (MINECO)
Official code: PCIN-2015-162-C02-01

Sys4MS
Cuidado personalizado de salud en la Esclerosis Múltiple usando herramientas de medicina de sistemas.

Dr. Pablo Villoslada
2016 – 2019
Call: ERANET 2015
Official code: ID43

TRANSCOLONCAN
Identifying Biomarkers Through Translational Research for Prevention and Stratification of Colorectal Cancer.

Dr. Sergi Castellví
2018 – 2022
Call:CE_H2020-COST17
Official code: CA17118

TWIST
Capacity building in the application of EU drug research – Training With STakeholders.

Dr. Antoni Gual
2017 – 2018
Call: CE_JUST-2016-AG-DRU
Official code: 759685

Institutional projects

BITRECS

Biomedicine international training research programme for excellent clinician-scientists.

WEB
www.bitrecs.idibaps.org

BITRECS is a 60-month research and training fellowship programme (2017 - 2022) having as main aim to recruit 10 excellent and highly motivated postdoctoral clinician-scientists through two international peer-reviewed opportunities.
In 2018, this IDIBAPS programme with the support of the European Commission, has opened and spread worldwide the two expected calls to attract talented scientists. Moreover, an agreement with "La Caixa" Foundation has been reached to provide with additional funding to the programme.

A 36-month contract will be offered to the selected fellows. They will implement their own research project fitted into one of the IDIBAPS research lines while performing one of the two available mobility schemes. Attractive incentives, as well as, life-long training and networking opportunities will be also provided to these experienced researchers in order to boost their research careers. As a result, they are expected to benefit from this unique opportunity with the final goal to become clinician-scientist leaders in the future.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 754550 and "La Caixa" Foundation

SIMPACT

Synergies in International Management and Promotion Activities for a Common Success Leadership Strategy in R&D&I .

PARTICIPANTS
IDIBAPS (Coordinator) and Clinic Foundation for Biomedical Research, FCRB.

SIMPACT is the 3-year collaborative project (2015-2018) between IDIBAPS and FCRB to increase the participation, success and leadership of both institutions in Europe and worldwide. It is supported by the Spanish Ministry of Economy and Competitiveness (MINECO).

The specific objectives of the project are:

1) Increase the visibility and recognition of the Institute internationally.
2) Improve the quality of the institutional management support in European Projects.
3) Create new synergies and long-term collaborations with actors of the private sector.

In 2018, the last activities linked to the project has been performed such as: supporting specific trainings for researchers to improve their competitiveness for the European Research Council (ERC) grants; collaborating in the dissemination of the BITRECS programme and its calls to improve their impact, as well as organising training "in house" events for the research community.

Europa Redes y Gestores, reference EUC2014-C-51553

HRS4R

Human Resources Strategy for Researchers.

WEB
www.clinicbarcelona.org/en/idibaps/research-career

HR EXCELLENCE IN RESEARCH

IDIBAPS is awarded with the logo **"HR Excellence in research"** since 2015. Thus, it has acquired a commitment to implement the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers (Charter & Code) in their policies and practices.

In 2018, IDIBAPS is has implemented its updated Action Plan (2017-2020) resulting from the interim assessment performed in 2017. Some actions under preparation to be concluded at early 2019 are: 1) the integration of the HRS4R vision and strategy into the IDIBAPS Strategic Plan (2018-2021); 2) the updating of some institutional documents such as "Research Career at IDIBAPS" and "Code of Good Practice in Scientific Research"; and, 3) the launching of the recruitment policy at IDIBAPS according to the Open, Transparent, Merit-based Recruitment (OTM-R).

IDIBAPS

Science Party - "Looking for health".

In 2018, IDIBAPS was granted for first time by Institute of Culture (ICUB) from Ajuntament de Barcelona to organise an activity for promoting scientific culture to be run during the Week of Science that was composed by:

1) During the morning: Hands-on scientific workshops for high school students and their teachers to help them better know IDIBAPS and its science as well as to promote their future as scientists.
2) During the afternoon: Hands-on scientific activities for children and their families together with a show about science for everyone.

The bad weather allowed performing the morning activity according to the plan but the afternoon activity had to be postponed.

The **Science Party** resulted in **250 high-school students** that got engaged performing those activities meanwhile learning new concepts and their applicability to healthcare from experienced researchers. Thus, it helped IDIBAPS to be better known and more accessible to the society as well as to promote the culture in science in the city of Barcelona.

SC[18]
www.setmanaciencia.cat

Amb el suport de:

Ajuntament de Barcelona

ICUB Institut de Cultura

Spanish Biomedical Networks

ISCIII Networks

RESEARCH NETWORKS

The Networked Biomedical Research Centres (Centros de Investigacion Biomédica en Red, CIBERs and also CIBERNED) and the Cooperative Research Topic Networks (Redes Temáticas de Investigación Cooperativa en Salud, RETICs) represent a cooperative way of understanding biomedical research to achieve excellent results.
In 2018, IDIBAPS has been related to most of the existing virtual research structures as it is described below:

CIBERS

Two IDIBAPS researchers are Scientific Directors in their corresponding CIBERs as leaders of their corresponding fields of research:

Dr. Jordi Bruix, Scientific Director at CIBER for Hepatic and digestive diseases (CIBEREHD).
www.ciberehd.org
The main purpose of this CIBER is the promotion and protection of health through the promotion of research of a basic nature and oriented to clinical and translational aspects in the area of Hepatic and Digestive Diseases.

Dr. Eduard Vieta, Scientific Director at CIBER for Mental health (CIBERSAM).
www.cibersam.es
The mission of this network is to provide answers and solutions to treat mental illnesses and thus improve the quality of life of citizens.

To sum up, thirty top IDIBAPS researchers are members of CIBER networks and CIBERNED in those proportions:

CIBERDEM Diabetes and assoc. metabolic disorders	3
CIBERER Rare diseases	6
CIBEROBN Obesity and nutrition	2
CIBERES Respiratory diseases	5
CIBERSAM Mental health	2
CIBERCV Cardiovascular	1
CIBERONC Oncology	2
CIBERNED Neurodegenerative diseases	1
CIBEREHD Hepatic and digestive diseases	8

RETICS

Thirteen IDIBAPS high-level researchers are also members of RETICs networks. According to their field of work they are distributed in the following structures:

INVICTUS Cerebral Vascular Diseases	1
OFTARED Eye Diseases: Prevention, early detection and treatment of prevalent, degenerative and chronic ocular pathology	2
REDINREN Renal Research	1
REEM Multiple Sclerosis	3
RIER Research in Inflammation and Rheumatic Diseases	1
ARADyAL Asthma, allergic and adverse reactions	1
RTA Addictive Disorders	1
SAMID Maternal and Child Health and Development	1
REDRIS Research in Aids	1
TERCELL Cell Therapy network	1

Other Networks

ITEMAS NETWORK
https://www.itemas.org

The Medical Technology Innovation Platform (ITEMAS) has as a partner IDIBAPS. This network is one of the Thematic Platforms for Cooperative Research as a key component in its multidimensional vision of innovation within its area of interest.
ITEMAS aims to promote innovation in medical technology as an essential tool in making the Spanish National Health System more sustainable. It also supports the development of the culture of innovation necessary to facilitate integration of all the relevant agents in the field of medical technology.
The core of the ITEMAS comprises the innovation units of 29 large hospitals belonging to the Spanish National Health System, in addition to the Ministry of Health, Social Services and Equality and the National Center for Cardiovascular Research (CNIC).

SPANISH NETWORK OF BIOBANKS PLATFORM

IDIBAPS Biobank is part of the Spanish Network of Biobanks Platform. The main aim of this collaborative initiative is to provide an added value to the National Health System, favoring the development and quality of scientific production. Its members are biobanks of hospitals, autonomic networks, virtual biobancs, biobanks of the main research centers linked to healthcare institutions, between others.
This network is grouped into five working programs being all led by one single scientific coordination:

1) Strategic collections
2) Networked services
3) Research, development and innovation
4) Ethics, law and society
5) Coordination and training

SPANISH CLINICAL RESEARCH NETWORK, SCREN

IDIBAPS Principle Investigators are supported by the Fundació Clínic per la Recerca Biomèdica (FCRB) and also by the IDIBAPS Core Facility of Medical Statistics while performing their clinical research and also their clinical trials. It is for this purpose that the SCReN network has as members both FCRB and IDIBAPS.
This platform is responsible for grouping 31 Units of Clinical Research and Clinical trials. Its objective is to achieve high quality standards in all clinical research procedures, from the design to the final dissemination of the results. The participants of the SCReN network have different profiles such as researchers, cooperative groups, research centres between others.

The network is organized into internal programmes:

1) Regulation and monitoring
2) Pharmacovigilance
3) Methodology, biostatistics and data management
4) Coordination and training. It is noteworthy to mention that the IDIBAPS Core Facility of Medical Statistics, since 2014 until 2018, has been appointed to be the Spanish leader of the above-mentioned programme "Methodology, biostatistics and data management".

NETWORK OF TUMOR BANKS OF CATALONIA (XBTC)

IDIBAPS Biobank has a tumour bank composed by nearly one million samples representative of tumoral tissues belonged to patients with cancer or other kind of diseases. In 2006 as part of the Oncology Master Plan of Catalonia led by Dr. Pedro L. Fernández the Network of Tumor Banks of Catalonia (XBTC) was created.
This structure compile 11 sources of tumour samples linked to the main hospitals of Catalonia. IDIBAPS Biobank is the coordinator node of the XBTC network.

Scientific facilities

CEK, Esther Koplowitz Research Center

Inaugurated by the end of 2010 and with space for more than 350 researchers, the CEK building receives international scientists and PhD students, fostering the exchange of experience and professional synergies.

The building has a laboratory area of 4,860 m² on the ground. In the basement one underground floor offers a total area of 2,485 m², including space for scientific core facilities, a category 2 radioactive non-encapsulated sources type facility (IRA-3029), and a BSL-3 laboratory GMO notified (A/ES/13/I-11).
The CEK building was made possible thanks to the contribution of several public and private institutions, the Generalitat de Catalunya, the Ministerio de Economía y Competitividad, and the Instituto de Salud Carlos III, as well as from the support of other donors such as the Fundación Esther Koplowitz, Fundació Privada Cellex, Acció Sardà Farriol para la Investigación en Diabetes and Laboratorios Esteve.

CELLEX, Biomedical Research Center

Since 2013, CELLEX center is a space with four floors located in the UB School of Medicine. Thanks to the collaboration between the public and private sectors 2,290 m² of laboratories, scientific and technological services and other spaces are available to the research developed at IDIBAPS and the University of Barcelona.

The renovation and adaptation of these areas is mainly the result of a donation from the CELLEX Foundation.
Part of the contribution of the IDIBAPS has been funded with ERDF funds from the Generalitat de Catalunya and the rest comes from specific calls by the Instituto de Salud Carlos III. These IDIBAPS facilities home over 200 researchers.

Core facilities

Excellent biomedical research requires the use of high-cost techniques and equipment. IDIBAPS has five core facilities to provide all researchers with big infrastructures and high quality technical expertise:

Biobank of Hospital Clínic-IDIBAPS
Neurological tissue bank
Tumour bank
Biologic fluids bank

Cytometry and cell sorting
Flow citometry
Cell sorting

Functional Genomics
NGS
Transcriptomics

Magnetic Resonance Imaging
3T
7T
Image lab

Medical Statistics
Statistics
Data management
Information technology

On the other hand, IDIBAPS has an agreement with its consortium partners to optimise investments in infrastructures so duplicities are avoided and a wider spectrum of scientific services can be offered to the community.
Universitat de Barcelona at the Clinic Campus, provides researchers with some complementary infrastructures such as microscopy, animal facility, library and proteomics.

PEOPLE
Anna Bosch, PhD *(until april 2018)*
Aina Rodríguez, PhD *(since june 2018)*
Head of core facilities

Meritxell Rufet
Administrative support

Soraya Pérez
Administrative support

SERVICES

	NEW INTERNAL USERS	NEW EXTERNAL USERS	TOTAL ATTENDED USERS
BIOBANK	35	27	197
CYTOMETRY	8	4	165
GENOMICS	26	12	78
MAGNETIC RESONANCE	24	8	54
MEDICAL STATISTICS	15	10	219

RESEARCH

	PUBLICATIONS	ACKNOWLEDGED PUBLICATIONS
BIOBANK	21	29
CYTOMETRY	-	2
GENOMICS	6	5
MAGNETIC RESONANCE	2	6
MEDICAL STATISTICS	39	-

Biobank of Hospital Clínic - IDIBAPS

FOR FURTHER INFORMATION
www.clinicbiobanc.org
biobanc@idibaps.org

NEUROLOGICAL TISSUE BANK
biobanc.btn@idibaps.org

TUMOUR BANK
biobanc.bancdetumors@idibaps.org

BLOOD AND FLUID BANK
biobanc.fluids@idibaps.org

PEOPLE
BIOBANK

Joan Carles García Pagán, MD, PhD (HCB)
Scientific director

Anna Bosch, PhD *(until april 2018)*
Aina Rodríguez, PhD *(since june 2018)*
Head of core facility

DESCRIPTION

The **Biobank** coordinates the collection, processing, storage and transfer of human biological samples to promote biomedical research of the highest standard. In compliance with the legal and ethical framework, the Biobank only provides samples to projects that have been approved by the ethical and scientific committees. With the aim of optimizing the human resources and equipment in the Biobank, this facility offers a wide range of services for the processing and analysis of the samples gathered by the research groups. All the procedures performed at the Biobank are carried out under ISO 9001:2015 certification. The Biobank's catalogue of samples is formed by the samples collected by three large banks, all of which have extensive experience in research with human samples and which are available for scientific purposes for the consolidation of personalised medicine:

Neurological tissue bank
A nervous tissue repository (brain and spinal cord) created from donations from deceased donors with or without neurological disorders. Brain tissue samples are sent to scientific researchers worldwide, in order to help to increase the understanding of the human brain and to develop therapies for neurological diseases.

Tumour bank and anatomical pathology collections
It is a repository of tumoural and non-tumoural frozen tissue samples from around 12.000 cancer patients. Additionally, the Anatomical Pathology collection consists of paraffin-embedded tissue samples from tumors and other diseases, which gathers more than two million tissue blocks. All these samples are surplus to diagnostic requirements from the Department of Anatomical Pathology in the Hospital Clínic and are essential for current large-scale tissue research projects. Different diagnosis consultants from Hospital Clinic help us in the histopathological evaluation of samples.

Biological fluids bank
This repository contains samples of, among others, metabolic, inflammatory bowel, oncological, digestive, psychiatric and maternal and foetal diseases. It houses a large range of samples of scientific interest, primarily DNA, serum and plasma, which are provided by doctors' surgeries and laboratories where blood and fluids are taken for lab tests and blood and fluids donation.

Flow cytometry and cell sorting

FOR FURTHER INFORMATION
idicitom@idibaps.org

PEOPLE
Crespo, Isabel, PhD
Head of core facility

DESCRIPTION

The Flow Cytometry core facility provides high quality state-of-the-art multiparametric flow cytometry and cell sorting instrumentation as well as associated expertise and services to all investigators at IDIBAPS and other outside customers. Skilled staff provide help with experimental design, sample acquisition, data analysis, sorting and help with interpreting the data and producing figures for publication.

The facility has upgraded their BD FACS Aria SORP cell sorter with the last version of the software BD FACSDiVa (v8.0.1) that includes support for index sorting and sorting using Terasaki plates.

Functional genomics

FOR FURTHER INFORMATION
genomica.idibaps@idibaps.org

PEOPLE
Pedro Jares, PhD (HCB)
Scientific director

Magda Pinyol, PhD
Head of core facility

DESCRIPTION

The Functional Genomics core facility provides access to different high throughput genomic technologies to the researchers. The facility manages samples for genomic analysis including transcriptional profiling, low density and large-scale genotyping, gene copy number analysis and gene-panel sequencing using different technological platforms such as real-time PCR, digital quantification, microarrays and next-generation sequencing.
In addition, the facility offers advice on experimental design and application of genomic techonologies

Magnetic resonance imaging

FOR FURTHER INFORMATION
imatge@idibaps.org

PEOPLE
Núria Bargalló MD, PhD (HCB)
Head of core facility

DESCRIPTION

The MRI core facility is equipped with a 7 Tesla Bruker magnet for small animal imaging and a PRISMA 3 Tesla magnet for humans (upgraded in 2017 thanks to own funds and funds obtained from Ministerio de Economia y Competitividad and FEDER). During 2018, all acquisition protocols were optimized and running in regular basis for all clinical studies.

The main objectives of this Core Facility are:

- To provide services related to medical imaging techniques for researchers from IDIBAPS and other institutions, and to industries connected with health.
- To perform first-rate basic and clinical research into medical imaging using structural and functional magnetic resonance imaging, magnetic resonance spectroscopy, molecular imaging, other types of medical imaging and image processing.
- Training of the users and keeping the state of art in MRI techniques to enable researchers conducting experimental and clinical studies, thereby allowing them to explore the advantages of translational research.
- To complement this infrastructure we count with the Laboratory of Image Analysis where the users have different workstations available to use with the most common softwares used in the MR Field installed.

Medical statistics

FOR FURTHER INFORMATION
bioestadistica@idibaps.org

PEOPLE
Ferran Torres, MD, PhD (HCB)
Head of core facility

DESCRIPTION

Medical Statistics is an IDIBAPS core facility that provides methodological and statistical support for IDIBAPS research projects and those of allied institutions.
The main objective is to promote clinical research excellence and facilitate resources to achieve this.
The platform's tasks are conducted in compliance with the International Conference of Harmonisation guidelines, European and local laws, as well as with the regulatory recommendations. Standard Operating Procedures (SOPs) are in place to fulfil those standards.

Training

Doctoral theses

107 Doctoral theses defended in 2018.

6 Theses with European mention.

THESIS AUTHOR	TITLE	THESIS DIRECTORS
Alvaro Eguileor Giné	Deciphering the transcriptome and additional roles of Sox11 in mantle cell lymphoma.	**Amador V, Campo E**
Iñaki González Foruria	Endometriosis pathogenesis: The relationship between oxidative stress, fibrosis and immunological dysfunction.	**Carmona F, Chapron C**
Rosana Maris Quintana	Estudio de prevalencia de manifestaciones musculo-esqueleticos autoinmunes sistémicas y reumáticas en una comunidad originaria (qom) de la ciudad de Rosario, Santa Fe, Argentina.	**Cervera R, Peláez I**
Iris Martínez Quetglas	Characterization of novel actionable molecular subgroups in Hepatocellular Carcinoma: Immune class and IGF2-driven tumors.	**Llovet JM**
Ignasi Rodríguez Pintó	Catastrophic antiphospholipid syndrome: treatment and prognosis.	**Espinosa G, Shoenfeld Y**
Elena Vila Navarro	MicroRNA biomarkers for early detection of pancreatic ductal adenocarcinoma and functional characterization of miR-93 in the pancreatic carcinogenesis.	**Gironella M**
Juan Acosta Martínez	Técnicas de imagen y mapeo electroanatómico para la identicación y caracterización del sustrato de las arritmias ventriculares. Implicaciones en la ablación con catéter y en la estratificación de riesgo de arritmias ventriculares malignas.	Berruezo A
Alfons Aguirre Tejedo	Identificación y prevalencia de factores precipitantes de insuficiencia cardíaca aguda en los servicios de urgencias españoles y su relación con el pronóstico a corto y medio plazo.	Miró Ò, Llorens P
Nadia Alberghina	Nuevas aplicaciones de la ultrasonografía endoscópica (USE) en oncología digestiva.	Ginés A,Fernandez G
José Alcaraz Quiles	Influencia de factores séricos y genéticos en la respuesta inflamatoria sistémica en pacientes cirróticos descompensados.	Clària J
Elena Alvarez Periel	Dual role of Cdk5 on cognitive deficits and striatal vulnerability in Huntington's disease.	Ginés S
Hugo Jorge Alves Figuereido	Improving islet-graft revascularization.	Gomis R
María Amat Foraster	Modulating NMDA receptors in the thalamo-cortical system. A novel approach to treat major depression.	Artigas F (External supervisor)
Antonio Jesus Amor	Predicción de eventos cardiovasculares: De las escalas de riesgo al uso de biomarcadores.	Ortega E
Gloria Beatriz Aranda	Mecanismos moleculares del riesgo metabólico y cardiovascular en el Síndrome de Cushing antes y después de la curación: Enfoque traslacional.	Hanzu F, Halperin I
Ingrid Cecibel Arteaga	Detección precoz de fibrosis hepática en población adulta.	Parés A, Caballeria LL
Patricia Bassas Freixas	Caracterización de la expresión de ácido ribonucleico mensajero en distintos subtipos histológicos de carcinoma basocelular.	Prat A
Helena Bassolas Molina	Resposta T específica contra antígens de la microbiota comensal en la malaltia de Crohn i inhibició de RORyt com a estratègia terapèutica.	Salas A
Àngela Bellmunt Fontanet	Papel de los exosomas en la comunicación entre las células tumorales y los macrófagos en el carcinoma laríngeo.	Closa D, Lorente J
Anna Blazquez Ventura	Donation of gametes and Risk of Preeclampsia.	Figueras F, Vassena R
Pau Brugada Vilà	Boosting intravenous administration of therapeutic viral vectors using an oligopeptide-modified poly (b -amino ester)s-based coating technology.	Fillat C

Guillem R. Caldentey Adrover	Paper del sistema GAS6-TAM en el remodelat ventricular postinfart agut de miocardi.	Ortiz JT, Bosch X
Mihai Calin Pavel	Factores pronósticos para la supervivencia y recidiva en los pacientes con carcinoma hepatocelular sobrepasando los criterios de Milán sometidos a trasplante hepático de donante vivo.	Garcia-Valdecasas JC
Xavier Calvo González	Valoració pronòstica de les síndromes mielodisplàstiques i de la leucèmia mielomonocítica crònica.	Nomdedeu B
María José Cambra Serés	Tratamiento del carcinoma in situ de la mama. Beneficio de la administración de una dosis adicional en el lecho de la tumorectomía a la radioterapia complementaria de toda la mama tras la cirugía conservadora. Estudio retrospectivo.	Biete A
Javier Caradeux Bull	Longitudinal assessment for the prediction of abnormal fetal growth.	Figueras F
Sabela Carballal Ramil	Caracterización clínica y endoscópica de formas de alto riesgo de cáncer colorrectal.	Balaguer F, Pellisé M
Cristina Casajuana Kögel	La unitat estandarditzada de cànnabis: un instrument per a la valoració del consum de cànnabis i dels seus riscs.	Gual A
Laila Rosalie Cochon Coen	Bayesian Statistical Modeling for Clinical Decision Making in Emergency Medicine.	Nicolas JM
Andrea Comella Bolla	Neuronal differentiation and maturation of human pluripotent stem cells for modeling Huntington's disease.	Canals JM
Isabel Conde Mir	Compatibilitat clínica entre marcapassos cardíacs i aparells electrònics odontològics: Estudi in vivo.	Mont L, Miranda J
Jordi Creus Muncunill	Dual role of mTOR in Huntington's disease: contribution to striatal neuronal survival and dysfunction.	Pérez E
Andrés Cruz Herranz	Retinal imaging in preclinical models of neuroinflammatory disease.	Martínez-Lapiscina EH, Villoslada P
David de la Rosa Carrillo	Análisis del impacto clínico, pronóstico y económico de los pacientes con bronquiectasias y EPOC.	Agusti C
Bàrbara Delàs Alos	Análisis de la anatomía y funcionalidad foveal en ojos de pacientes con agujero macular idiopático antes y después de la cirugía.	Casaroli MaranoR, Nadal J
Ana Esteve Solé	Primary and secondary immunodeficiencies of the IL-12/IFN-y axis.	Juan M, Alsina L
Borja Farré Sender	El vínculo materno-infantil: Evaluación y detección de los factores de riesgo prenatales en madres diagnosticadas de un trastorno mental.	Valdés M, Garcia-Esteve LL
Ana Fernandez Arcos	Caracterización clínica, polisomnografica y evolutiva del trastorno de conducta de sueño Rem Idiopático.	Iranzo A
Elena Ferrer Picón	Ús d'organoides humans per a l'estudi de la barrera epitelial i la resposta a productes microbians en la malaltia inflamatòria intestinal.	Salas A, Dotti I
Xènia Ferrer Cortès	Identificació de mutacions en gens implicats en el metabolisme de l'àcid lipòic en l'acidúrica 3- metilglutacònica.	Ribes A
Marc Figueras Roca	Caracterització dels Factors Clínics i Biològics associats a l'Edema Macular Diabètic en la Diabetis Mellitus Tipus II.	Adán A
Marta Fontcuberta Pi-Sunyer	Desenvolupament de noves estratègies per generar cèl·lules productores d'insulina.	Gasa R, Gomis R
Julia Franziska Weinert	Interfacing the Cerebral Cortex: Two-dimensional recording techniques and electrical stimulation to explore and modulate spatio-temporal network dynamics in the cortex.	Sánchez-Vives MV
Javier Gallego Pinos	Mecanismos reguladores de la angiogénesis mediada por la vía del factor de crecimiento endotelial (VEGF) en hipertensión portal i cirrosis.	Fernández M
Anna Isabel Garcia Diaz	Visuospatial and visuoperceptual impairment and its structural correlates as measures of cognitive decline in Parkinson's disease.	Junqué C, Segura B
Ester Garcia Pras	Mecanismes moleculars i cel·lulars de la neovascularització associada a la hipertensió portal i la cirrosi hepàtica.	Fernández M
Alfonso Gerardo García	Therapautic strategies based on neuroprotective mechanisms of neurotrophic factors in Huntington's Disease models.	Alberch J

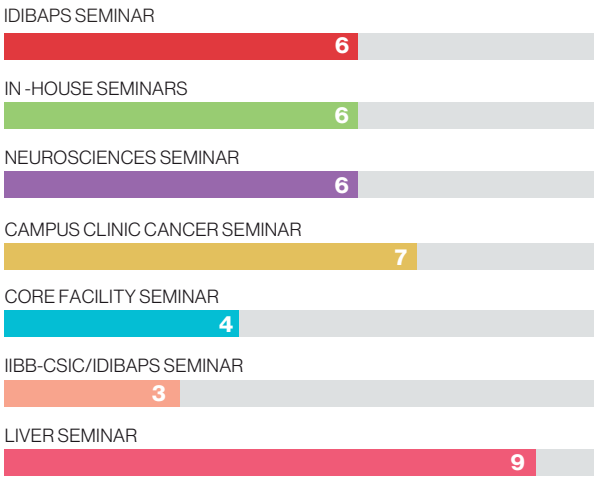
Laura García Otero	Fetal cardiovascular remodelling in HIV pregnancies.	Crispi F, López M
Juan Miguel Garrido Ocaña	Evaluación de satisfacción de los pacientes que acuden a una Unidad de Trastornos Bipolares.	Grande I, Trilla A
Cláudia Gonçalves Fagundes	Insuficiencia renal en la cirrosis: Validación de los criterios akin y utilidad de la Ngal en el diagnóstico diferencial.	Ginés P, Guevara M
Alexandre González Rodríguez	Biomarcadors de resposta farmacològica en dones postmenopàusiques amb esquizofrènia.	Bernardo M, Catalan R
Mariona Guitart-Mampel	Mitochondrial implication in intrauterine growth restriction and cardiovascular remodeling.	Cardellach F, Garrabou G
Hatice Gulcin Gumus	Intrauterine therapy for fetal growth restriction.	Crispi F, Ley D
Lorna Leal Alexander	Evaluación de la seguridad, tolerabilidad y adherencia a la profilaxis post-exposición como estrategia para la prevención de la infección por el virus de la inmunodeficiencia humana.	Garcia F
María Eriong Lee Vergés.	Novel therapeutic strategies for chronic lymphocytic leukemia.	Colomer D
Hugo López Pelayo	Beure o viure: el dilema davant la malatia mèdica relacionada amb el consum d'alcohol.	Gual A
Júlia López Guimet	Technological insights into a histopathological and protein composition analysis of aortic aneurysms in Marfan syndrome.	Egea G
Lluna Mª López Ortiz	Development of a formulation and stable pharmaceutical form for adenoviral vectors.	Abian J, Avilés FX
María Constanza Lucero	Pacientes infectados por VIH con buen control inmunovirológico: prevalencia de eventos no-SIDA y marcadores de evolución.	Garcia F
Laura Magnano Mayer	Estudio de factores clínico-biológicos relacionados con el microambiente, la transformación histológica y la respuesta al tratamiento en pacientes con linfoma folicular.	López Guillermo A
Ramon Marquès Mascarell	Caracterización de una nueva fitasa y su expresión en Pichia pastoris.	Aligué RM
David Martin García	Caracterització genètica del Limfoma de Cèl·lules del Mantell i la Leucèmia Limfàtica Crònica mitjançant microarrays i tècniques de seqüenciació: noves eines pel diagnòstic i pronòstic.	Beà S
Sofia Alejandra Martínez Trillos	Influencia de las mutaciones genéticas en las características clínicas, biológicas y evolutivas de los pacientes con leucemia linfática crónica y linfoma linfocítico.	Villamor N
Anna Mensa Vilaró	Implicació del mosaïcisme genètic en les immunodeficiències primàries.	Aróstegui JI
Laia Miquel De Montagut	Impacte del consum d'alcohol en l'ús de recursos i costos sanitaris.	Gual A
Enrique Mir Fuertes	Endothelial dysfunction ocurring in acute graft-versus-host disease. Potential preventive and therapeutic agents.	Diaz-Ricart MI, Palomo M
Joan Ignasi Mir Coll	Regulation of pancreatic beta cell mass and function: the role of glycogen metabolism and other intrinsic factors.	Gomis R, Gasa R
Jezid Enrique Miranda Quintero	Phenomapping of fetal growth restriction.	Gratacós E, Crispi F
Ruth Montalbo Calafell	Estudi del Carcinoma Urotelial. Identificació de biomarcadors amb valor diagnòstic i pronòstic.	Mengual L, Izquierdo L
Enma Marianela Morales Espinoza	Dolor crónico generalizado y Fibromialgia: estudio de pruebas objetivas, comorbilidad, complejidad y gasto sanitario.	Sisó A, Ramos M
Meritxell Munmany Delgado	Detecció de la regressió post-biòpsia de la neoplàsia cervical intraepitelial. Valor de la colposcòpia immediata preconització.	Torné A, Del Pino M
Andrè Nogueira Nazar	Valoración de la función ventricular izquierda en la cirrosis hepática: relación con la hemodinámica sistémica y la disfunción renal.	Ginés P
Luis Perea Sanchez	Las células estrelladas hepáticas en las enfermedades del hígado y el desarrollo de nuevos modelos de fibrosis.	Sancho-Bru P

María del Mar Petit Pedrol	Antigens and mechanisms of immune-mediated encephalitis.	Dalmau J
Núria Planell Picola	Estudi transcripcional de la Colitis Ulcerosa. Caracterització i cerca de biomarcadors.	Salas A, Lozano JJ
Marina Pontello Cristelli	Renal disease among patients with hiv infection: prevalence, risk factors, and evolution after renal transplantation.	Miró JM, Cofan F
Miriam Potrony Mateu	Characterization of genetic factors associated with melanoma susceptibility and prognosis.	Puig S
Carmen Quirós López	Eficacia del uso de la tecnología en el tratamiento de la diabetes tipo I en nuestro entorno. De las Bombas de insulina al páncreas artificial.	Conget I, Giménez M
Tri Rahmat Basuki	Longitudinal Study of Fetal Growth in Low-Risk Population.	Gratacós E, Figueras F
Sònia Ramos Perdigués	Evaluación de los síntomas psiquiátricos en pacientes con epilepsia refractaria intervenidos quirúrgicamente a través de un estudio prospectivo controlado durante 12 meses.	Pintor L, Baillès E
Clara Recasens Zorzo	Preclinical evaluation of the antitumor activity of a new CXCR4 inhibitor: a novel therapeutic approach in diffuse large B-cell lymphoma.	Pérez P, Roué G
Adriano Rodríguez Trujillo	Utilidad de la determinación VPH, genotipado y tinción dual p16/Ki67 en la prevención secundaria del cáncer de cuello de útero.	Torné A, Del Pino M
Luis Gerardo Rodríguez Lobato	Factores pronóstico en pacientes con amiloidosis sistémica por cadenas ligeras.	Fernández De Larrea C, Bladé J
Natalia Rodríguez Ferret	Bases biológicas de la fisiopatología y la farmacología del trastorno obsesivo-compulsivo de inicio en la infancia y la adolescencia. Influencia de la genética y la desregulación inmunológica.	Morer A, Gassó P
Sally Sabra	Maternal Heavy Metals and Toxins Exposure and their influences on Fetal Growth Restriction Clinical Subtypes.	Gratacós E, Gómez MD
Anna Sala Puigdollers	Estudio de repetibilidad y reproductuvidad del grosor retiniano y coroideo mediante tomografía de coherencia óptica de dominio swept source y comparación con dominio espectral en el Edema Macular Diabético.	Adán A, Zarranz J
Bernardo Francisco Sánchez	Biomarcadores de calidad visual percibida en pacientes con neuritis óptica aguda y esclerosis múltiple.	Villoslada P, Adan A
Irene Sangrador Escrig	Zeb1 en las células estrelladas del páncreas: implicación en la oncogénesis pancreática dependiente de Kras.	Vaquero EC
Alfonso Santamaría Gadea	Uso endoscópico del colgajo pericraneal para la reconstrucción nasal y de base de cráneo.	Alobid I, Enseñat J
Sandra Santasusagna Canal	Exosomes i microRNAS en biòpsia líquida com a biomarcadors pronòstics del càncer de colon.	Monzó M, Navarro A
Martin Sebastian Bonacci	Historia natural de la infección crónica por el VHB en Portadores Inactivos y Pacientes en Zona Gris e Impacto Virológico, Inmunológico y Clínico del Tratamiento con Antivirales de Acción Directa sobre la Vasculitis Crioglobulinémica asociada al VHC.	Forns X, Lens S
Berta Serra Navarro	Implicació de la senyalització dependent de Gsa en l'establiment de la massa cel·lular ß.	Gomis R, Gasa R
Laura Sin Díaz	Papel del p21 en la regulación de la vía de Wnt y su implicación en la neurogénesis.	Bachs O
Marianna Spatola	Neuronal antibody-mediated encephalitis: Clinical characterization and pathological mechanisms.	Dalmau J
Monique Carolina Suarez	New Therapeutic approaches for obstructive sleep apnea.	Almendros I, Montserrat JM
Núria Suelves Caballol	Evaluation of therapeutic targets for the treatment of behavioral alterations and neuropathology in Huntington's disease.	Ginés S
Marta María Tasende Presedo	Abordaje transanal en patología rectal.	De Lacy A
Gemma Tell Martí	Rol del gen de pigmentació MC1R en la susceptibilitat a malalties neurodegeneratives.	Puig S, Puig JA
Ákos Tényi	A Systems Medicine approach to multimorbidity -Towards personalised care for patients with Chronic Obstructive Pulmonary Disease.	Roca J, Cano I

Nekane Terrades Garcia	Interleukin-6(IL-6)IL-6 receptor and persistence of inflammation in Giant Cell Arteritis. Effects of IL-6 receptor blockade with tocilizumab.	Cid MC
Montserrat Torrebadell Burriel	Análisis del valor pronóstico del perfil de expresión génica en la leucemia mieloblástica aguda de riesgo citogenético intermedio según la opción terapéutica post-remisión.	Esteve J, Camós M
Berta Torres Murillo	Marcadores de inflamación en pacientes infectados por el virus de la inmunodeficiencia humana en tratamiento antirretroviral.	Garcia F
Anna Tutusaus López	Identificación de dianas terapéuticas en fibrosis hepáticas y cáncer.	Marí M, Morales A
Meritxell Valls Mateus	Impacte de les alteracions anatòmiques intranasals sobre els símptomes, la resposta al tractament mèdic i la qualitat de vida en nens i adolescents amb rinitis al·lèrgica persistent.	Mullol J, Mariño F
Marina Vendrell Jordà	Evaluación de las alteraciones de la coagulación de los donantes a corazón parado, su relación con la viabilidad de los injertos hepáticos y posibles acciones terapéuticas.	Fondevila C, Garcia-Valdecasas JC
Norma Verdolini	Self and Hetero-Aggression: Clinical Implications in Bipolar Disorder and Mixed States	Vieta E, Pacchiarotti I

Seminars

41 Institutional Seminars



2018
IDIBAPS AUTUMN SEMINARS

SEPTEMBER
OCTOBER

Venue
Esteve Auditorium
idibaps-CEK Building
Rosselló 149-153, Barcelona
info@idibaps.org

- IDIBAPS SEMINAR
- IDIBAPS IN-HOUSE SEMINAR
- NEUROSCIENCES SEMINAR
- CAMPUS CLINIC CANCER SEMINAR
- IDIBAPS CORE FACILITY SEMINAR
- IIBB-CSIC/IDIBAPS SEMINAR
- IDIBAPS LIVER SEMINARS

September 18th - 15.00h
The mitochondrial Sab/p-JNK axis in acute liver failure and hepatocyte cell death
Neil Kaplowitz, MD
Keck School of Medicine
University of Southern California

September 25th - 15.00h
Obesity and the gut microbiota: from the bench to the bedside
Patrice D. Cani, PhD
Université Catholique de Louvain
Brussels, Belgium

September 27th - 15.00h
Therapeutic strategies using non-viral nucleic acid in animal models of Parkinson's disease
Analia Bortolozzi, PhD
IDIBAPS Researcher
Systems neuropharmacology

October 10th - 13.15h
Chimeric Antigen Receptor (CAR) - modified T cells for the treatment of solid tumours
Sonia Guedan, PhD
IDIBAPS Researcher
Hematopoietic progenitor cell transplantation

October 17th - 15.00h
The CLL reference epigenome projectand beyond: new insights into the pathogenesis and genetic predisposition of chronic lymphocytic leukemia
Renée Beekman, PhD
IDIBAPS Junior Researcher
Biomedical epigenomics

October 24th - 16.00h
Liver vascular biology
Krista Rombouts, PhD
Institute for Liver and Digestive Health,
University College London (UCL), UK

October 30th - 15.00h
Development and function/dysfunction of a CA1 pyramidal neuron subtype
Albert Giralt, PhD
UB Junior Researcher
Department of biomedicine

IDIBAPS

Stepping-stone training programme

It is a **training programme** that seeks to provide predoctoral **(R1)** and postdoctoral **(R2)** researchers at IDIBAPS with non-scientific tools and skills which are key for the development of their careers.

6 Sessions in 2018

188 Attendees in 2018

stepping-stone
IDIBAPS TRAINING PROGRAMME
FOR PRE AND POSTDOCTORAL RESEARCHERS

december 2017 • october 2018 Schedule

Pre-registration required

TIME MANAGEMENT FOR RESEARCHERS
David Alcántara, PhD. President of SACSIS (Spain)
December, 18th 2017
Plenary Session
15:00

EFFECTIVE TEAM PLAYING: MANAGING RELATIONSHIPS IN THE WORKPLACE
Tobias Rodrigues. Founder, Coach and Trainer at tobiasrodrigues.com. (Spain)
February, 6th 2018
Plenary Session
15:00

GRANT AND PROPOSAL WRITING FOR SCIENTISTS
Gavin Lucas, PhD. Founder, Scientific Editor and Trainer at the PaperMill (Spain)
April, 18th/19th/20th 2018
Workshops
9:30 - 13:30

RESEARCH INTEGRITY: CAN WE SCIENTISTS TRUST OURSELVES?
Maruxa Martínez-Campos, PhD. Scientific editor and Community manager at PRBB and Associate professor at UPF (Spain).
June, 12th 2018
Plenary Session
15:00

WHY AND HOW TO INCREASE THE SOCIAL IMPACT OF YOUR R&I?
Rosina Malagrida. Head of the Living Lab for Health at IrsiCaixa (Spain).
October, 15th 2018
Plenary Session
12:00

IDIBAPS - CEK Building
Rosselló 149-153, Barcelona
stepping.stone@idibaps.org

IDIBAPS

Communication and public engagement

MEDIA RELATIONS

31 Press releases

PUBLIC RELATIONS

17 Events organised

PUBLIC ENGAGEMENT

48 Activities organised
(11 different categories of activities)

2,131 Audience Reached

SOCIAL MEDIA

Facebook
2112 page likes*

Twitter
8290 followers*

Linkedin
2062 followes*

*at december 31

ACTIVITIES
Primary school students

30 Summer Camp.
Assistants

ACTIVITIES
Secondary school students

164 Escolab.
Participants

240 Brain Awareness Week.
Participants

10 Barcelona Int. Youth Science ChallengeVisits.
Participants

60 Bojos per la Medicina.
Participants

250 IDIBAPS Science Party.
Participants

ACTIVITIES
General Public

848 "A la recerca de la salut" at Centre Cívic Urgell
Assistants

70 La Marató de TV3.
Assistants

75 Pint of Science.
Assistants

150 European Researcher's Night.
Assistants

165 Barcelona "Festa de la Ciència"
Assistants

News

FEBRUARY

IDIBAPS and Hospital Clínic unveil a new Resonance Magnetic Imaging 3T scanner. *(Foto 1)*

MARCH

Alvar Agustí, awarded the Fundación Lilly Biomedical Research Prize 2018. *(Foto 2)*

JULY

IDIBAPS researchers awarded with two "la Caixa" Foundation grants for biomedical research projects. *(Foto 3)*

OCTOBER

Elias Campo, new member of the National Academy of Medicine of the United States.

IDIBAPS and CRG researchers awarded with an 8,3 M€ ERC Synergy grant to unravel chronic lymphocytic leukemia. *(Foto 4)*

IDIBAPS participates in two international projects to advance in traslational cancer research .

NOVEMBER

250 students from 12 catalan institutes participate in the IDIBAPS' Science Party. *(Foto 5)*

Thirteen researchers of the Hospital Clínic-IDIBAPS and the University of Barcelona appear in the list of the most influential scientists worldwide. *(Foto 6)*

1

2

3

4

5

6

ANNUAL
SCIENTIFIC REPORT
2018

AREA 1

BIOLOGICAL AGGRESSION AND RESPONSE MECHANISMS

1

© Verónica Brito

AREA 1

BIOLOGICAL AGGRESSION AND RESPONSE MECHANISMS

1.1 Inflammatory joint diseases (IJDs) 58
Raimon Sanmartí

1.2 Systemic autoimmune diseases 60
Ricard Cervera

1.3 Infectious diseases and AIDS 66
Josep M. Miró

1.4 Immune receptors of the innate and adaptive system 76
Francisco Lozano

1.6 Immunogenetics of the autoinflammatory response 79
Jordi Yagüe

1.7 Emergencies: processes and pathologies 82
Oscar Miró

1.8 Molecular and cellular bases of inflammation. Structural and biological mass spectrometry 88
Daniel Closa

1.9 Ocular inflammation: clinical and experimental studies 90
Alfredo Adán

1.1 Inflammatory joint diseases (IJDs)

LOCATION
HCB building

KEYWORDS
1. **Rheumatoid arthritis**
2. **Psoriatic arthritis**
3. **Pathogenesis**
4. **Biomarkers**
5. **Targeted therapies**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	58.21	14	8	5
2017	85.96	16	7	5
2018	43.77	9	7	1

TEAM INVOLVED IN
RIER

TEAM LEADER
Raimon Sanmartí (HCB)
T. 93 227 54 00 (Ext.: 2236/2604)
sanmarti@clinic.cat

RESEARCHERS
Juan de Dios Cañete (HCB)

POST-DOCTORAL RESEARCHERS
Raul Antonio Castellanos (HCB)
Maria Raquel Celis (FCRB)
Andrea Cuervo (FCRB)
María Victoria Hernández (HCB)
Rosa M Morla Novell (FCRB)
Felipe Julio Ramirez (FCRB)
Virginia Ruiz-Esquide (FCRB)

STRATEGIC OBJECTIVES

Promotion of research into the most prevalent chronic forms of immune mediated inflammatory arthritis: rheumatoid arthritis (RA) and spondyloarthritis, including psoriatic arthritis.

MAIN LINES OF RESEARCH

1. Prognostic factors in early arthritis
- Prognostic factors (clinical and immuno genetic) in patients with recent-onset rheumatoid arthritis.
- Production of new synthetic citrullinated peptides for the design of immunoassa ys with diagnostic and prognostic value in recent-onset rheumatoid arthritis and palindromic rheumatism.

2. Clinical and sonographic characterization of clinical remission
- Definition and clinical characterization of subclinical "active synovitis"
- Immunopathological and molecular characterization of subclinical "active synovitis".
- Search of biomarkers of clinical reactivation and radiographic progression.

3. Immunopathology of synovitis in chronic arthritis
- Utility in pathogenesis, differential diagnosis and prognosis of rheumatoid arthritis and psoriatic arthritis. Immuno pathological changes induced by biological treatments. Mechanism of action of targeted therapies. Synovial response biomarkers.

4. Pharmacogenomics of chronic arthritis
- Genetic biomarkers associated to biological therapy response in rheuma toid arthritis and psoriatic arthritis

PUBLICATIONS

Originals / I.F.: 43.766

1. Lauper K, Nordström DC, Pavelka K, Hernández MV, Kvien TK, Kristianslund EK, Santos MJ, Rotar Ž, Iannone F, Codreanu C, Lukina G, Gale SL, Sarsour K, Luder Y, Courvoisier DS, Gabay C. **Comparative effectiveness of tocilizumab versus TNF inhibitors as monotherapy or in combination with conventional synthetic disease-modifying antirheumatic drugs in patients with rheumatoid arthritis after the use of at least one biologic disease-modifying antirheumatic drug: analyses from the pan-European TOCERRA register collaboration.** *ANNALS OF THE RHEUMATIC DISEASES.* 77(9):1276-1282. I.F.: 12.350

2. Balsa A, Sanmarti R, Rosas J, Martin V, Cabez A, Gómez S, Montoro M . **Drug immunogenicity in patients with inflammatory arthritis and secondary failure to tumour necrosis factor inhibitor therapies: the REASON study.** *RHEUMATOLOGY.* 57(4):688-693. I.F.: 5.245

3. Choy, Ernest; Caporali, Roberto; Xavier, Ricardo; Fautrel, Bruno; Sanmarti, Raimon; Bao, Min; Bernasconi, Corrado; Petho-Schramm, Attila. **Subcutaneous tocilizumab in rheumatoid arthritis: findings from the common-framework phase 4 study programme TOZURA conducted in 22 countries.** *RHEUMATOLOGY.* 57(3):499-507. I.F.: 5.245

4. Diaz-Torne C, Ortiz MDA, Moya P, Hernandez MV, Reina D, Castellvi I, De Agustin JJ, Fuente D, Corominas H, Sanmarti R, Zamora C, Cantó E, Vidal S . **The combination of IL-6 and its soluble receptor is associated with the response of rheumatoid arthritis patients to tocilizumab.** *SEMINARS IN ARTHRITIS AND RHEUMATISM.* 47(6):757-764. I.F.: 4.356

5. Inciarte-Mundo J, Ramirez J, Hernández MV, Ruiz-Esquide V, Cuervo A, Cabrera-Villalba SR, Pascal M, Yagüe J, Cañete JD, Sanmarti R . **Calprotectin strongly and independently predicts relapse in rheumatoid arthritis and polyarticular psoriatic arthritis patients treated with tumor necrosis factor inhibitors: a 1-year prospective cohort study.** *ARTHRITIS RESEARCH AND THERAPY.* 20(1):275. I.F.: 4.269

6. Bastida C, Ruiz-Esquide V, Pascal M, de Vries Schultink AHM, Yagüe J, Sanmartí R, Huitema ADR, Soy D . **Fixed dosing of intravenous tocilizumab in rheumatoid arthritis. Results from a population pharmacokinetic analysis.** *BRITISH JOURNAL OF CLINICAL PHARMACOLOGY.* 84(4):716-725. I.F.: 3.838

7. Gomara, Maria J.; Rodriguez, Javier; Bleda, Maria J.; Salvador, Juan P.; Sanmarti, Raimon; Haro, Isabel. **Comparative study of the diagnostic and prognostic value of antibodies against chimeric citrullinated synthetic peptides and CCP3/CCP3.1 assays.** *CLINICAL CHEMISTRY AND LABORATORY MEDICINE.* 56(2):285-293. I.F.: 3.556

8. Lopez-Rodriguez R., Perez-Pampin E., Marquez A., Blanco F., Joven B., Carreira P., Ferrer M., Caliz R., Valor L., Narvaez J., Cañete J., Del Carmen Ordoñez M., Manrique-Arija S., Vasilopoulos Y., Balsa A., Pascual-Salcedo D., Moreno-Ramos M., Alegre-Sancho J., Navarro-Sarabia F., Moreira V., Garcia-Portales R., Raya E., Magro-Checa C., Martin J., Gomez-Reino J., Gonzalez A. **Validation study of genetic biomarkers of response to TNF inhibitors in rheumatoid arthritis.** *PLOS ONE.* 13(5):e0196793. I.F.: 2.766

9. Queiro R., Cañete J. **Impact of cardiovascular risk factors on the achievement of therapeutic goals in psoriatic arthritis: is there any association?** *CLINICAL RHEUMATOLOGY.* 37(3):661-666. I.F.: 2.141

Review / I.F.: 12.925

1. Ramírez J, Nieto-González JC, Curbelo Rodríguez R, Castañeda S, Carmona L. **Prevalence and risk factors for osteoporosis and fractures in axial spondyloarthritis: A systematic review and meta-analysis.** *SEMINARS IN ARTHRITIS AND RHEUMATISM.* 48(1):44-52. I.F.: 4.356

2. Sanmartí R, Ruiz-Esquide V, Bastida C, Soy D . **Tocilizumab in the treatment of adult rheumatoid arthritis.** *IMMUNOTHERAPY.* 10(6):447-464. I.F.: 3.461

3. Ramírez J, Cañete JD. **Anakinra for the treatment of rheumatoid arthritis: a safety evaluation**. *EXPERT OPINION ON DRUG SAFETY.* 17(7):727-732. I.F.: 3.156

4. Martín-López M., Carmona L., Balsa A., Calvo-Alén J., Sanmartí R., Tornero J., Rosas J. **Serum drug levels of biologic agents in the management of rheumatoid arthritis and spondyloarthritis: a systematic review.** *RHEUMATOLOGY INTERNATIONAL.* 38(6):975-983. I.F.: 1.952

Letters / I.F.: 12.35

1. Sanmarti R, Ramírez J, Castellanos-Moreira R, Cabrera-Villalba SR, Ruiz-Esquide V, Salvador G. **Ultrasound findings in palindromic rheumatism.** *ANNALS OF THE RHEUMATIC DISEASES.* I.F.: 12.350

Case Reports / I.F.: 4.356

1. Florez H, Morlà R, Castellanos-Moreira R, Sanmartí R. **Sustained response to rituximab in a TNFi-induced ANCA-vasculitis developed in a patient with rheumatoid arthritis.** *SEMINARS IN ARTHRITIS AND RHEUMATISM.* 47(4):e15-e16. I.F.: 4.356

GRANTS FOR RESEARCH IN PROGRESS

Cañete JD. **Biomarcadores sinoviales y séricos de mal pronóstico en Artritis Indeferenciadas de inicio. Un estudio longitudinal, prospectivo, de 18 meses de seguimiento.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00993
Duration: 01/01/2018-31/12/2020

Cañete JD. **Biomarcadores sinoviales para la clasificación diagnóstica de las artritis indiferenciadas. Estudio prospectivo basado en patrones vasculares, inmunohistoquímica y expresión génica.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00785
Duration: 01/01/2015-30/06/2019

Cañete JD. **Red Temática de Investigación Cooperativa en Salud - Inflamación y enfermedades reumáticas.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). RD16/0012/0010
Duration: 01/01/2017 - 31/12/2021

Cañete JD. **Red de Investigación en Inflamación y Enfermedades Reumáticas (RIER).**
Sponsored by: Instituto de Salud Carlos III (ISCIII). RD12/0009/0016
Duration: 01/01/2013 – 31/12/2018

Cañete JD. **REMRABIT: Clinical validation of genetic markers to predict persistent remission in rheumatoid arthritis patients treated with biological therapy.**
Sponsored by: Fundación Profesor Novoa Santos. FIS_PMP15 (PMP15/00032)
Duration: 01/01/2016-31/12/2019

1.2 Systemic autoimmune diseases

LOCATION
HCB building
CELLEX building, floor 4B

KEYWORDS
1. **Systemic autoimmune diseases**
2. **Systemic lupus erythematosus**
3. **Systemic vasculitis**
4. **Antiphospholipid syndrome**
5. **Sjögren's syndrome**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	150.05	28	15	10
2017	331.90	35	20	6
2018	140.42	31	15	8

TEAM INVOLVED IN
AGAUR_SGR17: 819, 1413, 1592

AWARDS
Sarcoidosis Clinic Award
Institution: World Association of Sarcoidosis and Other Granulomatous Disorders (WASOG)
Awardee/s: Dr. Manuel Ramos-Casals

TEAM LEADER
Ricard Cervera (HCB)
T. 93 227 57 74
rcervera@clinic.cat

GROUP LEADER
Maria Cinta Cid (HCB)
T. 93 227 57 74
mccid@clinic.cat

RESEARCHERS
Ricardo P Casaroli-Marano (HCB)
Gerard Espinosa (HCB)
Laura Pelegrín (HCB)
Manuel Ramos-Casals (HCB)
Georgina Espígol-Frigolé (HCB-IDIBAPS)
José Hernández-Rodríguez (HCB)

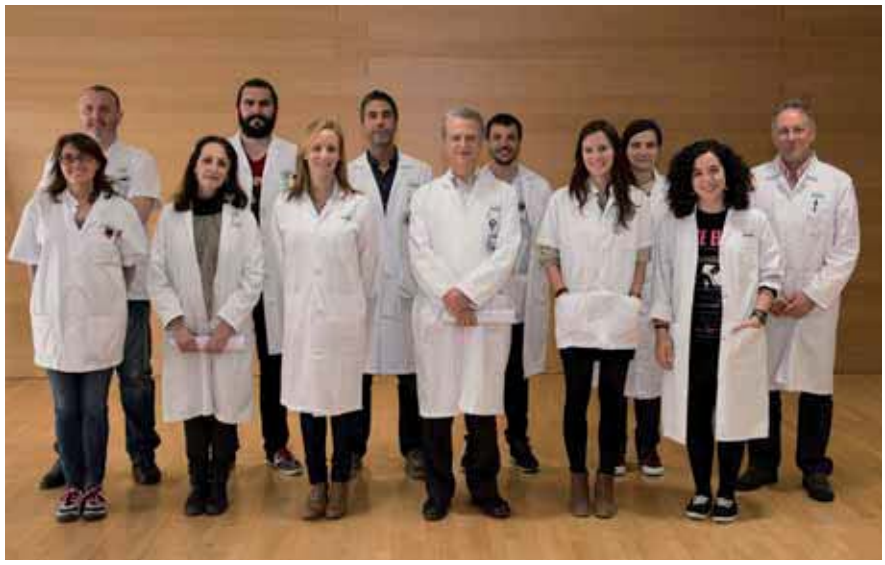
POST-DOCTORAL RESEARCHERS
Marc Corbera-Bellalta (IDIBAPS)
Ester Planas (IDIBAPS)
Sergio Prieto-González (HCB)
Nekane Terrades-Garcia (IDIBAPS)

PRE-DOCTORAL RESEARCHERS
Emmanuel Coloma-Bazán (HCB)
Pamela Doti (HCB)
Nerea Iniesta (HCB)
Alba Jerez (HCB)
Carolina Sánchez (HCB)
Roser Alba-Rovira (IDIBAPS)
Javier Marco-Hernández (HCB)
Michelle Villarreal-Compagny (HCB)

ADMINISTRATIVE STAFF
Isabel Chaves (HCB)

COLLABORATORS
Xavier Bosch (HCB)
Antoni Sisó (EAP Les Corts)
Ana García-Martínez (HCB)
Roberto Ríos-Garcés (FCRB)

VISITING SCIENTISTS
Sofia Arteaga *(Universidad de Bogotá, Colòmbia)*
Fabiola Atzeni *(Università di Messina, Itàlia)*
Pilar Brito-Zerón *(Hospital CIMA, Barcelona, Spain)*
Antonio Chamorro *(Hospital Clínico de Salamanca, Spain)*
Sandra Consani *(Hospital Maciel, Montevideo, Uruguai)*
Gloria de la Red *(Hospital de l'Esperit Sant, Santa Coloma de Gramenet, Spain)*
Manuel Ferreira *(Hospital de Santa Maria, Lisboa, Portugal)*
Alejandra Flores-Chavez *(Universidad de Colima, Mèxic)*
Mario García-carrasco *(Benemérita Universidad de Puebla, Mèxic)*
Hoda Gheitasi *(Hospital de Teheran, Iran)*
Maria Kourilovich (Hospital Monte Sinaí, Cuenca, Ecuador)



TEAM Ricard Cervera

Miguel Angel Plasín *(Hospital de Mollet, Spain)*
Joan Plaza *(Hospital de Viladecans, Spain)*
Isaac Pons *(Hospital d'Igualada, Spain)*
Rosanna Quintana *(Hospital Provincial de Rosario, Argentina)*

STRATEGIC OBJECTIVES

The research team promotes clinical and translational research on systemic autoimmune diseases in a multidisciplinary manner, with the participation of members of the Departments of Autoimmune Diseases, Ophthalmology, Nephrology, Immunology, Hemostasis, Obstetrics and Dermatology, among others. These activities are carried out in collaboration with many international working groups.

MAIN LINES OF RESEARCH

1. **Systemic lupus erythematosus, antiphospholipid syndrome and systemic sclerosis:**
- Epidemiological studies on the clinical manifestations and long-term evolution of these diseases.
- Clinical trials in new biological therapies.

2. **Sjögren's syndrome, autoimmune manifestations of hepatitis C virus infection and biological therapies:**
- Study of IgG4 disease associated with Sjögren's.
- Validation of ESSDAI and ESSPRI activity scores,
- Development of new international classification criteria for Sjögren's.

3. **Systemic vasculitis:**
- Investigation of the mechanisms involved in vascular inflammation and remodelling in systemic vasculitis. Identification of biomarkers and new therapeutic targets.
- Development of ex-vivo culture models for studying factors implicated in the perpetuation of inflammation and in vascular remodelling.in giant-cell arteritis
- Clinical trials investigating targeted therapies in the management of systemic vasculitis.
- Clinical phenotypes and outcomes in systemic vasculitis
- Immunogenetics of systemic vasculitis

4. **Autoinflammatory diseases:**
- Epidemiological studies on the clinical manifestations and long-term evolution of these diseases.

RESEARCH GROUP
SYSTEMIC VASCULITIS

GROUP LEADER
Maria Cinta Cid (HCB)

We are interested in investigating mechanisms involved in vascular inflammation and remodelling in systemic vasculitis with the ultimate goal of identifying biomarkers of disease activity and therapeutic targets.
We are also interested in delimitating clinical phenotypes and outcomes as well as in therapeutic innovation with targeted therapies, participating in the design and development of innovative international clinical trials.
The group also participates in massive genotyping and national and international registries of systemic vasculitis, as well as in the development of international guidelines and recommendations for the definitions, classification and management of systemic vasculitis and related diseases.

PUBLICATIONS

Originals / I.F.: 140.423

1. Bonacci M, Lens S, Mariño Z, Londoño MC, Rodriguez-Tajes S, Sánchez-Tapias JM, Ramos-Casals M, Hernández-Rodríguez J, Forns X. **Long-Term Outcomes of Patients With HCV-Associated Cryoglobulinemic Vasculitis After Virologic Cure.** *GASTROENTEROLOGY.* 155(2):311-315. I.F.: 20.773

2. Mendel A, Bernatsky SB, Hanly JG, Urowitz MB, Clarke AE, Romero-Diaz J, Gordon C, Bae SC, Wallace DJ, Merrill JT, Buyon JP, Isenberg DA, Rahman A, Ginzler EM, Petri M, Dooley MA, Fortin PR, Gladman DD, Steinsson K, Ramsey-Goldman R, Khamashta MA, Aranow C, Mackay M, Alarcón GS, Manzi S, Nived O, Jönsen A, Zoma AA, van Vollenhoven RF, Ramos-Casals M, Ruiz-Irastorza G, Lim S, Kalunian KC, Inanc M, Kamen DL, Peschken CA, Jacobsen S, Askanase A, Sanchez- Guerrero J, Bruce IN, Costedoat-Chalumeau N, Vinet É. **Low aspirin use and high prevalence of pre-eclampsia risk factors among pregnant women in a multinational SLE inception cohort.** *ANNALS OF THE RHEUMATIC DISEASES.* 78(7):1010-1012. I.F.: 12.350

3. Herrera C, Marcos M, Carbonell C, Mirón-Canelo J, Espinosa G, Cervera R, Chamorro A. **Association between allelic variants of the human glucocorticoid receptor gene and autoimmune diseases: A systematic review and meta-analysis.** *AUTOIMMUNITY REVIEWS.* 17(5):449-456. I.F.: 8.745

GROUP Maria Cinta Cid

4. Costedoat-Chalumeau N, Houssiau F, Izmirly P, Le Guern V, Navarra S, Jolly M, Ruiz-Irastorza G, Baron G, Hachulla E, Agmon-Levin N, Shoenfeld Y, Dall'Ara F, Buyon J, Deligny C, Cervera R, Lazaro E, Bezanahary H, Leroux G, Morel N, Viallard J, Pineau C, Galicier L, Van Vollenhoven R, Tincani A, Nguyen H, Gondran G, Zahr N, Pouchot J, Piette J, Petri M, Isenberg D. **A Prospective International Study on Adherence to Treatment in 305 Patients With Flaring SLE: Assessment by Drug Levels and Self-Administered Questionnaires.** *CLINICAL PHARMACOLOGY AND THERAPEUTICS.* 103(6):1074-1082. I.F.: 6.544

5. Fernandez-Robredo, Patricia; Recalde, Sergio; Hernandez, Maria; Zarranz-Ventura, Javier; Molins, Blanca; Casaroli-Marano, Ricardo P.; Adan, Alfredo; Saenz-de-Viteri, Manuel; Garcia-Layana, Alfredo. **Novel Association of High c-Reactive Protein Levels and A69S at Risk Alleles in Wet Age-Related Macular Degeneration Women.** *FRONTIERS IN IMMUNOLOGY.* 9(1862):1862. I.F.: 5.511

6. Espígol-Frigolé G, Planas-Rigol E, Lozano E, Corbera-Bellalta M, Terrades-García N, Prieto-González S, García-Martínez A, Hernández-Rodríguez J, Grau J, Cid M. **Expression and function of IL12/23 related cytokine subunits (p35, p40, and p19) in giant-cell arteritis lesions: Contribution of p40 to Th1-and Th17-mediated inflammatory pathways.** *FRONTIERS IN IMMUNOLOGY.* 9(809):809. I.F.: 5.511

7. Little, Jayne; Parker, Ben; Lunt, Mark; Hanly, John G.; Urowitz, Murray B.; Clarke, Ann E.; Romero-Diaz, Juanita; Gordon, Caroline; Bae, Sang-Cheol; Bernatsky, Sasha; Wallace, Daniel J.; Merrill, Joan T.; Buyon, Jill; Isenberg, David A.; Rahman, Anisur; Ginzler, Ellen M.; Petri, Michelle; Dooley, Mary Anne; Fortin, Paul; Gladman, Dafna D.; Steinsson, Kristjan; Ramsey-Goldman, Rosalind; Khamashta, Munther A.; Aranow, Cynthia; Mackay, Meggan; Alarcon, Graciela S.; Manzi, Susan; Nived, Ola; Jonsen, Andreas; Zoma, Asad A.; van Vollenhoven, Ronald F.; Ramos-Casals, Manuel; Ruiz-Irastorza, Guillermo; Lim, Sung Sam; Kalunian, Kenneth C.; Inanc, Murat; Kamen, Diane L.; Peschken, Christine A.; Jacobsen, Soren; Askanase, Anca; Sanchez-Guerrero, Jorge; Bruce, Ian N. **Glucocorticoid use and factors associated with variability in this use in the Systemic Lupus International Collaborating Clinics Inception Cohort.** *RHEUMATOLOGY.* 57(4):677-687. I.F.: 5.245

8. Rodríguez-Pintó I, Espinosa G, Erkan D, Shoenfeld Y, Cervera R, CAPS Registry Project Group . **The effect of triple therapy on the mortality of catastrophic anti-phospholipid syndrome patients.** *RHEUMATOLOGY.* 57(7):1264-1270. I.F.: 5.245

9. Legault K, Schunemann H, Hillis C, Yeung C, Akl E, Carrier M, Cervera R, Crowther M, Dentali F, Erkan D, Espinosa G, Khamashta M, Meerpohl J, Moffat K, O'Brien S, Pengo V, Rand J, Rodriguez Pinto I, Thom L, Iorio A. **McMaster RARE-Bestpractices clinical practice guideline on diagnosis and management of the catastrophic antiphospholipid syndrome.** *JOURNAL OF THROMBOSIS AND HAEMOSTASIS.* 16(8):1656-1664. I.F.: 4.899

10. Isenberg D, Sturgess J, Allen E, Aranow C, Askanase A, Sang-Cheol B, Bernatsky S, Bruce I, Buyon J, Cervera R, Clarke A, Dooley M, Fortin P, Ginzler E, Gladman D, Hanly J, Inanc M, Jacobsen S, Kamen D, Khamashta M, Lim S, Manzi S, Nived O, Peschken C, Petri M, Kalunian K, Rahman A, Ramsey-Goldman R, Romero-Diaz J, Ruiz-Irastorza G, Sanchez-Guerrero J, Steinsson K, Sturfelt G, Urowitz M, van Vollenhoven R, Wallace D, Zoma A, Merrill J, Gordon C. **Study of Flare Assessment in Systemic Lupus Erythematosus Based on Paper Patients.** *ARTHRITIS CARE AND RESEARCH.* 70(1):98-103. I.F.: 4.149

11. Barber MRW, Hanly JG, Su L, Urowitz MB, St Pierre Y, Romero-Diaz J, Gordon C, Bae SC, Bernatsky S, Wallace DJ, Isenberg DA, Rahman A, Ginzler EM, Petri M, Bruce IN, Fortin PR, Gladman DD, Sanchez-Guerrero J, Ramsey-Goldman R, Khamashta MA, Aranow C, Mackay M, Alarcón GS, Manzi S, Nived O, Jönsen A, Zoma AA, van Vollenhoven RF, Ramos-Casals M, Ruiz-Irastorza G, Lim SS, Kalunian KC, Inanc M, Kamen DL, Peschken CA, Jacobsen S, Askanase A, Theriault C, Farewell V, Clarke AE. **Economic evaluation of lupus nephritis in the Systemic Lupus International Collaborating Clinics inception cohort using a multistate model approach.** *ARTHRITIS CARE AND RESEARCH.* 70(9):1294-1302. I.F.: 4.149

12. Hanly J, Li Q, Su L, Urowitz M, Gordon C, Bae S, Romero-Diaz J, Sanchez-Guerrero J, Bernatsky S, Clarke A, Wallace D, Isenberg D, Rahman A, Merrill J, Fortin P, Gladman D, Bruce I, Petri M, Ginzler E, Dooley M, Steinsson K, Ramsey-Goldman R, Zoma A, Manzi S, Nived O, Jonsen A, Khamashta M, Alarcón G, Chatham W, van Vollenhoven R, Aranow C, Mackay M, Ruiz-Irastorza G, Ramos-Casals M, Lim S, Inanc M, Kalunian K, Jacobsen S, Peschken C, Kamen D, Hanly J, Li Q, Su L. **Cerebrovascular Events in Systemic Lupus Erythematosus: Results From an International Inception Cohort Study.** *ARTHRITIS CARE AND RESEARCH.* 70(10):1478-1487. I.F.: 4.149

13. Mesquida M, Molins B, Llorenç V, Hernández MV, Espinosa G, Sainz de la Maza M, Adán A. **Twenty-four month follow-up of tocilizumab therapy for refractory uveitis-related macular edema.** *RETINA.* 38(7):1361-1370. I.F.: 4.013

14. Miró Ò, Yates C, Dines A, Wood D, Dargan P, Galán I, Jerez A, Puiguriguer J, Waring W, Moughty A, O'connor N, Heyerdahl F, Hovda K, Vallersnes O, Paasma R, Põld K, Jürgens G, Megarbane B, Anand J, Liakoni E, Liechti M, Eyer F, Zacharov S, Caganova B, Giraudon I, Galicia M. **Emergencies related to recreational drug abuse in Spain compared to emergencies attended in 3 European areas.** *EMERGENCIAS.* 30(6):384-394. I.F.: 3.608

15. De Castro-Miró M; Tonda R; Marfany G; Casaroli-Marano R; Gonzàlez-Duarte R. **Novel mutation in the choroideremia gene and multi-mendelian phenotypes in Spanish families.** *BRITISH JOURNAL OF OPHTHALMOLOGY.* 102(10):1378-1386 I.F.: 3.384

16. Llorenç V, Benejam G, Mesquida M, Sainz de la Maza M, Molins B, Alba C, Pelegrin L, Martínez JA, Adán A. **Antituberculous Treatment Itself Might Prevent Visual Impairment in Presumed Tuberculosis-Related Uveitis.** *OCULAR IMMUNOLOGY AND INFLAMMATION.* 5:1-8. I.F.: 3.348

17. Fernández-Codina A; Pinilla B; Pinal-Fernandez I; López C; Fraile-Rodriguez G; Fonseca-Aizpuru E; Carballo I; Brito-Zeron P; Feijoo-Massó C; López-Dupla M; María C; Martínez-Valle F. Spanish Registry of IgG4 Related Disease (REERIGG4) investigators; Autoimmune Diseases Group (GEAS); Spanish Internal Medicine Society (SEMI). **Treatment and outcomes in patients with IgG4-related disease using the IgG4 responder index.** *JOINT BONE SPINE.* 85(6):721-726. I.F.: 3.304

18. Flores-Chávez A, Kostov B, Solans R, Fraile G, Maure B, Feijoo-Massó C, Rascón FJ, Pérez-Alvarez R, Zamora-Pasadas M, García-Pérez A, Lopez-Dupla M, Duarte-Millán MÁ, Ripoll M, Fonseca-Aizpuru E, Guisado-Vasco P, Pinilla B, de-la-Red G, Chamorro AJ, Morcillo C, Fanlo P, Soto-Cárdenas MJ, Retamozo S, Ramos- Casals M, Brito-Zerón P, GEAS-SS SEMI Registry. **Severe, life-threatening phenotype of primary Sjögren's syndrome: clinical characterisation and outcomes in 1580 patients (GEAS-SS Registry).** *CLINICAL AND EXPERIMENTAL RHEUMATOLOGY.* 36 Suppl 112(3):121-129. I.F.: 3.201

19. Rodríguez-Carballeira M, Solans R, Larrañaga J, García-Hernández F, Rios-Fernández R, Nieto J, Solanich X, Martínez-Valle F, Fonseca E, Muñoz F, Fraile G, de Escalante B, Boldova R, Hurtado R, Espinosa G. Venous thrombosis and relapses in patients with Behcet's disease. **Descriptive analysis from Spanish network of Behcet's disease (REGEB cohort).** *CLINICAL AND EXPERIMENTAL RHEUMATOLOGY.* 36(6):40-44. I.F.: 3.201

20. Brito-Zerón P, Acar-Denizli N, Ng WF, Zeher M, Rasmussen A, Mandl T, Seror R, Li X, Baldini C, Gottenberg JE, Danda D, Quartuccio L, Priori R, Hernandez-Molina G, Armagan B, Kruize AA, Kwok SK, Kvarnström M, Praprotnik S, Sène D, Bartoloni E, Solans R, Rischmueller M, Suzuki Y, Isenberg DA, Valim V, Wiland P, Nordmark G, Fraile G, Bootsma H, Nakamura T, Giacomelli R, Devauchelle-Pensec V, Knopf A, Bombardieri M, Trevisani VF, Hammenfors D, Pasoto SG, Retamozo S, Gheita TA, Atzeni F, Morel J, Vollenveider C, Horvath IF, Sivils KL, Olsson P, De Vita S, Sánchez-Guerrero J, Kilic L, Wahren-Herlenius M, Mariette X, Ramos-Casals M, Sjögren Big Data Consortium. **How immunological profile drives clinical phenotype of primary Sjögren's syndrome at diagnosis: analysis of 10,500 patients (Sjögren Big Data Project).** *CLINICAL AND EXPERIMENTAL RHEUMATOLOGY.* 36(3):102-112. I.F.: 3.201

21. González-Echavarri C, Capdevila O, Espinosa G, Suárez S, Marín-Ballvé A, González-León R, Rodríguez-Carballeira M, Fonseca-Aizpuru E, Pinilla B, Pallarés L, Ruiz-Irastorza G. **Infections in newly diagnosed Spanish patients with systemic lupus erythematosus: data from the RELES cohort.** *LUPUS.* 27(14):2253-2261. I.F.: 2.969

22. Gómez-Puerta J, Ortiz-Reyes B, Urrego T, Vanegas-García A, Muñoz C, González L, Cervera R, Vásquez G. **Urinary neutrophil gelatinase-associated lipocalin and monocyte chemoattractant protein 1 as biomarkers for lupus nephritis in Colombian SLE patients.** *LUPUS.* 27(4):637-646. I.F.: 2.969

23. Plasín-Rodríguez M, Rodríguez-Pintó I, Patricio P, Monteagudo J, Cervera R, Reverter J, Espinosa G, Tàssies D. **The H1 haplotype of the endothelial protein C receptor protects against arterial thrombosis in patients with antiphospholipid syndrome.** *THROMBOSIS RESEARCH.* 169:128-134. I.F.: 2.779

24. Mendoza-Pinto, Claudia; Rojas-Villarraga, Adriana; Molano-Gonzalez, Nicolas; Jimenez-Herrera, Erick A.; de la Luz Leon-Vazquez, Maria; Montiel-Jarquin, Alvaro; Garcia-Carrasco, Mario; Cervera, Ricard. **Bone mineral density and vertebral fractures in patients with systemic lupus erythematosus: A systematic review and meta-regression.** *PLOS ONE.* 13(6):e0196113. I.F.: 2.766

25. González-Serna D, Carmona EG, Ortego-Centeno N, Simeón CP, Solans R, Hernández-Rodríguez J, Tolosa C, Castañeda S, Narváez J, Martinez-Valle F,, Witte T, Neumann T, Holle J, Beretta L, Boiardi L, Emmi G, Cimmino MA, Vaglio A, Herrick AL, Denton CP, Salvarani C, Cid MC, Morgan AW, Fonseca C, González-Gay MA, Martín J, Márquez A European GCA Consortium, European Scleroderma Group. **A TNFSF13B functional variant is not involved in systemic sclerosis and giant cell arteritis susceptibility.** *PLOS ONE.* 13(12):e0209343. I.F.: 2.766

26. Rubio-Rivas, Manuel; Corbella, Xavier; Pestana-Fernandez, Melany; Tolosa-Vilella, Carles; Guillen-del Castillo, Alfredo; Colunga-Arguelles, Dolores; Trapiella-Martinez, Luis; Iniesta-Arandia, Nerea; Jesus Castillo-Palma, Maria; Saez-Comet, Luis; Victoria Egurbide-Arberas, Maria; Ortego-Centeno, Norberto; Freire, Mayka; Antonio Vargas-Hitos, Jose; Jose Rios-Blanco, Juan; Antonio Todoli-Parra, Jose; Rodriguez-Carballeira, Monica; Marin-Ballve, Adela; Segovia-Alonso, Pablo; Pla-Salas, Xavier; Belen Madronero-Vuelta, Ana; Ruiz-Munoz, Manuel; Fonollosa-Pla, Vicent; Pilar Simeon-Aznar, Carmen; Callejas Moraga, E.; Calvo, E.; Carbonell, C.; Castillo, M. J.; Chamorro, A. J.; Colunga, D.; Corbella, X.; Egurbide, M. V.; Espinosa, G.; Fonollosa, V.; Freire, M.; Garcia Hernandez, F. J.; Gonzalez Leon, R.; Guillen del Castillo, A.; Iniesta, N.; Lorenzo, R.; Madronero, A. B.; Mari, B.; Marin, A.; Ortego-Centeno, N.; Perez Conesa, M.; Pestana, M.; Pla, X.; Rios Blanco, J. J.; Rodriguez Carballeira, M.; Rubio Rivas, M.; Ruiz Munoz, M.; Saez Comet, L.; Segovia, P.; Simeon, C. P.; Soto, A.; Tari, E.; Todoli, J. A.; Tolosa, C.; Trapiella, L.; Vargas Hitos, J. A.; Verdejo, G.;RESCLE Investigators. **First clinical symptom as a prognostic factor in systemic sclerosis: results of a retrospective nationwide cohort study.** *CLINICAL RHEUMATOLOGY.* 37(4):999-1009. I.F.: 2.141

27. Quintana R, Goñi M, Mathern N, Jorfen M, Conti S, Nieto R, Sanabria A, Prigione C, Silvestre A, García V, Pons-Estel G, Cervera R, García C, Peláez-Ballestas I, Alarcón G, Pons-Estel B. **Rheumatoid arthritis in the indigenous qom population of Rosario, Argentina: aggressive and disabling disease with inadequate adherence to treatment in a community-based cohort study.** *CLINICAL RHEUMATOLOGY.* 37(9):2323-2330. I.F.: 2.141

28. Watad A, Quaresma M, Bragazzi N, Cervera R, Tervaert J, Amital H, Shoenfeld Y. **The autoimmune/inflammatory syndrome induced by adjuvants (ASIA)/Shoenfeld's syndrome: descriptive analysis of 300 patients from the international ASIA syndrome registry.** *CLINICAL RHEUMATOLOGY.* 37(2):483-493. I.F.: 2.141

29. Brito-Zerón P, Acar-Denizli N, Sisó-Almirall A, Bosch X, Hernández F, Vilanova S, Villalta M, Kostov B, Paradela M, Sanchez M, Ramírez J, Muxí A, Berruezo A, Galceran-Chaves C, Xaubet A, Agustí C, Sellarés J, Ramos-Casals M. **The Burden of Comorbidity and Complexity in Sarcoidosis: Impact of Associated Chronic Diseases.** *LUNG.* 196(2):239-248. I.F.: 2.101

30. Sanchez-Cano D; Ortego-Centeno N; Callejas J; Plá V; Ríos-Fernández R; Tolosa-Vilella C; Espinosa-Garriga G; Colunga-Argüelles D; Egurbide-Arberas M; Rubio-Rivas M; Freire M; Ríos-Blanco J; Trapiella-Martínez L; Rodríguez-Carballeira M; Marin-Ballvé A; Pla-Salas X; Simeón-Aznar C. **Interstitial lung disease in systemic sclerosis: data from the spanish scleroderma study group.** *RHEUMATOLOGY INTERNATIONAL.* 38(3):363-374. I.F.: 1.952

31. Jaume Alijotas Reig, Enrique Esteve Valverde, Raquel Ferrer Oliveras, Elisa Llurba Olivé, Amelia Ruffatti, Angela Tincani, Elmina Lefkou, Mª Tiziana Bertero, Gerard Espinosa Garriga, Sara de Carolis, Patrizia Rovere Querini, Krista Lundelin, Elisa Picardo, Arsene Mekinian, EUROPEAN study group. **Comparative study between obstetric antiphospholipid syndrome and obstetric morbidity related with antiphospholipid antibodies.** *MEDICINA CLINICA.* 151(6):215-222. I.F.: 1.168

Review / I.F.: 97.302

1. Roccatello, Dario; Saadoun, David; Ramos-Casals, Manuel; Tzioufas, Athanasios G.; Fervenza, Fernando C.; Cacoub, Patrice; Zignego, Anna Linda; Ferri, Clodoveo. **Cryoglobulinaemia.** *NATURE REVIEWS DISEASE PRIMERS.* 4(1):11. I.F.: 16.071

2. Barturen G, Beretta L, Cervera R, Van Vollenhoven R, Alarcón-Riquelme ME. **Moving towards a molecular taxonomy of autoimmune rheumatic diseases.** *NATURE REVIEWS RHEUMATOLOGY.* 14(2):75-93. I.F.: 15.661

3. Retamozo, Soledad; Flores-Chavez, Alejandra; Consuegra-Fernandez, Marta; Lozano, Francisco; Ramos-Casals, Manuel; Brito-Zeron, Pilar. **Cytokines as therapeutic targets in primary Sjögren syndrome.** *PHARMACOLOGY AND THERAPEUTICS.* 184:81-97. I.F.: 10.376

4. Belizna C, Pregnolato F, Abad S, Alijotas-Reig J, Amital H, Amoura Z, Andreoli L, Andres E, Aouba A, Apras Bilgen S, Arnaud L, Bienvenu B, Bitsadze V, Blanco P, Blank M, Borghi MO, Caligaro A, Candrea E, Canti V, Chiche L, Chretien JM, Cohen Tervaert JW, Damian L, Delross T, Dernis E, Devreese K, Djokovic A, Esteve-Valverde E, Favaro M, Fassot C, Ferrer-Oliveras R, Godon A, Hamidou M, Hasan M, Henrion D, Imbert B, Jeandel PY, Jeannin P, Jego P, Jourde-Chiche N, Khizroeva J, Lambotte O, Landron C, Latino JO, Lazaro E, de Leeuw K, Le Gallou T, Kiliç L, Limper M, Loufrani L, Lubin R, Magy-Bertrand N, Mahe G, Makatsariya A, Martin T, Muchardt C, Nagy G, Omarjee L, Van Paasen P, Pernod G, Perrinet F, Pires Rosa G, Pistorius MA, Ruffatti A, Said F, Saulnier P, Sene D, Sentilhes L, Shovman O, Sibilia J, Sinescu C, Stanisavljevic N, Stojanovich L, Tam LS, Tincani A, Tollis F, Udry S, Ungeheuer MN, Versini M, Cervera R, Meroni PL . **Hibiscus: hydroxychloroquine for the secondary prevention of thrombotic and obstetrical events in primary antiphospholipid syndrome.** *AUTOIMMUNITY REVIEWS.* 17(12):1153-1168. I.F.: 8.745

5. Escárcega RO, Lipinski MJ, García-Carrasco M, Mendoza-Pinto C, Galvez-Romero JL, Cervera R . **Inflammation and atherosclerosis: Cardiovascular evaluation in patients with autoimmune diseases.** *AUTOIMMUNITY REVIEWS.* 17(7):703-708. I.F.: 8.745

6. Slart, Riemer H. J. A.; Glaudemans, Andor W. J. M.; Chareonthaitawee, Panithaya; Treglia, Giorgio; Besson, Florent L.; Bley, Thorsten A.; Blockmans, Daniel; Boellaard, Ronald; Buceriu, Jan; Carril, Jose Manuel; Chen, Wengen; Cid, Maria C.; Dagupta, Bhaskar; Dorbala, Sharmila; Gheysens, Olivier; Hyafil, Fabien; Jain, Shaifali; Klink, Thorsten; van der Laken, Conny J.; Lomena, Francisco; Massollo, Michela; Prieto-Gonzalez, Sergio; Luqmani, Raashid; Roivainen, Anne; Salvarani, Carlo; Saraste, Antti; Schirmer, Michael; Verberne, Hein J.; Versari, Annibale; Voskuyl, Alexandre E.; Walter, Martin A.; Camellino, Dario; Brouwer, Elisabeth; Cimmino, Marco A.; Abidov, Aiden; Agostini, Denis; Beanlands, Rob S.; Delgado-Bolton, Roberto C.; Einstein, Andrew J.; Gimelli, Alessia; Miller, Edward J.; Sciagra, Roberto; Signore, Alberto;Writing Grp; Reviewer Grp. **FDG-PET/CT(A) imaging in large vessel vasculitis and polymyalgia rheumatica: joint procedural recommendation of the EANM, SNMMI, and the PET Interest Group (PIG), and endorsed by the ASNC.** *EUROPEAN JOURNAL OF NUCLEAR MEDICINE AND MOLECULAR IMAGING.* 45(7):1250-1269. I.F.: 7.704

7. Cervera, Ricard; Rodriguez-Pinto, Ignasi; Espinosa, Gerard. **The diagnosis and clinical management of the catastrophic antiphospholipid syndrome: A comprehensive review.** *JOURNAL OF AUTOIMMUNITY.* 92:1-11. I.F.: 7.607

8. Terrades-Garcia, Nekane; Cid, Maria C. **Pathogenesis of giant-cell arteritis: How targeted therapies are influencing our understanding of the mechanisms involved.** *RHEUMATOLOGY.* 57(suppl_2):ii51-ii62. I.F.: 5.245

9. Pereira C, Santamaría A, Langdon C, López-Chacón M, Hernández-Rodríguez J, Alobid I. **Nasoseptal Perforation: from Etiology to Treatment.** *CURRENT ALLERGY AND ASTHMA REPORTS.* 18(1):5. I.F.: 3.449

10. Samson, Maxime; Espigol-Frigole, Georgina; Terrades-Garcia, Nekane; Prieto-Gonzalez, Sergio; Corbera-Bellalta, Marc; Alba-Rovira, Roser; Hernandez-Rodriguez, Jose; Audia, Sylvain; Bonnotte, Bernard; Cid, Maria C. **Biological treatments in giant cell arteritis & Takayasu arteritis.** *EUROPEAN JOURNAL OF INTERNAL MEDICINE.* 50:12-19. I.F.: 3.282

11. Brito-Zerón P, Retamozo S, Ramos-Casals M. **Phenotyping Sjögren's syndrome: towards a personalised management of the disease.** *CLINICAL AND EXPERIMENTAL RHEUMATOLOGY.* 36(3):198-209. I.F.: 3.201

12. Mendoza-Pinto C, García-Carrasco M, Cervera R . **Role of Infectious Diseases in the Antiphospholipid Syndrome (Including Its Catastrophic Variant).** *CURRENT RHEUMATOLOGY REPORTS.* 20(10):62. I.F.: 3.079

13. García-Carrasco M, Jiménez-Herrera E, Gálvez-Romero J, Mendoza-Pinto C, Méndez-Martínez S, Etchegaray-Morales I, Munguía-Realpozo P, Vázquez de Lara-Cisneros L, Santa Cruz F, Cervera R. **The anti-thrombotic effects of vitamin D and their possible relationship with antiphospholipid syndrome.** *LUPUS.* 27(14):2181-2189. I.F.: 2.969

14. Hernández-Rodríguez J, Ruiz-Ortiz E, Yagüe J. **Monogenic autoinflammatory diseases: General concepts and presentation in adult patients.** *MEDICINA CLINICA.* 150(2):67-74. I.F.: 1.168

Case Reports / I.F.: 4.943

1. López-Mato P, Zamora-Martínez C, Carbajal S, Estevez M, Rodriguez-Pinto I, Cervera R, Prieto-González S, Espinosa G. **All that glitters is not lupus.** *LUPUS.* 27(6):1047-1048. I.F.: 2.969

2. Combalia A, Losno R, Prieto-González S, Mascaró J. **Rituximab in refractory chronic spontaneous urticaria: An encouraging therapeutic approach.** *SKIN PHARMACOLOGY AND PHYSIOLOGY.* 31(4):184-187. I.F.: 1.974

Consortium Publications / I.F.: 23.003

1. Ortiz-Fernández L, Carmona FD, López-Mejías R, González-Escribano MF, Lyons PA, Morgan AW, Sawalha AH, Smith KGC, González-Gay MA, Martín J, Spanish GCA Study Group, UK GCA Consortium, Turkish Takayasu Study Group, Vasculitis Clinical Research Consortium, IgAV Study Group, AAV Study group Spanish GCA Study Group, UK GCA Consortium, Turkish Takayasu Study Group, Vasculitis Clinical Research Consortium, IgAV Study Group, AAV Study group. **Cross-phenotype analysis of Immunochip data identifies KDM4C as a relevant locus for the development of systemic vasculitis.** *ANNALS OF THE RHEUMATIC DISEASES.* 77(4):589-595. I.F.: 12.350

2. Márquez A, Kerick M, Zhernakova A, Gutierrez-Achury J, Chen WM, Onengut-Gumuscu S, González-Álvaro I, Rodriguez-Rodriguez L, Rios-Fernández R, González-Gay MA,, Mayes MD, Raychaudhuri S, Rich SS, Wijmenga C, Martín J Coeliac Disease Immunochip Consortium, Rheumatoid Arthritis Consortium International for Immunochip (RACI), International Scleroderma Group, Type 1 Diabetes Genetics Consortium. **Meta-analysis of Immunochip data of four autoimmune diseases reveals novel single-disease and cross-phenotype associations.** *GENOME MEDICINE.* 10(1):97. I.F.: 8.898

3. Martín-Sánchez FJ, Llopis García G, González-Colaço Harmand M, Fernandez Pérez C, González Del Castillo J, Llorens P, Herrero P, Jacob J, Gil V, Domínguez-Rodriguez A, Rossello X, Miró O, en representación de los investigadores del Registro OAK, Resto de investigadores del registro OAK. **Identification of Senior At Risk scale predicts 30-day mortality among older patients with acute heart failure.** *MEDICINA INTENSIVA.* :30218-3. I.F.: 1.755

GRANTS FOR RESEARCH IN PROGRESS

Casaroli-Marano R. **Potencial terapéutico de las células progenitoras pluripotentes inducidas (IPSC) y las células progenitoras mesenquimales del estroma de la médula ósea (MSCs) nestina positivas para la regeneración de la superficie ocular.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00196
Duration: 01/01/2015-30/06/2018

Cervera R. **Molecular Reclassification to Find Clinically Useful Biomarkers for Systemic Autoimmune Diseases.**
Sponsored by: European Comission. CE_IMI12_8th_1stg (115565)
Duration: 01/02/2014-31/01/2019

Cid MC. **Dilatació d'aorta ascendent i aneurismes coronaris en pacients amb vasculitis sistèmiques (arteritis de cèlules gegants i malaltia de Kawasaki). Rol de la via HIF en remodelatge/inflamació vascular.**
Sponsored by: Fundació la Marató de TV3. TV3_Cor_15
Duration: 10/05/2016-09/05/2019

Cid MC. **Interacciones multi-celulares en la progresión de las enfermedades inflamatorias crónicas y síndromes linfoproliferativos: modelos 3D para investigar inmunoterapias dirigidas.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). SAF2017-88275-R
Duration: 01/01/2018-31/12/2020

Cid MC. **Interacción bidireccional entre los linfocitos y su microembiente en enfermedades inflamatorias crónicas y síndromes linfoproliferativos como fuente de nuevas terapias.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). SAF2014-57708-R
Duration: 01/01/2015-30/06/2018

EspÍgol G. **Vasculitis de pequeño vaso rodeando a una arteria temporal preservada: significado clínico y búsqueda de biomarcadores de utilidad diagnóstica.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00092
Duration: 01/01/2016-30/04/2019

Ramos Casals M. **Development of evidence-based and consensus-based eular recommendations on the therapeutic management of sjögren's syndrome.**
Sponsored by: European League Against Rheumatism. INT_EULAR_2014 (CLI074)
Duration: 01/05/2015-30/09/2018

Ramos Casals M. **HarmonicSS: Harmonization and integrative analysis of regional, national and international Cohorts on primary Sjögrens Syndrome towards improved stratification, treatment and health policy.**
Sponsored by: European Comission. CE_H2020-SC1_16abr1s (731944)
Duration: 01/01/2017-30/06/2020

DOCTORAL THESES

Cervera R, Peláez I. **Estudio de prevalencia de manifestaciones musculo-esqueleticos autoinmunes sistémicas y reumáticas en una comunidad originaria (qom) de la ciudad de Rosario, Santa Fe, Argentina.**
PhD student: Rosana Maris Quintana

Espinosa G, Shoenfeld Y. **Catastrophic antiphospholipid syndrome: treatment and prognosis.**
PhD student: Ignasi Rodríguez Pintó

Casaroli MaranoR, Nadal J. **Análisis de la anatomía y funcionalidad foveal en ojos de pacientes con agujero macular idiopático antes y después de la cirugía.**
PhD student: Bàrbara Delàs Alos

Cid MC. **Interleukin-6(IL-6)IL-6 receptor and persistence of inflammation in Giant Cell Arteritis. Effects of IL-6 receptor blockade with tocilizumab.**
PhD student: Nekane Terrades Garcia

Ramos M, Sisó A. **Dolor crónico generalizado y Fibromialgia: estudio de pruebas objetivas, comorbilidad, complejidad y gasto sanitario.**
PhD student: Enma Marianela Morales Espinoza

1.3 Infectious diseases and AIDS

LOCATION
CELLEX building, floor 4A

WEB
www.clinicbarcelona.org/en/idibaps/research-areas

KEYWORDS
1. **HIV**
2. **AIDS**
3. **Endocarditis**
4. **Nosocomial infections**
5. **Immune suppressed patients**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	308.79	64	45	9
2017	344.32	67	48	12
2018	362.18	68	44	12

TEAM INVOLVED IN
RIS
REIPI
AGAUR_SGR17:1432,1067

TEAM LEADER
Josep M. Miró (HCB)
T. 93 227 54 00 (Ext.: 2765)
jmmiro@clinic.cat

GROUP LEADERS
Josep Mallolas (HCB)
T. 93 227 54 00 (Ext.: 3312)
mallolas@clinic.cat

Josep M. Miró (HCB)
T. 93 227 54 00 (Ext.: 2765)
jmmiro@clinic.cat

Asunción Moreno (HCB)
T. 93 227 54 00 (Ext.: 2657)
amoreno@clinic.cat

Alex Soriano (HCB)
T. 93 227 54 00 (Ext.: 5708)
asoriano@clinic.cat

EMERITUS
Josep Mensa (HCB)

RESEARCHERS
Marta Bodro (HCB)
Mireia Arnedo (IDIBAPS)
José Luis Blanco (HCB)
Felipe García (HCB)
Montserrat Laguno (HCB)
Agata Raquel León (HCB-IDIBAPS)
Esteban Martinez (HCB)
Montserrat Plana (IDIBAPS)
Josep M. Gatell (HCB)
Ana Del Río (HCB)
Carolina García (HCB)
Jose Antonio Martinez (FCRB)

POST-DOCTORAL RESEARCHERS
Juan Carlos Enrique Ambrosioni (HCB)
Maria Alexandra Cañas (FCRB)
Cristina García (FCRB)
Christian Manzardo (FCRB)
Eduardo Quintana (HCB)
Elena Sandoval (HCB)
Laura Linares (IDIBAPS)
Núria Climent (IDIBAPS)
Alberto Crespo (FCRB)
Lorna Anabel Leal (IDIBAPS)
María Martínez (HCB)
Maria Sonsoles Sanchez (FCRB)
Narcís Saubi (FCRB)
Berta Torres (FCRB)
Olívia Tort (IDIBAPS)
Laura Morata (HCB)

PRE-DOCTORAL RESEARCHERS
Javier García-González (FCRB)
Delia Garcia-Pares (FCRB)
Marta Hernández (FCRB)
Juan Manuel Pericas (IDIBAPS)
Adrián Tellez (FCRB)
Maria Fernanda Solano (FCRB)
Wein Chun (FCRB)
Lorena De La Mora (HCB)

TEAM Josep M. Miró

Yoshiki Eto (FCRB)
Csaba Fehér (IDIBAPS)
Ana González (FCRB)
Alexy Junior Inciarte (IDIBAPS)
Athina Kilpelainen (FCRB)
Jhon Fredy Rojas (FCRB)
Celia Cardozo (HCB)
Pedro Puerta (HCB)
Olga Rodriguez (HCB)

TECHNICIANS
Manuel Enric Bargalló (IDIBAPS)
Pilar Callau (FCRB)
Tuixent Escriba (IDIBAPS)
Tania Gonzalez (FCRB)
Carmen Hurtado (FCRB)
M. José Maleno (FCRB)
Laia Miralles (IDIBAPS)
Cristina Rovira (IDIBAPS)
Montserrat Sola (FCRB)

ADMINISTRATIVE STAFF
Irene Ruiz (IDIBAPS)
Raquel Aguiló (HCB)
Maria Carmen Mensa (IDIBAPS)

COLLABORATORS
Manel Almela (HCB)
Carles Falces (HCB)
David Fuster (HCB)
Jaume Llopis (UB)
José M Tolosana (HCB)
Bárbara Vidal (HCB)
Elisa de Lazzari (FCRB)
Joan Joseph (FCRB)
Marta Subirana (FCRB)

STRATEGIC OBJECTIVES

1. In the AIDS field:
- HIV immune-pathogenesis and HIV vaccines.
- New antiretrovirals, non-AIDS defining diseases, aging and senescence, primary HIV infection.
- HIV cure strategies
- New direct-antiviral drugs (DAA) against HCV in HCV/HIV-coinfected patients

2. In the general infections field:
- Infective endocarditis, including experimental endocarditis in animal models.
- Infection in solid-organ transplant recipients, including HIV-infected patients.
- Nosocomial infections. Antimicrobial use. Orthopedic infections.

MAIN LINES OF RESEARCH

1. In the AIDS field:
- Pharmacogenomics and pharmacokinetics
- Immuno-pathogenesis of HIV infection and immune responses against HIV.
- Development of preventive and therapeutic vaccines.
- Mechanisms of senescence in HIV infection.
- Microbiota in HIV-infected patients - Primary HIV infection: eradication and functional cure strategies.
- Opportunistic diseases: tuberculosis, human papillomavirus, anal cancer.
- HIV and non-AIDS related tumours.
- Solid organ transplantation in HIV-infected patients.
- Epidemiological studies based on cohorts (PISCIS, ART-CC, COHERE, EuroSida).
- Antiretroviral treatment: Efficacy and safety of new antiretroviral drugs. Studies of resistance. New antiretroviral strategies.
- Prevention strategies: PEP and PrE.
- Incidence and management of non-AIDS defining events. Aging. STDs.
- HCV and HBV coinfection. Efficacy and safety of new direct-antiviral drugs (DAA) against HCV.
- New health-care strategies: telemedicine, shared health-care unit with primary care and OPAT programs.

2. In the general infections field:
- Clinical and experimental endocarditis. Cohort studies (ICE, GAMES) (Dr J.M. Miró).
- Infections in solid organ transplant recipients (Dr A. Moreno)
- Non-nosocomial and nosocomial health-care associated infections and community-acquired infections. Evaluation of new antibiotic and antifungal drugs (Dr A. Soriano).

RESEARCH GROUP
AIDS AND HIV INFECTION

GROUP LEADER
Josep Mallolas (HCB)

This group studies the clinical, diagnostic, therapeutic and preventive aspects of HIV infection and HIV-HCV coinfection.The scientific contribution of this line of research is very competitive and is internationally renowned.
This group of investigators focuses on exploration of the potential for eradicating HIV infection and on reconstruction of the immune system, including the development of preventive and therapeutic vaccines.
Dr. Mallolas is currently the Co-director of the HIVACAT project on research therapeutic and preventive vaccines against HIV infection.

GROUP Josep M. Miró

RESEARCH GROUP
ENDOCARDITIS. CARDIOVASCULAR INFECTIONS. EXPERIMENTAL MODEL

GROUP LEADER
Josep M. Miró (HCB)

This group studies the epidemiological, clinical, diagnostic, preventive and therapeutic aspects of infectious endocarditis. This is done based on studies of local, national or international cohorts (ICE) that have revealed an increase in endocarditis produced by methicillin-sensitive and -resistant Staphylococcus aureus (MSSA and MRSA, respectively). Studies using the experimental model of endocarditis due to MRSA and glycopeptide intermediate- resistant Staphylococcus aureus (GISA) have evaluated the activity of new antibiotic combinations (phosphomycin and imipenem), or new antibiotics such as daptomycin, telavancin, ceftaroline, and others.

RESEARCH GROUP
INFECTIONS IN SOLID-ORGAN TRANSPLANT RECIPIENTS

GROUP LEADER
Asunción Moreno (HCB)

In recent years, this group has studied the clinical and evolutive characteristics of bacteremia, especially MDR, in patients undergoing transplantation of solid organs (kidney, liver, heart and renal-pancreas). We have shown that MBL and TLR condition an increase in the prevalence of bacterial infection and CMV disease. These studies have been carried out jointly with researchers specialized in Microbiology and Immunology, and with the different Transplant Units (Institutes of Digestive, Renal and Cardiac Diseases). Its components are members of the Spanish Infectious Diseases Research Network (REIPI) and actively participate in multicenter projects funded by the FIS.

RESEARCH GROUP
NOSOCOMIAL INFECTION STUDY GROUP

GROUP LEADER
Alex Soriano (HCB)

This group studies the clinical, diagnostic, therapeutic and preventive aspects of nosocomial (in-hospital) infections. The scientific contribution is particularly notorious in the treatment and management of bacteremia, infections in Intensive Care Units, and infections related to orthopedic implants.

GROUP Alex Soriano

PUBLICATIONS

Originals / I.F.: 362.179

1. Holland TL, Raad I, Boucher HW, Anderson DJ, Cosgrove SE, Aycock PS, Baddley JW, Chaftari AM, Chow SC, Chu VH, Carugati M, Cook P, Corey GR, Crowley AL, Daly J, Gu J, Hachem R, Horton J, Jenkins TC, Levine D, Miro JM, Pericas JM, Riska P, Rubin Z, Rupp ME, Schrank J, Sims M, Wray D, Zervos M, Fowler VG, Staphylococcal Bacteremia Investigators. **Effect of Algorithm-Based Therapy vs Usual Care on Clinical Success and Serious Adverse Events in Patients with Staphylococcal Bacteremia: A Randomized Clinical Trial.** *JAMA- JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.* 320(12):1249-1258. I.F.: 47.661

2. Zegri-Reiriz I, de Alarcón A, Muñoz P, Martínez Sellés M, González-Ramallo V, Miro JM, Falces C, Gonzalez Rico C, Kortajarena Urkola X, Lepe JA, Rodriguez Alvarez R, Reguera Iglesias JM, Navas E, Dominguez F, Garcia-Pavia P, Spanish Collaboration on Endocarditis-Grupo de Apoyo al Manejo de la Endocarditis infecciosa en España (GAMES). **Infective Endocarditis in Patients With Bicuspid Aortic Valve or Mitral Valve Prolapse.** *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY.* 71(24):2731-2740. I.F.: 16.834

3. Moreno G, Rodríguez A, Reyes LF, Gomez J, Sole-Violan J, Díaz E, Bodí M, Trefler S, Guardiola J, Yébenes JC, Soriano A, Garnacho-Montero J, Socias L, Del Valle Ortíz M, Correig E, Marín-Corral J, Vallverdú-Vidal M, Restrepo MI, Torres A, Martín-Loeches I, GETGAG Study Group. **Corticosteroid treatment in critically ill patients with severe influenza pneumonia: a propensity score matching study.** *INTENSIVE CARE MEDICINE.* 44(9):1470-1482. I.F.: 15.008

4. Cilloniz C, Ferrer M, Liapikou A, Garcia-Vidal C, Gabarrus A, Ceccato A, Puig de La

Bellacasa J, Blasi F, Torres A . **Acute Respiratory Distress Syndrome in Mechanically-Ventilated Patients with Community-Acquired Pneumonia.** *EUROPEAN RESPIRATORY JOURNAL.* 51(3). I.F.: 12.244

5. Vergara, Andrea; Cilloniz, Catia; Luque, Nestor; Garcia-Vidal, Carolina; Tejero, Javier; Perello, Rafael; Maria Lucena, Carmen; Torres, Antoni; Angeles Marcos, Maria. **Detection of human cytomegalovirus in bronchoalveolar lavage of intensive care unit patients.** *EUROPEAN RESPIRATORY JOURNAL.* 51(2). I.F.: 12.244

6. Ambrosioni J, Urra X, Hernández-Meneses M, Almela M, Falces C, Tellez A, Quintana E, Fuster D, Sandoval E, Vidal B, Tolosana JM, Moreno A, Chamorro A, Miró JM, Hospital Clínic Infective Endocarditis Study Group . **Mechanical thrombectomy for acute ischemic stroke secondary to infective endocarditis.** *CLINICAL INFECTIOUS DISEASES.* 66(8):1286-1289. I.F.: 9.117

7. M Wouthuyzen Bakker, MM Kheir, I Moya, AJ Rondon, M Kheir, L Lozano, J Parvizi, A Soriano. **Failure after two-stage exchange arthroplasty for treatment of periprosthetic joint infection: the role of antibiotics in the cement spacer.** *CLIN INFECT DIS.* I.F.: 9.117

8. Cillóniz C, Miguel-Escuder L, Pedro-Bonet ML, Falcó V, Lopez Y, García-Vidal C, Gabarrús A, Moreno A, Torres A, Miró JM, Legionella-HIV Researchers . **Community-Acquired Legionella Pneumonia in HIV-Infected Adult Patients: A Matched Case-Control Study.** *CLINICAL INFECTIOUS DISEASES.* 67(6):958-961. I.F.: 9.117

9. Téllez A, Ambrosioni J, Llopis J, Pericàs JM, Falces C, Almela M, Garcia de la Mària C, Hernandez-Meneses M, Vidal B, Sandoval E, Quintana E, Fuster D, Tolosana JM, Marco F, Moreno A, Miro JM, Hospital Clínic Infective Endocarditis Investigators . **Epidemiology, clinical features and outcome of infective endocarditis due to Abiotrophia spp. and Granulicatella spp.: Report of 76 cases (2000-2015).** *CLINICAL INFECTIOUS DISEASES.* 66(1):104-111. I.F.: 9.117

10. Anderegg, Nanina; Panayidou, Klea; Abo, Yao; Alejos, Belen; Althoff, Keri N.; Anastos, Kathryn; Antinori, Andrea; Balestre, Eric; Becquet, Renaud; Castagna, Antonella; Castelnuovo, Barbara; Chene, Genevieve; Coelho, Lara; Collins, Intira Jeannie; Costagliola, Dominique; Crabtree-Ramirez, Brenda; Dabis, Francois; Monforte, Antonella d'Arminio; Davies, Mary-Ann; De Wit, Stephane; Delpech, Valerie; De La Mata, Nicole L.; Duda, Stephany; Freeman, Aimee; Gange, Stephen J.; Grabmeier -Pfistershammer, Katharina; Gunsenheimer-Bartmeyer, Barbara; Jiamsakul, Awachana; Kitahata, Mari M.; Law, Matthew; Manzardo, Christian; McGowan, Catherine; Meyer, Laurence; Moore, Richard; Mussini, Cristina; Nakigoz, Gertrude; Nash, Denis; Ng, Oon Tek; Obel, Niels; Pantazis, Nikos; Poda, Armel; Raben, Dorthe; Reiss, Peter; Riggen, Larry; Sabin, Caroline; Sinayobye, Jean d'Amour; Sonnerborg, Anders; Stoeckle, Marcel; Thorne, Claire; Torti, Carlo; Twizere, Christella; Wasmuth, Jan-Christian; Wittkop, Linda; Wools-Kaloustian, Kara; Yotebieng, Marcel; Kirk, Ole; Egger, Matthias. **Global Trends in CD4 Cell Count at the Start of Antiretroviral Therapy: Collaborative Study of Treatment Programs.** *CLINICAL INFECTIOUS DISEASES.* 66(6):893-903. I.F.: 9.117

11. Kumar D, Ferreira VH, Blumberg E, Silveira F, Cordero E, Perez-Romero P, Aydillo T, Danziger-Isakov L, Limaye AP, Carratala J, Munoz P, Montejo M, Lopez-Medrano F, Farinas MC, Gavalda J, Moreno A, Levi M, Fortun J, Torre-Cisneros J, Englund JA, Natori Y, Husain S, Reid G, Sharma TS, Humar A. **A Five-year Prospective Multi-center Evaluation of Influenza Infection in Transplant Recipients.** *CLINICAL INFECTIOUS DISEASES.* 67(9):1322-1329. I.F.: 9.117

12. Benito JM, Ortiz MC, Leon A, Sarabia LA, Ligos JM, Montoya M, Garcia M, Ruiz-Mateos E, Palacios R, Cabello A, Restrepo C, Rodriguez C, del Romero J, Leal M, Munoz-Fernandez MA, Alcami J, Garcia F, Gorgolas M, Rallon N. **Class-modeling analysis reveals T-cell homeostasis disturbances involved in loss of immune control in elite controllers.** *BMC MEDICINE.* 16(1):30. I.F.: 9.088

13. Climent N., García I., Marradi M., Chiodo F., Miralles L., Maleno M., Gatell J., García F., Penadés S., Plana M. **Loading dendritic cells with gold nanoparticles (GNPs) bearing HIV-peptides and mannosides enhance HIV-specific T cell responses.** *NANOMEDICINE: NANOTECHNOLOGY, BIOLOGY, AND MEDICINE.* 14(2):339-351. I.F.: 6.500

14. Lombardo-Quezada J, Sanclemente G, Colmenero J, Español-Rego M, Arias MT, Ruiz P, Mauro E, Sastre L, Crespo G, Rimola A, Moreno A, Lozano F, Navasa M. **Mannose-binding lectin deficient donors increase the risk of bacterial infection and bacterial infection-related mortality after liver transplantation.** *AMERICAN JOURNAL OF TRANSPLANTATION.* 18(1):197-206. I.F.: 6.493

15. Manzardo C, Londoño MC, Castells L, Testillano M, Luis Montero J, Peñafiel J, Subirana M, Moreno A, Aguilera V, Luisa González-Diéguez M, Calvo-Pulido J, Xiol X, Salcedo M, Cuervas-Mons V, Manuel Sousa J, Suarez F, Serrano T, Ignacio Herrero J, Jiménez M, Fernandez JR, Giménez C, Del Campo S, Esteban-Mur JI, Crespo G, de la Rosa G, Rimola A, Miro JM,and the FIPSE LT-HIV investigators. **Direct-acting antivirals are effective and safe in HCV/HIV-coinfected liver transplant recipients who experience recurrence of hepatitis C: A prospective nationwide cohort study.** *AMERICAN JOURNAL OF TRANSPLANTATION.* 18(10):2513-2522. I.F.: 6.493

16. Gutierrez-Rivas, Monica; Angeles Jimenez-Sousa, Maria; Rallon, Norma; Luis Jimenez, Jose; Restrepo, Clara; Leon, Agathe; Montero-Alonso, Marta; Gonzalez-Garcia, Juan; Angeles Munoz-Fernandez, Maria; Miguel Benito, Jose; Resino, Salvador;ECRIS Integrated Spanish AIDS Res. **High Plasma Levels of sTNF-R1 and CCL11 Are Related to CD4+T-Cells Fall in Human Immunodeficiency Virus Elite Controllers With a Sustained Virologic Control.** *FRONTIERS IN IMMUNOLOGY.* 9(1399):1399. I.F.: 5.511

17. Nicolás D, Ambrosioni J, de Lazzari E, Suarez A, Manzardo C, Agüero F, Mosquera MM, Costa J, Ligero C, Marcos MÁ, Sánchez-Palomino S, Fernández E, Plana M, Yerly S, Gatell JM, Miró JM, Hospital Clinic Acute/Recent HIV Study Group. **Epidemiological changes of acute/recent HIV-1 infection in Barcelona, Spain (1997-2015): A prospective cohort study.** *CLINICAL MICROBIOLOGY AND INFECTION.* I.F.: 5.394

18. López-Medrano F, Fernández-Ruiz M, Silva JT, Carver PL, van Delden C, Merino E, Pérez-Saez MJ, Montero M, Coussement J, de Abreu Mazzolin M, Cervera C, Santos L, Sabé N, Scemla A, Cordero E, Cruzado-Vega L, Martín-Moreno PL, Len Ó, Rudas E, Ponce

de León A, Arriola M, Lauzurica R, David MD, González-Rico C, Henríquez-Palop F, Fortún J, Nucci M, Manuel O, Paño-Pardo JR, Montejo M, Vena A, Sánchez-Sobrino B, Mazuecos A, Pascual J, Horcajada JP, Lecompte T, Moreno A, Carratalà J, Blanes M, Hernández D, Hernández-Méndez EA, Fariñas MC, Perelló-Carrascosa M, Muñoz P, Andrés A, Aguado JM, Spanish Network for Research in Infectious Diseases (REIPI), Group for the Study of Infection in Transplant Recipients (GESITRA) of the Spanish Society of Clinical Microbiology and Infectious Diseases (SEIMC), Study Group for Infections in Compromised Hosts (ESGICH) of the European Society of Clinical Microbiology and Infectious Diseases (ESCMID), Swiss Transplant Cohort Study (STCS). **Multinational retrospective case-control study of risk factors for the development of late invasive pulmonary aspergillosis following kidney transplantation.** *CLINICAL MICROBIOLOGY AND INFECTION.* 24(2):192-198. I.F.: 5.394

19. Coll J; Videla S; Leon A; Ornelas A; Garcia F; Fernandez E; Blanco JL; Carrillo A; Bravo I; Meulbroek M; García-Cuyas F; González V; Casabona J; Leal L; Clotet B; Brander C; Check-Ear Project. **Early Detection Of Hiv Infection And Of Asymptomatic Sexually Transmitted Infections Among Men Who Have Sex With Men.** *CLINICAL MICROBIOLOGY AND INFECTION.* 24(5):540-545. I.F.: 5.394

20. Blanco JL, Rojas J, Paredes R, Negredo E, Mallolas J, Casadella M, Clotet B, Gatell JM, de Lazzari E, Martinez E, DOLAM Study Team . **Dolutegravir-based maintenance monotherapy versus dual therapy with lamivudine: a planned 24 week analysis of the DOLAM randomized clinical trial.** *JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY.* 73(7):1965-1971. I.F.: 5.217

21. Pettit A, Giganti M, Ingle S, May M, Shepherd B, Gill M, Fätkenheuer G, Abgrall S, Saag M, Del Amo J, Justice A, Miro J, Cavasinni M, Dabis F, Monforte A, Reiss P, Guest J, Moore D, Shepherd L, Obel N, Crane H, Smith C, Teira R, Zangerle R, Sterne J, Sterling T. **Study group: Antiretroviral Therapy Cohort Collaboration (ART-CC) investigators. Increased non-AIDS mortality among persons with AIDS-defining events after antiretroviral therapy initiation.** *JOURNAL OF THE INTERNATIONAL AIDS SOCIETY.* 21(1). I.F.: 5.135

22. Leal L, Guardo A, Morón-López S, Salgado M, Mothe B, Heirman C, Pannus P, Vanham G, van den Ham H, Gruters R, Andeweg A, Van Meirvenne S, Pich J, Arnaiz J, Gatell J, Brander C, Thielemans K, Martínez-Picado J, Plana M, García F. **Phase I clinical trial of an intranodally administered mRNA-based therapeutic vaccine against HIV-1 infection.** *AIDS.* 32(17):2533-2545. I.F.: 4.914

23. Leyes P, Cofan M, González-Cordón A, De Lazzari E, Trabal J, Domingo P, Negredo E, Vidal F, Forga M, Gatell J, Ros E, Martínez E. **Increased cholesterol absorption rather than synthesis is involved in boosted protease inhibitor-Associated hypercholesterolaemia.** *AIDS.* 32(10):1309-1316. I.F.: 4.914

24. Rojas J, Blanco JL, Sanchez-Palomino S, Marcos MA, Guardo AC, Gonzalez-Cordon A, Lonca M, Tricas A, Rodriguez A, Romero A, Miro JM, Mallolas J, Gatell JM, Plana M, Martinez E . **A maintenance three-day-per-week schedule with the single tablet regimen efavirenz/emtricitabine/tenofovir disoproxil fumarate is effective and decreases sub-clinical toxicity: the A-TRI-WEEK pilot trial.** *AIDS.* 32(12):1633-1641. I.F.: 4.914

25. Hoy, Jennifer F.; Richardson, Robyn; Ebeling, Peter R.; Rojas, Jhon; Pocock, Nicholas; Kerr, Stephen J.; Martinez, Esteban; Carr, Andrew; ZEST Study Investigators. **Zoledronic acid is superior to tenofovir disoproxil fumarate-switching for low bone mineral density in adults with HIV.** *AIDS.* 32(14):1967-1975. I.F.: 4.914

26. De la Calle C, Ternavasio-de la Vega H, Morata L, Marco F, Cardozo C, García-Vidal C, Del Rio A, Cilloniz C, Torres A, Martínez J, Mensa J, Soriano A. **Effectiveness of combination therapy versus monotherapy with a third-generation cephalosporin in bacteraemic pneumococcal pneumonia: A propensity score analysis.** *JOURNAL OF INFECTION.* 76(4):342-347. I.F.: 4.603

27. Tort O, Escribà T, Egaña-Gorroño L, de Lazzari E, Cofan M, Fernandez E, Gatell JM, Martinez E, Garcia F, Arnedo M . **Cholesterol efflux responds to viral load and CD4 counts in HIV+ patients and is dampened in HIV-exposed.** *JOURNAL OF LIPID RESEARCH.* 59(11):2108-2115. I.F.: 4.505

28. Suárez-Lledó M, Martínez-Cibrián N, Gutiérrez-García G, Dimova-Svetoslavova V, Marcos MA, Martín-Antonio B, Martínez-Trillos A, Villamor N, Rosiñol L, Martínez C, Fernández-Avilés F, García-Vidal C, Urbano-Ispizua Á, Rovira M . **Deleterious Effect of Steroids on Cytomegalovirus Infection Rate after Allogeneic Stem Cell Transplantation Depends on Pretransplant Cytomegalovirus Serostatus of Donors and Recipients.** *BIOLOGY OF BLOOD AND MARROW TRANSPLANTATION.* 24(10):2088-2093. I.F.: 4.484

29. Pernas M, Tarancon-Diez L, Rodriguez-Gallego E, Gomez J, Prado JG, Casado C, Dominguez-Molina B, Olivares I, Coiras M, Leon A, Rodriguez C, Benito JM, Rallon N, Plana M, Martínez-Madrid O, Dapena M, Iribarren JA, del Romero J, Garcia F, Alcami J, Munoz-Fernandez MA, Vidal F, Leal M, Lopez-Galindez C, Ruiz-Mateos E; ECRIS integrated in the Spanish AIDS Research Network. **Factors Leading to the Loss of Natural Elite Control of HIV-1 Infection.** *JOURNAL OF VIROLOGY.* 92(5):e01805-17. I.F.: 4.368

30. Ripa M, Morata L, Rodríguez-Núñez O, Cardozo C, Puerta-Alcalde P, Hernández-Meneses M, Ambrosioni J, Linares L, Bodro M, Valcárcel A, Casals C, Guerrero-León MLA, Almela M, Garcia-Vidal C, Del Río A, Marco F, Mensa J, Martínez JA, Soriano A . **Short-Term Peripheral Venous Catheter-Related Bloodstream Infections: Evidence for Increasing Prevalence of Gram-Negative Microorganisms from a 25-Year Prospective Observational Study.** *ANTIMICROBIAL AGENTS AND CHEMOTHERAPY.* 62(11). I.F.: 4.256

31. García-de-la-Mària C, Gasch O, García-Gonzalez J, Soy D, Shaw E, Ambrosioni J, Almela M, Pericàs JM, Tellez A, Falces C, Hernandez-Meneses M, Sandoval E, Quintana E, Vidal B, Tolosana JM, Fuster D, Llopis J, Pujol M, Moreno A, Marco F, Miró JM . **The Combination of Daptomycin plus Fosfomycin has Synergistic, Potent and Rapid Bactericidal Activity against Methicillin-ResistantStaphylococcus aureus(MRSA) in a Rabbit Model of Experimental Endocarditis (EE).** *ANTIMICROBIAL AGENTS AND CHEMOTHERAPY.* 62(6). I.F.: 4.256

32. Wouthuyzen-Bakker M, Tornero E, Morata L, Nannan Panday PV, Jutte PC, Bori G, Kampinga GA, Soriano A . **Moxifloxacin**

plus rifampin as an alternative for levofloxacin plus rifampin in the treatment of a prosthetic joint infection with staphylococcus aureus. *INTERNATIONAL JOURNAL OF ANTIMICROBIAL AGENTS.* 51(1):38-42. I.F.: 4.253

33. Bouza E, Valerio M, Soriano A, Morata L, Carus E, Rodríguez-González C, Hidalgo-Tenorio M, Plata A, Muñoz P, Vena A, Alvarez-Uria A, Fernández-Cruz A, Nieto A, Artero A, Allende J, Morell E, González F, Castelo L, Cobo J, del Carmen Gálvez Contreras M, Fernández R, Horcajada J, Guisado-Vasco P, Losa J, Hervás R, Iftimie S, Mejías M, Jover F, Ferreiro J, Serrano A, Malmierca E, Masiá M, Sempere M, Rodriguez-Pardo D, Alvarez S, San Juan R, Cepeda C, Berrocal M, Sobrino B, Sorlí L. **Dalbavancin in the treatment of different gram-positive infections: A real-life experience.** *INTERNATIONAL JOURNAL OF ANTIMICROBIAL AGENTS.* 51(4):571-577. I.F.: 4.253

34. Bermejo M, Ambrosioni J, Bautista G, Climent N, Mateos E, Rovira C, Rodríguez-Mora S, López-Huertas MR, García-Gutiérrez V, Steegmann JL, Duarte R, Cervantes F, Plana M, Miró JM, Alcamí J, Coiras M . **Evaluation of resistance to HIV-1 infection ex vivo of PBMCs isolated from patients with chronic myeloid leukemia treated with different tyrosine kinase inhibitors.** *BIOCHEMICAL PHARMACOLOGY.* 156:248-264. I.F.: 4.235

35. Regueiro A, Falces C, Pericás JM, Muñoz P, Martínez-Sellés M, Valerio M, Sousa Regueiro D, Castelo L, de Alarcón A, Cobo Belaustegui M, Goenaga MA, Hidalgo-Tenorio C, Martínez-Marcos FJ, Gainzarain Arana JC, Miro JM, y los investigadores del Grupo de Apoyo al Manejo de la Endocarditis Infecciosa en España (GAMES). **Risk factors of pericardial effusion in native valve infective endocarditis and its influence on outcome: A multicenter prospective cohort study.** *INTERNATIONAL JOURNAL OF CARDIOLOGY.* 273:193-198. I.F.: 4.034

36. Bowles H, Ambrosioni J, Mestres G, Hernández-Meneses M, Sánchez N, Llopis J, Yugueros X, Almela M, Moreno A, Riambau V, Fuster D, Miró JM, Hospital Clinic Endocarditis Study Group. **Diagnostic yield of 18F-FDG PET/CT in suspected diagnosis of vascular graft infection: A prospective cohort study.** *JOURNAL OF NUCLEAR CARDIOLOGY.* I.F.: 4.011

37. Perelló R, Ased M, Saubí N, Quirós C, Blanco J, Martínez-Rebollar M, Galicia M, Salgado E, Nogué S. **Acute street drug poisoning in the patient with human immunodeficiency virus infection: The role of chemsex.** *EMERGENCIAS.* 30(6):405-407. I.F.: 3.608

38. Bori G, Navarro G, Morata L, Fernández-Valencia JA, Soriano A, Gallart X . **Preliminary Results After Changing From Two-Stage to One-Stage Revision Arthroplasty Protocol Using Cementless Arthroplasty for Chronic Infected Hip Replacements.** *JOURNAL OF ARTHROPLASTY.* 33(2):527-532. I.F.: 3.339

39. Löwik CAM, Jutte PC, Tornero E, Ploegmakers JJW, Knobben BAS, de Vries AJ, Zijlstra WP, Dijkstra B, Soriano A, Wouthuyzen-Bakker M, Northern Infection Network Joint Arthroplasty (NINJA). **Predicting Failure in Early Acute Prosthetic Joint Infection Treated With Debridement, Antibiotics, and Implant Retention: External Validation of the KLIC Score.** *JOURNAL OF ARTHROPLASTY.* 33(8):2582-2587. I.F.: 3.339

40. Ambrosioni J, Martinez-Garcia C, Llopis J, Garcia-de-la-Maria C, Hernández-Meneses M, Tellez A, Falces C, Almela M, Vidal B, Sandoval E, Fuster D, Quintana E, Tolosana JM, Marco F, Moreno A, Miró JM, Hospital Clinic Infective Endocarditis Investigators. **HACEKinfective endocarditis: epidemiology, clinical features outcome: A case-control study.** *INTERNATIONAL JOURNAL OF INFECTIOUS DISEASES.* 76:120-125. I.F.: 3.202

41. Rakotoarivelo R, Ambrosioni J, Rasolofo V, Raberahona M, Rakotosamimanana N, Andrianasolo R, Ramanampamonjy R, Tiaray M, Razafimahefa J, Rakotoson J, Randria M, Bonnet F, Calmy A. **Evaluation of the Xpert MTB/RIF assay for diagnosis of smear-negative pulmonary and extrapulmonary tuberculosis in Madagascar.** *INTERNATIONAL JOURNAL OF INFECTIOUS DISEASES.* 69:20-25. I.F.: 3.202

42. Bodro M, Linares L, Chiang D, Moreno A, Cervera C . **Managing recurrent urinary tract infections in kidney transplant patients.** *EXPERT REVIEW OF ANTI-INFECTIVE THERAPY.* 16(9):723-732. I.F.: 3.141

43. Young J, Smith C, Teira R, Reiss P, Jarrín Vera I, Crane H, Miro J, D'Arminio Monforte A, Saag M, Zangerle R, Bucher H, Boulle A, Stephan C, Cavassini M, del Amo J, Fätkenheuer G, Gill J, Guest J, Hans-Ulrich Haerry D, Hogg R, Justice A, Shepherd L, Obel N, Sterling T, Williams M. **Antiretroviral pill count and clinical outcomes in treatment-naïve patients with HIV infection.** *HIV MEDICINE.* 19(2):132-142. I.F.: 2.932

44. Gonzalez-Cordon, A.; Domenech, M.; Camafort, M.; Martinez-Rebollar, M.; Torres, B.; Laguno, M.; Rojas, J.; Lonca, M.; Blanco, J. L.; Mallolas, J.; Gatell, J. M.; de Lazzari, E.; Martinez, E. **Subclinical cardiovascular disease in patients starting contemporary protease inhibitors.** *HIV MEDICINE.* 19(7):497-503. I.F.: 2.932

45. Cuervo G, Garcia-Vidal C, Puig-Asensio M, Merino P, Vena A, Martín-Peña A, Montejo JM, Ruiz A, Lázaro-Perona F, Fortún J, Fernández-Ruiz M, Suarez AI, Castro C, Cardozo C, Gudiol C, Aguado JM, Paño JR, Pemán J, Salavert M, Garnacho-Montero J, Cisneros JM, Soriano A, Muñoz P, Almirante B, Carratalà J, REIPI, the GEMICOMED (SEIMC) and the Spanish CANDI-Bundle Group. **Usefulness of guideline recommendations for prognosis in patients with candidemia.** *MEDICAL MYCOLOGY.* I.F.: 2.799

46. Cillóniz C, Liapikou A, Martin-Loeches I, García-Vidal C, Gabarrús A, Ceccato A, Magdaleno D, Mensa J, Marco F, Torres A . **Twenty-year trend in mortality among hospitalized patients with pneumococcal community-acquired pneumonia.** *PLOS ONE.* 13(7):e0200504. I.F.: 2.766

47. Garcia-Vidal C, Cardozo-Espinola C, Puerta-Alcalde P, Marco F, Tellez A, Agüero D, Romero-Santana F, Díaz-Beyá M, Giné E, Morata L, Rodríguez-Núñez O, Martinez JA, Mensa J, Esteve J, Soriano A . **Risk factors for mortality in patients with acute leukemia and bloodstream infections in the era of multiresistance.** *PLOS ONE.* 13(6):e0199531. I.F.: 2.766

48. Pericàs JM, Cervera C, Moreno A, Garcia-de-la-Mària C, Almela M, Falces C, Quintana E, Vidal B, Llopis J, Fuster D, Mestres CA, Marco F, Miró JM, Hospital Clinic Endocarditis Study Group. **Outcome of Enterococcus faecalis infective endocarditis according to the length of antibiotic therapy: Preliminary data from a**

cohort of 78 patients. *PLOS ONE.* 13(2):e0192387. I.F.: 2.766

49. Beltran-Pavez C, Ferreira C, Merino-Mansilla A, Fabra-Garcia A, Casadella M, Noguera-Julian M, Paredes R, Olvera A, Haro I, Brander C, Garcia F, Gatell J, Yuste E, Sanchez-Merino V. **Guiding the humoral response against HIV-1 toward a MPER adjacent region by immunization with a VLP-formulated antibody-selected envelope variant.** *PLOS ONE.* 13(12):e0208345. I.F.: 2.766

50. Muñoz-Mahamud E, Molinas I, Lozano L, Bosch J, Morata L, Combalia A, Soriano Á, Bori G . **Usefulness of Culturing the Periprosthetic Membrane or Neosynovium for the Diagnosis of Infection During Hip and Knee Revision Arthroplasty.** *JOURNAL OF THE AMERICAN ACADEMY OF ORTHOPAEDIC SURGEONS, THE.* 26(20):e442-e447. I.F.: 2.638

51. Caro-Vega Y, Schultze A, W Efsen AM, Post FA, Panteleev A, Skrahin A, Miro JM, Girardi E, Podlekareva DN, Lundgren JD, Sierra-Madero J, Toibaro J, Andrade-Villanueva J, Tetradov S, Fehr J, Caylà J, Losso MH, Miller RF, Mocroft A, Kirk O, Crabtree-Ramírez B . **Differences in response to antiretroviral therapy in HIV-positive patients being treated for tuberculosis in Eastern Europe, Western Europe and Latin America.** *BMC INFECTIOUS DISEASES.* 18(1):191. I.F.: 2.620

52. Camon, S.; Quiros, C.; Saubi, N.; Moreno, A.; Marcos, M. A.; Eto, Y.; Rofael, S.; Monclus, E.; Brown, J.; McHugh, T. D.; Mallolas, J.; Perello, R. **Full blood count values as a predictor of poor outcome of pneumonia among HIV-infected patients.** *BMC INFECTIOUS DISEASES.* 18(1):189. I.F.: 2.620

53. Reyes-Urueña JM, Campbell CNJ, Vives N, Esteve A, Ambrosioni J, Tural C, Ferrer E, Navarro G, Force L, García I, Masabeu À, Vilaró JM, García de Olalla P, Caylà JA, Miró JM, Casabona J, PISCIS investigators. **Estimating the HIV undiagnosed population in Catalonia, Spain: descriptive and comparative data analysis to identify differences in MSM stratified by migrant and Spanish-born population.** *BMJ OPEN.* 8(2):e018533-e018533. I.F.: 2.413

54. Ruiz-de-León MJ, Jiménez-Sousa MA, Moreno S, García M, Gutiérrez-Rivas M, León A, Montero-Alonso M, González-García J, Resino S, Rallón N, Benito JM, Vallejo A, ECRIS Network integrated in the Spanish AIDS Research Network. **Lower expression of plasma-derived exosome miR-21 levels in HIV-1 elite controllers with decreasing CD4 T cell count.** *JOURNAL OF MICROBIOLOGY, IMMUNOLOGY AND INFECTION.* I.F.: 2.094

55. Cristelli M., Trullàs J., Cofán F., Rico N., Manzardo C., Ambrosioni J., Bedini J., Moreno A., Diekmann F., Miro J. **Prevalence and risk factors of mild chronic renal failure in HIV-infected patients: influence of female gender and antiretroviral therapy.** *BRAZILIAN JOURNAL OF INFECTIOUS DISEASES.* 22(3):193-201. I.F.: 2.083

56. Xipell M, Paredes S, Fresco L, Bodro M, Marco F, Martínez JA, Soriano A . **Clinical experience with ceftolozane/tazobactam in patients with serious infections due to resistant pseudomonas aeruginosa.** *JOURNAL OF GLOBAL ANTIMICROBIAL RESISTANCE.* 13:165-170. I.F.: 2.022

57. Rodríguez-Núñez O, Ripa M, Morata L, de la Calle C, Cardozo C, Fehér C, Pellicé M, Valcárcel A, Puerta-Alcalde P, Marco F, García-Vidal C, Del Río A, Soriano A, Martínez-Martínez JA. **Evaluation of ceftazidime/avibactam for serious infections due to multidrug-resistant and extensively drug-resistant Pseudomonas aeruginosa.** *JOURNAL OF GLOBAL ANTIMICROBIAL RESISTANCE.* 15:136-139. I.F.: 2.022

58. Ruiz-Ruigómez M, Dueñas C, Hernandez C, Vinuesa D, Coronado-Álvarez N, Portillo-Tuñón V, Cardozo C, Muñoz-Medina L, Cabo-Magadán R, Luna J, Mensa J, Parra-Ruiz J. **Clinical predictors of candidemia in medical non-neutropenic, non-ICU patients. The CaMed score.** *INTERNATIONAL JOURNAL OF CLINICAL PRACTICE.* 72(12):e13275. I.F.: 2.000

59. Cristelli MP, Mazolin MA, Manzardo C, Ribeiro MSJ, Cofán F, Santos DWC, Castel MA, Tedesco-Silva H, Moreno A, Diekman F, Miro JM, Medina-Pestana JO . **Sexual acquisition of HIV infection after solid organ transplantation: late presentation and potentially fatal complications.** *TRANSPLANT INFECTIOUS DISEASE.* 20(4):e12894. I.F.: 1.869

60. Rubio E, Martínez MJ, Gonzalo V, Barrachina J, Torner N, Martínez AI, Jané M, Vilella A, Del Rio A, Rodriguez-Valero N, Pinazo MJ, Muñoz J, Soriano A, Trilla A, Vila J, Marcos MÁ. **Definitive diagnosis in suspected Middle East Respiratory Syndrome Coronavirus cases.** *JOURNAL OF TRAVEL MEDICINE.* 25(1). I.F.: 1.800

61. Ramos-Martínez A, Muñoz Serrano A, de Alarcón González A, Muñoz P, Fernández-Cruz A, Valerio M, Fariñas MC, Gutiérrez-Cuadra M, Miró JM, Ruiz-Morales J, Sousa-Regueiro D, Montejo JM, Gálvez-Acebal J, HidalgoTenorio C, Domínguez F, Spanish Collaboration on Endocarditis – Grupo de Apoyo al Manejo de la Endocarditis Infecciosa en España (GAMES). **Gentamicin may have no effect on mortality of staphylococcal prosthetic valve endocarditis.** *JOURNAL OF INFECTION AND CHEMOTHERAPY.* 24(7):555-562. I.F.: 1.777

62. Llibre JM, de Lazzari E, Molina JM, Gallien S, Gonzalez-García J, Imaz A, Podzamczer D, Clotet B, Domingo P, Gatell JM . **Cost-effectiveness of initial antiretroviral treatment administered as single vs. multiple tablet regimens with the same or different components.** *ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA.* 36(1):16-20. I.F.: 1.707

63. Rivero A, Pérez-Molina JA, Blasco AJ, Arribas JR, Asensi V, Crespo M, Domingo P, Iribarren JA, Lázaro P, López-Aldeguer J, Lozano F, Martínez E, Moreno S, Palacios R, Pineda JA, Pulido F, Rubio R, Santos J, de la Torre J, Tuset M, Gatell JM. **Costs and cost-efficacy analysis of the 2017 GESIDA/Spanish National AIDS Plan recommended guidelines for initial antiretroviral therapy in HIV-infected adults.** *ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA.* 36(5):268-276. I.F.: 1.707

64. Bodro M, Ferrer J, Ricart MJ, Sanclemente G, Linares L, Cervera C, Cofan F, Ventura-Aguiar P, Lopez-Boado MÁ, Marco F, Fuster J, García-Valdecasas JC, Moreno A . **Epidemiology, risk factors, and impact of bacterial infections on outcomes for pancreatic grafts.** *CLINICAL TRANSPLANTATION.* 32(8):e13333. I.F.: 1.518

65. Bodro M, Londoño MC, Esforzado N, Sanclemente G, Linares L, Solano MF, Cofan F, Marcos MA, Diekmann F, Moreno A . **Hepatitis C viremia as a risk factor for opportunistic infections in kidney transplant recipients.** *CLINICAL*

TRANSPLANTATION. 32(10):e13382. I.F.: 1.518

66. Peacock JE, Stafford JM, Le K, Sohail MR, Baddour LM, Prutkin JM, Danik SB, Vikram HR, Hernandez-Meneses M, Miró JM, Blank E, Naber CK, Carrillo RG, Greenspon AJ, Tseng CH, Uslan DZ . **Attempted salvage of infected cardiovascular implantable electronic devices: Are there clinical factors that predict success?** *PACE-PACING AND CLINICAL ELECTROPHYSIOLOGY.* 41(5):524-531. I.F.: 1.441

67. Zapata B, Alvarez DN, Farah S, Garcia-de-la-Maria C, Miro JM, Sakoulas G, Bayer AS, Mishra NN . **Prevention of High-Level Daptomycin-Resistance Emergence In Vitro in Streptococcus mitis-oralis by Using Combination Antimicrobial Strategies.** *CURRENT MICROBIOLOGY.* 75(8):1062-1067. I.F.: 1.373

68. Carvalho E, Castro P, León E, Del Río A, Crespo F, Trigo L, Fernández S, Trilla A, Varela P, Nicolás JM. **Multi-professional simulation and risk perception of health care workers caring for Ebola-infected patients.** *NURSING IN CRITICAL CARE.* 12396. I.F.: 1.173

Review / I.F.: 19.436

1. Kilpeläinen A, Maya-Hoyos M, Saubí N, Soto CY, Joseph Munne J. Advances and challenges in recombinant Mycobacterium bovis BCG-based HIV vaccine development: Lessons learned. EXPERT REVIEW OF VACCINES. 17(11):1005-1020. I.F.: 4.271

2. Blanco JL, Marcelin AG, Marcelin AG, Katlama C, Katlama C, Martinez E. **Dolutegravir resistance mutations: lessons from monotherapy studies.** *CURRENT OPINION IN INFECTIOUS DISEASES.* 31(3):237-245. I.F.: 3.782

3. Cillóniz C, García-Vidal C, Moreno A, Miro JM, Torres A . **Community-acquired bacterial pneumonia in adult HIV-infected patients.** *EXPERT REVIEW OF ANTI-INFECTIVE THERAPY.* 16(7):579-588. I.F.: 3.141

4. Cillóniz C, Dominedò C, Garcia-Vidal C, Torres A . **Community-acquired pneumonia as an emergency condition.** *CURRENT OPINION IN CRITICAL CARE.* 24(6):531-539. I.F.: 3.120

5. Roncero C, Villegas J, Martínez-Rebollar M, Buti M. **The pharmacological interactions between direct-acting antivirals for the treatment of chronic hepatitis c and psychotropic drugs.** *EXPERT REVIEW OF CLINICAL PHARMACOLOGY.* 11(10):999-1030. I.F.: 2.758

6. Aguado J, Silva J, Fernández-Ruiz M, Cordero E, Fortún J, Gudiol C, Martínez-Martínez L, Vidal E, Almenar L, Almirante B, Cantón R, Carratalá J, Caston J, Cercenado E, Cervera C, Cisneros J, Crespo-Leiro M, Cuervas-Mons V, Elizalde-Fernández J, Fariñas M, Gavaldà J, Goyanes M, Gutiérrez-Gutiérrez B, Hernández D, Len O, López-Andujar R, López-Medrano F, Martín-Dávila P, Montejo M, Moreno A, Oliver A, Pascual A, Pérez-Nadales E, Román-Broto A, San-Juan R, Serón D, Solé-Jover A, Valerio M, Muñoz P, Torre-Cisneros J. **Management of multidrug resistant Gram-negative bacilli infections in solid organ transplant recipients: SET/GESITRA-SEIMC/REIPI recommendations.** *TRANSPLANTATION REVIEWS.* 32(1):36-57. I.F.: 2.364

Letters / I.F.: 129.76

1. Rieg S., Kern W., Soriano A. **Rifampicin in treating S aureus bacteraemia.** *LANCET.* 392(10147):554-555. I.F.: 53.254

2. Ambrosioni J; Mosquera M; Miro JM. **Baseline Genotype Testing to Assess Drug Resistance Before Beginning HIV Treatment.** *JAMA-JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.* 320(20):2153-2154. I.F.: 47.661

3. Ambrosioni J, Urra X, Llopis J, Moreno A, Chamorro A, Miró JM, Hospital Clinic Infective **Endocarditis Investigators. Reply to author.** *CLINICAL INFECTIOUS DISEASES.* 67(7):1146-1147. I.F.: 9.117

4. Ambrosioni J, Tellez A, Hernandez-Meneses M, Llopis J, Moreno A, Miró JM, Hospital Clinic Infective Endocarditis Investigators. **Reply to Garcia-Granja, et al.** *CLINICAL INFECTIOUS DISEASES.* 67(11):1801-1801. I.F.: 9.117

5. Pericàs JM, Moreno A, Almela M, García-de-la-Mària C, Marco F, Muñoz P, Peña C, de Alarcón A, Del Río A, Eworo A, Cruceta A, Paré JC, Mestres CA, Miró JM, FOSIMI Investigators. **Efficacy and Safety of Fosfomycin Plus Imipenem vs. Vancomycin for Complicated Bacteremia and Endocarditis Due to Methicillin-Resistant Staphylococcus aureus: A Randomized Clinical Trial.** *CLINICAL MICROBIOLOGY AND INFECTION.* 24(6):673-676. I.F.: 5.394

6. Ripa M, Rodríguez-Nuñez O, Cardozo C, Naharro-Abellán A, Almela M, Marco F, Morata L, De La Calle C, Del Río A, Garcia-Vidal C, Ortega MDM, Guerrero-León MLA, Fehér C, Torres B, Puerta-Alcalde P, Mensa J, Soriano A, Martínez JA . **Influence of empirical double-active combination antimicrobial therapy compared with active monotherapy on mortality in patients with septic shock: a propensity score-adjusted and matched analysis-authors' response.** *JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY.* 73(6):1732-1733. I.F.: 5.217

Editorial / I.F.: 1.707

1. Martınez E, Pulido F. **Introducción. Darunavir, cobicistat, emtricitabina y tenofovir alafenamida coformulados en el tratamiento de la infección por el VIH.** *ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA.* 36:1-2. I.F.: 1.707

Case Reports / I.F.: 1.494

1. Medaglia A, Marco-Hernández J, de Ossó Acuña J, Hermida Lama E, Martínez-Rebollar M, Caballero M, Rodríguez-Carunchio L, García F. **Fusarium keratoplasticum infection in an HIV-infected patient.** *INTERNATIONAL JOURNAL OF STD AND AIDS.* 29(10):1039-1042. I.F.: 1.494

Clinical Guidelines / I.F.: 6.346

1. Ryom L, Boesecke C, Bracchi M, Ambrosioni J, Pozniak A, Arribas J, Behrens G, Mallon P, Puoti M, Rauch A, Miro JM, Kirk O, Marzolini C, Lundgren JD, Battegay M, EACS Governing Board. **Highlights of the 2017 European AIDS Clinical Society (EACS) Guidelines for the treatment of adult HIV-positive persons version 9.0.** *HIV MEDICINE.* 19(5):309-315. I.F.: 2.932

2. Garcia-Vidal C, Alastruey-Izquierdo A, Aguilar-Guisado M, Carratalà J, Castro C, Fernández-Ruiz M, Aguado JM, Fernández JM, Fortún J, Garnacho-Montero J, Gavaldà J,

Gudiol C, Guinea J, Gómez-López A, Muñoz P, Pemán J, Rovira M, Ruiz-Camps I, Cuenca-Estrella M. **Executive summary of clinical practice guideline for the management of invasive diseases caused by Aspergillus: 2018 Update by the GEMICOMED-SEIMC/REIPI.** *ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA*. I.F.: 1.707

3. Rivero, Antonio; Polo, Rosa; Lopez Aldeguer, Jose; Lozano, Fernando; Antela, Antonio; Ramon Arribas, Jose; Asensi, Victor; Berenguer, Juan; Ramon Blanco, Jose; Luis Casado, Jose; Clotet, Bonaventura; Crespo, Manuel; Domingo, Pere; Duenas, Carlos; Maria Gatell, Jose; Luis Gomez-Sirvent, Juan; Gonzalez-Garcia, Juan; Antonio Iribarren, Jose; Bernaldo de Quiros, Juan Carlos Lopez; Lopez Cortes, Luis Fernando; Emilio Losa, Juan; Mallolas, Josep; Marino, Ana; Martinez, Esteban; Miro, Jose M.; Moreno, Santiago; Palacios, Rosario; Pasquau, Juan; Antonio Pineda, Juan; Podzamczer, Daniel; Portilla, Joaquin; Poveda, Eva; Pulido, Federico; Rubio, Rafael; Santos, Jesus; Sanz Moreno, Jose; Sanz Sanz, Jesus; Jesus Tellez, Maria; de la Torre, Javier; Tuset, Montserrat; Perez Molina, Jose A.; AIDS Study Grp GESIDA Span. **Executive summary of the GESIDA/National AIDS Plan Consensus Document on Antiretroviral Therapy in Adults Infected by the Human Immunodeficiency Virus (Updated January 2017).** *ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA*. 36(7):435-445. I.F.: 1.707

Consortium Publications / I.F.: 4.541

1. Marent B, Henwood F, Darking M, Leon A, West B, Lockhart D, Garcia D, Fatz D, Wallitt E, Beck E, Gomez E, Teofilo E, Gonzalez E, Garcia F, Rodrigues G, Whetham J, Begovac J, Block K, Pereira L, Apers L, Borges M, Chausa P, Zekan S, Bremner S, Hoornaert S, Mandalia S. **Development of an mHealth platform for HIV care: Gathering user perspectives through co-design workshops and interviews.** *JMIR MHEALTH AND UHEALTH*. 6(10):e184. I.F.: 4.541

GRANTS FOR RESEARCH IN PROGRESS

Arnedo M. **Implicación del colesterol y ácidos grasos en macrofagos infectados por VIH. Una aproximación lipidómica en el campo de la aterosclerosis y la infección por el VIH.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00708
Duration: 01/01/2016-31/12/2018

Blanco JL. **Papel de la determinación de resistencias en PMBC mediante secuenciación masica del DNA proviral integrado en sujetos VIH+ con fracaso virológico con viremias bajas (50-200 copias/mL).**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/01562
Duration: 01/01/2018-31/12/2020

García C. **Impacto de un paquete de intervenciones basadas en la evidencia en la calidad de la atención y el pronóstico de la candidemia.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00744
Duration: 05/07/2016-31/12/2019

Garcia F. **Red Temática de Investigación Cooperativa en Salud - SIDA.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). RD16/0025/0002
Duration: 01/01/2017-31/12/2021

García F. **Utilización de medicina de sistemas para la predicción de la inmunogenicidad y eficacia de vacunas terapéuticas frente a VIH.**
Sponsored by: Ministerio de Economia y Competitividad (MINECO). SAF2015-66193-R
Duration: 01/01/2016-31/12/2018

García F. **HIVACAR: Evaluating a Combination of Immune-based Therapies to Achieve a Functional Cure of HIV Infection.**
Sponsored by: European Comission. H2020-SC1-2016-RTD. (731626)
Duration: 01/09/2017-31/08/2020

García F. **INTEGRATE: Joint Action on integrating prevention, testing and linkage to care strategies acros HIV, viral hepatitis, TB and STIs in Europe.**
Sponsored by: European Comission. CE_HP-JA-2016 (761319)
Duration: 01/01/2017-31/12/2021

Garcia F. **EHVA: European HIV Vaccine Alliance: a EU platform for the discovery and evaluation of novel prophylactic and therapeutic vaccine candidates.**
Sponsored by: European Comission. CE_H2020-PHCRTD-15 (681032)
Duration: 01/01/2016-31/12/2020

García F. **EmERGE: Evaluating mHealth technology in HIV to improve Empowerment and healthcare utilisation: Research and innovation to Generate Evidence for personalised care.**
Sponsored by: European Comission. CE_H2020-PHC-2014-1s (643736)
Duration: 01/05/2015-30/04/2020

León A. **Evaluación clínica y de consumo sanitario del seguimiento telemático de una cohorte de pacientes infectados por el VIH.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00726
Duration: 01/01/2018-31/12/2020

Mallolas J. **Grup de Recerca VIH/SIDA.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_00615
Duration: 01/01/2017-31/12/2020

Mallolas J. **Inmunoterapia frente al VIH con una vacuna terapéutica más interferón para modificar el reservorio viral y eventualmente alcanzar una remisión sin antiretrovirales.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00641
Duration: 01/01/2016-31/12/2018

Martínez EJ. **Seguridad, tolerabilidad y eficacia de dos estrategias de simplificación basadas en dolutegravir en pacientes infectados por VIH con supresión virológica sostenida.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/01085
Duration: 01/01/2017-31/12/2019

Martínez EJ. **Predictive Metabolomics biomarkers for cardiovascular disease risk in ART-HIV+ population.**
Sponsored by: Gilead Sciences. Gilead_Fellowship16
Duration: 14/12/2016-

Miró JM. **Estudi clínic i experimental de la relació entre la CMI a la vancomicina en Staphylococcus aureus sensibles a la meticil·lina (MSSA) i el pronòstic de la endocarditis infecciosa esquerra per MSSA.**

Sponsored by: Fundació la Marató de TV3. TV3_Cor_15

Miro JM. **Eficacia de nuevas pautas de tratamiento antibiótico de la andocarditis enterocòcica evaluadas in vitro y en el modelo de endocarditis experimental.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/01251
Duration: 01/01/2018-31/12/2020

Miro JM. **Estudio clínico y experimental de la asociación entre la CMI de vancomicina en Staphylococcus aureus sensible a meticilina (SASM) y el pronóstico de la endocarditis infecciona (EI) izquierda causada por dicho microorganismo.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00603
Duration: 01/01/2015- 31/03/2019

Plana M. **Desarrollo de una vacuna terapéutica frente al VIH basada en una nueva formulación de mRNA con nanopartículas.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00480
Duration: 01/01/2016-31/09/2019

Plana M. **Design of Human Influenza vaccines using multifunctional micelles harnessing innate immunity.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). AC16/00051
Duration: 01/01/2017-31/12/2019

Soriano A. **Estudio de estabilidad y viabilidad de la microbiota intestinal liofilizada y su utilidad en el tratamiento de la infección por Clostridium difficile.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/01023
Duration: 01/01/2017-31/12/2019

DOCTORAL THESES

Garcia F. **Evaluación de la seguridad, tolerabilidad y adherencia a la profilaxis post-exposición como estrategia para la prevención de la infección por el virus de la inmunodeficiencia humana.**
PhD student: Lorna Leal Alexander

Garcia F. **Pacientes infectados por VIH con buen control inmunovirológico: prevalencia de eventos no-SIDA y marcadores de evolución.**
PhD student: María Constanza Lucero

Garcia F. **Marcadores de inflamación en pacientes infectados por el virus de la inmunodeficiencia humana en tratamiento antirretroviral.**
PhD student: Berta Torres Murillo

Miró JM, Cofan F. **Renal disease among patients with hiv infection: prevalence, risk factors, and evolution after renal transplantation.**
PhD student: Marina Pontello Cristelli

1.4 Immune receptors of the innate and adaptive system

LOCATION
CEK building, floor 1

KEYWORDS
1. **Innate and adaptive immune response**
2. **Immune receptor-ligand interactions**
3. **Immunomodulation and immunotherapy**
4. **Host-pathogen interaction**
5. **Immunevasion**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	42.52	7	6	1
2017	57.10	11	10	1
2018	56.61	10	9	1

TEAM INVOLVED IN
Infect-ERA (SRecognite project)
AGAUR_SGR17: 1582
HCDM

TEAM LEADER
Francisco Lozano (HCB/UB)
T. 93 227 42 17
flozano@clinic.cat

RESERACHERS
Ana Angulo (UB)
Pablo Engel (UB)
Carles Serra (HCB-UB)

POST-DOCTORAL RESEARCHERS
Fernando Aranda (IDIBAPS)
Esther Carreras (IDIBAPS)
Pablo Martínez (UB)

PRE-DOCTORAL RESEARCHERS
Guillem Angulo (UB)
Sergi Casadó (IDIBAPS)
Cristina Català (IDIBAPS)
Joan Puñet (UB)
Manuel Sáez (UB)
María Velasco (IDIBAPS)

TECHNICIANS
Noelia Armiger (IDIBAPS)
Adriana Lázaro (UB)

STRATEGIC OBJECTIVES

1. Identification and characterization of functionally relevant genetic variations of immunoreceptors regulating innate and/or adaptive immune responses.
2. Functional characterization of the ligand-receptor interactions responsible for intercellular communication between components from the innate and adaptive immune system.
3. Understanding of host-pathogen interactions mediated by lymphoid and non-lymphoid receptors.
4. Development of novel immunomodulatory strategies in experimental models of autoimmunity, infection and cancer.
5. Characterization of cytomegalovirus (CMV) biology and pathogenesis.

MAIN LINES OF RESEARCH

1. Molecular and functional characterization of the SLAM (Signaling Lymphocytic Activation Molecule) and SAP (SLAM-Associated Protein) leukocyte receptor families.
2. Study of the molecules that intervene in leukocyte adhesion and inflammation.
3. Immunogenetics of receptors and molecules implicated in the regulation of innate and adaptive immune responses.

TEAM Francisco Lozano

4. Study of the role of the lymphoid scavenger-like receptors CD5 and CD6 as immunomodulators in infection, autoimmunity and cancer.

5. Molecular and functional characterization of nonlymphoid members of the superfamily of receptors with extracellular domains rich in cysteine (SRCR, Scavenger Receptor Cysteine-Rich) residues.

6. Characterization of the mechanisms that regulate CMV gene expression and identification of functions encoded by CMV.

7. Study of CMV modulation of the immune response and viral immune evasion strategies

PUBLICATIONS

Originals / I.F.: 56.614

1. Consuegra-Fernández M, Julià M, Martínez-Florensa M, Aranda F, Català C, Armiger-Borràs N, Arias MT, Santiago F, Guilabert A, Esteve A, Muñoz C, Ferrándiz C, Carrascosa JM, Pedrosa E, Romaní J, Alsina M, Mascaró-Galy JM, Lozano F, Lozano F, Lozano F. **Genetic and experimental evidence for the involvement of the CD6 lymphocyte receptor in psoriasis.** *CELLULAR AND MOLECULAR IMMUNOLOGY.* 15(10):898-906. I.F.: 7.551

2. Aljutaily T, Consuegra-Fernández M, Aranda F, Lozano F, Huarte E. **Gut microbiota metabolites for sweetening type I diabetes.** *CELLULAR AND MOLECULAR IMMUNOLOGY.* 15(2):92-95. I.F.: 7.551

3. Lombardo-Quezada J, Sanclemente G, Colmenero J, Español-Rego M, Arias MT, Ruiz P, Mauro E, Sastre L, Crespo G, Rimola A, Moreno A, Lozano F, Navasa M. **Mannose-binding lectin deficient donors increase the risk of bacterial infection and bacterial infection-related mortality after liver transplantation.** *AMERICAN JOURNAL OF TRANSPLANTATION.* 18(1):197-206. I.F.: 6.493

4. Puñet-Ortiz J., Moya M., Cuenca M., Caleiras E., Lazaro A., Engel P. **Ly9 (CD229) antibody targeting depletes marginal zone and germinal center b cells in lymphoid tissues and reduces salivary gland inflammation in a mouse model of sjögren's syndrome.** *FRONTIERS IN IMMUNOLOGY.* 9(NOV):2661. I.F.: 5.511

5. Agod Z., Pazmandi K., Bencze D., Vereb G., Biro T., Szabo A., Rajnavolgyi E., Bacsi A., Engel P., Lanyi A. **Signaling lymphocyte activation molecule family 5 enhances autophagy and fine-tunes cytokine response in monocyte-derived dendritic cells via stabilization of interferon regulatory factor 8.** *FRONTIERS IN IMMUNOLOGY.* 26(9):62. I.F.: 5.511

6. Martínez-Florensa M., Català C., Velasco-de Andrés M., Cañadas O., Fraile-ágreda V., Casadó-Llombart S., Armiger-Borràs N., Consuegra-Fernández M., Casals C., Lozano F. **Conserved bacterial-binding peptides of the scavenger-like human lymphocyte receptor CD6 protect from mouse experimental sepsis.** *FRONTIERS IN IMMUNOLOGY.* 12(9):627. I.F.: 5.511

7. Aranda F., Chaba K., Bloy N., Garcia P., Bordenave C., Martins I., Stoll G., Tesniere A., Kroemer G., Senovilla L. **Immune effectors responsible for the elimination of hyperploid cancer cells.** *ONCOIMMUNOLOGY.* 7(8):e1463947. I.F.: 5.503

8. Perez-Carmona, Natalia; Martinez-Vicente, Pablo; Farre, Domenec; Gabaev, Ildar; Messerle, Martin; Engel, Pablo; Angulo, Ana. **A prominent role of the human cytomegalovirus UL8 glycoprotein restraining pro-inflammatory cytokine production by myeloid cells at late times during infection.** *JOURNAL OF VIROLOGY.* 92(9). I.F.: 4.368

9. Mourglia-Ettlin G, Miles S, Velasco-De-Andrés M, Armiger-Borràs N, Cucher M, Dematteis S, Lozano F, Lozano F, Lozano F. **The ectodomains of the lymphocyte scavenger receptors CD5 and CD6 interact with tegumental antigens from Echinococcus granulosus sensu lato and protect mice against secondary cystic echinococcosis.** *PLOS NEGLECTED TROPICAL DISEASES.* 12(11):e0006891. I.F.: 4.367

10. Cuenca M., Puñet-Ortiz J., Ruart M., Terhorst C., Engel P. **Ly9 (SLAMF3) receptor differentially regulates iNKT cell development and activation in mice.** *EUROPEAN JOURNAL OF IMMUNOLOGY.* 48(1):99-105. I.F.: 4.248

Review / I.F.: 28.181

1. Retamozo, Soledad; Flores-Chavez, Alejandra; Consuegra-Fernandez, Marta; Lozano, Francisco; Ramos-Casals, Manuel; Brito-Zeron, Pilar. **Cytokines as therapeutic targets in primary Sjögren syndrome.** *PHARMACOLOGY AND THERAPEUTICS.* 184:81-97. I.F.: 10.376

2. Consuegra-Fernandez, Marta; Lin, Feng; Fox, David A.; Lozano, Francisco. **Clinical and experimental evidence for targeting CD6 in immune-based disorders.** *AUTOIMMUNITY REVIEWS.* 17(5):493-503. I.F.: 8.745

3. Garcia-Martinez, Elena; Smith, Melody; Buque, Aitziber; Aranda, Fernando; Ayala de la Pena, Francisco; Ivars, Alejandra; Sanchez Canovas, Manuel; Vicente Conesa, Ma Angeles; Fucikova, Jitka; Spisek, Radek; Zitvogel, Laurence; Kroemer, Guido; Galluzzi, Lorenzo. **Trial Watch: Immunostimulation with recombinant cytokines for cancer therapy.** *ONCOIMMUNOLOGY.* 7(6):e1433982. I.F.: 5.503

4. Cuenca M, Sintes J, Lányi Á, Engel P. **CD84 cell surface signaling molecule: An emerging biomarker and target for cancer and autoimmune disorders.** *CLINICAL IMMUNOLOGY.* I.F.: 3.557

Letters / I.F.: 3.675

1. Julià M, Consuegra-Fernández M, Guilabert A, Muñoz C, Esteve A, Armiger-Borràs N, Santiago F, Arias MT, Romaní J, Ferrándiz C, Carrascosa JM, Pedrosa E, Alsina-Gibert M, Lozano F, Mascaró-Galy JM . **Genetically defined variants of toll-like receptors 3, 7 and 9 as phenotype and risk modifier factors for psoriasis.** *JOURNAL OF DERMATOLOGICAL SCIENCE.* 89(3):301-304. I.F.: 3.675

GRANTS FOR RESEARCH IN PROGRESS

Lozano F. **Combined CD6 therapy for treatment of infectious diseases and related inflammatory processes.**
Sponsored by: Fundació Institució Centres de Recerca de Catalunya (CERCA). 2017-03-14
Duration: 18/04/2017-17/04/2022

Lozano F. **Aproximaciones experimentales al estudio de las propiedades inmunomoduladores de receptores linfocitarios tipo scavenger en patología inmunomediada.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2016-80535-R
Duration: 30/12/2016-29/12/2019

Lozano F. **Proteínas SRCR como receptores reconocedores de microorganismos: un amplio rastreo de interacciones con bacterias patogénicas.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). PCIN-2015-070
Duration: 01/12/2015- 31/05/2019

1.6 Immunogenetics of the autoinflammatory response

LOCATION
HCB building
CELLEX building, floor 4B

KEYWORDS
1. **Autoinflammation**
2. **Immunogenetics**
3. **Inflammasome**
4. **Immunotherapy**
5. **Immunodeficiencies**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	59.39	15	8	2
2017	90.93	15	10	1
2018	108.30	13	10	3

TEAM INVOLVED IN
AGAUR_SGR17: 1539

TEAM LEADER
Jordi Yagüe (HCB)
T. 93 227 54 00 (Ext.: 2155)
jyague@clinic.cat

RESEARCHERS
Juan Ignacio Aróstegui (HCB)
Manel Juan (HCB)

POST-DOCTORAL RESEARCHERS
Anna Mensa (HCB)

PRE-DOCTORAL RESEARCHERS
Berta Marzal (IDIBAPS)

COLLABORATORS
Daniel Benítez (HCB)
Miguel Caballero (HCB)
Azucena Europa (HCB)
Eva González (HCB)
Eduard Palou (HCB)
Estíbaliz Ruiz (HCB)

STRATEGIC OBJECTIVES

In the field of autoinflammatory diseases:
Promotion of basic, clinical and translation research in the physiopathology of autoinflammatory and immunomediated diseases as a model for gaining in-depth knowledge of the regulation of the normal inflammatory response, its dysfunctions, and its effects upon the immune response.

In the field of immune response:
Determination of the components of immune response is essential for modulating the specific recognition phenomena and developing products of immunotherapy (CART, DCs and TILs therapies).

MAIN LINES OF RESEARCH

In the field of autoinflammatory diseases:
- Determination of the genetic and molecular bases of the autoinflammatory process.
- Characterization of the regulatory mechanisms of the inflammasome and its dysfunction.
- Characterization of the specific transcriptional profiles of autoinflammatory diseases.
- Isolation of new genes responsible for hereditary autoinflammatory diseases and identification of genetic susceptibility factors for the development of polygenic autoinflammatory processes.
- Definition of new therapeutic targets for the treatment of autoinflammatory diseases.

TEAM Jordi Yagüe

In the field of immune responses:

- Assessing the role of HLA loci in the immune response against infection, transplantation, cancer and autoimmune responses.
- Cell immunotherapy (mainly in cancer): CAR Ts, DCs and TILs.

PUBLICATIONS

Originals / I.F.: 108.301

1. Armangue T, Spatola M, Vlagea A, Mattozzi S, Cárceles-Cordon M, Martinez-Heras E, Llufriu S, Muchart J, Erro ME, Abraira L, Moris G, Monros-Giménez L, Corral-Corral Í, Montejo C, Toledo M, Bataller L, Secondi G, Ariño H, Martínez-Hernández E, Juan M, Marcos MA, Alsina L, Saiz A, Rosenfeld MR, Graus F, Dalmau J,. **Frequency, symptoms, risk factors, and outcomes of autoimmune encephalitis after herpes simplex encephalitis: a prospective observational study and retrospective analysis.** *LANCET NEUROLOGY, THE.* 17(9):760-772. I.F.: 27.144

2. Rowczenio DM, Pathak S, Arostegui JI, Mensa-Vilaro A, Omoyinmi E, Brogan P, Lipsker D, Scambler T, Owen R, Trojer H, Baginska A, Gillmore JD, Wechalekar AD, Lane T, Williams R, Youngstein T, Hawkins PN, Savic S, Lachmann HJ. **Molecular genetic investigation, clinical features, and response to treatment in 21 patients with Schnitzler syndrome.** *BLOOD.* 131(9):974-981. I.F.: 15.132

3. Paré L, Pascual T, Seguí E, Teixidó C, Gonzalez-Cao M, Galván P, Rodríguez A, González B, Cuatrecasas M, Pineda E, Torné A, Crespo G, Martin-Algarra S, Pérez-Ruiz E, Reig Ò, Viladot M, Font C, Adamo B, Vidal M, Gaba L, Muñoz M, Victoria I, Ruiz G, Viñolas N, Mellado B, Maurel J, Garcia-Corbacho J, Molina-Vila MÁ, Juan M, Llovet JM, Reguart N, Arance A, Prat A. **Association between PD1 mRNA and response to anti-PD1 monotherapy across multiple cancer-types.** *ANNALS OF ONCOLOGY.* 29(10):2121-2128. I.F.: 13.930

4. De Larrea C., Isola I., Pereira A., Cibeira M., Magnano L., Tovar N., Rodríguez-Lobato L., Calvo X., Aróstegui J., Díaz T., Lozano E., Rozman M., Yagüe J., Bladé J., Rosiñol L. **Evolving M-protein pattern in patients with smoldering multiple myeloma: impact on early progression.** *LEUKEMIA.* 32(6):1427-1434. I.F.: 10.023

5. Van Gijn ME, Ceccherini I, Shinar Y, Carbo EC, Slofstra M, Arostegui JI, Sarrabay G, Rowczenio D, Omoy?mn? E, Balci-Peynircioglu B, Hoffman HM, Milhavet F, Swertz MA, Touitou I. **New workflow for classification of genetic variants' pathogenicity applied to hereditary recurrent fevers by the International Study Group for Systemic Autoinflammatory Diseases (INSAID).** *JOURNAL OF MEDICAL GENETICS.* 55(8):530-537. I.F.: 5.751

6. De Valles-Ibáñez G., Esteve-Solé A., Piquer M., Azucena González-Navarro E., Hernandez-Rodriguez J., Laayouni H., González-Roca E., Plaza-Martin A., Deyà-Martínez á., Martín-Nalda A., Martínez-Gallo M., García-Prat M., del Pino-Molina L., Cuscó I., Codina-Solà M., Batlle-Masó L., Solís-Moruno M., Marquès-Bonet T., Bosch E., López-Granados E., Aróstegui J., Soler-Palacín P., Colobran R., Yagüe J., Alsina L., Juan M., Casals F. **Evaluating the genetics of common variable immunodeficiency: Monogenetic model and beyond.** *FRONTIERS IN IMMUNOLOGY.* 9:636. I.F.: 5.511

7. De la Guardia R., Correa J., López-Millán B., Juan M., Bueno C., Cervantes F., Menéndez P. **Detection of inflammatory monocytes but not mesenchymal stem/stromal cells in peripheral blood of patients with myelofibrosis.** *BRITISH JOURNAL OF HAEMATOLOGY.* 181(1):133-137. I.F.: 5.128

8. Sarens IL, Casteels I, Anton J, Bader-Meunier B, Brissaud P, Chédeville G, Cimaz R, Dick AD, Espada G, Fernandez-Martin J, Guly CM, Hachulla E, Harjacek M, Khubchandani R, Mackensen F, Merino R, Modesto C, Naranjo A, Oliveira-Knupp S, Özen S, Pajot C, Ramanan AV, Russo R, Susic G, Thatayatikom A, Thomée C, Vastert S, Bertin J, Arostegui JI, Rose CD, Wouters CH. **Blau Syndrome - Associated Uveitis: Preliminary Results from an International Prospective Interventional Case Series.** *AMERICAN JOURNAL OF OPHTHALMOLOGY.* 187:158-166. I.F.: 4.795

9. Benitez-Ribas D., Cabezón R., Flórez-Grau G., Molero M., Puerta P., Guillen A., Paco S., Carcaboso A., Lopez V., Cruz O., de Torres C., Salvador N., Juan M., Mora J., La Madrid A. **Immune response generated with the administration of autologous dendritic cells pulsed with an allogenic tumoral cell-lines lysate in patients with newly diagnosed diffuse intrinsic pontine glioma.** *FRONTIERS IN ONCOLOGY.* 8(APR):167. I.F.: 4.416

10. Inciarte-Mundo J, Ramirez J, Hernández MV, Ruiz-Esquide V, Cuervo A, Cabrera-Villalba SR, Pascal M, Yagüe J, Cañete JD, Sanmarti R. **Calprotectin strongly and independently predicts relapse in rheumatoid arthritis and polyarticular psoriatic arthritis patients treated with tumor necrosis factor inhibitors: a 1-year prospective cohort study.** *ARTHRITIS RESEARCH AND THERAPY.* 20(1):275. I.F.: 4.269

11. Esteve-Sole A, Sánchez-Dávila SP, Deyà-Martínez A, Freeman AF, Zelazny AM, Dekker JP, Khil PP, Holland SM, Noguera-Julian A, Bustamante J, Casanova JL, Juan M, Cordova W, Alsina L. **Severe BCG-osis Misdiagnosed as Multidrug-Resistant Tuberculosis in an IL-12Rβ1-Deficient Peruvian Girl.** *JOURNAL OF CLINICAL IMMUNOLOGY.* 38(6):712-716. I.F.: 4.227

12. Deyà-Martínez A, Esteve-Solé A, Vélez-Tirado N, Celis V, Costa J, Cols M, Jou C, Vlagea A, Plaza-Martin AM, Juan M, Alsina L. **Sirolimus as an alternative treatment in patients with granulomatous-lymphocytic lung disease and humoral immunodeficiency with impaired regulatory T cells.** *PEDIATRIC ALLERGY AND IMMUNOLOGY.* 29(4):425-432. I.F.: 4.137

13. Bastida C, Ruiz-Esquide V, Pascal M, de Vries Schultink AHM, Yagüe J, Sanmartí R, Huitema ADR, Soy D. **Fixed dosing of intravenous tocilizumab in rheumatoid arthritis. Results from a population pharmacokinetic analysis.** *BRITISH JOURNAL OF CLINICAL PHARMACOLOGY.* 84(4):716-725. I.F.: 3.838

Review / I.F.: 12.504

1. Esteve-Solé A., Sologuren I., Martínez-Saavedra M., Deyà-Martínez À., Oleaga-Quintas C., Martinez-Barricarte R., Martin-Nalda A., Juan M., Casanova J., Rodriguez-Gallego C., Alsina L., Bustamante J. **Laboratory evaluation of the IFN-? circuit for the molecular diagnosis of Mendelian susceptibility to mycobacterial disease.** *CRITICAL REVIEWS IN CLINICAL LABORATORY SCIENCES.* 55(3):184-204. I.F.: 6.481

2. Esteve-Solé A, Luo Y, Vlagea A, Deyà-Martínez Á, Yagüe J, Plaza-Martín AM, Juan M, Alsina L. **B Regulatory Cells: Players in Pregnancy and Early Life.** *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES.* 19(7). I.F.: 3.687

3. Hernández-Rodríguez J, Ruiz-Ortiz E, Yagüe J. **Monogenic autoinflammatory diseases: General concepts and presentation in adult patients.** *MEDICINA CLINICA.* 150(2):67-74. I.F.: 1.168

4. José Hernández Rodríguez; Estíbaliz Ruiz Ortiz; Jordi Yagüe. **Enfermedades autoinflamatorias monogénicas: conceptos generales y presentación en pacientes adultos.** *MEDICINA CLINICA.* 150(2):67-74. I.F.: 1.168

Letters / I.F.: 6.129

1. Podlipnik S, Morgado-Carrasco D, Fustà-Novell X, Mensa-Vilaró A, Arostegui JI, Alsina-Gibert M, Mascaró JM. **Dynamics of plasma cytokines in a patient with deficiency of interleukin-36 receptor antagonist successfully treated with anakinra.** *BRITISH JOURNAL OF DERMATOLOGY.* 178(4):e258-e260. I.F.: 6.129

Case Reports / I.F.: 5.386

1. Gargallo V., Menis D., Márquez A., Aróstegui J., Martín R. **Short-term efficacy of adalimumab in a patient with pyrin-associated autoinflammation with neutrophilic dermatosis.** *JDDG - JOURNAL OF THE GERMAN SOCIETY OF DERMATOLOGY.* 16(6):756-759. I.F.: 2.743

2. Podlipnik S, Castellanos-Moreira R, Florez-Enrich H, Arostegui JI, Mascaró JM. **Acute generalized exanthematous pustulosis and polyarthritis associated with a novel CARD14 mutation.** *AUSTRALASIAN JOURNAL OF DERMATOLOGY.* 59(1):e70-e73. I.F.: 1.602

3. Latour I., Noguera-Morel L., Colmenero I., Clemente D., Hernández-Martín A., López-Robledillo J., Arostegui J., Torrelo A. **Chronic urticaria in infants as the first manifestation of autoinflammatory disease.** *PEDIATRIC DERMATOLOGY.* 35(6):e337-e340. I.F.: 1.041

DOCTORAL THESES

Juan M, Alsina L. **Primary and secondary immunodeficiencies of the IL-12/IFN-γ axis.**
PhD student: Ana Esteve Solé

Aróstegui JI. **Implicació del mosaïcisme genètic en les immunodeficiències primàries.**
PhD student: Anna Mensa Vilaró

1.7 Emergencies: processes and pathologies

LOCATION
HCB building

KEYWORDS
1. **Emergency department**
2. **Organization**
3. **Toxicology**
4. **Chest pain**
5. **Arrhythmia**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	37.46	14	8	5
2017	235.95	39	29	8
2018	267.50	41	24	8

TEAM INVOLVED IN
AGAUR_SGR17: 1424

AWARDS
Pepe Millá Award
Institution: Sociedad Española de Medicina de Urgencias y Emergencias (SEMES)
Awardee/s: Òscar Miró

TEAM LEADER
Òscar Miró (HCB)
T. 93 227 54 00 (Ext.: 3153)
omiro@clinic.cat

RESERACHERS
Blanca Coll-Vinent (HCB)
Sònia Jiménez (HCB)
Santiago Nogué (HCB)
Mar Ortega-Romero (HCB)
Rafael Perelló (HCB)
Miguel Sánchez (HCB)

POST-DOCTORAL RESEARCHERS
Josep Ramon Alonso (HCB)
Montserrat Amigó (HCB)
Albert Antolín (HCB)
Ernest Bragulat (HCB)
Rosa Escoda (HCB)
Miguel Galicia (HCB)
Victor Gil (HCB)
Elisenda Gómez (HCB)
Carolina Inostoza (HCB)
Francesc Xavier Jiménez (UB)
Beatriz López (HCB)
Mar Ortega-Aramburu (HCB)
Emilio Salgado (HCB)

PRE-DOCTORAL RESEARCHERS
Sira Aguiló (HCB)
Pablo Burbano (UB)
Javier Dario Cabrera (UB)
Francesc Xavier Escalada (UB)
Inés María Fernández (UB)
Lluís Llauger (UB)
Javier López (UB)
Sònia Moreno (UB)

NURSING STAFF
Sofía Calderón (HCB)
Helena Morera (HCB)

COLLABORATORS
Ana García (HCB)

STRATEGIC OBJECTIVES

The study of all processes and pathologies inherent to the emergency setting, with a patient-centred approach and focusing on the acute process leading to emergency consultation. The first few hours of emergency disease conditions are exclusively addressed by the Emergency Department, where clinical research has not classically been considered. This makes this group unique in Catalonia and Spain.

MAIN LINES OF RESEARCH

1. Functional aspects of Hospital Emergency Departments.

TEAM Òscar Miró

2. Clinical aspects of intoxicated patients.

3. Treatment of arrhythmias in the emergency room.

4. Evaluation of chest pain in the Emergency Department.

5. Thromboembolic diseases.

6. Emergency medical care for problems caused by drug abuse.

7. Acute heart failure.

8. Attention to infectious diseases in Emergency Departments.

9. Dynamics of teaching and research in Emergency Medicine.

PUBLICATIONS

Originals / I.F.: 267.499

1. Boeddinghaus J, Nestelberger T, Twerenbold R, Neumann JT, Lindahl B, Giannitsis E, Sörensen NA, Badertscher P, Jann JE, Wussler D, Puelacher C, Rubini Giménez M, Wildi K, Strebel I, Du Fay de Lavallaz J, Selman F, Sabti Z, Kozhuharov N, Potlukova E, Rentsch K, Miró Ò, Martin-Sanchez FJ, Morawiec B, Parenica J, Lohrmann J, Kloos W, Buser A, Geigy N, Keller DI, Osswald S, Reichlin T, Westermann D, Blankenberg S, Mueller C, APACE, BACC, and TRAPID-AMI Investigators. **Impact of age on the performance of the ESC 0/1h-algorithms for early diagnosis of myocardial infarction.** *EUROPEAN HEART JOURNAL.* 39(42):3780-3794. I.F.: 23.425

2. Twerenbold, Raphael; Badertscher, Patrick; Boeddinghaus, Jasper; Nestelberger, Thomas; Wildi, Karin; Puelacher, Christian; Sabti, Zaid; Gimenez, Maria Rubini; Tschirky, Sandra; de Lavallaz, Jeanne du Fay; Kozhuharov, Nikola; Sazgary, Lorraine; Mueller, Deborah; Breidthardt, Tobias; Strebel, Ivo; Widmer, Dayana Flores; Shrestha, Samyut; Miro, Oscar; Javier Martin-Sanchez, F.; Morawiec, Beata; Parenica, Jiri; Geigy, Nicolas; Keller, Dagmar I.; Rentsch, Katharina; von Eckardstein, Arnold; Osswald, Stefan; Reichlin, Tobias; Mueller, Christian. **0/1-Hour Triage Algorithm for Myocardial Infarction in Patients With Renal Dysfunction.** *CIRCULATION.* 137(5):436-451. I.F.: 18.881

3. Gimenez, Maria Rubini; Badertscher, Patrick; Twerenbold, Raphael; Boeddinghaus, Jasper; Nestelberger, Thomas; Wussler, Desiree; Miro, Oscar; Javier Martin-Sanchez, F.; Reichlin, Tobias; Mueller, Christian. **Impact of the US Food and Drug Administration-Approved Sex-Specific Cutoff Values for High-Sensitivity Cardiac Troponin T to Diagnose Myocardial Infarction.** *CIRCULATION.* 137(17):1867-1869. I.F.: 18.881

4. Van der Linden N, Wildi K, Twerenbold R, Pickering JW, Than M, Cullen L, Greenslade J, Parsonage W, Nestelberger T, Boeddinghaus J, Badertscher P, Rubini Giménez M, Klinkenberg LJJ, Bekers O, Schöni A, Keller DI, Sabti Z, Puelacher C, Cupa J, Schumacher L, Kozhuharov N, Grimm K, Shrestha S, Flores D, Freese M, Stelzig C, Strebel I, Miró Ò, Rentsch K, Morawiec B, Kawecki D, Kloos W, Lohrmann J, Richards AM, Troughton R, Pemberton C, Osswald S, van Dieijen-Visser MP, Mingels AM, Reichlin T, Meex SJR, Mueller C . **Combining High Sensitivity Cardiac Troponin I and Cardiac Troponin T in the Early Diagnosis of Acute Myocardial Infarction.** *CIRCULATION.* 138(10):989-999. I.F.: 18.881

5. Badertscher P, Boeddinghaus J, Twerenbold R, Nestelberger T, Wildi K, Wussler D, Schwarz J, Puelacher C, Rubini Giménez M, Kozhuharov N, du Fay de Lavallaz J, Cerminara SE, Potlukova E, Rentsch K, Miró Ò, López B, Martin-Sanchez FJ, Morawiec B, Muzyk P, Keller DI, Reichlin T, Mueller C, APACE Investigators. **Direct Comparison of the 0/1h and 0/3h Algorithms for Early Rule-Out of Acute Myocardial Infarction.** *CIRCULATION.* 137(23):2536-2538. I.F.: 18.881

6. Twerenbold R, Neumann JT, Sörensen NA, Ojeda F, Karakas M, Boeddinghaus J, Nestelberger T, Badertscher P, Rubini Giménez M, Puelacher C, Wildi K, Kozhuharov N, Breitenbuecher D, Biskup E, du Fay de Lavallaz J, Flores D, Wussler D, Miró Ò, Martín Sánchez FJ, Morawiec B, Parenica J, Geigy N, Keller DI, Zeller T, Reichlin T, Blankenberg S, Westermann D, Mueller C . **Prospective Validation of the 0/1-h Algorithm for Early Diagnosis of Myocardial Infarction.** *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY.* 72(6):620-632. I.F.: 16.834

7. Vergara A, Cilloniz C, Luque N, Garcia-Vidal C, Tejero J, Perelló R, Lucena CM, Torres A, Marcos MA. **Detection of human cytomegalovirus in bronchoalveolar lavage of intensive care unit patients.** *EUROPEAN RESPIRATORY JOURNAL.* 51(2). I.F.: 12.244

8. Gayat E, Arrigo M, Littnerova S, Sato N, Parenica J, Ishihara S, Spinar J, Müller C, Harjola VP, Lassus J, Miró Ò, Maggioni AP, AlHabib KF, Choi DJ, Park JJ, Zhang Y, Zhang J, Januzzi JL, Kajimoto K, Cohen-Solal A, Mebazaa A, GREAT Network. **Heart failure oral therapies at discharge are associated with better outcome in acute heart failure: A propensity-score matched study.** *EUROPEAN JOURNAL OF HEART FAILURE.* 20(2):345-354. I.F.: 10.683

9. Miró Ò, Tost J, Gil V, Martín-Sánchez FJ, Llorens P, Herrero P, Mebazaa A, Harjola VP, Ríos J, Marco-Hernández J, Collins SP, Peacock WF, Hollander JE, Lorca MT, Jacob J, ICA-SEMES Research Group. **The BRONCH-AHF study: effects on short-term outcome of nebulized bronchodilators in emergency department patients diagnosed with acute heart failure.** *EUROPEAN JOURNAL OF HEART FAILURE.* 20(4):822-826. I.F.: 10.683

10. Akiyama E, Van Aelst LNL, Arrigo M, Lassus J, Miró Ò, Čelutkienė J, Choi DJ, Cohen-Solal A, Ishihara S, Kajimoto K, Laribi S, Maggioni AP, Motiejunaite J, Mueller C, Parenica J, Park JJ, Sato N, Spinar J, Zhang J, Zhang Y, Kimura K, Tamura K, Gayat E, Mebazaa A, GREAT (Global Research on Acute Conditions Team) Network. **East Asia may have a better 1-year survival following an acute heart failure episode compared with Europe: results from an international observational cohort.** *EUROPEAN JOURNAL OF HEART FAILURE.* 20(6):1071-1075. I.F.: 10.683

11. Boeddinghaus J, Twerenbold R, Nestelberger T, Badertscher P, Wildi K, Puelacher C, du Fay de Lavallaz J, Keser E, Rubini Giménez M, Wussler D, Kozhuharov N, Rentsch K, Miró Ò, Martin-Sanchez FJ, Morawiec B, Stefanelli S, Geigy N, Keller DI, Reichlin T, Mueller C, APACE Investigators. **Clinical Validation of a Novel High-Sensitivity Cardiac Troponin I Assay for Early Diagnosis of Acute Myocardial Infarction.** *CLINICAL CHEMISTRY.* 64(9):1347-1360. I.F.: 8.636

12. Badertscher P, Boeddinghaus J, Nestelberger T, Twerenbold R, Wildi K, Sabti Z, Puelacher C, Rubini Giménez M, Pfäffli J, Flores D, du Fay de Lavallaz J, Miró Ò, Martin-Sanchez FJ, Morawiec B, Lohrmann J,

Buser A, Keller DI, Geigy N, Reichlin T, Mueller C. **Effect of Acute Coronary Syndrome Probability on Diagnostic and Prognostic Performance of High-Sensitivity Cardiac Troponin.** *CLINICAL CHEMISTRY.* 64(3):515-525. I.F.: 8.636

13. Miro, Oscar; Estruch, Ramon; Martin-Sanchez, Francisco J.; Gil, Victor; Jacob, Javier; Herrero-Puente, Pablo; Herrera Mateo, Sergio; Aguirre, Alfons; Andueza, Juan A.; Llorens, Pere; ICA-SEMES Res Grp. **Adherence to Mediterranean Diet and All-Cause Mortality After an Episode of Acute Heart Failure.** *JACC: HEART FAILURE.* 6(1):52-62. I.F.: 8.202

14. Miró Ò., Hazlitt M., Escalada X., Llorens P., Gil V., Martín-Sánchez F., Harjola P., Rico V., Herrero-Puente P., Jacob J., Cone D., Möckel M., Christ M., Freund Y., di Somma S., Laribi S., Mebazaa A., Harjola V., Fuentes M., Gil C., Alonso H., Garmila P., Adrada E., Escoda R., Xipell C., Sánchez C., Gaytan J., Salvo E., Pérez-Durá M., Noval A., Torres J., Juan-Gómez M., López-Grima M., Valero A., Aguirre A., Pedragosa M., Alonso M., Ruiz F., Franco J., Diaz E., Miró Ò., Hazlitt M., Escalada X., Llorens P., Gil V., Martín-Sánchez F., Harjola P., Rico V., Herrero-Puente P., Jacob J., Cone D., Möckel M., Christ M., Freund Y., di Somma S., Laribi S., Mebazaa A., Harjola V., Fuentes M., Gil C., Alonso H., Garmila P., Adrada E., Escoda R., Xipell C., Sánchez C., Gaytan J., Salvo E., Pérez-Durá M., Noval A., Torres J., Juan-Gómez M., López-Grima M. **Effects of the intensity of prehospital treatment on short-term outcomes in patients with acute heart failure: the SEMICA-2 study**. *CLINICAL RESEARCH IN CARDIOLOGY.* 107(4):347-361. I.F.: 4.455

15. Legrand M., Ludes P., Massy Z., Rossignol P., Parenica J., Park J., Ishihara S., AlHabib K., Maggioni A., Miró Ò., Sato N., Cohen-Solal A., Fairman E., Lassus J., Harjola V., Mueller C., Peacock F., Choi D., Plaisance P., Spinar J., Kosiborod M., Mebazaa A., Gayat E. GREAT (Global Research on Acute Conditions Team) Network and INI-CRCT (Investigation Network Initiative-Cardiovascular and Renal Clinical Trialists) network. **Association between hypo- and hyperkalemia and outcome in acute heart failure patients: the role of medications.** *CLINICAL RESEARCH IN CARDIOLOGY.* 107(3):214-221. I.F.: 4.455

16. Miró Ò., Gil V., Martín-Sánchez F., Jacob J., Herrero P., Alquézar A., Llauger L., Aguiló S., Martínez G., Ríos J., Domínguez-Rodríguez A., Harjola V., Müller C., Parissis J., Peacock W., Llorens P., Fuentes M., Gil C., Pérez-Durá M., Salvo E., Xipell C., Sánchez C., Gaytan J., Noval A., Torres J., López-Grima M., Valero A., Aguirre A., Pedragosa M., Torres-Gárate R., Alonso M., Ruiz F., Franco J., Sánchez S., Rizzi M., Herrera S., Richard F., Lucas F., Cabello I., Roset Á., Miró Ò., Gil V., Martín-Sánchez F., Jacob J., Herrero P., Alquézar A., Llauger L., Aguiló S., Martínez G., Ríos J., Domínguez-Rodríguez A., Harjola V., Müller C., Parissis J., Peacock W., Llorens P., Fuentes M., Gil C., Pérez-Durá M., Salvo E., Xipell C., Sánchez C., Gaytan J., Noval A., Torres J., López-Grima M., Valero A., Aguirre A., Pedragosa M., Torres-Gárate R., Alonso M., Ruiz F., Franco J. **Short-term outcomes of heart failure patients with reduced and preserved ejection fraction after acute decompensation according to the final destination after emergency department care.** *CLINICAL RESEARCH IN CARDIOLOGY.* 107(8):698-710. I.F.: 4.455

17. Llorens P, Javaloyes P, Martín-Sánchez FJ, Jacob J, Herrero-Puente P, Gil V, Garrido JM, Salvo E, Fuentes M, Alonso H, Richard F, Lucas FJ, Bueno H, Parissis J, Müller CE, Miró Ò, ICA-SEMES Research Group. **Time trends in characteristics, clinical course, and outcomes of 13,791 patients with acute heart failure.** *CLINICAL RESEARCH IN CARDIOLOGY.* 107(10):897-913. I.F.: 4.455

18. Wildi K, Singeisen H, Twerenbold R, Badertscher P, Wussler D, Klinkenberg LJJ, Meex SJR, Nestelberger T, Boeddinghaus J, Miró Ò, Martin-Sanchez FJ, Morawiec B, Muzyk P, Parenica J, Keller DI, Geigy N, Potlukova E, Sabti Z, Kozhuharov N, Puelacher C, du Fay de Lavallaz J, Rubini Gimenez M, Shrestha S, Marzano G, Rentsch K, Osswald S, Reichlin T, Mueller C, APACE Investigators. **Circadian rhythm of cardiac troponin I and its clinical impact on the diagnostic accuracy for acute myocardial infarction**. *INTERNATIONAL JOURNAL OF CARDIOLOGY.* 270:14-20. I.F.: 4.034

19. Du Fay de Lavallaz J, Badertscher P, Nestelberger T, Isenrich R, Miró Ò, Salgado E, Geigy N, Christ M, Cullen L, Than M, Martin-Sanchez FJ, Bustamante Mandrión J, Di Somma S, Peacock WF, Kawecki D, Boeddinghaus J, Twerenbold R, Puelacher C, Wussler D, Strebel I, Keller DI, Poepping I, Kühne M, Mueller C, Reichlin T,, Giménez MR, Walter J, Kozhuharov N, Shrestha S, Mueller D, Sazgary L, Morawiec B, Muzyk P, Nowalany-Kozielska E, Freese M, Stelzig C, Meissner K, Kulangara C, Hartmann B, Ferel I, Sabti Z, Greenslade J, Hawkins T, Rentsch K, von Eckardstein A, Buser A, Kloos W, Lohrmann J, Osswald S BASEL IX Investigators. **Prospective validation of prognostic and diagnostic syncope scores in the emergency department.** *INTERNATIONAL JOURNAL OF CARDIOLOGY.* 269:114-121. I.F.: 4.034

20. Monclús Cols E, Ugarte Ramos A, Gabara Xanco C, Ladino Vasquez A, Padrosa Pulido J, Ortega Romero M. **Comparison of the Quick Sepsis-related Organ Dysfunction score and severity levels assigned with the Andorran Triage Model in an urban tertiary care hospital emergency department.** *EMERGENCIAS.* 30(6):400-404. I.F.: 3.608

21. Miró Ò., Yates C., Dines A., Wood D., Dargan P., Galán I., Jerez A., Puiguriguer J., Waring W., Moughty A., O'connor N., Heyerdahl F., Hovda K., Vallersnes O., Paasma R., Põld K., Jürgens G., Megarbane B., Anand J., Liakoni E., Liechti M., Eyer F., Zacharov S., Caganova B., Giraudon I., Galicia M. **Emergencies related to recreational drug abuse in Spain compared to emergencies attended in 3 European areas.** *EMERGENCIAS.* 30(6):384-394. I.F.: 3.608

22. Perelló R., Aused M., Saubí N., Quirós C., Blanco J., Martínez-Rebollar M., Galicia M., Salgado E., Nogué S. **Acute street drug poisoning in the patient with human immunodeficiency virus infection: The role of chemsex.** *EMERGENCIAS.* 30(6):405-407. I.F.: 3.608

23. Díaz N., Sánchez M., Miró Ò. **Analysis of 15 years of emergency service interaction with schools.** *EMERGENCIAS.* 30(6):424-432. I.F.: 3.608

24. Jacob J., Gené E., Alonso G., Rimbau P., Zorrilla J., Casarramona F., Netto C., Sánchez P., Hernández R., Escalada X., Miró Ò. **SUHCAT study, Part 5: Comparison of staff and chiefs' perceptions of emergency department quality in catalonia.** *EMERGENCIAS.* 30(1):45-49. I.F.: 3.608

25. Gómez-Angelats E, Miró Ò, Bragulat Baur E, Antolín Santaliestra A, Sánchez Sánchez M . **Triage level assignment and nurse characteristics and experience.** *EMERGENCIAS.* 30(3):163-168. I.F.: 3.608

26. Martín-Sánchez FJ, Rodríguez-Adrada E, Vidán MT, Díez Villanueva P, Llopis García G,

González Del Castillo J, Alberto Rizzi M, Alquézar A, Herrera Mateo S, Piñera P, Sánchez Nicolás JA, Lázaro Aragues P, Llorens P, Herrero P, Jacob J, Gil V, Fernández C, Bueno H, Miró Ò . **Impact of geriatric assessment variables on 30-day mortality among older patients with acute heart failure.** *EMERGENCIAS.* 30(3):149-155. I.F.: 3.608

27. Miró Ò, Nayla Brizzi B, Aguiló S, Alemany X, Jacob J, Llorens P, Herrero Puente P, González Ramón B, Castro Jiménez V, Torres Machado V, Cenjor R, Gil A, Rico V, Martínez Nadal G, Lázaro Del Nogal M, Martín-Sánchez FJ . **Profile of older patients attended in the emergency department after falls: a FALL-ER registry study of the magnitude of the problem and opportunities for improving hospital emergency care.** *EMERGENCIAS.* 30(4):231-240. I.F.: 3.608

28. Fernández-Guerrero IM, Hidalgo-Rodríguez A, de Las Mercedes Leal-Lobato M, Rivilla-Doce C, Martín-Sánchez FJ, Miró Ò . **Presentations at 29 conferences of the Spanish Society of Emergency Medicine (SEMES) from 1988 to 2017: a descriptive analysis.** *EMERGENCIAS.* 30(5):303-314. I.F.: 3.608

29. Miró Ò, Martínez G, Masip J, Gil V, Martín-Sánchez FJ, Llorens P, Herrero-Puente P, Sánchez C, Richard F, Lucas-Invernón J, Garrido JM, Mebazaa A, Ríos J, Peacock WF, Hollander JE, Jacob J, ICA-SEMES Research Group Researchers. **Effects on short term outcome of non-invasive ventilation use in the emergency department to treat patients with acute heart failure: A propensity score-based analysis of the EAHFE Registry.** *EUROPEAN JOURNAL OF INTERNAL MEDICINE.* 53:45-51. I.F.: 3.282

30. Camon, S.; Quiros, C.; Saubi, N.; Moreno, A.; Marcos, M. A.; Eto, Y.; Rofael, S.; Monclus, E.; Brown, J.; McHugh, T. D.; Mallolas, J.; Perello, R. **Full blood count values as a predictor of poor outcome of pneumonia among HIV-infected patients.** *BMC INFECTIOUS DISEASES.* 18(1):189. I.F.: 2.620

31. Sánchez M, Suárez M, Asenjo M, Bragulat E. **Improvement of emergency department patient flow using lean thinking.** *INTERNATIONAL JOURNAL FOR QUALITY IN HEALTH CARE.* 30(4):250-256. I.F.: 2.554

32. Miró Ò, Herrero-Puente P, Prieto B, García-García M, García-Hernández P, Martín-Sánchez FJ, Jacob J, Ríos J, Romero R, Gil V, Gayat É, Llorens P, Mebazaa A . **The subset of patients with acute heart failure able to secrete relaxin-2 at pregnancy concentrations could have a longer survival: a pilot study.** *BIOMARKERS.* 23(6):573-579. I.F.: 1.976

33. Ruiz-Artacho P, Piñera P, Antolin A, Casal JR, Sanchez M, Suero C, Merlo M, Carriel J, Genis M, Jimenez S . **Therapeutic approach for patients with venous thromboembolism attended in emergency departments during routine clinical practice: the EDITH study.** *JOURNAL OF COMPARATIVE EFFECTIVENESS RESEARCH.* 7(4):319-330. I.F.: 1.906

34. Martín-Sánchez F., Llopis García G., González-Colaço Harmand M., Fernandez Pérez C., González del Castillo J., Llorens P., Herrero P., Jacob J., Gil V., Domínguez-Rodriguez A., Rossello X., Miró O., Adrada E., Santos M., Salgado L., Brizzi B., Docavo M., Cadenas M., Xipell C., Sánchez C., Aguiló S., Gaytan J., Jerez A., Pérez-Durá M., Gil P., López-Grima M., Valero A., Aguirre A., Pedragosa M., Piñera P., Aragues P., Nicolás J., Rizzi M., Mateo S., Alquezar A., Roset A., Ferrer C., Llopis F., Pérez J., Diez M., Martín-Sánchez F., Llopis García G., González-Colaço Harmand M., Fernandez Pérez C., González del Castillo J., Llorens P., Herrero P., Jacob J., Gil V., Domínguez-Rodriguez A., Rossello X., Miró O., Adrada E., Santos M. **Identification of Senior At Risk scale predicts 30-day mortality among older patients with acute heart failure.** *MEDICINA INTENSIVA.* :30218-3. I.F.: 1.755

35. Jacob J., Zorrilla J., Gené E., Alonso G., Rimbau P., Casarramona F., Netto C., Sánchez P., Hernández R., Escalada X., Miró. **Non-invasive ventilation in emergency departments in public hospitals in Catalonia. The VENUR-CAT study.** *MEDICINA INTENSIVA.* 42(3):141-150. I.F.: 1.755

36. Gil, Victor; Miro, Oscar; Schull, Michael J.; Llorens, Pere; Herrero-Puente, Pablo; Jacob, Javier; Rios, Jose; Lee, Douglas S.; Martin-Sanchez, Francisco J.; ICA-SEMES Res Grp. **Emergency Heart Failure Mortality Risk Grade score performance for 7-day mortality prediction in patients with heart failure attended at the emergency department: validation in a Spanish cohort.** *EUROPEAN JOURNAL OF EMERGENCY MEDICINE.* 25(3):169-177. I.F.: 1.729

37. Cupa J, Strebel I, Badertscher P, Abächerli R, Twerenbold R, Schumacher L, Boeddinghaus J, Nestelberger T, Maechler P, Kozhuharov N, Giménez MR, Wildi K, du Fay de Lavallaz J, Sabti Z, Sazgary L, Puelacher C, Mueller D, Bianci C, Miró Ò, Fuenzalida C, Calderón S, Martín-Sánchez FJ, Iglesias SL, Morawiec B, Kawecki D, Parenica J, Keller DI, Geigy N, Osswald S, Mueller C, Reichlin T . **Diagnostic and prognostic value of QRS duration and QTc interval in patients with suspected myocardial infarction.** *CARDIOLOGY JOURNAL.* 25(5):601-610. I.F.: 1.339

38. Martín-Sánchez F., Brizzi B., González del Castillo J., Cantó Blázquez V., González Jiménez C., Aguilo Mir S., Torres Machado V., Gil A., Cenjor R., Miró O., Jacob Rodríguez J., Llorens P., Herrero Puente P., Fernández Pérez C., Lázaro del Nogal M. **Characteristics and outcomes of older adults presented to Spanish emergency departments after a fall.** *EUROPEAN GERIATRIC MEDICINE.* 9(5):631-640. I.F.: 1.169

39. Broto-Sumalla A, Rabanal-Tornero M, García-Peláez M, Aguilar-Salmerón R, Fernández de Gamarra-Martínez E, Martínez-Sánchez L, Gaspar-Caro MJ, Nogué-Xarau S. **Availability of antidotes in 70 hospitals in Catalonia.** *MEDICINA CLINICA.* 150(1):16-19. I.F.: 1.168

40. Miró Ò., Gil V., Martín-Sánchez F., Herrero P., Jacob J., Sánchez C., Xipell C., Aguiló S., Llorens P. **Short-term reconsultation, hospitalisation, and death rates after discharge from the emergency department in patients with acute heart failure and analysis of the associated factors. The ALTUR-ICA Study.** *MEDICINA CLINICA.* 150(5):167-177. I.F.: 1.168

41. Miró Ò., Javaloyes P., Gil V., Jacob J., Herrero-Puente P., Martín-Sánchez F., Salvo E., Alonso H., Juan Gómez M., Parissis J., Llorens P. **Mortality after an episode of acute heart failure in a cohort of patients with intermediate ventricular function: Global analysis and relationship with admission department.** *MEDICINA CLINICA.* 151(6):223-230. I.F.: 1.168

Review / I.F.: 1.168

1. Llauger L, Jacob J, Miró Ò . **Renal function and acute heart failure outcome.** *MEDICINA CLINICA.* 151(7):281-290. I.F.: 1.168

Letters / I.F.: 71.948

1. Miró Ó, Pocock SJ . **Predicting 30-Day Mortality for Patients With Acute Heart Failure in the Emergency Department.** *ANNALS OF INTERNAL MEDICINE.* 168(12):899-900. I.F.: 19.384

2. Kaier, Thomas E.; Twerenbold, Raphael; Puelacher, Christian; Marjot, Jack; Imambaccus, Nazia; Boeddinghaus, Jasper; Nestelberger, Thomas; Badertscher, Patrick; Sabti, Zaid; Gimenez, Maria Rubini; Wildi, Karin; Hillinger, Petra; Grimm, Karin; Loeffel, Sarah; Shrestha, Samyut; Widmer, Dayana Flores; Cupa, Janosch; Kozhuharov, Nikola; Miro, Oscar; Javier Martin-Sanchez, F.; Morawiec, Beata; Rentsch, Katharina; Lohrmann, Jens; Kloos, Wanda; Osswald, Stefan; Reichlin, Tobias; Weber, Ekkehard; Marber, Michael; Mueller, Christian. **Response by Kaier et al to Letter Regarding Article, Direct Comparison of Cardiac Myosin-Binding Protein C With Cardiac Troponins for the Early Diagnosis of Acute Myocardial Infarction.** *CIRCULATION.* 138(5):544-545. I.F.: 18.881

3. Miró Ò., Estruch R., Gil V., Llorens P.. Reply: The Mediterranean Diet to Treat Heart Failure: **A Potential Powerful Tool in the Hand of Providers.** *JACC: HEART FAILURE.* 6(3):201-208. I.F.: 8.202

4. Miró Ò., Gil V. **Response.** *CHEST.* 153(3):766-766. I.F.: 7.652

5. Vinson D., Kea B., Coll-Vinent B., Barrett T., Atzema C. **Enlisting Emergency Medicine Clinicians to Help Reduce Strokes in High-Risk Patients With Atrial Fibrillation and Flutter.** *CLIN PHARMACOL THER.* 104(4):613-614. I.F.: 6.544

6. Domínguez-Rodríguez A, González-Colaço Harmand M, Martín-Sánchez FJ, Baez-Ferrer N, Gil V, Miró Ò, Abreu-González P . **Utility of the Identification of Seniors at Risk Score to Predict In-Hospital Mortality in Older Patients With Heart Failure.** *JOURNAL OF THE AMERICAN MEDICAL DIRECTORS ASSOCIATION.* 19(12):1137-1138. I.F.: 5.325

7. Martín-Sierra C, Nogué-Xarau S, Pinillos Echeverría MÁ, Rey Pecharromán JM. **Snakebite poisoning in Spain.** *EMERGENCIAS.* 30(2):126-132. I.F.: 3.608

8. Miro, O.; Gil, V.; Javaloyes, R.; Llorens, P. **About European guidelines for heart failure 2016.** *REVISTA CLINICA ESPANOLA.* 218(3):158-159. I.F.: 1.184

9. Miró Ò, Javaloyes P, Llorens P . **Relationship between systolic blood pressure on arrival at Emergency Department and mortality after an episode of acute heart failure.** *MEDICINA CLINICA.* 151(8):e43-e44. I.F.: 1.168

Editorial / I.F.: 41.465

1. Miró Ò, Takagi K, Crespo-Leiro MG, Mebazaa A. **Left ventricular assist devices: let's move toward better quality of extended life, away from hospital.** *EUROPEAN HEART JOURNAL.* 39(37):3461-3463. I.F.: 23.425

2. Ortega Romero M. **Antibiotic use in the emergency department: Is there room for improvement?** *EMERGENCIAS.* 30(5):292-294. I.F.: 3.608

3. Miró Ò. **Emergencias' impact factor from 2010 to 2017: A detailed analysis of our journal's metrics.** *EMERGENCIAS.* 30(5):289-291. I.F.: 3.608

4. Òscar Miró Andreu. **Mutatis mutandis: el cambio como motor de crecimiento de emergencias.** *EMERGENCIAS.* 30(1):1-2. I.F.: 3.608

5. Miro, Oscar. **Change: a driver of growth for emergencias.** *EMERGENCIAS.* 30(1):1-2. I.F.: 3.608

6. Miro O. **Emergencias' impact factor from 2010 to 2017: a detailed analysis of our journal's metrics.** *EMERGENCIAS.* 30(5):289-291. I.F.: 3.608

Case Reports / I.F.: 1.53

1. Giavedoni P, Velasco V, Morgado-Carrasco D, Nogué S, Galy J. **Delayed allergic reactions to jelly fish stings: Usefulness of ultrasonographic evaluation.** *JOURNAL OF ULTRASOUND IN MEDICINE.* 37(11):2721-2724. I.F.: 1.530

Clinical Guidelines / I.F.: 37.716

1. Masip J, Peacock WF, Price S, Cullen L, Martin-Sanchez FJ, Seferovic P, Maisel AS, Miro O, Filippatos G, Vrints C, Christ M, Cowie M, Platz E, McMurray J, DiSomma S, Zeymer U, Bueno H, Gale CP, Lettino M, Tavares M, Ruschitzka F, Mebazaa A, Harjola VP, Mueller C, Acute Heart Failure Study Group of the Acute Cardiovascular Care Association and the Committee on Acute Heart Failure of the Heart Failure Association of the European Society of Cardiology. **Indications and practical approach to non-invasive ventilation in acute heart failure.** *EUROPEAN HEART JOURNAL.* 39(1):17-25. I.F.: 23.425

2. Harjola V., Parissis J., Brunner-La Rocca H., ?elutkien? J., Chioncel O., Collins S., De Backer D., Filippatos G., Gayat E., Hill L., Lainscak M., Lassus J., Masip J., Mebazaa A., Miró Ò., Mortara A., Mueller C., Mullens W., Nieminen M., Rudiger A., Ruschitzka F., Seferovic P., Sionis A., Vieillard-Baron A., Weinstein J., de Boer R., Crespo-Leiro M., Piepoli M., Riley J.. Comprehensive in-hospital monitoring in acute heart failure: Applications for clinical practice and future directions for research. **A statement from the Acute Heart Failure Committee of the Heart Failure Association (HFA) of the European Society of Cardiology (ESC).** *EUROPEAN JOURNAL OF HEART FAILURE.* 20(7):1081-1099. I.F.: 10.683

3. Alquézar-Arbé A, Sanchís J, Guillén E, Bardají A, Miró Ò, Ordóñez-Llanos J . **Cardiac troponin measurement and interpretation in the diagnosis of acute myocardial infarction in the emergency department: a consensus statement.** *EMERGENCIAS.* 30(5):336-349. I.F.: 3.608

Consortium Publications / I.F.: 5.166

1. SEC Working Group for the 2018 ESC Guidelines for Syncope, Expert Reviewers for the 2018 ESC Guidelines for Syncope, and the SEC Guidelines Committee, SEC Working Group for the 2018 ESC Guidelines for the Diagnosis and Management of Syncope, Expert Reviewers for the ESC Guidelines for the Diagnosis and Management of Syncope, SEC Guidelines Committee. **Comments on the 2018 ESC Guidelines for the Diagnosis and Management of Syncope**. *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 71(10):787-793. I.F.: 5.166

GRANTS FOR RESEARCH IN PROGRESS

Miró O. **Identificació a urgències dels pacients amb insuficiència cardiaca aguda de baix risc i desenvolupament d'una escala per identificar-los i millorar l'evolució dels que són donats d'alta des d'urgències.**
Sponsored by: Fundació la Marató de TV3. TV3_Cor_15
Duration: 09/03/2016-31/12/2019

Miró O. **Diseño de programas de intervención y escalas de riesgo con marcadores y biológicos de fragilidad para la insuficiencia cardiaca aguda en los servicios de urgencia españoles.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/01019
Duration: 01/01/2016-31/12/2019

DOCTORAL THESES

Miró Ò, Llorens P. **Identificación y prevalencia de factores precipitantes de insuficiencia cardíaca aguda en los servicios de urgencias españoles y su relación con el pronóstico a corto y medio plazo.**
PhD student: Alfons Aguirre Tejedo

1.8 Molecular and cellular bases of inflammation. Structural and biological mass spectrometry

LOCATION
IIBB-CSIC labs

KEYWORDS
1. **Inflammation**
2. **Fibrosis**
3. **Proteomics**
4. **Macrophages**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	28.35	6	6	-
2017	18.57	4	4	-
2018	37.45	7	4	3

TEAM LEADER
Daniel Closa (IIBB-CSIC)
T. 93 363 83 43
daniel.closa@iibb.csic.es

RESEARCHERS
Joaquín Abián (IIBB-CSIC)
Montserrat Carrascal (IIBB-CSIC)
Anna Serrano (IIBB-CSIC)

POST-DOCTORAL RESEARCHER
Albert Casanovas (IIBB-CSIC)

TECHNICIAN
Laura López (IIBB-CSIC)
Roberto Pinto (IIBB-CSIC)
Luis Ignacio Sánchez (IIBB-CSIC)

STRATEGIC OBJECTIVES

1. **Molecular and cellular bases of inflammation:**
   Study of inflammatory response in experimental models of acute pancreatitis, lung fibrosis and pancreatic cancer.

2. **Structural and biological mass spectrometry:**
   Development of techniques for the analysis of biomolecules by mass spectrometry and more especially for proteomics studies. Application to the characterization of post-translational modifications involved in signal transduction and of therapeutic targets and markers of disease. MALDI-imaging.

MAIN LINES OF RESEARCH

1. **Molecular and cellular bases of inflammation:**
   - Mechanisms involved in the development of systemic inflammatory processes.
   - New therapies for idiopathic pulmonary fibrosis.
   - Study of cell communication in pancreatic cancer.
   - Exosomes in inflammatory diseases.

2. **Structural and biological mass spectrometry:**
   - Phosphoproteome, acetylome, ubiquitinome and modification crosstalking on the human t-lymphocyte.

TEAM Daniel Closa

- Diagnostic and prognostic markers in cancer and other diseases.
- External scientific-technical services.
- MALDI-Imaging.

PUBLICATIONS

Originals / I.F.: 37.449

1. Guillamat-Prats R, Puig F, Camprubí-Rimblas M, Herrero R, Serrano-Mollar A, Gómez MN, Tijero J, Matthay MA, Blanch L, Artigas A . **Intratracheal instillation of alveolar type II cells enhances recovery from acute lung injury in rats.** *JOURNAL OF HEART AND LUNG TRANSPLANTATION.* 37(6):782-791. I.F.: 7.955

2. Baulies A, Montero J, Matías N, Insausti N, Terrones O, Basañez G, Vallejo C, Conde de La Rosa L, Martinez L, Robles D, Morales A, Abian J, Carrascal M, Machida K, Kumar DBU, Tsukamoto H, Kaplowitz N, Garcia-Ruiz C, Fernández-Checa JC . **The 2-oxoglutarate carrier promotes liver cancer by sustaining mitochondrial GSH despite cholesterol loading.** *REDOX BIOLOGY.* 14:164-177. I.F.: 7.126

3. Schmitt C, Lenglet H, Yu A, Delaby C, Benecke A, Lefebvre T, Letteron P, Paradis V, Wahlin S, Sandberg S, Harper P, Sardh E, Sandvik AK, Hov JR, Aarsand AK, Chiche L, Bazille C, Scoazec JY, To-Figueras J, Carrascal M, Abian J, Mirmiran A, Karim Z, Deybach JC, Puy H, Peoc'h K, Manceau H, Gouya L . **Recurrent attacks of acute hepatic porphyria: major role of the chronic inflammatory response in the liver.** *JOURNAL OF INTERNAL MEDICINE.* 284(1):78-91. I.F.: 6.754

4. Casanovas A, Gallardo Ó, Carrascal M, Abian J. **TCellXTalk facilitates the detection of co-modified peptides for the study of protein post-translational modification cross-talk in T cells.** *BIOINFORMATICS.* I.F.: 5.481

5. De Madaria, Enrique; Molero, Xavier; Bonjoch, Laia; Casas, Josefina; Cardenas-Jaen, Karina; Montenegro, Andrea; Closa, Daniel. **Oleic acid chlorohydrin, a new early biomarker for the prediction of acute pancreatitis severity in humans.** *ANNALS OF INTENSIVE CARE.* 8(1):1. I.F.: 3.771

6. De Madaria, Enrique; Herrera-Marante, Ivan; Gonzalez-Camacho, Veronica; Bonjoch, Laia; Quesada-Vazquez, Noe; Almenta-Saavedra, Isabel; Miralles-Macia, Cayetano; Acevedo-Piedra, Nelly G.; Roger-Ibanez, Manuela; Sanchez-Marin, Claudia; Osuna-Ligero, Rosa; Gracia, Angel; Llorens, Pere; Zapater, Pedro; Singh, Vikesh K.; Moreu-Martin, Rocio; Closa, Daniel. **Fluid resuscitation with lactated Ringer's solution vs normal saline in acute pancreatitis: A triple-blind, randomized, controlled trial.** *UNITED EUR GASTROENT.* 6(1):63-72. I.F.: 3.477

7. Guillén-Gómez E, Bardají-de-Quixano B, Ferrer S, Brotons C, Knepper MA, Carrascal M, Abian J, Mas JM, Calero F, Ballarín JA, Fernández-Llama P . **Urinary Proteome Analysis Identified Neprilysin and VCAM as Proteins Involved in Diabetic Nephropathy.** *JOURNAL OF DIABETES RESEARCH.* 2018(6165303). I.F.: 2.885

GRANTS FOR RESEARCH IN PROGRESS

Abián J. **Plataforma de recursos biomoleculares PRB3 (Plataforma de proteómica, genotipado y líneas celulares)**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PT17/0019/0008
Duration: 01/01/2018-31/12/2020

Closa D. **Importancia de los microRNAs transportados por exosomas en la progresión de la inflamación sistémica durante la pancreatitis aguda.**
Sponsored by: Asociación Española de Gastroenterología. AEG_BecaGonMiño_17
Duration 09/03/2017-09/03/2020

Closa D. **Exosomas como mediadores de la progresión sistémica en la pancreatitis aguda; Papel fisiopatológico y potencial como marcadores pronóstico.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00060
Duration: 01/01/2017-31/12/2019

DOCTORAL THESES

Abian J, Avilés FX. **Development of a formulation and stable pharmaceutical form for adenoviral vectors.**
PhD student: Lluna Mª López Ortiz

Closa D, Lorente J. **Papel de los exosomas en la comunicación entre las células tumorales y los macrófagos en el carcinoma laríngeo.**
PhD student: Àngela Bellmunt Fontanet

1.9 Ocular inflammation: clinical and experimental studies

LOCATION
MATERNITAT building

KEYWORDS
1. **Uveitis**
2. **Inflammation**
3. **Immunology**
4. **Biomarkers**
5. **Biological therapies**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	38.31	13	6	6
2017	40.96	8	7	-
2018	40.62	9	8	-

TEAM INVOLVED IN
OFTARED (RETIC)

TEAM LEADER
Alfredo Adán (HCB)
T. 93 227 56 67
amadan@clinic.cat

RESEARCHERS
Víctor Llorens (HCB)
Elena Millá (HCB)
Maria Teresa Sáinz (HCB)
Javier Zarranz (HCB)

POST-DOCTORAL RESEARCHERS
Marc Figueras (HCB)
Marina Mesquida (HCB)
Blanca Molins (FCRB)
Marta Pazos (HCB)
Anna Sala (HCB)

PRE-DOCTORAL RESEARCHERS
Jessica Matas (HCB)
Sara Romero (FCRB)

TECHNICIANS
Jesus Gascon (FCRB)
Anna Montasell (FCRB)

NURSING STAFF
Victoria Hernández (FCRB)

STRATEGIC OBJECTIVES

The research of the Ocular Inflammation Group focuses on how the retina responds to injury, inflammation and degeneration. Our main goal is to promote the investigation on ocular inflammatory diseases with special interest in the study of pathological mechanisms, immune response, and development of new therapies.

MAIN LINES OF RESEARCH

1. **Prognostic factors in patients with macular edema associated with non-infectious uveitis:** Assessment of the clinical, biological and imaging factors involved in the pathogenesis of uveitic macular edema and its response to treatment.

2. **New biologic therapies for the treatment of non-infectious uveitis:** Assessment of the efficacy and safety of new biologic therapies including anti-TNF-alpha, anti-IL-1beta, and anti-IL-6 receptor monoclonal antibodies for treating patients with non-infectious uveitis.

TEAM Alfredo Adán

3. **Genetic polymorphisms predisposing to uveitis:** Multicentric study that investigates genetic polymorphisms as potential risk factors for developing uveitis and its complications.

4. **Tuberculosis-related uveitis:** Development of epidemiological, clinical and experimental studies

5. **Macular pathology in diabetic patients:** Development of clinical and experimental studies to investigate the pathogenesis of diabetic macular edema, as well as its response to different therapeutic approaches.

6. **Molecular basis of age-related macular degeneration (AMD):** Study of the contribution of chronic inflammation and in particular, C-reactive protein and complement Factor H to the progression of AMD.

PUBLICATIONS

Originals / I.F.: 40.616

1. Suhler E., Adán A., Brézin A., Fortin E., Goto H., Jaffe G., Kaburaki T., Kramer M., Lim L., Muccioli C., Nguyen Q., Van Calster J., Cimino L., Kron M., Song A., Liu J., Pathai S., Camez A., Schlaen A., van Velthoven M., Vitale A., Zierhut M., Tari S., Dick A. **Safety and Efficacy of Adalimumab in Patients with Noninfectious Uveitis in an Ongoing Open-Label Study: VISUAL III.** OPHTHALMOLOGY. 125(7):1075-1087. I.F.: 7.479

2. Martín-Varillas J., Calvo-Río V., Beltrán E., Sánchez-Bursón J., Mesquida M., Adán A., Hernandez M., Garfella M., Pascual E., Martínez-Costa L., Sellas-Fernández A., Cordero-Coma M., Díaz-Llopis M., Gallego R., Salom D., Ortego N., García-Serrano J., Callejas-Rubio J., Herreras J., García-Aparicio Á., Maíz O., Blanco A., Torre I., Díaz-Valle D., Pato E., Aurrecoechea E., Caracuel M., Gamero F., Minguez E., Carrasco-Cubero C., Olive A., Vázquez J., Ruiz-Moreno O., Manero J., Muñoz-Fernández S., Martinez M., Rubio-Romero E., Toyos-Sáenz de Miera F., López Longo F., Nolla J., Martín-Varillas J., Calvo-Río V., Beltrán E., Sánchez-Bursón J., Mesquida M., Adán A., Hernandez M., Garfella M. **Successful Optimization of Adalimumab Therapy in Refractory Uveitis Due to Behçet's Disease.** *OPHTHALMOLOGY.* 125(9):1444-1451. I.F.: 7.479

3. Fernandez-Robredo, Patricia; Recalde, Sergio; Hernandez, Maria; Zarranz-Ventura, Javier; Molins, Blanca; Casaroli-Marano, Ricardo P.; Adan, Alfredo; Saenz-de-Viteri, Manuel; Garcia-Layana, Alfredo. **Novel Association of High c-Reactive Protein Levels and A69S at Risk Alleles in Wet Age-Related Macular Degeneration Women.** *FRONTIERS IN IMMUNOLOGY.* 9(1862):1862. I.F.: 5.511

4. Kuiper, Jonas J. W.; van Setten, Jessica; Devall, Matthew; Cretu-Stancu, Mircea; Hiddingh, Sanne; Ophoff, Roel A.; Missotten, Tom O. A. R.; van Velthoven, Mirjam; Den Hollander, Anneke, I; Hoyng, Carel B.; James, Edward; Reeves, Emma; Cordero-Coma, Miguel; Fonollosa, Alejandro; Adan, Alfredo; Martin, Javier; Koeleman, Bobby P. C.; de Boer, Joke H.; Pulit, Sara L.; Marquez, Ana; Radstake, Timothy R. D. J. **Functionally distinct ERAP1 and ERAP2 are a hallmark of HLA-A29-(Birdshot) Uveitis.** *HUMAN MOLECULAR GENETICS.* 27(24):4333-4343. I.F.: 4.902

5. Mesquida M, Molins B, Llorenç V, Hernández MV, Espinosa G, Sainz de la Maza M, Adán A. **Twenty-four month follow-up of tocilizumab therapy for refractory uveitis-related macular edema.** *RETINA.* 38(7):1361-1370. I.F.: 4.013

6. Miserocchi E, Iuliano L, Fogliato G, Modorati G, Couto C, Schlaen A, Hurtado E, Llorenç V, Adan A, Bandello F. **Bilateral Acute Retinal Necrosis: Clinical Features and Outcomes in a Multicenter Study.** *OCULAR IMMUNOLOGY AND INFLAMMATION.* :1-9. I.F.: 3.348

7. Llorenç V, Benejam G, Mesquida M, Sainz de la Maza M, Molins B, Alba C, Pelegrin L, Martínez JA, Adán A. **Antituberculous Treatment Itself Might Prevent Visual Impairment in Presumed Tuberculosis-Related Uveitis.** *OCULAR IMMUNOLOGY AND INFLAMMATION.* 5:1-8. I.F.: 3.348

8. Sala-Puigdollers A, Sala-Puigdollers A, Sala-Puigdollers A, Figueras-Roca M, Figueras-Roca M, Hereu M, Hernández T, Morató M, Adán A, Adán A, Zarranz-Ventura J, Zarranz-Ventura J. **Repeatability and reproducibility of retinal and choroidal thickness measurements in Diabetic Macular Edema using Swept-source Optical Coherence Tomography.** *PLOS ONE.* 13(7):e0200819-e0200819. I.F.: 2.766

9. Berasategui B, Fonollosa A, Artaraz J, Ruiz-Arruza I, Ríos J, Ríos J, Matas J, Llorenç V, Diaz-Valle D, Sastre-Ibañez M, Arriola-Villalobos P, Adan A. **Behavior of hyperreflective foci in non-infectious uveitic macular edema, a 12-month follow-up prospective study.** *BMC OPHTHALMOLOGY.* 18(1):179. I.F.: 1.770

Review / I.F.: 12.006

1. Molins B., Romero-Vázquez S., Fuentes-Prior P., Adan A., Dick A. **C-reactive protein as a therapeutic target in age-related macular degeneration.** *FRONTIERS IN IMMUNOLOGY.* 9:808. I.F.: 5.511

2. Palmou-Fontana N, Calvo-Río V, Martín-Varillas JL, Fernández-Díaz C, Mesquida M, Adán A, Hernández MV, Cordero-Coma M, Maiz Alonso O, Díaz-Valle D, Fernández-Cid C, Ruiz-Moreno O, Hernández JL, González-Gay MA, Blanco R. **Golimumab in refractory uveitis associated to juvenile idiopathic arthritis: multicentre study of 7 cases and literature review.** *CLINICAL AND EXPERIMENTAL RHEUMATOLOGY.* 36(4):652-657. I.F.: 3.201

3. Navarro M., Vazquez M., Zarranz-Ventura J., Barrio-Barrio J. **OCT angiography: A technique for the assessment of retinal and optic nerve diseases in the pediatric population.** *APPLIED SCIENCES-BASEL.* 8(12). I.F.: 1.689

4. García-Layana A, Figueroa MS, Arias L, Adán A, Cabrera F, Abraldes M, Fernández-Vega Á, Navarro R, Cervera E, Silva R, Silva R, Silva R, Armadá F, Donate J, Ruiz-Moreno JM, Ruiz-Moreno JM. **Clinical Decision-Making when Treating Diabetic Macular Edema Patients with Dexamethasone Intravitreal Implants.** *INTERNATIONAL JOURNAL OF OPHTHALMOLOGY.* 240(2):61-72. I.F.: 1.605

Letters / I.F.: 1.168

1. Mesquida M., Llorenc V., Adan A. **Reply.** *MEDICINA CLINICA.* 151(8):336-337. I.F.: 1.168

Editorial / I.F.: 5.511

1. Slevin M., Molins B. **Editorial: C-reactive protein in age-related disorders.** *FRONTIERS IN IMMUNOLOGY.* 9(NOV):2745. I.F.: 5.511

Case Reports / I.F.: 3.348

1.-Llorenç V., Mesquida M., Molins B., González-Martín J., Sainz de la Maza M., Adán A. **Bacillus Calmette–Guérin Infection and Cytotoxicity in the Retinal Pigment Epithelium.** *OCULAR IMMUNOLOGY AND INFLAMMATION.* 26(5):786-792. I.F.: 3.348

Consortium Publications / I.F.: 22.437

1. Bonini S, Lambiase A, Rama P, Sinigaglia F, Allegretti M, Chao W, Mantelli F; REPARO Study Group. **Phase II Randomized, Double-Masked, Vehicle-Controlled Trial of Recombinant Human Nerve Growth Factor for Neurotrophic Keratitis.** *OPHTHALMOLOGY.* 125(9):1332-1343. I.F.: 7.479

2. Bonini S, Lambiase A, Rama P, Filatori I, Allegretti M, Chao W, Mantelli F; REPARO Study Group. **Phase I Trial of Recombinant Human Nerve Growth Factor for Neurotrophic Keratitis.** *OPHTHALMOLOGY.* 125(9):1468-1471. I.F.: 7.479

3. Dick AD, Rosenbaum JT, Al-Dhibi HA, Belfort R Jr, Brézin AP, Chee SP, Davis JL, Ramanan AV, Sonoda KH, Carreño E, Nascimento H, Salah S, Salek S, Siak J, Steeples L; Fundamentals of Care for Uveitis International Consensus Group. **Guidance on Noncorticosteroid Systemic Immunomodulatory Therapy in Noninfectious Uveitis: Fundamentals Of Care for UveitiS (FOCUS) Initiative.** *OPHTHALMOLOGY.* 125(5):757-773. I.F.: 7.479

GRANTS FOR RESEARCH IN PROGRESS

Adán A. **Grup de recerca de malalties inflamatòries oculars.**
Sponsored by: Gerenalitat de Catalunya.
AGAUR_SGR17_701
Duration: 01/01/2017-31/12/2020

Adán A. **Diseño y validación de un índice de actividad objetivo compuesto para la uveítis basado en la tomografía de coherencia óptica Swept-Source.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00316
Duration: 01/01/2018-31/12/2020

Adán A. **Prevención, detección precoz y tratamiento de la patología ocular prevalente degenerativa y crónica.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). RD16/0008/0013
Duration: 01/01/2017-31/12/2021

Zarranz J. **Evaluation of microvascular changes in the perifoveal vascular network using Optical Coherence Tomography Angiography (OCT-A) in type I Diabetes Mellitus.**
Sponsored by: Fundació la Marató de TV3.
TV3_Diabet_16
Duration: 24/02/2017-23/02/2020

DOCTORAL THESES

Adán A. **Caracterització dels Factors Clínics i Biològics associats a l'Edema Macular Diabètic en la Diabetis Mellitus Tipus II.**
PhD student: Marc Figueras Roca

Adán A, Zarranz J. **Estudio de repetibilidad y reproductuvidad del grosor retiniano y coroideo mediante tomografía de coherencia óptica de dominio swept source y comparación con dominio espectral en el Edema Macular Diabético.**
PhD student: Anna Sala Puigdollers

Adán A, Villoslada P. **Biomarcadores de calidad visual percibida en pacientes con neuritis óptica aguda y esclerosis multiple.**
PhD student: Bernardo Francisco Sánchez Dalmau

ANNUAL
SCIENTIFIC
REPORT
2018

AREA 2

2

© Bernat Córdoba

AREA 2

RESPIRATORY, CARDIOVASCULAR AND RENAL PATHOBIOLOGY AND BIOENGINEERING

2.1 **Atherosclerosis, coronary disease and heart failure** 96
Manel Sabaté

2.2 **Arrhythmias, resynchronization and cardiac imaging** 104
Josep Brugada

2.3 **Nephro-urological diseases and kidney transplantation** 114
Fritz Diekmann

2.4 **Cardiovascular, nutrition and aging unit** 118
Ramon Estruch

2.5 **Respiratory biophysics and bioengineering** 124
Ramon Farré

2.6 **Applied research in infectious respiratory diseases, critically ill patients and lung cancer** 127
Antoni Torres

2.7 **Physiopathological mechanisms of respiratory illnesses** 133
Joan Albert Barberà

2.8 **Clinical and experimental respiratory immunoallergy** 138
Joaquim Mullol

2.9 **Inflammation and repair in respiratory illnesses** 145
Alvar Agustí

2.10 **Genetic and urological tumors** 148
Antonio Alcaraz

2.1 Atherosclerosis, coronary disease and heart failure

LOCATION
CELLEX building, floor 2A

KEYWORDS
1. **Acute myocardial infarction**
2. **Percutaneous coronary intervention. Stent. Biodegradable device**
3. **Therapeutic hypothermia**
4. **Stem cell therapy**
5. **Heart failure**
6. **Structural heart disease**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	336.25	43	27	13
2017	277.20	39	26	11
2018	577.02	68	43	21

TEAM INVOLVED IN
AGAUR_SGR17

TEAM LEADER
Manel Sabaté (HCB)
T. 93 227 55 19
masabate@clinic.cat

RESEARCHERS
Xavier Bosch (HCB)
Salvatore Brugaletta (HCB)
Carles Falces (HCB)
Ana García (HCB)
Victoria Martín (HCB)
Mònica Masotti (HCB)
Joan Carles Paré (HCB)
Felix Pérez (HCB)
Josep Lluis Pomar (HCB)
Montserrat Rigol (FCRB)
Mercè Roqué (HCB)
Ana Paula Villela (IDIBAPS)

POST-DOCTORAL RESEARCHERS
Laura Novensa (IDIBAPS)

PRE-DOCTORAL RESEARCHERS
Ioannis Andreou (FCRB)
Joaquim Bobi (FCRB)
Eduardo Josue Flores (HCB)
Manuel Garabito (IDIBAPS)
John García (FCRB)
Marco Hernández (FCRB)
Gustavo Jiménez (FCRB)
Luis Gabriel Ortega (HCB)
Pedro Ramón Pérez (FCRB)
Margarida Pujol (HCB)

ADMINISTRATIVE STAFF
Eva Maria Trelliso (FCRB)

NURSING STAFF
Anna Barrabés (FCRB)
Elisabet Codina (FCRB)
Elisabet de Mingo (FCRB)

COLLABORATORS
Marta Farrero (HCB)
Susanna Prat (HCB)
Ander Regueiro (HCB)

STRATEGIC OBJECTIVES

- To identify the pathophysiological mechanisms of accelerated atherosclerosis.
- To evaluate the safety and efficacy of regenerative cell therapy.
- To increase the understanding of genetics, pathophysiology, diagnosis and treatment of heart failure and ischaemic heart disease.
- To evaluate the clinical implications of diagnostic imaging techniques and types of treatment in structural heart disease and heart failure.

TEAM Manel Sabaté

MAIN LINES OF RESEARCH

- To study the regulatory mechanisms and efficacy of stem cell therapy in experimental models and in clinical contexts.
- To perform experimental models of neointimal hyperplasia, endothelialization, vascular inflammation and thrombosis.
- To evaluate the influence of hormonal factors, gender and aging in ischemic heart disease.
- To design experimental and clinical studies to evaluate the performance of novel devices and strategies to treat coronary artery disease, including chronic and acute coronary syndromes, cardiogenic shock and cardiac arrest.
- To evaluate neurohormonal activation, fibrotic process, genetic and environmental factors associated with ventricular remodeling in dilated cardiomyopathy.
- To determine the safety, efficacy and efficiency of new transcatheter and minimally invasive devices to treat structural and congenital heart disease and the role of imaging techniques.
- To evaluate new pharmacological and invasive treatments for pulmonary hypertension.

PUBLICATIONS

Originals / I.F.: 577.021

1. Valgimigli M., Frigoli E., Leonardi S., Vranckx P., Rothenbühler M., Tebaldi M., Varbella F., Calabrò P., Garducci S., Rubartelli P., Briguori C., Andó G., Ferrario M., Limbruno U., Garbo R., Sganzerla P., Russo F., Nazzaro M., Lupi A., Cortese B., Ausiello A., Ierna S., Esposito G., Ferrante G., Santarelli A., Sardella G., de Cesare N., Tosi P., van 't Hof A., Omerovic E., Brugaletta S., Windecker S., Heg D., Jüni P., Campo G., Uguccioni L., Tamburino C., Presbitero P., Zavalloni-Parenti D., Ferrari F., Valgimigli M., Frigoli E., Leonardi S., Vranckx P., Rothenbühler M., Tebaldi M., Varbella F., Calabrò P., Garducci S., Rubartelli P., Briguori C., Andó G., Ferrario M., Limbruno U., Garbo R., Sganzerla P., Russo F., Nazzaro M., Lupi A., Cortese B., Ausiello A., Ierna S., Esposito G., Ferrante G., Santarelli A., Sardella G., de Cesare N., Tosi P., van 't Hof A., Omerovic E., Brugaletta S., Windecker S., Heg D., Jüni P., Campo G., Uguccioni L., Tamburino C., Presbitero P., Zavalloni-Parenti D., Ferrari F., Valgimigli M., Frigoli E., Leonardi S., Vranckx P., Rothenbühler M., Tebaldi M., Varbella F., Calabrò P., Garducci S., Rubartelli P., Briguori C., Andó G., Ferrario M., Limbruno U., Garbo R., Sganzerla P., Russo F., Nazzaro M., Lupi A., Cortese B. **Radial versus femoral access and bivalirudin versus unfractionated heparin in invasively managed patients with acute coronary syndrome (MATRIX): final 1-year results of a multicentre, randomised controlled trial.** *LANCET.* 392(10150):835-848. I.F.: 53.254

2. Varenne, Olivier; Cook, Stephane; Sideris, Georgios; Kedev, Sasko; Cuisset, Thomas; Carrie, Didier; Hovasse, Thomas; Garot, Philippe; El Mahmoud, Rami; Spaulding, Christian; Helft, Gerard; Diaz Fernandez, Jose F.; Brugaletta, Salvatore; Pinar-Bermudez, Eduardo; Mauri Ferre, Josepa; Commeau, Philippe; Teiger, Emmanuel; Bogaerts, Kris; Sabate, Manel; Morice, Marie-Claude; Sinnaeve, Peter R. **Drug-eluting stents in elderly patients with coronary artery disease (SENIOR): a randomised single-blind trial.** *LANCET.* 391(10115):41-50. I.F.: 53.254

3. Lansky A, Wijns W, Xu B, Kelbæk H, van Royen N, Zheng M, Morel MA, Knaapen P, Slagboom T, Johnson TW, Vlachojannis G, Arkenbout KE, Holmvang L, Janssens L, Ochala A, Brugaletta S, Naber CK, Anderson R, Rittger H, Berti S, Barbato E, Toth GG, Maillard L, Valina C, Buszman P, Thiele H, Schächinger V, Baumbach A, TARGET All Comers Investigators. **Targeted therapy with a localised abluminal groove, low-dose sirolimus-eluting, biodegradable polymer coronary stent (TARGET All Comers): a multicentre, open-label, randomised non-inferiority trial.** *LANCET.* 392(10153):1117-1126. I.F.: 53.254

4. Asano T, Serruys PW, Collet C, Miyazaki Y, Takahashi K, Chichareon P, Katagiri Y, Modolo R, Tenekecioglu E, Morel MA, Garg S, Wykrzykowska J, Piek JJ, Sabate M, Morice MC, Chevalier B, Windecker S, Onuma Y. **Angiographic late lumen loss revisited: impact on long-term target lesion revascularization.** *EUROPEAN HEART JOURNAL.* 39(36):3381-3389. I.F.: 23.425

5. Ortega-Paz L, Brugaletta S, Ariotti S, Akkerhuis KM, Karagiannis A, Windecker S, Valgimigli M, HI-TECH investigators. **Adenosine and Ticagrelor Plasma Levels in Patients With and Without Ticagrelor-Related Dyspnea.** *CIRCULATION.* 138(6):646-648. I.F.: 18.881

6. Zegri-Reiriz I, de Alarcón A, Muñoz P, Martínez Sellés M, González-Ramallo V, Miro JM, Falces C, Gonzalez Rico C, Kortajarena Urkola X, Lepe JA, Rodriguez Alvarez R, Reguera Iglesias JM, Navas E, Dominguez F, Garcia-Pavia P, Spanish Collaboration on Endocarditis—Grupo de Apoyo al Manejo de la Endocarditis infecciosa en España (GAMES). **Infective Endocarditis in Patients With Bicuspid Aortic Valve or Mitral Valve Prolapse.** *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY.* 71(24):2731-2740. I.F.: 16.834

7. Ariotti S., van Leeuwen M., Brugaletta S., Leonardi S., Akkerhuis K., Rimoldi S., Janssens G., Ortega-Paz L., Gianni U., van den Berge J., Karagiannis A., Windecker S., Valgimigli M. **Effects of Ticagrelor, Prasugrel, or Clopidogrel at Steady State on Endothelial Function.** *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY.* 71(11):1289-1291. I.F.: 16.834

8. Gargiulo G, Carrara G, Frigoli E, Vranckx P, Leonardi S, Ciociano N, Campo G, Varbella F, Calabrò P, Garducci S, Iannone A, Briguori C, Andò G, Crimi G, Limbruno U, Garbo R, Sganzerla P, Russo F, Lupi A, Cortese B, Ausiello A, Ierna S, Esposito G, Zavalloni D, Santarelli A, Sardella G, Tresoldi S, de Cesare N, Sciahbasi A, Zingarelli A, Tosi P, van 't Hof A, Omerovic E, Brugaletta S, Windecker S, Valgimigli M. **Bivalirudin or Heparin in Patients Undergoing Invasive Management of Acute Coronary Syndromes.** *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY.* 71(11):1231-1242. I.F.: 16.834

9. Collet, Carlos; Miyazaki, Yosuke; Ryan, Nicola; Asano, Taku; Tenekecioglu, Erhan; Sonck, Jeroen; Andreini, Daniele; Sabate, Manel; Brugaletta, Salvatore; Stables, Rodney H.; Bartorelli, Antonio; de Winter, Robbert J.; Katagiri, Yuki; Chichareon, Ply; De Maria, Giovanni Luigi; Suwannasom, Pannipa; Cavalcante, Rafael; Jonker, Hans; Morel, Marie-angele; Cosyns, Bernard; Kappetein, Arie P.; Taggart, David T.; Farooq, Vasim; Escaned, Javier; Banning, Adrian; Onuma, Yoshinobu; Serruys, Patrick W. **Fractional Flow Reserve Derived From Computed**

Tomographic Angiography in Patients With Multivessel CAD. *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY.* 71(24):2756-2769. I.F.: 16.834

10. Acosta J, Fernández-Armenta J, Borràs R, Anguera I, Bisbal F, Martí-Almor J, Tolosana JM, Penela D, Andreu D, Soto-Iglesias D, Evertz R, Matiello M, Alonso C, Villuendas R, de Caralt TM, Perea RJ, Ortiz JT, Bosch X, Serra L, Planes X, Greiser A, Ekinci O, Lasalvia L, Mont L, Berruezo A. **Scar Characterization to Predict Life-Threatening Arrhythmic Events and Sudden Cardiac Death in Patients With Cardiac Resynchronization Therapy: The GAUDI-CRT Study.** *JACC: CARDIOVASCULAR IMAGING.* 11(4):561-572. I.F.: 10.247

11. Katagiri Y, Serruys PW, Macaya C, Ormiston JA, Hill J, Lang IM, Egred M, Fajadet J, Lesiak M, Wykrzykowska JJ, Piek JJ, Sabaté M, Windecker S, Chevalier B, Onuma Y. **The Long-Term Impact of Post-Procedural Asymmetry and Eccentricity of Bioresorbable Everolimus-Eluting Scaffold and Metallic Everolimus-Eluting Stent on Clinical Outcomes in the ABSORB II Trial.** *JACC-CARDIOVASCULAR INTERVENTIONS.* 11(10):1013-1015. I.F.: 9.881

12. Lefèvre T., Haude M., Neumann F., Stangl K., Skurk C., Slagboom T., Sabaté M., Goicolea J., Barragan P., Cook S., Macia J., Windecker S. **Comparison of a Novel Biodegradable Polymer Sirolimus-Eluting Stent With a Durable Polymer Everolimus-Eluting Stent: 5-Year Outcomes of the Randomized BIOFLOW-II Trial.** *JACC: CARDIOVASCULAR INTERVENTIONS.* 11(10):995-1002. I.F.: 9.881

13. Gomez-Lara J., Brugaletta S., Ortega-Paz L., Vandeloo B., Moscarella E., Salas M., Romaguera R., Roura G., Ferreiro J., Teruel L., Gracida M., Windecker S., Serruys P., Gomez-Hospital J., Sabaté M., Cequier A. **Long-Term Coronary Functional Assessment of the Infarct-Related Artery Treated With Everolimus-Eluting Bioresorbable Scaffolds or Everolimus-Eluting Metallic Stents: Insights of the TROFI II Trial.** *JACC: CARDIOVASCULAR INTERVENTIONS.* 11(16):1559-1571. I.F.: 9.881

14. Ariotti S., Ortega-Paz L., van Leeuwen M., Brugaletta S., Leonardi S., Akkerhuis K., Rimoldi S., Janssens G., Gianni U., Van den Berge J., Karagiannis A., Windecker S., Valgimigli M., Frigoli E., Monti M., Ciociano N., Heg D., Van Royen N., Rizzotti D., Mandurino Mirizzi A., Räber L., Rexhaj E., Sabaté M. **Effects of Ticagrelor, Prasugrel, or Clopidogrel on Endothelial Function and Other Vascular Biomarkers: A Randomized Crossover Study.** *JACC: CARDIOVASCULAR INTERVENTIONS.* 11(16):1576-1586. I.F.: 9.881

15. Alfonso, Fernando; Jose Perez-Vizcayno, Maria; Cuesta, Javier; Garcia del Blanco, Bruno; Garcia-Touchard, Arturo; Ramon Lopez-Minguez, Jose; Masotti, Monica; Zueco, Javier; Cequier, Angel; Velazquez, Maite; Moreno, Raul; Mainar, Vicente; Dominguez, Antonio; Moris, Cesar; Molina, Eduardo; Rivero, Fernando; Jimenez-Quevedo, Pilar; Gonzalo, Nieves; Fernandez-Perez, Cristina;RIBS IV Study Investigators; Spanish Soc Cardiology. **3-Year Clinical Follow-Up of the RIBS IV Clinical Trial A Prospective Randomized Study of Drug-Eluting Balloons Versus Everolimus-Eluting Stents in Patients With In-Stent Restenosis in Coronary Arteries Previously Treated With Drug-Eluting Stents.** *JACC: CARDIOVASCULAR INTERVENTIONS.* 11(10):981-991. I.F.: 9.881

16. Ellis, Stephen G.; Gori, Tommaso; Serruys, Patrick W.; Nef, Holger; Steffenino, Giuseppe; Brugaletta, Salvatore; Munzel, Thomas; Feliz, Cordula; Schmidt, Goetz; Sabate, Manel; Onuma, Yoshinobu; van Geuns, R. J.; Gao, Run-Lin; Menichelli, Maurizio; Kereiakes, Dean J.; Stone, Gregg W.; Testa, Luca; Kimura, Takeshi; Abizaid, Alexandre. **Clinical, Angiographic, and Procedural Correlates of Very Late Absorb Scaffold Thrombosis Multistudy Registry Results.** *JACC: CARDIOVASCULAR INTERVENTIONS.* 11(7):638-644. I.F.: 9.881

17. Serruys, Patrick W.; Cavalcante, Rafael; Collet, Carlos; Kappetein, Arie Pieter; Sabik, Joseph F., III; Banning, Adrian P.; Taggart, David P.; Sabate, Manel; Pomar, Jose; Boonstra, Piet W.; Lembo, Nicholas J.; Onuma, Yoshinobu; Simonton, Charles A.; Morice, Marie-Claude; McAndrew, Thomas; Dressler, Ovidiu; Stone, Gregg W. **Outcomes After Coronary Stenting or Bypass Surgery for Men and Women With Unprotected Left Main Disease The EXCEL Trial.** *JACC: CARDIOVASCULAR INTERVENTIONS.* 11(13):1234-1243. I.F.: 9.881

18. Escaned J, Ryan N, Mejía-Rentería H, Cook CM, Dehbi HM, Alegria-Barrero E, Alghamdi A, Al-Lamee R, Altman J, Ambrosia A, Baptista SB, Bertilsson M, Bhindi R, Birgander M, Bojara W, Brugaletta S, Buller C, Calais F, Silva PC, Carlsson J, Christiansen EH, Danielewicz M, Di Mario C, Doh JH, Erglis A, Erlinge D, Gerber RT, Going O, Gudmundsdottir I, Härle T, Hauer D, Hellig F, Indolfi C, Jakobsen L, Janssens L, Jensen J, Jeremias A, Kåregren A, Karlsson AC, Kharbanda RK, Khashaba A, Kikuta Y, Krackhardt F, Koo BK, Koul S, Laine M, Lehman SJ, Lindroos P, Malik IS, Maeng M, Matsuo H, Meuwissen M, Nam CW, Niccoli G, Nijjer SS, Olsson H, Olsson SE, Omerovic E, Panayi G, Petraco R, Piek JJ, Ribichini F, Samady H, Samuels B, Sandhall L, Sapontis J, Sen S, Seto AH, Sezer M, Sharp ASP, Shin ES, Singh J, Takashima H, Talwar S, Tanaka N, Tang K, Van Belle E, van Royen N, Varenhorst C, Vinhas H, Vrints CJ, Walters D, Yokoi H, Fröbert O, Patel MR, Serruys P, Davies JE, Götberg M. **Safety of the Deferral of Coronary Revascularization on the Basis of Instantaneous Wave-Free Ratio and Fractional Flow Reserve Measurements in Stable Coronary Artery Disease and Acute Coronary Syndromes.** *JACC: CARDIOVASCULAR INTERVENTIONS.* 11(15):1437-1449. I.F.: 9.881

19. Nombela-Franco L, Rodés-Cabau J, Cruz-Gonzalez I, Freixa X, Asmarats L, Gutiérrez H, Sahay S, Rodriguez-Gabella T, Moreno-Samos JC, Tirado-Conte G, Goncalves-Ramirez LR, Rama-Merchan JC, Amat-Santos IJ, O'Hara G, Martín-Yuste V, Bethencourt A, Jimenez-Quevedo P, Macaya C. **Incidence, Predictors, and Prognostic Value of Acute Kidney Injury Among Patients Undergoing Left Atrial Appendage Closure.** *JACC: CARDIOVASCULAR INTERVENTIONS.* 11(11):1074-1083. I.F.: 9.881

20. Ambrosioni J, Urra X, Hernández-Meneses M, Almela M, Falces C, Tellez A, Quintana E, Fuster D, Sandoval E, Vidal B, Tolosana JM, Moreno A, Chamorro A, Miró JM, Hospital Clínic Infective Endocarditis Study Group . **Mechanical thrombectomy for acute ischemic stroke secondary to infective endocarditis.** *CLINICAL INFECTIOUS DISEASES.* 66(8):1286-1289. I.F.: 9.117

21. Téllez A, Ambrosioni J, Llopis J, Pericàs JM, Falces C, Almela M, Garcia de la Mària C, Hernandez-Meneses M, Vidal B, Sandoval E, Quintana E, Fuster D, Tolosana JM, Marco F,

Moreno A, Miro JM, Hospital Clínic Infective Endocarditis Investigators . **Epidemiology, clinical features and outcome of infective endocarditis due to Abiotrophia spp. and Granulicatella spp.: Report of 76 cases (2000-2015).** *CLINICAL INFECTIOUS DISEASES.* 66(1):104-111. I.F.: 9.117

22. Almendro-Delia M, Núñez-Gil IJ, Lobo M, Andrés M, Vedia O, Sionis A, Martin-García A, Cruz Aguilera M, Pereyra E, Martín de Miguel I, Linares Vicente JA, Corbí-Pascual M, Bosch X, Fabregat Andrés O, Sánchez Grande Flecha A, Pérez-Castellanos A, Pais JL, De Mora Martín M, Escudier Villa JM, Martín Asenjo R, Guillen Marzo M, Rueda Sobella F, Aceña Á, García Acuña JM, García-Rubira JC, RETAKO Investigators. **Short- and Long-Term Prognostic Relevance of Cardiogenic Shock in Takotsubo Syndrome: Results From the RETAKO Registry.** *JACC. HEART FAILURE.* 6(11):928-936. I.F.: 8.202

23. Sanchis L., Andrea R., Falces C., Poyatos S., Vidal B., Sitges M. **Differential Clinical Implications of Current Recommendations for the Evaluation of Left Ventricular Diastolic Function by Echocardiography**. *JOURNAL OF THE AMERICAN SOCIETY OF ECHOCARDIOGRAPHY.* 31(11):1203-1208. I.F.: 6.827

24. Spitaleri G, Tebaldi M, Biscaglia S, Westra J, Brugaletta S, Erriquez A, Passarini G, Brieda A, Leone AM, Picchi A, Ielasi A, Girolamo DD, Trani C, Ferrari R, Reiber JHC, Valgimigli M, Sabatè M, Campo G. **Quantitative Flow Ratio Identifies Nonculprit Coronary Lesions Requiring Revascularization in Patients With ST-Segment-Elevation Myocardial Infarction and Multivessel Disease.** *CIRCULATION: CARDIOVASCULAR INTERVENTIONS.* 11(2):e006023. I.F.: 6.504

25. Vidal-Gómez X, Pérez-Cremades D, Mompeón A, Dantas AP, Novella S, Hermenegildo C. **MicroRNA as Crucial Regulators of Gene Expression in Estradiol-Treated Human Endothelial Cells.** *CELLULAR PHYSIOLOGY AND BIOCHEMISTRY.* 45(5):1878-1892. I.F.: 5.500

26. Jiménez Brítez G, Sabaté M, Robles C, García-Granja PE, Amat-Santos IJ, Brugaletta S. **Functional and Morphological Assessment of Left Anterior Descending Artery in Patients With Tako-tsubo Syndrome.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 71(11):986-988. I.F.: 5.166

27. Cruz-González I, Freixa X, Fernández-Díaz JA, Moreno-Samos JC, Martín-Yuste V, Goicolea J. **Left Atrial Appendage Occlusion With the LAmbre Device: Initial Experience.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 71(9):755-756. I.F.: 5.166

28. Vilardell P., Brugada J., Aboal J., Loma-Osorio P., Falces C., Andrea R., Figueras-Coll M., Brugada R. **Characterization of Electrocardiographic Findings in Young Students.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* . I.F.: 5.166

29. Sanchis J., García-Blas S., Ortega-Paz L., Dantas A., Rodríguez E., Abellán L., Brugaletta S., Valero E., Miñana G., Garabito M., Corchón Á., Núñez J., Carratalá A., Sabaté M. **Cell-free DNA and Microvascular Damage in ST-segment Elevation Myocardial Infarction Treated With Primary Percutaneous Coronary Intervention.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 72(4):317-323. I.F.: 5.166

30. González-Vílchez F., Almenar-Bonet L., Crespo-Leiro M., Alonso-Pulpón L., González-Costelo J., Sobrino-Márquez J., Arizón del Prado J., Sousa-Casasnovas I., Delgado-Jiménez J., Pérez-Villa F. On behalf of the Spanish Heart Transplant Teams. Spanish Heart Transplant Registry. **29th Official Report of the Spanish Society of Cardiology Working Group on Heart Failure.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 71(11):952-960. I.F.: 5.166

31. de la Torre Hernández J., Rumoroso J., Ojeda S., Brugaletta S., Cascón J., Ruisánchez C., Sánchez Gila J., Roa J., Tizón H., Gutiérrez H., Larman M., García Camarero T., Pinar E., Díaz J., Pan M., Morillas Bueno M., Oyonarte J., Ruiz Guerrero L., Ble M., Rubio Patón R., Arnold R., Echegaray K., de la Morena G., Sabate M. **Angina and Ischemia at 2 Years With Bioresorbable Vascular Scaffolds and Metallic Drug-eluting Stents. ESTROFA Ischemia BVS-mDES Study.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 71(5):327-334. I.F.: 5.166

32. Regueiro A, Fernández-Rodríguez D, Freixa X, Bosch X, Martín-Yuste V, Brugaletta S, Roqué M, Sabaté M, Masotti M. **False Positive STEMI Activations in a Regional Network: Comprehensive Analysis and Clinical Impact. Results From the Catalonian Codi Infart Network.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 7(4):243-249. I.F.: 5.166

33. Hernández-Enríquez M; Freixa X; Quintana E; Pereda D; Sandoval E; Sabate M. **Paravalvular Leak Correction: Searching for a Balance Between Surgical and Percutaneous Techniques.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 71(8):679-681. I.F.: 5.166

34. Cubero-Gallego H., Romaguera R., Gómez-Lara J., Gómez-Hospital J., Sabaté M., Pinar E., Gracida M., Roura G., Ferreiro J., Teruel L., Tebé-Codorni C., Jiménez-Quevedo P., Montanya E., Alfonso F., Cequier Á. **In Vivo Evaluation of the Synergic Effect of Metformin and mTOR Inhibitors on the Endothelial Healing of Drug-eluting Stents in Diabetic Patients.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 71(11):917-925. I.F.: 5.166

35. Barge-Caballero E., González-Vílchez F., Delgado J., Mirabet-Pérez S., González-Costello J., Pérez-Villa F., Martínez-Sellés M., Segovia-Cubero J., Hervás-Sotomayor D., Blasco-Peiró T., De la Fuente-Galán L., Lambert-Rodríguez J., Rangel-Sousa D., Almenar-Bonet L., Garrido-Bravo I., Rábago-Juan-Aracil G., Muñiz J., Crespo-Leiro M. **Use of Intra-aortic Balloon Pump as a Bridge to Heart Transplant in Spain: Results From the ASIS-TC Study.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* . I.F.: 5.166

36. Soto-Iglesias D, Acosta J, Penela D, Fernández-Armenta J, Cabrera M, Martínez M, Vassanelli F, Alcaine A, Linhart M, Jáuregui B, Efimova E, Perea RJ, Prat-González S, Ortiz-Pérez JT, Bosch X, Mont L, Camara O, Berruezo A. **Image-Based Criteria to Identify the Presence of Epicardial arrhythmogenic Substrate in Patients with Transmural Myocardial Infarction.** *HEART RHYTHM.* 15(6):814-821. I.F.: 4.743

37. Asano T., Katagiri Y., Collet C., Tenekecioglu E., Miyazaki Y., Sotomi Y., Amoroso G., Aminian A., Brugaletta S., Vrolix M., Hernandez-Antolín R., Van De Harst P., Iñiguez A., Janssens L., Smits P., Wykrzkowska J., Ribeiro V., Pereira H., Da Silva P., Piek J., Reiber J., Von Birgelen C., Sabate M., Onuma Y., Serruys P. **Functional comparison between the BuMA Supreme biodegradable polymer sirolimus-eluting stent and a durable polymer zotarolimus-eluting coronary stent using quantitative flow ratio: PIONEER QFR substudy.** *EUROINTERVENTION.* 14(5):e570-e579. I.F.: 4.417

38. Von Birgelen C., Asano T., Amoroso G.,

Aminian A., Brugaletta S., Vrolix M., Hernandez-Antolín R., Van De Harst P., Iñiguez A., Janssens L., Smits P., Wykrzykowska J., Ribeiro V., Pereira H., Da Silva P., Piek J., Onuma Y., Serruys P., Sabaté M. **First-in-man randomised comparison of the BuMA Supreme biodegradable polymer sirolimus-eluting stent versus a durable polymer zotarolimus-eluting coronary stent: the PIONEER trial.** *EUROINTERVENTION.* 13(17):2026-2035. I.F.: 4.417

39. Abizaid A, Kedev S, Kedhi E, Talwar S, Erglis A, Hlinomaz O, Masotti M, Fath-Ordoubadi F, Lemos P, Milewski K, Botelho R, Costa R, Bangalore S. **Randomised comparison of a biodegradable polymer ultra-thin sirolimus-eluting stent versus a durable polymer everolimus-eluting stent in patients with de novo native coronary artery lesions: The meriT-V trial.** *EUROINTERVENTION.* 14(11):e1207-e1214. I.F.: 4.417

40. Sotomi Y., Onuma Y., Liu S., Asano T., Eggermont J., Katagiri Y., Cavalcante R., De Winter R., Wykrzykowska J., Brugaletta S., Räber L., Sabaté M., Windecker S., Dijkstra J., Serruys P. **Quality difference of neointima following the implantation of everolimus-eluting bioresorbable scaffolds and metallic stents in patients with ST-elevation myocardial infarction: Quantitative assessments by light intensity, light attenuation, and backscatter on optical coherence tomography in the TROFI II trial.** *EUROINTERVENTION.* 14(6):678-685. I.F.: 4.417

41. Paoletti G, Gomez-Lara J, Brugaletta S, Ñato M, Romaguera R, Roura G, Ferreiro JL, Teruel L, Gracida M, Ortega-Paz L, Gomez-Hospital JA, Sabaté M, Cequier À. **Association between coronary atherosclerosis progression and in-stent neoatherosclerosis in patients with ST-elevation myocardial infarction at 5-years follow-up.** *EUROINTERVENTION.* 14(2):206-214. I.F.: 4.417

42. Spitaleri G, Moscarella E, Brugaletta S, Pernigotti A, Ortega-Paz L, Gomez-Lara J, Cequier A, Iñiguez A, Serra A, Jiménez-Quevedo P, Mainar V, Campo G, Tespili M, den Heijer P, Bethencourt A, Vazquez N, Valgimigli M, Serruys PW, Sabaté M. **Correlates of non-target vessel-related adverse events in patients with ST-segment elevation myocardial infarction: insights from five-year follow-up of the EXAMINATION trial.** *EUROINTERVENTION.* 13(16):1939-1945. I.F.: 4.417

43. Kochman, Janusz; Koltowski, Lukasz; Tomaniak, Mariusz; Jakala, Jacek; Proniewska, Klaudia; Legutko, Jacek; Roleder, Tomasz; Pietrasik, Arkadiusz; Rdzanek, Adam; Kochman, Waclaw; Brugaletta, Salvatore; Opolski, Grzegorz; Regar, Evelyn. **First serial optical coherence tomography assessment at baseline, 12 and 24 months in STEMI patients treated with the second-generation Absorb bioresorbable vascular scaffold.** *EUROINTERVENTION.* 13(18):E2201-E2209. I.F.: 4.417

44. Katagiri, Yuki; Onuma, Yoshinobu; Asano, Taku; Iniguez, Andres; Jensen, Lisette Okkels; Cequier, Angel; Hofma, Sjoerd H.; Christiansen, Evald H.; Suttorp, Maarten; Brugaletta, Salvatore; Raeber, Lorenz; Sabate, Manel; Windecker, Stephan; Serruys, Patrick W. **Three-year follow-up of the randomised comparison between an everolimus-eluting bioresorbable scaffold and a durable polymer everolimus-eluting metallic stent in patients with ST-segment elevation myocardial infarction (TROFI II trial).** *EUROINTERVENTION.* 14(11):1224-1226. I.F.: 4.417

45. de la Torre Hernandez, Jose M.; Gonzalo, Nieves; Otaegui, Imanol; Rumoroso, Jose R.; Gutierrez, Hipolito; Alfonso, Fernando; Marti, Gerard; Serrador Frutos, Ana; Brugaletta, Salvatore; Gomez Menchero, Antonio; Garcia Camarero, Tamara; Biagioni, Corina; Escaned, Javier. **Device specificity of vascular healing following implantation of bioresorbable vascular scaffolds and bioabsorbable polymer metallic drug-eluting stents in human coronary arteries: the ESTROFA OCT BVS vs. BP-DES study.** *EUROINTERVENTION.* 14(12):E1295-E1303. I.F.: 4.417

46. García-de-la-Mària C, Gasch O, García-Gonzalez J, Soy D, Shaw E, Ambrosioni J, Almela M, Pericàs JM, Tellez A, Falces C, Hernandez-Meneses M, Sandoval E, Quintana E, Vidal B, Tolosana JM, Fuster D, Llopis J, Pujol M, Moreno A, Marco F, Miró JM. **The Combination of Daptomycin plus Fosfomycin has Synergistic, Potent and Rapid Bactericidal Activity against Methicillin-ResistantStaphylococcus aureus(MRSA) in a Rabbit Model of Experimental Endocarditis (EE).** *ANTIMICROBIAL AGENTS AND CHEMOTHERAPY.* 62(6):1-8. I.F.: 4.256

47. Serafín V., Torrente-Rodríguez R., González-Cortés A., García de Frutos P., Sabaté M., Campuzano S., Yáñez-Sedeño P., Pingarrón J. **An electrochemical immunosensor for brain natriuretic peptide prepared with screen-printed carbon electrodes nanostructured with gold nanoparticles grafted through aryl diazonium salt chemistry.** *TALANTA.* 179:131-138. I.F.: 4.244

48. Brugaletta S, Gomez-Lara J, Caballero J, Ortega-Paz L, Teruel L, Fernandez MJ, Romaguera R, Martinez VA, Ñato M, Navarro EM, Gomez-Hospital JA, Vilches CC, Joyera M, Cequier A, Angiolillo DJ, Sabate M. **Ticagrelor versus clopidogrel for recovery of vascular function immediately after successful chronic coronary total occlusion recanalization: A randomized clinical trial.** *AMERICAN HEART JOURNAL.* 204:205-209. I.F.: 4.171

49. Fernández-Barat L, Ben-Aicha S, Motos A, Vila J, Marco F, Rigol M, Muñoz L, Li Bassi G, Ferrer M, Torres A. **Assessment of in vivo versus in vitro biofilm formation of clinical methicillin-resistant Staphylococcus aureus isolates from endotracheal tubes.** *SCIENTIFIC REPORTS.* 8(1):11906. I.F.: 4.122

50. Regueiro A, Falces C, Pericás JM, Muñoz P, Martínez-Sellés M, Valerio M, Sousa Regueiro D, Castelo L, de Alarcón A, Cobo Belaustegui M, Goenaga MA, Hidalgo-Tenorio C, Martínez-Marcos FJ, Gainzarain Arana JC, Miro JM, y los investigadores del Grupo de Apoyo al Manejo de la Endocarditis Infecciosa en España (GAMES). **Risk factors of pericardial effusion in native valve infective endocarditis and its influence on outcome: A multicenter prospective cohort study.** *INTERNATIONAL JOURNAL OF CARDIOLOGY.* 273:193-198. I.F.: 4.034

51. Costa T., Ceravolo G., Echem C., Hashimoto C., Costa B., Santos-Eichler R., Oliveira M., Jiménez-Altayó F., Akamine E., Dantas A., Carvalho M. **Detrimental effects of testosterone addition to estrogen therapy involve cytochrome P-450-induced 20-HETE synthesis in aorta of ovariectomized spontaneously hypertensive rat (SHR), a model of postmenopausal hypertension.** *FRONTIERS IN PHYSIOLOGY.* 9:490. I.F.: 3.394

52. Bosch X., Sanclemente-Ansó C., Escoda O., Monclús E., Franco-Vanegas J., Moreno P., Guerra-García M., Guasch N., López-Soto A. **Time to diagnosis and associated costs of an outpatient vs inpatient setting in the diagnosis of lymphoma: A retrospective study of a large cohort of major lymphoma subtypes in Spain.** *BMC CANCER.* 18(1):276. I.F.: 3.288

53. Andrea R., López-Giraldo A., Falces C., López T., Sanchis L., Gistau C., Sabaté M., Sitges M., Brugada J., Agustí À. **Pulmonary function predicts mortality and hospitalizations in outpatients with heart failure and preserved ejection fraction.** *RESPIRATORY MEDICINE.* 134:124-129. I.F.: 3.230

54. Ambrosioni J, Martinez-Garcia C, Llopis J, Garcia-de-la-Maria C, Hernández-Meneses M, Tellez A, Falces C, Almela M, Vidal B, Sandoval E, Fuster D, Quintana E, Tolosana JM, Marco F, Moreno A, Miró JM, Hospital Clinic Infective Endocarditis Investigators. **HACEKinfective endocarditis: epidemiology, clinical features outcome: A case-control study.** *INTERNATIONAL JOURNAL OF INFECTIOUS DISEASES.* 76:120-125. I.F.: 3.202

55. Spitaleri G., Brugaletta S., Scalone G., Moscarella E., Ortega-Paz L., Pernigotti A., Gomez-Lara J., Cequier A., Iñiguez A., Serra A., Jiménez-Quevedo P., Mainar V., Campo G., Tespili M., den Heijer P., Bethencourt A., Vazquez N., Valgimigli M., Serruys P., Sabaté M. **Role of ST-Segment Resolution in Patients With ST-Segment Elevation Myocardial Infarction Treated With Primary Percutaneous Coronary Intervention (from the 5-Year Outcomes of the EXAMINATION [Evaluation of the Xience-V Stent in Acute Myocardial Infarction] Trial).** *AMERICAN JOURNAL OF CARDIOLOGY.* 121(9):1039-1045. I.F.: 3.171

56. Pericàs JM, Cervera C, Moreno A, Garcia-de-la-Mària C, Almela M, Falces C, Quintana E, Vidal B, Llopis J, Fuster D, Mestres CA, Marco F, Miró JM, Hospital Clinic Endocarditis Study Group. **Outcome of Enterococcus faecalis infective endocarditis according to the length of antibiotic therapy: Preliminary data from a cohort of 78 patients.** *PLOS ONE.* 13(2):e0192387. I.F.: 2.766

57. Schur N, Brugaletta S, Cequier A, Iñiguez A, Serra A, Jiménez-Quevedo P, Mainar V, Campo G, Tespili M, den Heijer P, Bethencourt A, Vazquez N, Valgimigli M, Serruys PW, Ademi Z, Schwenkglenks M, Sabaté M . **Cost-effectiveness of everolimus-eluting versus bare-metal stents in ST-segment elevation myocardial infarction: An analysis from the EXAMINATION randomized controlled trial.** *PLOS ONE.* 13(8):e0201985. I.F.: 2.766

58. Hernández-Enríquez M, Regueiro A, Romaguera R, Andrea R, Gómez-Hospital JA, Pujol-López M, Ferreiro-Gutiérrez JL, Brugaletta S, Roura G, Freixa X, Gómez-Lara J, Martín-Yuste V, Gracida M, Cequier Á, Sabaté M. **Thrombocytopenia after transcatheter aortic valve implantation. A comparison between balloon-expandable and self-expanding valves.** *CATHETERIZATION AND CARDIOVASCULAR INTERVENTIONS.* 93(7):1344-1351. I.F.: 2.602

59. Brugaletta S, Gomez-Lara J, Caballero J, Ortega-Paz L, Teruel L, Jimenez Fernandez M, Romaguera R, Alcalde Martinez V, Ñato M, Molina Navarro E, Gomez-Hospital JA, Correa Vilches C, Joyera M, Cequier A, Sabate M . **TIcaGrEloR and Absorb bioresorbable vascular scaffold implantation for recovery of vascular function after successful chronic total occlusion recanalization (TIGER-BVS trial): Rationale and study design.** *CATHETERIZATION AND CARDIOVASCULAR INTERVENTIONS.* 91(1):1-6. I.F.: 2.602

60. Puri R, Otaegui I, Sabaté M, Serra-Peñaranda A, Puigfel M, Perez de Prado A, Nombela-Franco L, de la Torre Hernandez JM, Ortas Nadal R, Iniguez-Romo A, Jiménez G, Fernandez-Vazquez F, Cuellas-Ramon C, Gonzalo N, Alfonso Jiménez Diaz V, Duocastella L, Molina M, Amoros M, Perez I, Barria Perez A, Pelletier Beaumont E, Nicholls SJ, Garcia Del Blanco B, Rodés-Cabau J. **Three- and 6-month optical coherence tomographic surveillance following percutaneous coronary intervention with the Angiolite® drug-eluting stent: The ANCHOR study.** *CATHETERIZATION AND CARDIOVASCULAR INTERVENTIONS.* 91(3):435-443. I.F.: 2.602

61. Capranzano P, Capodanno D, Brugaletta S, Latib A, Mehilli J, Nef H, Gori T, Lesiak M, Geraci S, Pyxaras S, Mattesini A, Münzel T, Araszkiewicz A, Caramanno G, Naber C, Di Mario C, Sabatè M, Colombo A, Wiebe J, Tamburino C . **Clinical outcomes of patients with diabetes mellitus treated with Absorb bioresorbable vascular scaffolds: a subanalysis of the European Multicentre GHOST-EU Registry.** *CATHETERIZATION AND CARDIOVASCULAR INTERVENTIONS.* 91(3):444-453. I.F.: 2.602

62. Baquet M, Nef H, Gori T, Latib A, Capodanno D, Di Mario C, Sabate M, Colombo A, Tamburino C, Mehilli J. **Restenosis patterns after bioresorbable vascular scaffold implantation: Angiographic substudy of the GHOST-EU registry.** *CATHETERIZATION AND CARDIOVASCULAR INTERVENTIONS.* 92(2):276-282. I.F.: 2.602

63. Ribera A., Slof J., Ferreira-González I., Serra V., García-del Blanco B., Cascant P., Andrea R., Falces C., Gutiérrez E., del Valle-Fernández R., Morís-de laTassa C., Mota P., Oteo J., Tornos P., García-Dorado D. **The impact of waiting for intervention on costs and effectiveness: the case of transcatheter aortic valve replacement.** *EUROPEAN JOURNAL OF HEALTH ECONOMICS.* 19(7):945-956. I.F.: 2.601

64. Amat-Santos, Ignacio J.; Catala, Pablo; Diez del Hoyo, Felipe; Fernandez-Diaz, Jose A.; Alonso-Briales, Juan H.; Del Trigo, Maria; Regueiro, Ander; Juan-Salvadores, Pablo; Serra, Vicenc; Gutierrez-Ibanes, Enrique; Munoz-Garcia, Antonio J.; Nombela-Franco, Luis; Sabate, Manel; Jimenez-Diaz, Victor A.; Garcia del Blanco, Bruno; Lopez, Javier; Varela-Falcon, Luis H.; Sevilla, Teresa; Arnold, Roman; Revilla, Ana; Alberto San Roman, J. **Impact of renin-angiotensin system inhibitors on clinical outcomes and ventricular remodelling after transcatheter aortic valve implantation: rationale and design of the RASTAVI randomised multicentre study**. *BMJ OPEN.* 8(2):e020255. I.F.: 2.413

65. Brito-Zerón P., Acar-Denizli N., Sisó-Almirall A., Bosch X., Hernández F., Vilanova S., Villalta M., Kostov B., Paradela M., Sanchez M., Ramírez J., Muxí A., Berruezo A., Galceran-Chaves C., Xaubet A., Agustí C., Sellarés J., Ramos-Casals M. **The Burden of Comorbidity and Complexity in Sarcoidosis: Impact of Associated Chronic Diseases.** LUNG. 196(2):239-248. I.F.: 2.101

66. Santiago-Vacas E., Farrero M., Ivey-Miranda J., Castel M., García-Álvarez A., Rios J., Perez-Villa F. **Initial experience with bosentan for the management of**

pulmonary hypertension after heart transplantation. *CLINICAL TRANSPLANTATION.* 32(9):e13364. I.F.: 1.518

67. Ivey-Miranda J, Flores-Umanzor E, Farrero-Torres M, Santiago E, Cepas-Guillen P, Perez-Villa F. **Predictors of renal replacement therapy after heart transplantation and its impact on long-term survival.** *CLINICAL TRANSPLANTATION.* 32(10):e13401. I.F.: 1.518

68. Tomaniak M., Kochman J., Ko?towski ?., Pietrasik A., Rdzanek A., Jaka?a J., Proniewska K., Malinowski K., Ochijewicz D., Filipiak K., Brugaletta S., Opolski G. **A serial three- and nine-year optical coherence tomography evaluation of neoatherosclerosis progression after sirolimus- and paclitaxel- -eluting stent implantation.** *KARDIOLOGIA POLSKA.* 76(8):1251-1256. I.F.: 1.213

Review / I.F.: 12.094

1. Ortega-Paz L, Brugaletta S, Sabaté M. **Impact of PSP Technique on Clinical Outcomes Following Bioresorbable Scaffolds Implantation.** *J CLIN MED.* 7(2). I.F.: 5.583

2. Sabate M. **The future of vascular restoration therapy.** *EUROINTERVENTION.* 14(9):e976-e979. I.F.: 4.417

3. Moscarella E., Brugaletta S., Sabaté M. **Latest STEMI treatment: a focus on current and upcoming devices.** *EXPERT REVIEW OF MEDICAL DEVICES.* 15(11):807-817. I.F.: 2.094

Letters / I.F.: 10.56

1. Pericàs JM, Moreno A, Almela M, García-de-la-Mària C, Marco F, Muñoz P, Peña C, de Alarcón A, Del Río A, Eworo A, Cruceta A, Paré JC, Mestres CA, Miró JM, FOSIMI Investigators. Efficacy and Safety of Fosfomycin Plus Imipenem vs. **Vancomycin for Complicated Bacteremia and Endocarditis Due to Methicillin-Resistant Staphylococcus aureus: A Randomized Clinical Trial.** *CLINICAL MICROBIOLOGY AND INFECTION.* 24(6):673-676. I.F.: 5.394

2. Freixa X, Hernández-Enríquez M, Sanchís L, Regueiro A, Sabaté M, Sitges M. **Tricuspid Percutaneous Repair With the MitraClip System: First Implant in Spain.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 71(11):976-977. I.F.: 5.166

Editorial / I.F.: 47.668

1. Sabaté M., Brugaletta S. **Thrombectomy and Stroke: Guilty or Innocent Bystander?** *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY.* 72(14):1597-1599. I.F.: 16.834

2. García-Alvarez A. **Myocardial Delayed Enhancement in Chagas Heart Disease: Ready for the Clinical Arena?** *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY.* 72(21):2588-2590. I.F.: 16.834

3. Costa F, Brugaletta S. **Antithrombotic Therapy in Acute Coronary Syndrome: Striking a Happy Medium.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 71(10):782-786. I.F.: 5.166

4. Chevalier B., Cequier A., Dudek D., Haude M., Carrie D., Sabaté M., Windecker S., Reith S., De Sousa Almeida M., Campo G., Iñiguez A., Onuma Y., Serruys P. **Four-year follow-up of the randomised comparison between an everolimus-eluting bioresorbable scaffold and an everolimus-eluting metallic stent for the treatment of coronary artery stenosis (ABSORB II Trial).** *EUROINTERVENTION.* 13(13):1561-1564. I.F.: 4.417

5. Brugaletta S. **Moving fast towards the future: the role of #SoMe in learning cardiology.** *EUROINTERVENTION.* 13(16):1874-1875. I.F.: 4.417

Case Reports / I.F.: 8.428

1. Fallesen, Christian Oliver; Antonsen, Lisbeth; Thayssen, Per; Jensen, Lisette Okkels; Lee, Pil Hyung; Lee, Seung-Whan; Park, Seung-Jung; Moscarella, Elisabetta; Spitaleri, Giosafat; Brugaletta, Salvatore. **How should I treat a bioresorbable vascular scaffold edge restenosis and intra-scaffold dissection?** *EUROINTERVENTION.* 13(14):1730-1732. I.F.: 4.417

2. Pujol-López M, Flores-Umanzor E, San Antonio R, Lomeña F, Quintana E, Bosch X, Vidal B. **What is This Image? 2018: Image 2 Result: Early infective endocarditis with aorto-left atrial fistula: Unmasking the underlying disease with positron emission tomography.** *JOURNAL OF NUCLEAR CARDIOLOGY.* 25(5):1514-1518. I.F.: 4.011

Consortium Publications / I.F.: 14.905

1. Rivoisy C, Vena A, Schaeffer L, Charlier C, Fontanet A, Delahaye F, Bouza E, Lortholary O, Munoz P, Lefort A, French Mycoses Study Group and Grupo de Apoyo al Manejo de las Endocarditis en España (GAMES) . **Prosthetic Valve Candida spp. Endocarditis: New Insights Into Long-term Prognosis-The ESCAPE Study.** *CLINICAL INFECTIOUS DISEASES.* 66(6):825-832. I.F.: 9.117

2. Bowles H, Ambrosioni J, Mestres G, Hernández-Meneses M, Sánchez N, Llopis J, Yugueros X, Almela M, Moreno A, Riambau V, Fuster D, Miró JM, Hospital Clinic Endocarditis Study Group. **Diagnostic yield of 18F-FDG PET/CT in suspected diagnosis of vascular graft infection: A prospective cohort study.** *JOURNAL OF NUCLEAR CARDIOLOGY.* :1-9. I.F.: 4.011

3. Ramos-Martínez A, Muñoz Serrano A, de Alarcón González A, Muñoz P, Fernández-Cruz A, Valerio M, Fariñas MC, Gutiérrez-Cuadra M, Miró JM, Ruiz-Morales J, Sousa-Regueiro D, Montejo JM, Gálvez-Acebal J, HidalgoTenorio C, Domínguez F, Spanish Collaboration on Endocarditis – Grupo de Apoyo al Manejo de la Endocarditis Infecciosa en España (GAMES). **Gentamicin may have no effect on mortality of staphylococcal prosthetic valve endocarditis.** *JOURNAL OF INFECTION AND CHEMOTHERAPY.* 24(7):555-562. I.F.: 1.777

GRANTS FOR RESEARCH IN PROGRESS

Bosch X. **Papel del sistema GAS-6-TAM en la diferenciación fibroblástica y el remodelado ventricular tras el infarto agudo de miocardio.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00531
Duration: 01/01/2016-31/12/2019

Dantas AP. **Potential prognostic and therapeutic role of exosomal miRNAs derived from circulating cells (Endothelial Progenitor, Platelets and Neutrophils) in acute coronary syndrome.**
Sponsored by: Instituto de Salud Carlos III.

PI16/00742
Duration: 01/01/2017-31/12/2019

Dantas AP. **Targeting endothelial dysfunction in highly prevalent diseases: characterization and validation of prognostic biomarkers and identification of potential therapeutic strategies.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PIE15/00027.
Duration: 01/01/2016-31/12/2019

García A. **Tractament agonista adrenèrgic en la hipertensió pulmonar crònica secundària a insuficiència cardíaca: assaig clínic fase 2 aleatoritzat i controlat amb placebo.**
Sponsored by: Fundació la Marató de TV3. TV3_Cor_15
Duration: 21/07/2016-20/07/2019

García A. **Estudio de los mecanismos fisiopatológicos que conducen a la hipertrofia maladaptativa del ventrículo derecho en la hipertensión pulmonar crónica.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00995
Duration: 01/01/2018-31/12/2020

Pomar JL. **Aortic Valve Replacement using Individualised Regenerative Allografts: Bridging the Therapeutic Gap.**
Sponsored by: European Comission. CE_H2020-PHC-2014-1s (643597)
Duration: 01/01/2015-31/03/2019

Rigol M. **Terapia con células madre mesenquimales derivadas del tejido adiposo alogénicas en un modelo porcino de infarto de miocardio:mecanismos paracrinos, respuesta inmunológica y efectos funcionales a corto y largo plazo.**
Sponsored by: Fundación Española del Corazón. SEC_InvBasica17
Duration: 26/10/2017-

Rigol M. **Estrategias para optimizar el potencial terapéutico de las células progenitoras endoteliales: terapia combinada y rejuvenecimiento.**
Sponsored by: Fundación Casa del Corazon. SEC_InvBasica17 (1)
Duration: 26/10/2017

Roqué M. **Effects of combined treatment of apixaban at different concentrations with current antiplatelet therapies on fibrin and platelet components of hemostasis. An ex-vivo exploratory study in patients exposed to various antiplatelet agents.**
Sponsored by: Bristol-Myers-Squibb (ERISTA). CV 185-700
Duration: 09/07/2018-31/12/2020

Roqué M. **Acute myocardical infarction in young patients. Analysis of prothrombotic, inflammatory and epigenetic factors. Effect of miRNA expressión modulation in a porcine model.**
Sponsored by: Instituto de Salud Carlos III. PI15/00553
Duration: 01/01/2016-31/12/2018

Roqué M. **Inhibición de la hiperplasia de la íntima con PAP-1, un inhibidor selectivo de los canales de potasio. Desarollo de un stent farmacoactivo liberador de PAP-1 y aplicación en un modelo experimental de restenosis.**
Sponsored by: Fundación Casa del Corazon. SEC_InvTraslaciona15 (2)
Duration: 24/10/2015-

Sabaté M. **Aterosclerosi, malaltia coronària i insuficiència cardíaca.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_ 01525
Duration: 01/01/2017-31/12/2020

Sabaté M. **Desarrollo de biosensores sobre tecnología flexible y rígida para la detección de marcadores cardíacos.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). RTC-2015-4184-1
Duration: 01/07/2015-30/06/2018

Sabaté M. EURO SHOCK. **Assessment of up-front use of Mechanical Support Device in Cardiogenic Shock: The EURO.**
Sponsored by: European Comission. CE_H2020-SC1_17_2s (754946-1)
Duration: 01/01/2018-31/12/2022

2.2 Arrhythmias, resynchronization and cardiac imaging

LOCATION
HCB building
CELLEX building, floor 2A

KEYWORDS
1. **Atrial fibrillation**
2. **Ventricular tachycardia**
3. **Sudden death**
4. **Cardiac imaging**
5. **Resynchronization therapy**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	275.53	47	31	14
2017	315.23	56	42	8
2018	335.64	53	36	14

TEAM INVOLVED IN
AGAUR_ SGR17
CIBERCV

TEAM LEADER
Josep Brugada (HCB)
T. 93 227 17 78
jbrugada@clinic.cat

GROUP LEADERS
Gustavo Egea (UB)
T. 93 402 19 09
gegea@ub.edu

Eduard Guasch (HCB-IDIBAPS)
T. 93 227 48 05
eguasch@clinic.cat

Lluis Mont (HCB)
T.93 227 17 78
lmont@clinic.cat

Marta Sitges (HCB)
T. 93 227 17 94
msitges@clinic.cat

RESEARCHERS
Elena Arbelo (HCB)
Antonio Berruezo (HCB)
M. Angeles Castel (HCB)
Mª Teresa de Caralt (HCB)
Silvia Montserrat (HCB)
José Tomás Ortiz (HCB)
Rosario Jesus Perea (HCB)
Susana Prat (HCB)
José M Tolosana (HCB)
Bárbara Vidal (HCB)

POST-DOCTORAL RESEARCHERS
Cristina Arce (UB)
Montserrat Batlle (IDIBAPS)
Adelina Doltra (HCB)
Gonzalo Grazioli (FCRB)
Laura Sanchís (HCB)
Gemma Sangüesa (CIBER)
Maria Sanz (HCB)
David Soto (IDIBAPS)

PRE-DOCTORAL RESEARCHERS
Francisco Alarcón (HCB)
Eva Benito (HCB)
Fabio Bonorino (UB)
Gal.la Caixal (IDIBAPS)
Glara Gunturiz (CIBER)
Beatriz Jáuregui (IDIBAPS)
Paloma Jorda (FCRB)
Markus Linhart (IDIBAPS)
Filip Loncaric (IDIBAPS)
Maria Elisa Matiello (HCB)
Loredana Nunno (IDIBAPS)
Isaac Rodriguez (UB)
Rodolfo San Antonio (CIBER)
Paula Sánchez (HCB)
Antonia Vaquer (FCRB)

TEAM Josep Brugada

TECHNICIANS
Anna Alcarraz (FCRB)
Laura Barbera (UB)
Nadia Castillo (IDIBAPS)

ADMINISTRATIVE STAFF
Mariona de Torres (FCRB)
Laura González (FCRB)
M Neus Portella (FCRB)
Carolina Sanroman (FCRB)

NURSING STAFF
Alba Cano (HCB)
Rebeca Domingo (HCB)
Laura Merino (HCB-IDIBAPS)
Mireia Niebla (HCB)
Sílvia Poyatos (FCRB)
Miriam Sanchez (IDIBAPS)
Silvia Vidorreta (HCB-FCRB)

COLLABORATORS
José Alejandro Apolo (FCRB)
Jennifer Cozzari (IDIBAPS)
Hael Fernández (FCRB)
Paz Garre (HCB)
Mikel Martinez (HCB-IDIBAPS)
Vladimir Syrovnev (FCRB)
Fatima Zaraket (FCRB)

VISITING SCIENTISTS
Marc Abuli (FCRB)
Fredy Chipa (Perú)
Norihiro Enomoto (Japó)
Omar Trotta (Argentina)

STRATEGIC OBJECTIVES

Our research team focuses on the study of the electrophysiological, mechanical and biochemical remodelling of the heart and vessels through a translational perspective (from bench to bedside), eventually aiming at the prevention, diagnosis and therapy of cardiovascular diseases.
This is performed within a national and international collaborative network with research groups and enterprises.

MAIN LINES OF RESEARCH

- **In genetic diseases**, we focus on the genetics and prognosis of inherited arrhythmias, and the efficacy of epicardial ablation for Brugada syndrome.

- **In adaptation and consequences of sport**, we study exercise-induced cardiac remodelling and the deleterious effects of extreme training in clinical and murine models.

- **In atrial fibrillation**, we develop individualized ablation approaches based on imaging techniques. We participate in the Steering Committee of trials assessing new therapeutics for AF.

- **In resynchronization and pacing**, we aim at improving success rate through multipoint pacing and the fusion-optimized method. We test innovative devices such as leadless pacing and subcutaneous defibrillators.

- **In ventricular tachycardia**, we work to predict sudden cardiac death by substrate analysis in magnetic resonance, evaluate remodelling regression after PVC ablation and compare the efficacy of ablation with antiarrhythmic drugs.

- **In remodelling in heart disease,** we study structural and functional remodelling in valve heart disease, and heart failure characteristics.

- **In vascular cell and molecular biology of Marfan syndrome**, we address redox biology, membrane trafficking, cell signalling, and mechanical forces in aneurysm progression.

RESEARCH GROUP
VASCULAR CELL BIOLOGY

GROUP LEADER
Gustavo Egea (UB)

The main objective of this group is to understand which are the molecular bases impaired in the formation and progression of syndromic thoracic aorta aneurysms particularly in Marfan syndrome.
In this respect, we are focus on: **(1)** the redox stress, **(2)** the endoplasmic reticulum-associated stress, **(3)** behavioural alterations associated to Marfan syndrome, and **(4)** and perform preclinical assays for drug repurposing to treat ascending aorta aneurysm in mouse models of Marfan syndrome.

GROUP Gustavo Egea

RESEARCH GROUP
ARRYTHMIAS AND PHYSICAL ACTIVITY

GROUP LEADER
Eduard Guasch (HCB-IDIBAPS)

The *Arrhythmias and Physical Activity group led* by Dr. Eduard Guasch was officially established in 2015 under the IDIBAPS 50/50 program.
Main research topics include the study of the etiology, pathophysiology and therapy of cardiac atrial and ventricular arrhythmias through a multifactorial approach involving animal models, ex vivo and in vitro techniques and studies in humans.
In this regard, the group has developed a special interest in the study of extreme intensity exercise (regarded as excessive) as an emerging cause of cardiovascular diseases, including arrhythmias such as atrial fibrillation.

GROUP Eduard Guasch

RESEARCH GROUP
ATRIAL FIBRILLATION BIOPATHOLOGY AND THERAPY

GROUP LEADER
Lluis Mont (HCB)

Our group focuses in the study of the etiologic factors of atrial fibrillation to understand its mechanisms and prevent its development.
In this regard, we are assessing the association of the sympathetic/parasympathetic balance to analyze the relationship between stature and autonomic balance.
Furthermore, we aim at testing how fibrosis identification in cardiac magnetic resonance can help in therapy personalization and ablation tailoring.
We also participate in multicenter studies testing different therapeutic strategies and novel drugs.

GROUP Lluis Mont

GROUP Marta Sitges

This work is performed within UFA (Unitat de Fibril·lació Auricular), a multidisciplinary unit led by Dr. Mont including clinicians and researchers (https://ufaclinic.cat/ca).

RESEARCH GROUP
CARDIAC IMAGING

GROUP LEADER
Marta Sitges (HCB)

Our group has a pluridisciplinary team of people dedicated to non-invasive cardiac imaging and its application in the knowledge and research into cardiovascular pathophysiology and therapy within the field of cardiac mechanics and remodelling in cardiovascular diseases.
Our lines of research include the application of cardiac imaging in the study of cardiac mechanics and function and analysis of cardiac remodelling in order to detect latent cardiac dysfunction.
Additionally, our collaboration with bioengineering groups allows for better quantification and identification of patterns of cardiac adaptations to disease and understanding of their underlying physiopathology.

PUBLICATIONS

Originals / I.F.: 335.638

1. Chan, Xin Hui S.; Win, Yan Naung; Mawer, Laura J.; Tan, Jireh Y.; Brugada, Josep; White, Nicholas J. **Risk of sudden unexplained death after use of dihydroartemisinin- piperaquine for malaria: a systematic review and Bayesian meta-analysis.** *LANCET INFECTIOUS DISEASES, THE.* 18(8):913-923. I.F.: 25.148

2. Brignole, Michele; Pokushalov, Evgeny; Pentimalli, Francesco; Palmisano, Pietro; Chieffo, Enrico; Occhetta, Eraldo; Quartieri, Fabio; Calo, Leonardo; Ungar, Andrea; Mont, Lluis; Menozzi, Carlo; Alboni, Paolo; Bertero, Giovanni; Klersy, Catherine; Noventa, Franco; Brignole, M.; Oddone, D.; Donateo, O.; Maggi, R.; Croci, F.; Solano, A.; Pentimalli, F.; Palmisano, P.; Landolina, M.; Chieffo, E.; Taravelli, E.; Occhetta, E.; Quartieri, F.; Bottoni, N.; Iori, M.; Calo, L.; Sgueglia, M.; Pieragnoli; Giorni, A.; Nesti, M.; Giannini, I.; Ungar, A.; Padeletti, L.; Pokushalov, E.; Romanov, A.; Peregudov, I.; Vidorreda, S.; Nunez, R.; Mont, L.; APAF-CRT Investigators. **A randomized controlled trial of atrioventricular junction ablation and cardiac resynchronization therapy in patients with permanent atrial fibrillation and narrow QRS.** *EUROPEAN HEART JOURNAL.* 39(45):3999-4008. I.F.: 23.425

3. Kirchhof, Paulus; Haeusler, Karl Georg; Blank, Benjamin; De Bono, Joseph; Callans, David; Elvan, Arif; Fetsch, Thomas; Van Gelder, Isabelle C.; Gentlesk, Philip; Grimaldi, Massimo; Hansen, Jim; Hindricks, Gerhard; Al-Khalidi, Hussein R.; Massaro, Tyler; Mont, Lluis; Nielsen, Jens Cosedis; Noelker, Georg; Piccini, Jonathan P.; De Potter, Tom; Scherr, Daniel; Schotten, Ulrich; Themistoclakis, Sakis; Todd, Derick; Vijgen, Johan; Di Biase, Luigi;. **Apixaban in patients at risk of stroke undergoing atrial fibrillation ablation.** *EUROPEAN HEART JOURNAL.* 39(32):2942-2955. I.F.: 23.425

4. Pappone C., Ciconte G., Manguso F., Vicedomini G., Mecarocci V., Conti M., Giannelli L., Pozzi P., Borrelli V., Menicanti L., Calovic Z., Della Ratta G., Brugada J., Santinelli V. **Assessing the Malignant Ventricular Arrhythmic Substrate in Patients With Brugada Syndrome.** *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY.* 71(15):1631-1646. I.F.: 16.834

5. Tayal, Bhupendar; Gorcsan, John, III; Bax, Jeroen J.; Risum, Niels; Olsen, Niels Thue; Singh, Jagmeet P.; Abraham, William T.; Borer, Jeffrey S.; Dickstein, Kenneth; Gras, Daniel; Krum, Henry; Brugada, Josep; Robertson, Michele; Ford, Ian; Holzmeister, Johannes; Ruschitzka, Frank; Sogaard, Peter. **Cardiac Resynchronization Therapy in Patients With Heart Failure and Narrow QRS Complexes.** *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY.* 71(12):1325-1333. I.F.: 16.834

6. Acosta J, Fernández-Armenta J, Borràs R, Anguera I, Bisbal F, Martí-Almor J, Tolosana JM, Penela D, Andreu D, Soto-Iglesias D, Evertz R, Matiello M, Alonso C, Villuendas R, de Caralt TM, Perea RJ, Ortiz JT, Bosch X, Serra L, Planes X, Greiser A, Ekinci O, Lasalvia L, Mont L, Berruezo A . **Scar Characterization to Predict Life-Threatening Arrhythmic Events and Sudden Cardiac Death in Patients With Cardiac Resynchronization Therapy: The GAUDI-CRT Study.** *JACC: CARDIOVASCULAR IMAGING.* 11(4):561-572. I.F.: 10.247

7. Ambrosioni J, Urra X, Hernández-Meneses M, Almela M, Falces C, Tellez A, Quintana E, Fuster D, Sandoval E, Vidal B, Tolosana JM, Moreno A, Chamorro A, Miró JM, Hospital Clínic Infective Endocarditis Study Group . **Mechanical thrombectomy for acute ischemic stroke secondary to infective endocarditis.** *CLINICAL INFECTIOUS DISEASES.* 66(8):1286-1289. I.F.: 9.117

8. Téllez A, Ambrosioni J, Llopis J, Pericàs JM, Falces C, Almela M, Garcia de la Mària C, Hernandez-Meneses M, Vidal B, Sandoval E, Quintana E, Fuster D, Tolosana JM, Marco F, Moreno A, Miro JM, Hospital Clínic Infective Endocarditis Investigators . **Epidemiology, clinical features and outcome of infective endocarditis due to Abiotrophia spp. and Granulicatella spp.: Report of 76 cases (2000-2015).** *CLINICAL INFECTIOUS DISEASES.* 66(1):104-111. I.F.: 9.117

9. López-Guimet J., Peña-Pérez L., Bradley R., García-Canadilla P., Disney C., Geng H., Bodey A., Withers P., Bijnens B., Sherratt M., Egea G. **MicroCT imaging reveals differential 3D micro-scale remodelling of the murine aorta in ageing and marfan syndrome.** *THERANOSTICS.* 8(21):6038-6052. I.F.: 8.537

10. Ramos J; Monteagudo JM; Gonzàlez-Alujas T; Fuentes ME; Sitges M; Peña ML; Carrasco-Chinchilla F; Echeverría T; Bouzas A; Forteza Alberti JF; Mesa D; De La Hera JM; Zamorano JL. **Large-scale assessment of aortic stenosis: facing the next cardiac epidemic?** *EUROPEAN HEART JOURNAL-CARDIOVASCULAR IMAGING.* 19(10):1142-1148. I.F.: 8.336

11. Bisbal F, Alarcón F, Ferrero de Loma Osorio A, González-Ferrer JJ, Alonso C, Pachón M, Tizón H, Cabanas-Grandío P, Sanchez M, Benito E, Teis A, Ruiz-Granell R, Pérez-Villacastín J, Viñolas X, Arias MA, Vallés E, García-Campo E, Fernández-Lozano I, Villuendas R, Mont L.

Left atrial geometry and outcome of atrial fibrillation ablation: results from the multicentre LAGO-AF study. *EUROPEAN HEART JOURNAL-CARDIOVASCULAR IMAGING.* 19(9):1002-1009. I.F.: 8.336

12. Monteagudo Ruiz JM, Galderisi M, Buonauro A, Badano L, Aruta P, Swaans MJ, Sanchis L, Saraste A, Monaghan M, Theodoropoulos KC, Papitsas M, Liel-Cohen N, Kobal S, Bervar M, Berlot B, Filippatos G, Ikonomidis I, Katsanos S, Tanner FC, Cassani D, Faletra FF, Leo LA, Martinez A, Matabuena J, Grande-Trillo A, Alonso-Rodriguez D, Mesa D, Gonzalez-Alujas T, Sitges M, Carrasco-Chinchilla F, Li CH, Fernandez-Golfin C, Zamorano JL, Zamorano JL. **Overview of mitral regurgitation in Europe: results from the European Registry of mitral regurgitation (EuMiClip).** *EUROPEAN HEART JOURNAL-CARDIOVASCULAR IMAGING.* 19(5):503-507. I.F.: 8.336

13. Sanchis L., Andrea R., Falces C., Poyatos S., Vidal B., Sitges M. **Differential Clinical Implications of Current Recommendations for the Evaluation of Left Ventricular Diastolic Function by Echocardiography.** *JOURNAL OF THE AMERICAN SOCIETY OF ECHOCARDIOGRAPHY.* 31(11):1203-1208. I.F.: 6.827

14. Jiménez-Altayó F, Meirelles T, Crosas-Molist E, Sorolla MA, Del Blanco DG, López-Luque J, Mas-Stachurska A, Siegert AM, Bonorino F, Barberà L, García C, Condom E, Sitges M, Rodríguez-Pascual F, Laurindo F, Schröder K, Ros J, Fabregat I, Egea G . **Redox stress in marfan syndrome: dissecting the role of the nadph oxidase nox4 in aortic aneurysm.** *FREE RADICAL BIOLOGY AND MEDICINE.* 118:44-58. I.F.: 6.020

15. Valenzuela-Alcaraz B, Cruz-Lemini M, Rodríguez-López M, Goncé A, García-Otero L, Ayuso H, Sitges M, Bijnens B, Balasch J, Gratacós E, Crispi F. **Fetal cardiac remodeling in twin pregnancies conceived by assisted reproductive technologies.** *ULTRASOUND IN OBSTETRICS AND GYNECOLOGY.* 51(1):94-100. I.F.: 5.654

16. Benito EM, Cabanelas N, Nuñez-Garcia M, Alarcón F, Figueras I Ventura RM, Soto-Iglesias D, Guasch E, Prat-Gonzalez S, Perea RJ, Borràs R, Butakoff C, Camara O, Bisbal F, Arbelo E, Tolosana JM, Brugada J, Berruezo A, Mont L . **Preferential regional distribution of atrial fibrosis in posterior wall around left inferior pulmonary vein as identified by late gadolinium enhancement cardiac magnetic resonance in patients with atrial fibrillation.** *EUROPACE.* 20(12):1959-1965. I.F.: 5.231

17. Calkins, Hugh; Hindricks, Gerhard; Cappato, Riccardo; Kim, Young-Hoon; Saad, Eduardo B.; Aguinaga, Luis; Akar, Joseph G.; Badhwar, Vinay; Brugada, Josep; Camm, John; Chen, Peng-Sheng; Chen, Shih-Ann; Chung, Mina K.; Nielsen, Jens Cosedis; Curtis, Anne B.; Davies, D. Wyn; Day, John D.; d'Avila, Andre; de Groot, N. M. S. (Natasja); Di Biase, Luigi; Duytschaever, Mattias; Edgerton, James R.; Ellenbogen, Kenneth A.; Ellinor, Patrick T.; Ernst, Sabine; Fenelon, Guilherme; Gerstenfeld, Edward P.; Haines, David E.; Haissaguerre, Michel; Helm, Robert H.; Hylek, Elaine; Jackman, Warren M.; Jalife, Jose; Kalman, Jonathan M.; Kautzner, Josef; Kottkamp, Hans; Kuck, Karl Heinz; Kumagai, Koichiro; Lee, Richard; Lewalter, Thorsten; Lindsay, Bruce D.; Macle, Laurent; Mansour, Moussa; Marchlinski, Francis E.; Michaud, Gregory F.; Nakagawa, Hiroshi; Natale, Andrea; Nattel, Stanley; Okumura, Ken; Packer, Douglas; Pokushalov, Evgeny; Reynolds, Matthew R.; Sanders, Prashanthan; Scanavacca, Mauricio; Schilling, Richard; Tondo, Claudio; Tsao, Hsuan-Ming; Verma, Atul; Wilber, David J.; Yamane, Teiichi. **2017 HRS/EHRA/ECAS/APHRS/SOLAECE expert consensus statement on catheter and surgical ablation of atrial fibrillation: Executive summary.** *EUROPACE.* 20(1):157-208. I.F.: 5.231

18. Delise, Pietro; Probst, Vincent; Allocca, Giuseppe; Sitta, Nadir; Sciarra, Luigi; Brugada, Josep; Kamakura, Shiro; Takagi, Masahiko; Giustetto, Carla; Calo, Leonardo. **Clinical outcome of patients with the Brugada type 1 electrocardiogram without prophylactic implantable cardioverter defibrillator in primary prevention: a cumulative analysis of seven large prospective studies.** *EUROPACE.* 20(FI1):F77-F85. I.F.: 5.231

19. Acosta J, Andreu D, Penela D, Cabrera M, Carlosena A, Korshunov V, Vassanelli F, Borras R, Martínez M, Fernández-Armenta J, Linhart M, Tolosana JM, Mont L, Berruezo A. **Elucidation of hidden slow conduction by double ventricular extrastimuli: a method for further arrhythmic substrate identification in ventricular tachycardia ablation procedures.** *EUROPACE.* 20(2):337-346. I.F.: 5.231

20. Acosta J, Penela D, Andreu D, Cabrera M, Carlosena A, Vassanelli F, Alarcón F, Soto-Iglesias D, Korshunov V, Borras R, Linhart M, Martínez M, Fernández-Armenta J, Mont L, Berruezo A. **Multielectrode vs. point-by-point mapping for ventricular tachycardia substrate ablation: a randomized study.** *EUROPACE.* 20(3):512-519. I.F.: 5.231

21. Vilardell P., Brugada J., Aboal J., Loma-Osorio P., Falces C., Andrea R., Figueras-Coll M., Brugada R.. **Characterization of Electrocardiographic Findings in Young Students.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* . I.F.: 5.166

22. García-Fernández F., Ibáñez Criado J., Quesada Dorador A., Álvarez-López M., Almendral J., Alonso C., Alonso-Fernández P., Alvaralenga N., Álvarez-Acosta L., Anguera I., Arcocha M., Arias M., Asso A., Barrera-Cordero A., Ballesteros G., Benezet-Mazuecos J., Bodegas-Cañas A., Brugada J., Cano-Calabria C., Caballero-Dorta E., Cabanas-Grandío P., Cabrera S., Castro V., Cózar R., Díaz-Infante E., Doblado M., Elices J., Expósito-Pineda M., Fernández-Gómez J., Fidalgo M., Fontenla A., García-Alberola A., Gil-Ortega I., Gómez-Pulido F., González-Vasserot M., Grande Á., Guerra-Ramos J., Hernández-Afonso J., Heras-Herreros S., Hidalgo-Olivares V., García-Fernández F., Ibáñez Criado J., Quesada Dorador A., Álvarez-López M., Almendral J., Alonso C., Alonso-Fernández P., Alvaralenga N., Álvarez-Acosta L., Anguera I., Arcocha M., Arias M., Asso A., Barrera-Cordero A., Ballesteros G., Benezet-Mazuecos J., Bodegas-Cañas A., Brugada J., Cano-Calabria C., Caballero-Dorta E., Cabanas-Grandío P., Cabrera S., Castro V., Cózar R., Díaz-Infante E., Doblado M., Elices J., Expósito-Pineda M., Fernández-Gómez J., Fidalgo M., Fontenla A., García-Alberola A., Gil-Ortega I., Gómez-Pulido F., González-Vasserot M., Grande Á., Guerra-Ramos J., Hernández-Afonso J., Heras-Herreros S., Hidalgo-Olivares V., García-Fernández F., Ibáñez Criado J., Quesada Dorador A., Álvarez-López M., Almendral J., Alonso C., Alonso-Fernández P., Alvaralenga N.. Spanish Catheter Ablation Registry. **17th Official Report of the Spanish Society of Cardiology Working Group on Electrophysiology and Arrhythmias (2017).** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 71(11):941-951. I.F.: 5.166

23. Wangüemert Pérez F, Hernández Afonso JS, Groba Marco MDV, Caballero Dorta E,

Álvarez Acosta L, Campuzano Larrea O, Pérez G, Brugada Terradellas J, Brugada Terradellas R. **Flecainide Reduces Ventricular Arrhythmias in Patients With Genotype RYR2-positive Catecholaminergic Polymorphic Ventricular Tachycardia.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 71(3):185-191. I.F.: 5.166

24. Siegert A., Serra-Peinado C., Gutiérrez-Martínez E., Rodríguez-Pascual F., Fabregat I., Egea G. **Altered TGF-β endocytic trafficking contributes to the increased signaling in Marfan syndrome.** *BIOCHIMICA ET BIOPHYSICA ACTA - MOLECULAR BASIS OF DISEASE.* 1864(2):554-562. I.F.: 5.108

25. Soto-Iglesias D, Acosta J, Penela D, Fernández-Armenta J, Cabrera M, Martínez M, Vassanelli F, Alcaine A, Linhart M, Jáuregui B, Efimova E, Perea RJ, Prat-González S, Ortiz-Pérez JT, Bosch X, Mont L, Camara O, Berruezo A. **Image-Based Criteria to Identify the Presence of Epicardial arrhythmogenic Substrate in Patients with Transmural Myocardial Infarction.** *HEART RHYTHM.* 15(6):814-821. I.F.: 4.743

26. Milman A, Andorin A, Gourraud JB, Postema PG, Sacher F, Mabo P, Kim SH, Juang JJM, Maeda S, Takahashi Y, Kamakura T, Aiba T, Conte G, Sarquella-Brugada G, Leshem E, Rahkovich M, Hochstadt A, Mizusawa Y, Arbelo E, Huang Z, Denjoy I, Giustetto C, Wijeyeratne YD, Napolitano C, Michowitz Y, Brugada R, Casado-Arroyo R, Champagne J, Calo L, Tfelt-Hansen J, Priori SG, Takagi M, Veltmann C, Delise P, Corrado D, Behr ER, Gaita F, Yan GX, Brugada J, Leenhardt A, Wilde AAM, Brugada P, Kusano KF, Hirao K, Nam GB, Probst V, Belhassen B. **Profile of patients with Brugada syndrome presenting with their first documented arrhythmic event: Data from the Survey on Arrhythmic Events in Brugada Syndrome.** *HEART RHYTHM.* 15(5):716-724. I.F.: 4.743

27. Michowitz Y, Milman A, Sarquella-Brugada G, Andorin A, Champagne J, Postema PG, Casado-Arroyo R, Leshem E, Juang JJM, Giustetto C, Tfelt-Hansen J, Wijeyeratne YD, Veltmann C, Corrado D, Kim SH, Delise P, Maeda S, Gourraud JB, Sacher F, Mabo P, Takahashi Y, Kamakura T, Aiba T, Conte G, Hochstadt A, Mizusawa Y, Rahkovich M, Arbelo E, Huang Z, Denjoy I, Napolitano C, Brugada R, Calo L, Priori SG, Takagi M, Behr ER, Gaita F, Yan GX, Brugada J, Leenhardt A, Wilde AAM, Brugada P, Kusano KF, Hirao K, Nam GB, Probst V, Belhassen B. **Fever-Related Arrhythmic Events in the Multicenter Survey on Arrhythmic Events in Brugada Syndrome (SABRUS).** *HEART RHYTHM.* 15(9):1394-1401. I.F.: 4.743

28. Milman A, Gourraud JB, Andorin A, Postema PG, Sacher F, Mabo P, Conte G, Giustetto C, Sarquella-Brugada G, Hochstadt A, Kim SH, Juang JJM, Maeda S, Takahashi Y, Kamakura T, Aiba T, Leshem E, Michowitz Y, Rahkovich M, Mizusawa Y, Arbelo E, Huang Z, Denjoy I, Wijeyeratne YD, Napolitano C, Brugada R, Casado-Arroyo R, Champagne J, Calo L, Tfelt-Hansen J, Priori SG, Takagi M, Veltmann C, Delise P, Corrado D, Behr ER, Gaita F, Yan GX, Brugada J, Leenhardt A, Wilde AAM, Brugada P, Kusano KF, Hirao K, Nam GB, Probst V, Belhassen B. Gender **Differences in Patients with Brugada Syndrome and Arrhythmic Events: Data from a Survey on Arrhythmic Events in 678 Patients.** *HEART RHYTHM.* 15(10):1457-1465. I.F.: 4.743

29. Andreu D, Fernández-Armenta J, Acosta J, Penela D, Jáuregui B, Soto-Iglesias D, Syrovnev V, Arbelo E, Tolosana JM, Berruezo A. **A QRS Axis-Based Algorithm to Identify the Origin of Scar-Related Ventricular Tachycardia in an American Heart Association 17-Segment Model.** *HEART RHYTHM.* 15(10):1491-1497. I.F.: 4.743

30. Chinitz, Larry; Ritter, Philippe; Khelae, Surinder Kaur; Iacopino, Saverio; Garweg, Christophe; Grazia-Bongiorni, Maria; Neuzil, Petr; Johansen, Jens Brock; Mont, Lluis; Gonzalez, Efrain; Sagi, Venkata; Duray, Gabor Z.; Clementy, Nicolas; Sheldon, Todd; Splett, Vincent; Stromberg, Kurt; Wood, Nicole; Steinwender, Clemens. **Accelerometer- based atrioventricular synchronous pacing with a ventricular leadless pacemaker: Results from the Micra atrioventricular feasibility studies.** *HEART RHYTHM.* 15(9):1363-1371. I.F.: 4.743

31. Linhart M., Alarcon F., Borràs R., Benito E., Chipa F., Cozzari J., Caixal G., Enomoto N., Carlosena A., Guasch E., Arbelo E., Tolosana J., Prat-Gonzalez S., Perea R., Doltra A., Sitges M., Brugada J., Berruezo A., Mont L. **Delayed Gadolinium Enhancement Magnetic Resonance Imaging Detected Anatomic Gap Length in Wide Circumferential Pulmonary Vein Ablation Lesions Is Associated With Recurrence of Atrial Fibrillation.** *CIRCULATION. ARRHYTHMIA AND ELECTROPHYSIOLOGY.* 11(12):e006659. I.F.: 4.728

32. Kuck, Karl-Heinz; Brugada, Josep; Fuernkranz, Alexander; Chun, K. R. Julian; Metzner, Andreas; Ouyang, Feifan; Schlueter, Michael; Elvan, Arif; Braegelmann, Kendra M.; Kueffer, Fred J.; Arentz, Thomas; Albenque, Jean-Paul; Kuhne, Michael; Sticherling, Christian; Tondo, Claudio; FIRE ICE Investigators. **Impact of Female Sex on Clinical Outcomes in the FIRE AND ICE Trial of Catheter Ablation for Atrial Fibrillation.** *CIRCULATION. ARRHYTHMIA AND ELECTROPHYSIOLOGY.* 11(5):e006204. I.F.: 4.728

33. De Jong M., Hoogerwaard A., Adiyaman A., Smit J., Ramdat Misier A., Heeg J., van Hasselt B., Van Gelder I., Crijns H., Lozano I., Toquero Ramos J., Javier Alzueta F., Ibañez B., Rubio J., Arribas F., Porres Aracama J., Brugada J., Mont L., Elvan A.. **Treatment of atrial fibrillation in patients with enhanced sympathetic tone by pulmonary vein isolation or pulmonary vein isolation and renal artery denervation: clinical background and study design: The ASAF trial: ablation of sympathetic atrial fibrillation.** *CLINICAL RESEARCH IN CARDIOLOGY.* 107(7):539-547. I.F.: 4.455

34. Varma, Niraj; Sogaard, Peter; Bax, Jeroen J.; Abraham, William T.; Borer, Jeffrey S.; Dickstein, Kenneth; Singh, Jagmeet P.; Gras, Daniel; Holzmeister, Johannes; Brugada, Josep; Ruschitzka, Frank. **Interaction of Left Ventricular Size and Sex on Outcome of Cardiac Resynchronization Therapy Among Patients With a Narrow QRS Duration in the EchoCRT Trial.** *JOURNAL OF THE AMERICAN HEART ASSOCIATION.* 7(11). I.F.: 4.450

35. Kuck, Karl-Heinz; Brugada, Josep; Schlueter, Michael; Braegelmann, Kendra M.; Kueffer, Fred J.; Chun, K. R. Julian; Albenque, Jean-Paul; Tondo, Claudio; Calkins, Hugh; Metzner, Andreas; Ouyang, Feifan; Chun, Julian; Fuernkranz, Alexander; Elvan, Arif; Arentz, Thomas; Kuehne, Michael; Sticherling, Christian; Geller, Laszlo; Busch, Matthias; Mont, Lluis; Barrera, Alberto; Deneke, Thomas; Kuehlkamp, Volker; Ruiz-Granell, Ricardo; Neuzil, Peter; Perez-Castellano, Nicasio; FIRE ICE Trial Investigators. **The FIRE AND ICE Trial: What**

We Know, What We Can Still Learn, and What We Need to Address in the Future. *JOURNAL OF THE AMERICAN HEART ASSOCIATION.* 7(24):e010777. I.F.: 4.450

36. García de la Mària C, Gasch O, García-Gonzalez J, Soy D, Shaw E, Ambrosioni J, Almela M, Pericàs JM, Tellez A, Falces C, Hernandez-Meneses M, Sandoval E, Quintana E, Vidal B, Tolosana JM, Fuster D, Llopis J, Pujol M, Moreno A, Marco F, Miró JM . **The Combination of Daptomycin plus Fosfomycin has Synergistic, Potent and Rapid Bactericidal Activity against Methicillin-ResistantStaphylococcus aureus(MRSA) in a Rabbit Model of Experimental Endocarditis (EE).** *ANTIMICROBIAL AGENTS AND CHEMOTHERAPY.* 62(6):1-8. I.F.: 4.256

37. Rupérez C, Lerin C, Ferrer-Curriu G, Cairo M, Mas-Stachurska A, Sitges M, Villarroya J, Giralt M, Villarroya F, Planavila A. **Autophagic control of cardiac steatosis through FGF21 in obesity-associated cardiomyopathy.** *INTERNATIONAL JOURNAL OF CARDIOLOGY.* 260:163-170. I.F.: 4.034

38. Mates J., Mademont-Soler I., Del Olmo B., Ferrer-Costa C., Coll M., Pérez-Serra A., Picó F., Allegue C., Fernandez-Falgueras A., Álvarez P., Yotti R., Espinosa M., Sarquella-Brugada G., Cesar S., Carro E., Brugada J., Arbelo E., Garcia-Pavia P., Borregan M., Tizzano E., López-Granados A., Mazuelos F., Díaz De Bustamante A., Darnaude M., González-Hevia J., Díaz-Flores F., Trujillo F., Iglesias A., Fernandez-Aviles F., Campuzano O., Brugada R. **Role of copy number variants in sudden cardiac death and related diseases: genetic analysis and translation into clinical practice.** *EUROPEAN JOURNAL OF HUMAN GENETICS.* 26(7):1014-1025. I.F.: 3.636

39. Vicent L, Ariza-Solé A, González-Juanatey JR, Uribarri A, Ortiz J, López de Sá E, Sans-Roselló J, Querol CT, Codina P, Sousa-Casasnovas I, Martínez-Sellés M, Cardiac Arrest and Myocardial Infarction Notified After Marathon Or Similar effort (CAMINAMOS) registry. **Exercise-related severe cardiac events.** *SCANDINAVIAN JOURNAL OF MEDICINE AND SCIENCE IN SPORTS.* 28(4):1404-1411. I.F.: 3.623

40. Scumaci D, Oliva A, Concolino A, Curcio A, Fiumara CV, Tammè L, Campuzano O, Pascali VL, Coll M, Iglesias A, Berne P, Casu G, Olivo E, Ausania F, Ricci P, Indolfi C, Brugada J, Brugada R, Cuda G . **Integration of "Omics" Strategies for Biomarkers Discovery and for the Elucidation of Molecular Mechanisms Underlying Brugada Syndrome.** *PROTEOMICS - CLINICAL APPLICATIONS.* 12(6):e1800065. I.F.: 3.567

41. Vicent L; Saldivar HG; Bouza E; Muñoz P; Cuerpo G; De Alarcón A; Vidal B; Cobo M; Goenaga MÁ; Carrasco-Chinchilla F; Montejo M; Gálvez-Acebal J; Hidalgo-Tenorio C; Vinuesa-Garcia D; Martinez-Selles M; NULL NULL. **Prognostic implications of a negative echocardiography in patients with infective endocarditis.** *EUROPEAN JOURNAL OF INTERNAL MEDICINE.* 52:40-48. I.F.: 3.282

42. Andrea R., López-Giraldo A., Falces C., López T., Sanchis L., Gistau C., Sabaté M., Sitges M., Brugada J., Agustí À. **Pulmonary function predicts mortality and hospitalizations in outpatients with heart failure and preserved ejection fraction.** *RESPIRATORY MEDICINE.* 134:124-129. I.F.: 3.230

43. Ambrosioni J, Martinez-Garcia C, Llopis J, Garcia-de-la-Maria C, Hernández-Meneses M, Tellez A, Falces C, Almela M, Vidal B, Sandoval E, Fuster D, Quintana E, Tolosana JM, Marco F, Moreno A, Miró JM, Hospital Clinic Infective Endocarditis Investigators. **HACEKinfective endocarditis: epidemiology, clinical features outcome: A case-control study.** *INTERNATIONAL JOURNAL OF INFECTIOUS DISEASES.* 76:120-125. I.F.: 3.202

44. Den Uijl, Dennis W.; Cabanelas, Nuno; Benito, Eva M.; Figueras, Rosa; Alarcon, Francisco; Borras, Roger; Prat, Susanna; Guasch, Eduard; Perea, Rosario; Sitges, Marta; Brugada, Josep; Berruezo, Antonio; Mont, Lluis. **Impact of left atrial volume, sphericity and fibrosis on the outcome of catheter ablation for atrial fibrillation.** *JOURNAL OF CARDIOVASCULAR ELECTROPHYSIOLOGY.* 29(5):740-746. I.F.: 2.873

45. Figueras I Ventura RM, M?rgulescu AD, Benito EM, Alarcón F, Enomoto N, Prat-Gonzalez S, Perea RJ, Borràs R, Chipa F, Arbelo E, Tolosana JM, Brugada J, Berruezo A, Mont L . **Post-procedural LGE-CMR comparison of laser and radiofrequency ablation lesions after pulmonary vein isolation.** *JOURNAL OF CARDIOVASCULAR ELECTROPHYSIOLOGY.* 29(8):1065-1072. I.F.: 2.873

46. Pericàs JM, Cervera C, Moreno A, Garcia-de-la-Mària C, Almela M, Falces C, Quintana E, Vidal B, Llopis J, Fuster D, Mestres CA, Marco F, Miró JM, Hospital Clinic Endocarditis Study Group. **Outcome of Enterococcus faecalis infective endocarditis according to the length of antibiotic therapy: Preliminary data from a cohort of 78 patients**. *PLOS ONE.* 13(2):e0192387. I.F.: 2.766

47. Hohnloser, Stefan H.; Camm, John; Cappato, Riccardo; Diener, Hans-Christoph; Heidbuchel, Hein; Lanz, Hans-Joachim; Mont, Lluis; Morillo, Carlos A.; Smolnik, Ruediger; Yin, Ophelia Q. P.; Kautzner, Josef. **Uninterrupted administration of edoxaban vs vitamin K antagonists in patients undergoing atrial fibrillation catheter ablation: Rationale and design of the ELIMINATE-AF study.** *CLINICAL CARDIOLOGY.* 41(4):440-449. I.F.: 2.733

48. Caminal P., Sola F., Gomis P., Guasch E., Perera A., Soriano N., Mont L. **Validity of the Polar V800 monitor for measuring heart rate variability in mountain running route conditions.** *EUROPEAN JOURNAL OF APPLIED PHYSIOLOGY.* 118(3):669-677. I.F.: 2.401

49. Gabrielli L, Gabrielli L, Herrera S, Herrera S, Contreras-Briceño F, Vega J, Ocaranza MP, Ocaranza MP, Yáñez F, Yáñez F, Fernández R, Saavedra R, Sitges M, García L, Chiong M, Lavandero S, Lavandero S, Castro PF, Castro PF. **Increased active phase atrial contraction is related to marathon runner performance.** *EUROPEAN JOURNAL OF APPLIED PHYSIOLOGY.* 118(9):1931-1939. I.F.: 2.401

50. Barberan-Garcia A., Gimeno-Santos E., Blanco I., Cano I., Martínez-Pallí G., Burgos F., Miralles F., Coca M., Murillo S., Sanz M., Steblin A., Ubré M., Benavent J., Vidal J., Sitges M., Roca J. **Protocol for regional implementation of collaborative**

self-management services to promote physical activity. *BMC HEALTH SERVICES RESEARCH.* 18(1):560. I.F.: 1.843

51. Conde-Mir I., Miranda-Rius J., Trucco E., Lahor-Soler E., Brunet-Llobet L., Domingo R., Tolosana J., Mont L. **In-vivo compatibility between pacemakers and dental equipment.** *EUROPEAN JOURNAL OF ORAL SCIENCES.* 126(4):307-315. I.F.: 1.655

52. Berruezo A, Linhart M, Auricchio A, Zamorano JL, Santamaria P, Borràs R, Burgos F, Brugada J. **Rationale and design of the TRICHAMPION trial: Triple Chamber Pacing in Hypertrophic Obstructive Cardiomyopathy Patients.** *JOURNAL OF INTERVENTIONAL CARDIAC ELECTROPHYSIOLOGY.* 51(2):117-124. I.F.: 1.522

53. Santiago-Vacas E., Farrero M., Ivey-Miranda J., Castel M., García-Álvarez A., Rios J., Perez-Villa F. **Initial experience with bosentan for the management of pulmonary hypertension after heart transplantation.** CLINICAL TRANSPLANTATION. 32(9):e13364. I.F.: 1.518

Review / I.F.: 22.351

1. Brugada J., Campuzano O., Arbelo E., Sarquella-Brugada G., Brugada R. **Present Status of Brugada Syndrome: JACC State-of-the-Art Review**. *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY.* 72(9):1046-1059. I.F.: 16.834

2. Mascia G., Arbelo E., Solimene F., Giaccardi M., Brugada R., Brugada J. **The long-QT syndrome and exercise practice: The never-ending debate.** *JOURNAL OF CARDIOVASCULAR ELECTROPHYSIOLOGY.* 29(3):489-496. I.F.: 2.873

3. Guasch E, Mont L, Sitges M . **Mechanisms of atrial fibrillation in athletes: what we know and what we do not know.** *NETHERLANDS HEART JOURNAL.* 26(3):133-145. I.F.: 1.476

4. Alventosa-Zaidin M, Roca Saumell C, Brugada Terradellas J. **Right bundle branch block and cardiovascular morbidity and mortality in healthy patients.** *MEDICINA CLINICA.* 151(10):402-411. I.F.: 1.168

Letters / I.F.: 28.931

1. Pericàs JM, Moreno A, Almela M, García-de-la-Mària C, Marco F, Muñoz P, Peña C, de Alarcón A, Del Río A, Eworo A, Cruceta A, Paré JC, Mestres CA, Miró JM, FOSIMI Investigators. **Efficacy and Safety of Fosfomycin Plus Imipenem vs. Vancomycin for Complicated Bacteremia and Endocarditis Due to Methicillin- Resistant Staphylococcus aureus:**
A Randomized Clinical Trial. *CLINICAL MICROBIOLOGY AND INFECTION.* 24(6):673-676. I.F.: 5.394

2. Freixa X, Hernández-Enríquez M, Sanchís L, Regueiro A, Sabaté M, Sitges M. **Tricuspid Percutaneous Repair With the MitraClip System: First Implant in Spain.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 71(11):976-977. I.F.: 5.166

3. Loma-Osorio P., Nuñez M., Aboal J., Bosch D., Batlle P., Ruiz de Morales E., Ramos R., Brugada J., Onaga H., Morales A., Olivet J., Brugada R. **The Girona Territori Cardioprotegit Project: Performance Evaluation of Public Defibrillators.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 71(2):79-85. I.F.: 5.166

4. Benito E., Mont L. **Selection of the Best of 2017 in Catheter Ablation.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 71(4):303-304. I.F.: 5.166

5. Jiménez Brítez G., Sanchis L., Regueiro A., Sabate M., Sitges M., Freixa X. **Minimally-invasive Transesophageal Echocardiography for Left Atrial Appendage Occlusion With a Latest-generation Microprobe. Initial Experience.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 72(6):511-512. I.F.: 5.166

6. Den Uijl DW, Mont L. **Response to the letter to the editor on 'impact of left atrial volume, sphericity and fibrosis on the outcome of catheter ablation for atrial fibrillation'.** *JOURNAL OF CARDIOVASCULAR ELECTROPHYSIOLOGY.* 29(7):E15-E15. I.F.: 2.873

Editorial / I.F.: 9.265

1. Brugada, Josep; Hindricks, Gerhard. **Primary electrical disorders and arrhythmogenic right ventricular cardiomyopathy: new research insights with clinical implications.** *EUROPACE.* 20(FI1):F1-F2. I.F.: 5.231

2. Penela, Diego; Mont, Lluis. **VT ablation and survival: A solved question?** *INTERNATIONAL JOURNAL OF CARDIOLOGY.* 267:118-119. I.F.: 4.034

Case Reports / I.F.: 6.587

1. Dallaglio P., Anguera I., García-Alberola A., Sabaté X., Cequier Á., Brugada J. **Antitachycardia Pacing Effectiveness for Monomorphic Ventricular Tachycardia in Brugada Syndrome After Quinidine Administration.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 71(5):403-406. I.F.: 5.166

2. Soto-Iglesias D., Andreu D., Jáuregui B., Linhart M., Mont L., Berruezo A. **Mini-electrodes help identifying hidden slow conduction during ventricular tachycardia substrate ablation.** *JOURNAL OF ELECTROCARDIOLOGY.* 51(6):1011-1013. I.F.: 1.421

Clinical Guidelines / I.F.: 10.462

1. Calkins, Hugh; Hindricks, Gerhard; Cappato, Riccardo; Kim, Young-Hoon; Saad, Eduardo B.; Aguinaga, Luis; Akar, Joseph G.; Badhwar, Vinay; Brugada, Josep; Camm, John; Chen, Peng-Sheng; Chen, Shih-Ann; Chung, Mina K.; Nielsen, Jens Cosedis; Curtis, Anne B.; Davies, D. Wyn; Day, John D.; d'Avila, Andre; de Groot, N. M. S. (Natasja); Di Biase, Luigi; Duytschaever, Mattias; Edgerton, James R.; Ellenbogen, Kenneth A.; Ellinor, Patrick T.; Ernst, Sabine; Fenelon, Guilherme; Gerstenfeld, Edward P.; Haines, David E.; Haissaguerre, Michel; Helm, Robert H.; Hylek, Elaine; Jackman, Warren M.; Jalife, Jose; Kalman, Jonathan M.; Kautzner, Josef; Kottkamp, Hans; Kuck, Karl Heinz; Kumagai, Koichiro; Lee, Richard; Lewalter, Thorsten; Lindsay, Bruce D.; Macle, Laurent; Mansour, Moussa; Marchlinski, Francis E.; Michaud, Gregory F.; Nakagawa, Hiroshi; Natale, Andrea; Nattel, Stanley; Okumura, Ken; Packer, Douglas; Pokushalov, Evgeny; Reynolds, Matthew R.; Sanders, Prashanthan; Scanavacca, Mauricio;

Schilling, Richard; Tondo, Claudio; Tsao, Hsuan-Ming; Verma, Atul; Wilber, David J.; Yamane, Teiichi; EHRA; AHA; Soc Latinoamer Estimulacion; APHRS; ACC; ECAS; STS; CHRS; JHRS; Soc Brasileira Arritmias Cardiacas. **2017 HRS/EHRA/ECAS/APHRS/SOLAECE expert consensus statement on catheter and surgical ablation of atrial fibrillation.** *EUROPACE.* 20(1):E1-E160. I.F.: 5.231

2. Kotecha D, Breithardt G, Camm AJ, Lip GYH, Schotten U, Ahlsson A, Arnar D, Atar D, Auricchio A, Bax J, Benussi S, Blomstrom-Lundqvist C, Borggrefe M, Boriani G, Brandes A, Calkins H, Casadei B, Castellá M, Chua W, Crijns H, Dobrev D, Fabritz L, Feuring M, Freedman B, Gerth A, Goette A, Guasch E, Haase D, Hatem S, Haeusler KG, Heidbuchel H, Hendriks J, Hunter C, Kääb S, Kespohl S, Landmesser U, Lane DA, Lewalter T, Mont L, Nabauer M, Nielsen JC, Oeff M, Oldgren J, Oto A, Pison L, Potpara T, Ravens U, Richard-Lordereau I, Rienstra M, Savelieva I, Schnabel R, Sinner MF, Sommer P, Themistoclakis S, Van Gelder IC, Vardas PE, Verma A, Wakili R, Weber E, Werring D, Willems S, Ziegler A, Hindricks G, Kirchhof P . **Integrating new approaches to atrial fibrillation management: the 6th AFNET/EHRA Consensus Conference.** *EUROPACE.* 20(3):395-407. I.F.: 5.231

GRANTS FOR RESEARCH IN PROGRESS

Arbelo E. **Estudio ANVERSO: análisis continuo y automático de variables electrocardiográficas en relación al riesgo de muerte súbita en pacientes con síndrome de Brugada.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/01203
Duration: 01/01/2017-31/12/2019

Batlle M. **Acidosis asociada al ejercicio extremo y su efecto en la función mitocondrial vascular.**
Sponsored by: Sociedad Española de Cardiologia (SEC). SEC_BASICA_02
Duration: 26/10/2017-31/12/2018

Berruezo A. **ABLAVIEW: Un sistema innovador de ablación por radiofrecuencia guiado por imagen para el tratamiento de la fibrilación auricular.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
RTC-2016-5445-1
Duration: 08/03/2016-31/08/2019

Berruezo A. **Caracterización automática del sustrato arrítmico y evaluación de su utilidad para la prevención de la muerte súbita cardíaca y guiado de los procedimientos de arritmias (ADAS).**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
RTC-2015-3515-1
Duration:01/11/2015-30/06/2018

Brugada J. **Comparative Effectiveness Research to Assess the Use of Primary ProphylacTic Implantable Cardioverter Defibrillators in EUrope.**
Sponsored by: European Commission.
CE_FP7_HEALTH_IN1_13 (602299-2)
Duration: 01/10/2013-30/09/2018

Egea G. **Apolinker p144, a potential anti-tTGFgf-beta therapeutic tool to fight against aortic aneurysms in marfan syndrome.**
Sponsored by: The National Marfan Foundation. INT_NMarfanF_15 (NMARFANF_15_01)
Duration: 01/01/2016-31/12/2018

Egea G. **Impacto fisiopatológico de un péptido anti-TGF-beta, del ejercicio físico y del humo de los cigarrillos en la formación del anuerisma aórtico en el síndrome de Marfan.**
Sopnsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2017-83039-R
Duration: 01/01/2018-31/12/2020

Guasch E. **Caracterización del remodelado a dosis crecientes de ejercicio físico como sustrato para el desarrollo de patología inducida por el ejercicio.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00703
Duration: 01/01/2017-31/12/2019

Mont JL. **Caracterització no invasiva dels teixits de l'aurícula esquerra per guiar l'ablació de la fibril·lació auricular i per predir els resultats del procediment així com la progressió de la malaltia.**
Sponsored by: Fundació la Marató de TV3.
TV3_Cor_15
Duration: 29/06/2016-28/06/2019

Mont JL. **Arítmies, Resincronització i imatge cardíaques.**
Sponsored by: Generalitat De Catalunya.
AGAUR_SGR17_01548
Duration: 01/01/2017- 31/12/2020

Mont L. **Ablación de fibrilación auricular guiada por resonancia magnética. Estudio randomizado de la eficacia de la identificación y aislamiento de las zonas de fibrosis.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00435
Duration: 01/01/2017-31/12/2019

Mont L. **Characterizing Atrial fibrillation by Translating its Causes into Health Modifiers in the Elderly.**
Sponsored by: European Commission.
CE_H2020-PHC-2014-2s (633196)
Duration: 01/05/2015-30/04/2019

Ortiz JT. **Paper dels macròfags i fibroblastes residents a la remodelació miocàrdica i la regeneració tisular tras l'infart de miocardi: contribució del sistema GAS6-TAM.**
Sponsored by: Fundació la Marató de TV3.
TV3_Cor_15
Duration: 26/04/2016-31/12/2019

Ortiz JT. **Papel del sistema GAS6-TAM en la diferenciación fibroblástica y el remodelado ventricular tras el infarto de miocardio.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00531
Duration: 01/01/2016-31/12/2019

Sitges M. **Predicció personalitzada i oprecoç de fibrilació auricular en subjectes en risc. PREDICTAF.**
Sponsored by: Fundació la Marató de TV3.
TV3_Cor_15
Duration: 10/05/2016-09/05/2019

Sitges M. **Personalized In-Silico Cardiology.**
Sponsored by: European Commission.
CE_H2020-MSCA-ITN-17 (764738)
Duration: 01/09/2017-31/08/2021

DOCTORAL THESES

Berruezo A.**Técnicas de imagen y mapeo electroanatómico para la identicación y caracterización del sustrato de las arritmias ventriculares. Implicaciones en la ablación con catéter y en la estratificación de riesgo de arritmias ventriculares malignas.**
PhD student: Juan Acosta Martínez

Ortiz JT, Bosch X. **Paper del sistema GAS6-TAM en el remodelat ventricular postinfart agut de miocardi.**
PhD student: Guillem R. Caldentey Adrover

Mont L, Miranda J. **Compatibilitat clínica entre marcapassos cardíacs i aparells electrònics odontològics: Estudi in vivo.**
PhD student: Isabel Conde Mir

Egea G. **Technological insights into a histopathological and protein composition analysis of aortic aneurysms in Marfan syndrome.**
PhD student: Júlia López Guimet

2.3 Nephro-urological diseases and kidney transplantation

LOCATION
CELLEX building, floor 2B

KEYWORDS
1. **Renal transplantation**
2. **Dialysis**
3. **Transplant immunology**
4. **Posttransplant cancer**
5. **Renal regeneration**
6. **Pancreas transplantation**
7. **Transplant registries**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	171.98	23	15	4
2017	116.82	19	11	3
2018	216.07	17	10	3

TEAM INVOLVED IN
REDinREN
AGAUR_SGR17-1331

TEAM LEADER
Fritz Diekmann (HCB)
T. 93 227 54 00 (Ext.: 5444)
fdiekman@clinic.cat

GROUP LEADER
Ignacio Revuelta (HCB-IDIBAPS)
T.93 227 54 00 (Ext.: 4410)
irevuelt@clinic.cat

RESEARCHERS
Josep M. Campistol (HCB)
Aleix Cases (HCB)
Martí Manyalich (HCB)
Federico Oppenheimer (HCB)
Esteban Poch (HCB)
Luis F. Quintana (HCB)
Jordi Rovira (IDIBAPS)

POST-DOCTORAL RESEARCHERS
Elisenda Bañon (FCRB)
Maria Jose Ramirez (FCRB)

PRE-DOCTORAL RESEARCHERS
Marta Arias (HCB)
Sergi Betriu (FCRB)
Miquel Blasco (HCB)
David Cucchiari (HCB)
Miquel Gómez (FCRB)
Gastón Julio (HCB)
Valeria Tubita (IDIBAPS-FCRB)
Pedro Ventura (HCB)
Manel Vera (HCB)

TECHNICIANS
Natalia Hierro (IDIBAPS)
Marta Lazo (IDIBAPS)

ADMINISTRATIVE STAFF
Mireia Collado (IDIBAPS)

COLLABORATORS
Ramon Adalia (HCB)
Joan Albert Barberà (HCB)
Mercedes Brunet (HCB)
Federico Cofan (HCB)
Erika de (HCB)
Maribel Diaz (HCB)
Ginés Escolar (HCB)
Nuria Esforzado (HCB)
M Angeles Garcia (HCB)
Juan Carlos García-Pagán (HCB)
Eduard Gratacós (HCB)
Georgina Hotter (IIBB-CSIC)
Miguel Ángel Lopez-Boado (HCB)
Fracesc Maduell (HCB)
Jaume Martorell (HCB)
Ana Teresa Menjivar (FCRB)
Olga Millan (HCB)
Alicia Molina (HCB)
Carlos Nicolau (HCB)
Raquel Ojeda (HCB)
Eduard Palou (HCB)
David Parades (HCB)
Maria José Ricart (HCB)
Lida Rodas (HCB)
Rafael Salvador (HCB)
Clara San Bartolome (HCB)
Manel Solé (HCB)
Belen Suarez (HCB)
Vicenç Torregrosa (HCB)
Ana Paula Villela (HCB)
Marc Xipell (HCB)

STRATEGIC OBJECTIVES

LENIT performs translational research of renal diseases. Our focus is pathophysiology of kidney diseases and optimization of renal replacement therapy (RT) (dialysis or transplantation) as well as pancreas transplantation.
However, we also focus on regenerative treatment as an alternative establishing a cure and thus avoiding the need for conventional organ replacement therapy.

MAIN LINES OF RESEARCH

In order to achieve these challenges, we are a team with well-balanced collaboration between clinicians and medical researchers, biologists, biochemists, veterinarians and specialist technicians.
This expertise enables us to personalize and improve current therapies and to discover new ways of action. Scientific objectives of LENIT are focused on the following areas of research:

1. Immunology of transplantationCell therapy and renal regeneration.
2. Role of immunosuppression and immunosuppressive medications in posttransplantation oncogenesis.
3. Advanced therapies in renal transplantation.
4. Pancreas Transplantation.

5. Renal living donor psychosocial follow-up.

6. Glomerular diseases and endothelial disfunction.

7. Identification of new uremic toxins.

8. Artificial inteloigence and big data in nephrology and kidney transplant.

50/50 PROGRAM

TRANSLATIONAL RESEARCH IN POSTTRASPLANT NEOPLASIA

GROUP LEADER
Ignacio Revuelta (HCB-IDIBAPS)

Alloimmunity and tumor immunity is a challenge in transplantation. The effect of the immunosuppressive therapy in tumor immune escape and oncologic pathways lead to tumor progression and metastasis development. Exosomes released from cancer cells (CaEx) or immune cells (InmEx) are crucial for intercellular communication, and their role in transplant settings is unknown.
We aim to characterize CaEx and InmEx under different transplant situations. However, recent immune risk classifications and kind of rejection are not representing the real scenario.
New technology tools based on big data and/or artifitial intelligence are needed for better characterization of the transplant population.

GROUP Ignacio Revuelta

PUBLICATIONS

Originals / I.F.: 216.068

1. Benson M., Waddington-Cruz M., Berk J., Polydefkis M., Dyck P., Wang A., Planté-Bordeneuve V., Barroso F., Merlini G., Obici L., Scheinberg M., Brannagan T., Litchy W., Whelan C., Drachman B., Adams D., Heitner S., Conceição I., Schmidt H., Vita G., Campistol J., Gamez J., Gorevic P., Gane E., Shah A., Solomon S., Monia B., Hughes S., Jesse Kwoh T., McEvoy B., Jung S., Baker B., Ackermann E., Gertz M., Coelho T. **Inotersen treatment for patients with Hereditary transthyretin amyloidosis.** *NEW ENGLAND JOURNAL OF MEDICINE.* 379(1):22-31. I.F.: 79.260

2. Adams D., Gonzalez-Duarte A., O'Riordan W., Yang C., Ueda M., Kristen A., Tournev I., Schmidt H., Coelho T., Berk J., Lin K., Vita G., Attarian S., Planté-Bordeneuve V., Mezei M., Campistol J., Buades J., Brannagan T., Kim B., Oh J., Parman Y., Sekijima Y., Hawkins P., Solomon S., Polydefkis M., Dyck P., Gandhi P., Goyal S., Chen J., Strahs A., Nochur S., Sweetser M., Garg P., Vaishnaw A., Gollob J., Suhr O. **Patisiran, an RNAi therapeutic, for hereditary transthyretin amyloidosis.** *NEW ENGLAND JOURNAL OF MEDICINE.* 379(1):11-21. I.F.: 79.260

3. Lefaucheur C, Viglietti D, Hidalgo LG, Ratner LE, Bagnasco SM, Batal I, Aubert O, Orandi BJ, Oppenheimer F, Bestard O, Rigotti P, Reisaeter AV, Kamar N, Lebranchu Y, Duong Van Huyen JP, Bruneval P, Glotz D, Legendre C, Empana JP, Jouven X, Segev DL, Montgomery RA, Zeevi A, Halloran PF, Loupy A. **Complement-Activating Anti-HLA Antibodies in Kidney Transplantation: Allograft Gene Expression Profiling and Response to Treatment.** *JOURNAL OF THE AMERICAN SOCIETY OF NEPHROLOGY : JASN.* 29(2):620-635. I.F.: 8.655

4. Huerta A., Arjona E., Portoles J., Lopez-Sanchez P., Rabasco C., Espinosa M., Cavero T., Blasco M., Cao M., Manrique J., Cabello-Chavez V., Suñer M., Heras M., Fulladosa X., Belmar L., Sempere A., Peralta C., Castillo L., Arnau A., Praga M., Rodriguez de Cordoba S. **A retrospective study of pregnancy-associated atypical hemolytic uremic syndrome.** *KIDNEY INTERNATIONAL.* 93(2):450-459. I.F.: 8.429

5. Vera M, Torramade-Moix S, Martin-Rodriguez S, Cases A, Cruzado JM, Rivera J, Escolar G, Palomo M, Diaz-Ricart M. **Antioxidant and Anti-Inflammatory Strategies Based on the Potentiation of Glutathione Peroxidase Activity Prevent Endothelial Dysfunction in Chronic Kidney Disease.** *CELLULAR PHYSIOLOGY AND BIOCHEMISTRY.* 51(3):1287-1300. I.F.: 5.500

6. Ocak G., Noordzij M., Rookmaaker M., Cases A., Couchoud C., Heaf J., Jarraya F., De Meester J., Groothoff J., Waldum-Grevbo B., Palsson R., Resic H., Remón C., Finne P., Stendahl M., Verhaar M., Massy Z., Dekker F., Jager K. **Mortality due to bleeding, myocardial infarction and stroke in dialysis patients.** *JOURNAL OF THROMBOSIS AND HAEMOSTASIS.* 16(10):1953-1963. I.F.: 4.899

7. Ventura-Aguiar P, Ferrer J, Revuelta I, Paredes D, de Sousa-Amorim E, Rovira J, Esmatjes E, Garcia-Valdecasas JC, Campistol JM, Oppenheimer F, Diekmann F, Ricart MJ. **Pancreas outcomes between living and deceased kidney donor in pancreas after kidney transplantation patients.** *NEPHROLOGY, DIALYSIS AND TRANSPLANTATION.* 33(11):2052-2059. I.F.: 4.602

8. Ceretta ML, Noordzij M, Luxardo R, De Meester J, Abad Diez JM, Finne P, Heaf JG, Couchoud C, Kramar R, Collart F, Cases A,

Palsson R, Reisæter AV, Rydell H, Massy ZA, Jager KJ, Kramer A. **Changes in co-morbidity pattern in patients starting renal replacement therapy in Europe-data from the ERA-EDTA Registry.** *NEPHROLOGY, DIALYSIS AND TRANSPLANTATION.* 33(10):1794-1804. I.F.: 4.602

9. Rovira J, Ramírez-Bajo MJ, Banon-Maneus E, Lazo-Rodríguez M, Moya-Rull D, Hierro-Garcia N, Tubita V, Piñeiro GJ, Revuelta I, Ventura-Aguiar P, Cucchiari D, Oppenheimer F, Brunet M, Campistol JM, Diekmann F . **Tofacitinib halts progression of graft dysfunction in a rat model of mixed cellular and humoral rejection.** *TRANSPLANTATION.* 102(7):1075-1084. I.F.: 3.960

10. Menjivar A, Torres X, Paredes D, Avinyo N, Peri JM, De Sousa-Amorim E, Oppenheimer F, Manyalich M, Diekmann F, Revuelta I. **Assessment of donor satisfaction as an essential part of living donor kidney transplantation: an eleven-year retrospective study.** *TRANSPLANT INTERNATIONAL*. 31(12):1332-1344. I.F.: 3.196

11. Perelló J., Gómez M., Ferrer M., Rodríguez N., Salcedo C., Buades J., Pérez M., Torregrosa J., Martín E., Maduell F. **SNF472, a novel inhibitor of vascular calcification, could be administered during hemodialysis to attain potentially therapeutic phytate levels.** JOURNAL OF NEPHROLOGY. 31(2):287-296. I.F.: 2.724

12. Arias-Guillén M., Perez E., Herrera P., Romano B., Ojeda R., Vera M., Ríos J., Fontseré N., Maduell F. **Bioimpedance Spectroscopy as a Practical Tool for the Early Detection and Prevention of Protein-Energy Wasting in Hemodialysis Patients.** *JOURNAL OF RENAL NUTRITION.* 28(5):324-332. I.F.: 2.651

13. Piñeiro G., De Sousa-Amorim E., Solé M., Ríos J., Lozano M., Cofán F., Ventura-Aguiar P., Cucchiari D., Revuelta I., Cid J., Palou E., Campistol J., Oppenheimer F., Rovira J., Diekmann F. **Rituximab, plasma exchange and immunoglobulins: An ineffective treatment for chronic active antibody-mediated rejection.** *BMC NEPHROLOGY.* 19(1):261. I.F.: 2.395

14. Cristelli M., Trullàs J., Cofán F., Rico N., Manzardo C., Ambrosioni J., Bedini J., Moreno A., Diekmann F., Miro J. **Prevalence and risk factors of mild chronic renal failure in HIV-infected patients: influence of female gender and antiretroviral therapy.** *BRAZILIAN JOURNAL OF INFECTIOUS DISEASES.* 22(3):193-201. I.F.: 2.083

15. Bodro M, Londoño MC, Esforzado N, Sanclemente G, Linares L, Solano MF, Cofan F, Marcos MA, Diekmann F, Moreno A . **Hepatitis C viremia as a risk factor for opportunistic infections in kidney transplant recipients.** *CLINICAL TRANSPLANTATION.* 32(10):e13382. I.F.: 1.518

16. Maduell F., Ojeda R., Arias-Guillén M., Fontseré N., Vera M., Rodas L., Gómez M., Huablocho K., Esquivel F., Mori P., Hoffmann V., Ugalde J., Rico N. **A new generation of cellulose triacetate suitable for online haemodiafiltration.** *NEFROLOGIA.* 38(2):161-168. I.F.: 1.167

17. Maduell F, Ojeda R, Belmar L, Munguía P, Sango C, Martinez-Díaz A, Arias-Guillén M, Vera M, Fontseré N, Gómez M, Rodas L, Rico N. **Evaluation of the dialyser inner diameter in online haemodiafiltration.** *NEFROLOGIA.* 38(1):34-40. I.F.: 1.167

Review / I.F.: 2.65

1. Cases A, Gorriz JL. **Sodium zirconium cyclosilicate: a new potassium binder for the treatment of hyperkalemia.** *DRUGS OF TODAY.* 54(10):601-613. I.F.: 1.325

2. Poch E, Rodas L, Blasco M, Molina A, Quintana L. **An update on tolvaptan for autosomal dominant polycystic kidney disease.** *DRUGS OF TODAY.* 54(9):519-533. I.F.: 1.325

Letters / I.F.: 7.798

1. Jager KJ, Stel VS, Branger P, Guijt M, Busic M, Dragovic M, Diekmann F, Manyalich M, Di Ciaccio P, Nanni Costa A, Collett D, Mumford L, Haase B, Hemke A, Deme O, Mihály S, Murphy M, Couchoud C, Massy Z, Massy Z, Massy Z, Lingemann M, Rahmel A. **The effect of differing kidney disease treatment modalities and organ donation and transplantation practices on health expenditure and patient outcomes.** *NEPHROLOGY, DIALYSIS AND TRANSPLANTATION.* 33(4):560-562. I.F.: 4.602

2. Gelpi R, Rodríguez-Villar C, Paredes D, Roque R, Ruiz A, Adalia R, de Sousa E, Revuelta I, Sole M, Martinez M, Navarro M, Lens S, Oppenheimer F, Diekmann F . **Safety of Hepatitis C Virus (HCV) treated donors for kidney transplantation (KT) excluding occult HCV infection through kidney biopsies.** *TRANSPLANT INTERNATIONAL.* 31(8):938-939. I.F.: 3.196

Case Reports / I.F.: 5.503

1. Xipell M., Victoria I., Hoffmann V., Villarreal J., García-Herrera A., Reig O., Rodas L., Blasco M., Poch E., Mellado B., Quintana L. **Acute tubulointerstitial nephritis associated with atezolizumab, an anti-programmed death-ligand 1 (pd-l1) antibody therapy.** *ONCOIMMUNOLOGY.* 7(7):e1445952. I.F.: 5.503

GRANTS FOR RESEARCH IN PROGRESS

Diekmann F. **Laboratori Experimental de Nefrologia i Trasplantament Renal (LENIT).**
Sponsored by: Generalitat de Catalunya.
AGAUR_SGR17 (01331)
Duration: 01/01/2017-31/12/2020

Diekmann F. **Inmunoterapia para el control del rechazo del riñon trasplantado: uso de células T modificadas genéticamente con receptores quiméricos del antígeno.**
Sponsored by: Instituto de Salud Carlos III (ISCIII).
PI17/00078
Duration: 01/01/2018-31/12/2020

Diekmann F. **Red de Investigación renal. Sponsored by: Instituto de Salud Carlos III (ISCIII).** RD16/0009/0023
Duration: 01/01/2017-31/12/2021

Diekmann F. **Extracellular Vesicles and exosomes from adult stem cells in the regeneration of organ injury.**
Sponsored by: European Commission.
CE_PEOPLE-2013-IAPP (612224)
Duration: 01/02/2014-31/01/2018

Campistol JM. **Targeting endothelial dysfunction in highly prevalent diseases: characterization and validation of prognostic biomarkers and identification of potential therapeutic strategies.**
Sponsored by: Instituto de Salud Carlos III (ISCIII).
PIE15/00027
Duration: 01/01/2016-31/12/2019

Manyalich M. **Evolución psicosocial del donante vivo renal. Estudio de cohortes.**

Sponsored by: Instituto de Salud Carlos III (ISCIII).
PI14/00693
Duration: 01/01/2015-30/06/2019

Manyalich M. **EDITH: The Effect of Differing Kidney Disease Treatment Modalities and Organ Donation and Transplantation Practices on Health Expenditure and Patient Outcomes.**
Sponsored by: European Commission. HP-PP16 (739495)
Duration: 01/01/2017-31/12/2019

Quintana L.F. **Papel de la patología digital y la Resonancia nuclear magnética en la detección precoz de la fibrosis intersticial en la enfermedad renal crónica.**
Sponsored by: Instituto de Salud Carlos III (ISCIII).
PI17/00080
Duration: 01/01/2018-31/12/2020

Revuelta I. **Papel de los exosomas de células inmunes de memoria (InmEx) en la activación del endotelio y desarrollo precoz del rechazo mediado por anticuerpos en el trasplante renal**
Sponsored by: Instituto de Salud Carlos III (ISCIII).
PI16/00115
Duration: 01/01/2017-31/12/2019

Ricart MJ. **Trasplante de páncreas – monitorización de poblaciones linfocitarias y aplicación de ecografía con contraste y elastografia como preditores de rechazo y sobrevida.**
Sponsored by: Instituto de Salud Carlos III.
PI16/00167
Duration: 01/01/2017-31/12/2019

2.4 Cardiovascular, nutrition and aging unit

LOCATION
CELLEX building, floor 4B
Internal Medicine Service, HCB

KEYWORDS
1. **Nutrition**
2. **Mediterranean diet**
3. **Cardiovascular disease**
4. **Cardiovascular risk factors**
5. **Cognition**

Original publications from 2015 to 2017

YEAR	I.F.	TOTAL	Q1	Q2
2016	143.83	32	21	8
2017	188.02	41	25	11
2018	308.12	44	35	6

TEAM INVOLVED IN
CIBEROBN
AGAUR_SRG17

AWARDS
Excellence in Research Award
Institution: International Nut and Dried Fruit Foundation
Awardee/s: Ramon Estruch

Premis DOP Catalanes d'Oli
Institution: Denominacions d'Origen Catalanes d'Oli
Awardee/s: Ramon Estruch

TEAM LEADER
Ramon Estruch (HCB)
T. 93 227 2333
restruch@clinic.cat

EMERITUS
Emilio Ros (HCB)

RESEARCHERS
Antonio Coca (HCB)
Ferran Masanés (HCB)
Emilio Sacanella (HCB)
Cristina Sierra (HCB)

POST-DOCTORAL RESEARCHERS
Miguel Camafort (HCB)
Rosa Casas (CIBEROBN)
Mónica Doménech (FCRB)
Dolors Estrada (HCB)
Alfonso López (HCB)
Margarita Navarro (HCB)

PRE-DOCTORAL RESEARCHERS
Sara Castro (IDIBAPS)
Tania Freitas (IDIBAPS)
Ana M. Ruiz (CIBEROBN)

NURSING STAFF
Maria Gual (IDIBAPS)
Ana Jordán (HCB)
Rosa Soriano (HCB)

COLLABORATORS
Rosa Lamuela-Raventós (UB)
Marina Puig (IDIBAPS)
Javier Sobrino (UB)
Conxa Viñas (CIBEROBN)

STRATEGIC OBJECTIVES

To deep in the knowledge of the effects of the lifestyle (Effect of diet, alcohol and physical exercise) in the different stages of life (adolescence, pregnancy, elderly ...) and its role in the prevention of chronic diseases (hypertension, diabetes, dyslipidemia, cognitive impairment ...) and cancer.

MAIN LINES OF RESEARCH

1. Protective Effects of Mediteranean Diet on cardiovascular and cerebrovascular prevention (chronic diseases, neurodegenerative diseases and cáncer).
2. Effects of alcohol (beer or wine) compsumption on health.
3. Effects of other diet components on healthy: olive oil, nuts, cocoa, fatty-acids, tomatoes....

TEAM Ramon Estruch

4. Assesment on cardiovascular risk factors on primary prevention, specially blood pressure management.

5. Hair failure physiopathology.

6. Aging.

7. Thrombosis.

PUBLICATIONS

Originals / I.F.: 318.019

1. Estruch R, Ros E, Salas-Salvadó J, Covas MI, Corella D, Arós F, Gómez-Gracia E, Ruiz-Gutiérrez V, Fiol M, Lapetra J, Lamuela-Raventos RM, Serra-Majem L, Pintó X, Basora J, Muñoz MA, Sorlí JV, Martínez JA, Fitó M, Gea A, Hernán MA, Martínez-González MA, PREDIMED Study Investigators. **Primary Prevention of Cardiovascular Disease with a Mediterranean Diet Supplemented with Extra-Virgin Olive Oil or Nuts.** *NEW ENGLAND JOURNAL OF MEDICINE.* 378(25):e34. I.F.: 79.260

2. Paynter, Nina P.; Balasubramanian, Raji; Giulianini, Franco; Wang, Dong D.; Tinker, Lesley F.; Gopal, Shuba; Deik, Amy A.; Bullock, Kevin; Pierce, Kerry A.; Scott, Justin; Martinez-Gonzalez, Miguel A.; Estruch, Ramon; Manson, JoAnn E.; Cook, Nancy R.; Albert, Christine M.; Clish, Clary B.; Rexrode, Kathryn M. **Metabolic Predictors of Incident Coronary Heart Disease in Women.** *CIRCULATION.* 137(8):841-853. I.F.: 18.881

3. Razquin C., Toledo E., Clish C., Ruiz-Canela M., Dennis C., Corella D., Papandreou C., Ros E., Estruch R., Guasch-Ferré M., Gómez-Gracia E., Fitó M., Yu E., Lapetra J., Wang D., Romaguera D., Liang L., Alonso-Gómez A., Deik A., Bullo M., Serra-Majem L., Salas-Salvadó J., Hu F., Martínez-González M. **Plasma Lipidomic Profiling and Risk of Type 2 Diabetes in the PREDIMED Trial.** *DIABETES CARE.* 41(12):2617-2624. I.F.: 13.397

4. Yu E., Papandreou C., Ruiz-Canela M., Guasch-Ferre M., Clish C., Dennis C., Liang L., Corella D., Fitó M., Razquin C., Lapetra J., Estruch R., Ros E., Cofán M., Arós F., Toledo E., Serra-Majem L., Sorlí J., Hu F., Martinez-Gonzalez M., Salas-Salvado J. **Association of tryptophan metabolites with incident type 2 diabetes in the PREDIMED trial: A case–cohort study.** *CLINICAL CHEMISTRY.* 64(8):1211-1220. I.F.: 8.636

5. Martínez-González MA, Buil-Cosiales P, Corella D, Bulló M, Fitó M, Vioque J, Romaguera D, Martínez JA, Wärnberg J, López-Miranda J, Estruch R, Bueno-Cavanillas A, Arós F, Tur JA, Tinahones F, Serra-Majem L, Martín V, Lapetra J, Vázquez C, Pintó X, Vidal J, Daimiel L, Delgado-Rodríguez M, Matía P, Ros E, Fernández-Aranda F, Botella C, Portillo MP, Lamuela-Raventós RM, Marcos A, Sáez G, Gómez-Gracia E, Ruiz-Canela M, Toledo E, Alvarez-Alvarez I, Díez-Espino J, Sorlí JV, Basora J, Castañer O, Schröder H, Navarrete-Muñoz EM, Zulet MA, García-Rios A, Salas-Salvadó J, PREDIMED-Plus Investigators. **Cohort Profile: Design and methods of the PREDIMED-Plus randomized trial.** *INTERNATIONAL JOURNAL OF EPIDEMIOLOGY.* 48(2):387-388o. I.F.: 8.360

6. Wang D., Zheng Y., Toledo E., Razquin C., Ruiz-Canela M., Guasch-Ferré M., Yu E., Corella D., Gómez-Gracia E., Fiol M., Estruch R., Ros E., Lapetra J., Fito M., Aros F., Serra-Majem L., Clish C., Salas-Salvadó J., Liang L., Martínez-González M., Hu F. **Lipid metabolic networks, Mediterranean diet and cardiovascular disease in the PREDIMED trial.** *INT J EPIDEMIOL.* 47(6):1830-1845. I.F.: 8.360

7. Miro, Oscar; Estruch, Ramon; Martin-Sanchez, Francisco J.; Gil, Victor; Jacob, Javier; Herrero-Puente, Pablo; Herrera Mateo, Sergio; Aguirre, Alfons; Andueza, Juan A.; Llorens, Pere; ICA-SEMES Res Grp. **Adherence to Mediterranean Diet and All-Cause Mortality After an Episode of Acute Heart Failure.** *JACC: HEART FAILURE.* 6(1):52-62. I.F.: 8.202

8. Barrubés L, Babio N, Mena-Sánchez G, Toledo E, Ramírez-Sabio JB, Estruch R, Ros E, Fitó M, Arós F, Fiol M, Santos-Lozano JM, Serra-Majem L, Pintó X, Martínez-González MÁ, Sorlí JV, Basora J, Salas-Salvadó J, PREvención con DIeta MEDiterránea Study Investigators. **Dairy product consumption and risk of colorectal cancer in an older Mediterranean population at high cardiovascular risk.** *INTERNATIONAL JOURNAL OF CANCER.* 143(6):1356-1366. I.F.: 7.360

9. Papandreou C., Bulló M., Zheng Y., Ruiz-Canela M., Yu E., Guasch-Ferré M., Toledo E., Clish C., Corella D., Estruch R., Ros E., Fitó M., Arós F., Fiol M., Lapetra J., Serra-Majem L., Gómez-Gracia E., Liang L., Fragkiadakis G., Razquin C., Hu F., Salas-Salvadó J. **Plasma trimethylamine-N-oxide and related metabolites are associated with type 2 diabetes risk in the Prevención con Dieta Mediterránea (PREDIMED) trial.** *AMERICAN JOURNAL OF CLINICAL NUTRITION.* 108(1):163-173. I.F.: 6.549

10. García-Gavilán JF; Bullo M; Camacho-Barcia L; Rosique-Esteban N; Hernández-Alonso P; Basora J; Martinez-Gonzalez MA; Estruch R; Fito M; Salas-Salvado J. **Higher dietary glycemic index and glycemic load values increase the risk of osteoporotic fracture in the PREvención con DIeta MEDiterránea (PREDIMED)-Reus trial.** *AMERICAN JOURNAL OF CLINICAL NUTRITION.* 107(6):1035-1042. I.F.: 6.549

11. Ruiz-Canela M; Guasch-Ferré M; Toledo E; Clish C; Razquin C; Liang L; Wang D; Corella D; Hernáez Á; Yu E; Gómez-Gracia E; Zheng Y; Arós F; Romaguera D; Dennis C; Ros E; Lapetra J; Serra-Majem L; Papandreou C; Portolés O; Fito M; Hu F; Martínez-González M. **Plasma branched chain/aromatic amino acids, enriched Mediterranean diet and risk of type 2 diabetes: case-cohort study within the PREDIMED Trial.** *DIABETOLOGIA.* 61(7):1560-1571. I.F.: 6.023

12. Schröder H, Cárdenas-Fuentes G, Martínez-González MA, Corella D, Vioque J, Romaguera D, Alfredo Martínez J, Tinahones FJ, Miranda JL, Estruch R, Bueno-Cavanillas A, Arós F, Marcos A, Tur JA, Warnberg J, Serra-Majem L, Martín V, Vázquez C, Lapetra J, Pintó X, Vidal J, Daimiel L, Gaforio JJ, Matía-Martín P, Ros E, Castañer O, Lassale C, Ruiz-Canela M, Asensio EM, Basora J, Torres-Collado L, Garcia-Rios A, Abete I, Toledo E, Buil-Cosiales P, Bullo M, Goday A, Fitó M, Salas-Salvadó J, PREDIMED-Plus investigators. **Effectiveness of the physical activity intervention program in the PREDIMED-Plus study: a randomized controlled trial.** *INTERNATIONAL JOURNAL OF BEHAVIORAL NUTRITION AND PHYSICAL ACTIVITY.* 15(1):110. I.F.: 5.548

13. Pérez-Heras A., Mayneris-Perxachs J., Cofán M., Serra-Mir M., Castellote A., López-Sabater C., Fitó M., Salas-Salvadó J., Martínez-González M., Corella D., Estruch R., Ros E., Sala-Vila A. **Long-chain n-3 PUFA**

supplied by the usual diet decrease plasma stearoyl-CoA desaturase index in non-hypertriglyceridemic older adults at high vascular risk. *CLINICAL NUTRITION.* 37(1):157-162. I.F.: 5.496

14. Cantero I., Abete I., Babio N., Arós F., Corella D., Estruch R., Fitó M., Hebert J., Martínez-González M., Pintó X., Portillo M., Ruiz-Canela M., Shivappa N., Wärnberg J., Gómez-Gracia E., Tur J., Salas-Salvadó J., Zulet M., Martínez J. **Dietary Inflammatory Index and liver status in subjects with different adiposity levels within the PREDIMED trial.** *CLINICAL NUTRITION.* 37(5):1736-1743. I.F.: 5.496

15. Konieczna J, Abete I, Galmés AM, Babio N, Colom A, Zulet MA, Estruch R, Vidal J, Toledo E, Díaz-López A, Fiol M, Casas R, Vera J, Buil-Cosiales P, Martín V, Goday A, Salas-Salvadó J, Martínez JA, Romaguera D, PREDIMED-Plus Investigators. **Body adiposity indicators and cardiometabolic risk: Cross-sectional analysis in participants from the PREDIMED-Plus trial.** *CLINICAL NUTRITION.* . I.F.: 5.496

16. Castro Salomó, Antoni; Becerra-Tomás N; Díaz-López A; Rosique-Esteban N; Ros E; Buil-Cosiales P; Corella D; Estruch R; Fito M; Serra-Majem L; Arós F; Lamuela-Raventos RM; Fiol M; Santos-Lozano JM; Diez-Espino J; Portolés O; PREDIMED Study Investigators. **Legume consumption is inversely associated with type 2 diabetes incidence in adults: A prospective assessment from the PREDIMED study.** *CLINICAL NUTRITION.* 37(3):906-913. I.F.: 5.496

17. García-Gavilán J., Bulló M., Canudas S., Martínez-González M., Estruch R., Giardina S., Fitó M., Corella D., Ros E., Salas-Salvadó J. **Extra virgin olive oil consumption reduces the risk of osteoporotic fractures in the PREDIMED trial**. *CLINICAL NUTRITION.* 37(1):329-335. I.F.: 5.496

18. Roth I., Casas R., Medina-Remón A., Lamuela-Raventós R., Estruch R. **Consumption of aged white wine modulates cardiovascular risk factors via circulating endothelial progenitor cells and inflammatory biomarkers.** *CLINICAL NUTRITION.* 38(3):1036-1044. I.F.: 5.496

19. Roth I, Casas R, Ribó-Coll M, Doménech M, Lamuela-Raventós RM, Estruch R. **Acute consumption of Andalusian aged wine and gin decreases the expression of genes related to atherosclerosis in men with high cardiovascular risk: Randomized intervention trial.** *CLINICAL NUTRITION.* I.F.: 5.496

20. Álvarez-Álvarez I, Martínez-González MÁ, Sánchez-Tainta A, Corella D, Díaz-López A, Fitó M, Vioque J, Romaguera D, Martínez JA, Wärnberg J, López-Miranda J, Estruch R, Bueno-Cavanillas A, Arós F, Tur JA, Tinahones FJ, Serra-Majem L, Martín V, Lapetra J, Más Fontao S, Pintó X, Vidal J, Daimiel L, Gaforio JJ, Matía P, Ros E, Ruiz-Canela M, Sorlí JV, Becerra-Tomás N, Castañer O, Schröder H, Navarrete-Muñoz EM, Zulet MÁ, García-Ríos A, Salas-Salvadó J, Díez-Espino J, Toledo E. **Adherence to an Energy-restricted Mediterranean Diet Score and Prevalence of Cardiovascular Risk Factors in the PREDIMED-Plus: A Cross-sectional Study.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* I.F.: 5.166

21. Rosique-Esteban N, Papandreou C, Romaguera D, Warnberg J, Corella D, Martínez-González MÁ, Díaz-López A, Estruch R, Vioque J, Arós F, Garcia-Rios A, Bueno-Cavanillas A, Vidal J, Serra-Majem L, Sibai AA, Tinahones FJ, Martínez JA, Ordovás JM, Tur JA, Ellacuría MT, Sanllorente A, Pintó X, Buil-Cosiales P, Fernández-Carrion R, Castañer O, Bulló M, Ruiz-Canela M, Garcia-de la Hera M, Pérez-Farinós N, Barón-López FJ, Colom A, Abete I, Ros E, Salas-Salvadó J . **Cross-sectional associations of objectively-measured sleep characteristics with obesity and type 2 diabetes in the PREDIMED-Plus trial.** *SLEEP.* 41(12). I.F.: 5.135

22. López-Laguna N, Martínez-González MA, Toledo E, Babio N, Sorlí JV, Ros E, Muñoz MÁ, Estruch R, Lapetra J, Muñoz-Bravo C, Fiol M, Serra-Majem L, Pintó X, González JI, Fitó M, Basora J, Arós F, Ruiz-Canela M . **Risk of peripheral artery disease according to a healthy lifestyle score: The PREDIMED study.** *ATHEROSCLEROSIS.* 275:133-140. I.F.: 4.467

23. Lindholt JS; Kristensen KL; Burillo E; Martínez-López D; Calvo C; Ros E; Martin-Ventura JL; Sala-Vila A. **Arachidonic Acid, but Not Omega-3 Index, Relates to the Prevalence and Progression of Abdominal Aortic Aneurysm in a Population-Based Study of Danish Men.** *JOURNAL OF THE AMERICAN HEART ASSOCIATION.* 7(3). I.F.: 4.450

24. Amor AJ, Cofán M, Mateo-Gallego R, Cenarro A, Civeira F, Ortega E, Ros E, Sala-Vila A. **Dietary polyunsaturated fatty acids mediate the inverse association of stearoyl-CoA desaturase activity with the risk of fatty liver in dyslipidaemic individuals.** *EUROPEAN JOURNAL OF NUTRITION.* I.F.: 4.423

25. Cárdenas-Fuentes G, Subirana I, Martinez-Gonzalez MA, Salas-Salvadó J, Corella D, Estruch R, Fíto M, Muñoz-Bravo C, Fiol M, Lapetra J, Aros F, Serra-Majem L, Tur JA, Pinto X, Ros E, Coltell O, Díaz-López A, Ruiz-Canela M, Schröder H. **Multiple approaches to associations of physical activity and adherence to the Mediterranean diet with all-cause mortality in older adults: the PREvención con DIeta MEDiterránea study.** *EUROPEAN JOURNAL OF NUTRITION.* I.F.: 4.423

26. Sánchez-Villegas A., Álvarez-Pérez J., Toledo E., Salas-Salvadó J., Ortega-Azorín C., Zomeño M., Vioque J., Martínez J., Romaguera D., Pérez-López J., López-Miranda J., Estruch R., Bueno-Cavanillas A., Arós F., Tur J., Tinahones F., Lecea O., Martín V., Ortega-Calvo M., Vázquez C., Pintó X., Vidal J., Daimiel L., Delgado-Rodríguez M., Matía P., Corella D., Díaz-López A., Babio N., Muñoz M., Fitó M., de la Hera M., Abete I., García-Rios A., Ros E., Ruíz-Canela M., Martínez-González M., Izquierdo M., Serra-Majem L. **Seafood consumption, omega-3 fatty acids intake, and life-time prevalence of depression in the PREDIMED-plus trial.** *NUTRIENTS.* 10(12). I.F.: 4.196

27. Cano-Ibáñez N, Bueno-Cavanillas A, Martínez-González MA, Corella D, Salas-Salvadó J, Zomeño MD, García-de-la-Hera M, Romaguera D, Martínez JA, Barón-López FJ, García-Ríos A, Estruch R, García-Molina L, Alonso Gómez Á, Tur JA, Tinahones F, Serra-Majem L, Cubelos-Fernández N, Lapetra J, Vázquez C, Pintó X, Vidal J, Daimiel L, Gaforio JJ, Matía P, Ros E, Diez-Espino J, Fernández-Carrión R, Basora J, Fitó M, Zazo JM, Colom A, Toledo E, Díaz-López A, Muñoz MÁ, Ruiz-Canela M, Gea A . **Dietary Intake in Population with Metabolic Syndrome: Is the Prevalence of Inadequate Intake Influenced by Geographical Area? Cross-Sectional Analysis from PREDIMED-Plus Study.** *NUTRIENTS.* 10(11). I.F.: 4.196

28. Beulen Y., Martínez-González M., van de Rest O., Salas-Salvadó J., Sorlí J.,

Gómez-Gracia E., Fiol M., Estruch R., Santos-Lozano J., Schröder H., Alonso-Gómez A., Serra-Majem L., Pintó X., Ros E., Becerra-Tomas N., González J., Fitó M., Martínez J., Gea A. **Quality of dietary fat intake and body weight and obesity in a mediterranean population: Secondary analyses within the PREDIMED trial.** *NUTRIENTS*. 10(12). I.F.: 4.196

29. Bitok E., Rajaram S., Jaceldo-Siegl K., Oda K., Sala-Vila A., Serra-Mir M., Ros E., Sabaté J. **Effects of long-term walnut supplementation on body weight in free-living elderly: Results of a randomized controlled trial.** *NUTRIENTS*. 10(9). I.F.: 4.196

30. Arpón A., Milagro F., Razquin C., Corella D., Estruch R., Fitó M., Marti A., Martínez-González M., Ros E., Salas-Salvadó J., Riezu-Boj J., Martínez J. **Impact of consuming extra-virgin olive oil or nuts within a mediterranean diet on DNA methylation in peripheral white blood cells within the PREDIMED-navarra randomized controlled trial: A role for dietary lipids.** *NUTRIENTS*. 10(1). I.F.: 4.196

31. Freitas-Simoes TM; Cofán M; Blasco MA; Soberon N; Foronda M; Serra-Mir M; Roth I; Valls-Pedret C; Domenech M; Ponferrada-Ariza E; Calvo C; Rajaram S; Sabaté J; Ros E; Sala-Vila A. **Walnut Consumption for Two Years and Leukocyte Telomere Attrition in Mediterranean Elders: Results of a Randomized Controlled Trial.** *NUTRIENTS*. 10(12). I.F.: 4.196

32. Mallorquí-Bagué N., Lozano-Madrid M., Toledo E., Corella D., Salas-Salvadó J., Cuenca-Royo A., Vioque J., Romaguera D., Martínez J., Wärnberg J., López-Miranda J., Estruch R., Bueno-Cavanillas A., Alonso-Gómez Á., Tur J., Tinahones F., Serra-Majem L., Martín V., Lapetra J., Vázquez C., Pintó X., Vidal J., Daimiel L., Gaforio J., Matía P., Ros E., Granero R., Buil-Cosiales P., Barragán R., Bulló M., Castañer O., García-de-la-Hera M., Yáñez A., Abete I., García-Ríos A., Ruiz-Canela M., Díaz-López A., Jiménez-Murcia S., Martínez-González M., De la Torre R. **Type 2 diabetes and cognitive impairment in an older population with overweight or obesity and metabolic syndrome: baseline cross-sectional analysis of the PREDIMED-plus study.** *SCIENTIFIC REPORTS*. 8(1):16128. I.F.: 4.122

33. Miranda J, Simões RV, Paules C, Cañueto D, Pardo-Cea MA, García-Martín ML, Crovetto F, Fuertes-Martin R, Domenech M, Gómez-Roig MD, Eixarch E, Estruch R, Hansson SR, Amigó N, Cañellas N, Crispi F, Gratacós E . **Metabolic profiling and targeted lipidomics reveals a disturbed lipid profile in mothers and fetuses with intrauterine growth restriction.** *SCIENTIFIC REPORTS*. 8(1):13614. I.F.: 4.122

34. Razquin C., Liang L., Toledo E., Clish C., Ruiz-Canela M., Zheng Y., Wang D., Corella D., Castaner O., Ros E., Aros F., Gomez-Gracia E., Fiol M., Santos-Lozano J., Guasch-Ferre M., Serra-Majem L., Sala-Vila A., Buil-Cosiales P., Bullo M., Fito M., Portoles O., Estruch R., Salas-Salvado J., Hu F., Martinez-Gonzalez M. **Plasma lipidome patterns associated with cardiovascular risk in the PREDIMED trial: A case-cohort study.** *INTERNATIONAL JOURNAL OF CARDIOLOGY*. 253:126-132. I.F.: 4.034

35. Corella D., Ramírez-Sabio J., Coltell O., Ortega-Azorín C., Estruch R., Martínez-González M., Salas-Salvadó J., Sorlí J., Castañer O., Arós F., Garcia-Corte F., Serra-Majem L., Gómez-Gracia E., Fiol M., Pintó X., Saez G., Toledo E., Basora J., Fitó M., Cofán M., Ros E., Ordovas J. **Effects of the Ser326Cys Polymorphism in the DNA Repair OGG1 Gene on Cancer, Cardiovascular, and All-Cause Mortality in the PREDIMED Study: Modulation by Diet.** *JOURNAL OF THE ACADEMY OF NUTRITION AND DIETETICS*. 118(4):589-605. I.F.: 4.021

36. Mena-Sánchez G, Babio N, Martínez-González MÁ, Corella D, Schröder H, Vioque J, Romaguera D, Martínez JA, Lopez-Miranda J, Estruch R, Wärnberg J, Bueno-Cavanillas A, Serra-Majem L, Tur JA, Arós F, Tinahones FJ, Sánchez VM, Lapetra J, Pintó X, Vidal J, Vázquez C, Ordovás JM, Delgado-Rodriguez M, Matía-Martín P, Basora J, Buil-Cosiales P, Fernandez-Carrion R, Fitó M, Salas-Salvadó J, PREDIMED-PLUS investigators. **Fermented dairy products, diet quality, and cardio–metabolic profile of a Mediterranean cohort at high cardiovascular risk.** *NUTRITION, METABOLISM AND CARDIOVASCULAR DISEASES*. 28(10):1002-1011. I.F.: 3.318

37. Vilarnau C, Stracker D, Funtikov A, da Silva R, Estruch R, Bach-Faig A. **Worldwide adherence to Mediterranean Diet between 1960 and 2011.** *EUROPEAN JOURNAL OF CLINICAL NUTRITION*. . I.F.: 2.954

38. Gonzalez-Cordon, A.; Domenech, M.; Camafort, M.; Martinez-Rebollar, M.; Torres, B.; Laguno, M.; Rojas, J.; Lonca, M.; Blanco, J. L.; Mallolas, J.; Gatell, J. M.; de Lazzari, E.; Martinez, E. **Subclinical cardiovascular disease in patients starting contemporary protease inhibitors.** *HIV MEDICINE*. 19(7):497-503. I.F.: 2.932

39. Cardenas Fuentes, Gabriela; Ahmed Bawaked, Rowaedh; Martinez Gonzalez, Miguel Angel; Corella, Dolores; Subirana Cachinero, Isaac; Salas-Salvado, Jordi; Estruch, Ramon; Serra-Majem, Lluis; Ros, Emilio; Lapetra Peralta, Jose; Fiol, Miguel; Rekondo, Javier; Gomez-Gracia, Enrique; Tur Mari, Josep Antoni; Pinto Sala, Xavier; Babio, Nancy; Ortega, Carolina; Alfredo Martinez, Jose; Schroeder, Helmut. **Association of physical activity with body mass index, waist circumference and incidence of obesity in older adults.** *EUROPEAN JOURNAL OF PUBLIC HEALTH*. 28(5):944-950. I.F.: 2.782

40. Galilea-Zabalza I, Buil-Cosiales P, Salas-Salvadó J, Toledo E, Ortega-Azorín C, Díez-Espino J, Vázquez-Ruiz Z, Zomeño MD, Vioque J, Martínez JA, Romaguera D, Perez-Farinos N, López-Miranda J, Estruch R, Bueno-Cavanillas A, Arós F, Tur JA, Tinahones F, Serra-Majem L, Marcos-Delgado A, Ortega-Calvo M, Vázquez C, Pintó X, Vidal J, Daimiel L, Delgado-Rodríguez M, Matía P, Corella D, Diaz-López A, Babio N, Muñoz MA, Fitó M, González-Palacios S, Abete I, García-Rios A, Ros E, Martínez-González MÁ, PREDIMED-PLUS Study Investigators. **Mediterranean diet and quality of life: Baseline cross-sectional analysis of the PREDIMED-PLUS trial.** *PLOS ONE*. 13(6):e0198974. I.F.: 2.766

41. De la Sierra A, Pareja J, Yun S, Acosta E, Aiello F, Oliveras A, Vázquez S, Armario P, Blanch P, Sierra C, Calero F, Fernández-Llama P. **Central blood pressure variability is increased in hypertensive patients with target organ damage.** *JOURNAL OF CLINICAL HYPERTENSION*. 20(2):266-272. I.F.: 2.629

42. Parati G, Agabiti-Rosei E, Bakris GL, Bilo G, Branzi G, Cecchi F, Chrostowska M, De la Sierra A, Domenech M, Dorobantu M, Faria T, Huo Y, Jelaković B, Kahan T, Konradi A, Laurent S, Li N, Madan K, Mancia G, McManus RJ, Modesti PA, Ochoa JE, Octavio JA, Omboni S, Palatini P, Park JB, Pellegrini D, Perl S, Podoleanu C, Pucci G, Redon J, Renna N,

Rhee MY, Rodilla Sala E, Sanchez R, Schmieder R, Soranna D, Stergiou G, Stojanovic M, Tsioufis K, Valsecchi MG, Veglio F, Waisman GD, Wang JG, Wijnmaalen P, Zambon A, Zanchetti A, Zhang Y. **MASked-unconTrolled hypERtension management based on office BP or on ambulatory blood pressure measurement (MASTER) Study: a randomised controlled trial protocol.** *BMJ OPEN.* 8(12):e021038. I.F.: 2.413

43. Rehm J., Gmel G., Sierra C., Gual A. **Reduction of mortality following better detection of hypertension and alcohol problems in primary health care in Spain.** *ADICCIONES.* 30(1):9-18. I.F.: 2.021

44. Doménech M, Sastre E, Camafort M, Sierra C, Coca A. **Misdiagnosis of resistant hypertension: Real frequency of true resistant hypertension in patients with suspected resistance to treatment.** *MEDICINA CLINICA.* 150(1):20-23. I.F.: 1.168

Review / I.F.: 68.686

1. Freeman A., Morris P., Aspry K., Gordon N., Barnard N., Esselstyn C., Ros E., Devries S., O'Keefe J., Miller M., Ornish D., Williams K., Batts T., Ostfeld R., Litwin S., Aggarwal M., Werner A., Allen K., White B., Kris-Etherton P. **A Clinician's Guide for Trending Cardiovascular Nutrition Controversies: Part II.** *JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY.* 72(5):553-568. I.F.: 16.834

2. Medina-Remón A, Medina-Remón A, Kirwan R, Lamuela-Raventós RM, Lamuela-Raventós RM, Estruch R, Estruch R. **Dietary Patterns and the Risk of Obesity, Type 2 Diabetes Mellitus, Cardiovascular Diseases, Asthma, and Mental Health Problems.** *CRITICAL REVIEWS IN FOOD SCIENCE AND NUTRITION.* 58(2):262-296. I.F.: 6.202

3. Jacobs DR, Petersen KS, Svendsen K, Ros E, Sloan CB, Steffen LM, Tapsell LC, Kris-Etherton PM. **Considerations to facilitate a US study that replicates PREDIMED.** *METABOLISM: CLINICAL AND EXPERIMENTAL.* 85:361-367. I.F.: 5.963

4. Ros E., Izquierdo-Pulido M., Sala-Vila A. **Beneficial effects of walnut consumption on human health: role of micronutrients.** *CURRENT OPINION IN CLINICAL NUTRITION AND METABOLIC CARE.* 21(6):498-504. I.F.: 4.534

5. Freitas-Simoes T., Ros E., Sala-Vila A. **Telomere length as a biomarker of accelerated aging: is it influenced by dietary intake?** *CURRENT OPINION IN CLINICAL NUTRITION AND METABOLIC CARE.* 21(6):430-436. I.F.: 4.534

6. Castro-Barquero S, Castro-Barquero S, Lamuela-Raventós RM, Lamuela-Raventós RM, Doménech M, Doménech M, Doménech M, Estruch R, Estruch R, Estruch R, Estruch R. **Relationship between Mediterranean Dietary Polyphenol Intake and Obesity.** *NUTRIENTS.* 10(10). I.F.: 4.196

7. Casas R, Casas R, Estruch R, Estruch R, Sacanella E, Sacanella E. **Influence of Bioactive Nutrients on the Atherosclerotic Process: A Review.** *NUTRIENTS.* 10(11). I.F.: 4.196

8. Kotsis V, Tsioufis K, Antza C, Seravalle G, Coca A, Sierra C, Lurbe E, Lurbe E, Stabouli S, Jelakovic B, Redon J, Redon P, Nilsson PM, Jordan J, Micic D, Finer N, Leitner DR, Toplak H, Tokgozoglu L, Athyros V, Elisaf M, Filippatos TD, Grassi G, Grassi G. **Obesity and cardiovascular risk: a call for action from the European Society of Hypertension Working Group of Obesity, Diabetes and the High-risk Patient and European Association for the Study of Obesity: part B: obesity-induced cardiovascular disease, early prevention strategies and future research directions.** *JOURNAL OF HYPERTENSION.* 36(7):1441-1455. I.F.: 4.099

9. Kotsis V, Jordan J, Micic D, Finer N, Leitner DR, Toplak H, Tokgozoglu L, Athyros V, Elisaf M, Filippatos TD, Redon J, Redon J, Redon P, Antza C, Tsioufis K, Grassi G, Grassi G, Seravalle G, Coca A, Sierra C, Lurbe E, Lurbe E, Stabouli S, Jelakovic B, Nilsson PM. **Obesity and cardiovascular risk: a call for action from the European Society of Hypertension Working Group of Obesity, Diabetes and the High-risk Patient and European Association for the Study of Obesity: part A: mechanisms of obesity induced hypertension, diabetes and dyslipidemia and practice guidelines for treatment.** *JOURNAL OF HYPERTENSION.* 36(7):1427-1440. I.F.: 4.099

10. Casas R; Castro-Barquero S; Estruch R; Sacanella E. **Nutrition and Cardiovascular Health.** *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES.* 19(12). I.F.: 3.687

11. Cofan M, Ros E. **Use of plant sterol and stanol fortified foods in clinical practice.** *CURRENT MEDICINAL CHEMISTRY.* I.F.: 3.469

12. Barrios, Vivencio; Almendro-Delia, Manuel; Facila, Lorenzo; Garcia-Moll, Xavier; Mazon, Pilar; Camafort, Miguel; Maria Cepeda, Jose; Mediavilla Garcia, Juan Diego; Pose Reino, Antonio; Suarez Fernandez, Carmen. **Rivaroxaban: searching the integral vascular protection.** *EXPERT REVIEW OF CLINICAL PHARMACOLOGY.* 11(7):719-728. I.F.: 2.758

13. Marfany A, Sierra C, Camafort M, Doménech M, Coca A. **High blood pressure, Alzheimer disease and antihypertensive treatment.** *PANMINERVA MEDICA.* 60(1):8-16. I.F.: 2.102

14. Casas, Rosa; Estruch, Ramon; Sacanella, Emilio. **The Protective Effects of Extra Virgin Olive Oil on Immune-mediated Inflammatory Responses.** *ENDOCRINE, METABOLIC AND IMMUNE DISORDERS - DRUG TARGETS.* 18(1):23-35. I.F.: 2.013

Letters / I.F.: 99.259

1. Martínez-González MA, Ros E, Estruch R. **Primary Prevention of Cardiovascular Disease with a Mediterranean Diet Supplemented with Extra-Virgin Olive Oil or Nuts.** *NEW ENGLAND JOURNAL OF MEDICINE.* 379(14):1388-1389. I.F.: 79.260

2. Miró Ò., Estruch R., Gil V., Llorens P. **Reply: The Mediterranean Diet to Treat Heart Failure: A Potential Powerful Tool in the Hand of Providers.** *JACC: HEART FAILURE.* 6(3):201-208. I.F.: 8.202

3. O'Keefe, James H.; DiNicolantonio, James J.; Sigurdsson, Axel F.; Ros, Emilio. **Evidence, Not Evangelism, for Dietary Recommendations.** *MAYO CLINIC PROCEEDINGS.* 93(2):138-144. I.F.: 7.199

4. Ros E. **Editorial commentary: Plant-based diets: More than meets the eye.** *TRENDS IN CARDIOVASCULAR MEDICINE.* 28(7):442-444. I.F.: 4.598

Editorial / I.F.: 10.488

1. Estruch R, Sacanella E. **Keys to a Long and Healthy Life.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 71(12):993-995. I.F.: 5.166

2. Estruch R, Bach-Faig A. **Mediterranean diet as a lifestyle and dynamic food pattern.** *EUROPEAN JOURNAL OF CLINICAL NUTRITION.* I.F.: 2.954

3. Sobrino, J.; Domenech, M. **The clinical value of an exaggerated hypertensive response to exercise.** *REVISTA CLINICA ESPANOLA.* 218(1):13-14. I.F.: 1.184

4. Ros E. **The Mediterranean diet, optimal against cardiovascular disease but adopted by few survivors of an ischemic coronary event in a Mediterranean country.** *REVISTA CLINICA ESPANOLA.* 218(5):241-243. I.F.: 1.184

Clinical Guidelines / I.F.: 8.636

1. Langlois MR; Chapman MJ; Cobbaert C; Mora S; Remaley AT; Ros E; Watts GF; Borén J; Baum H; Bruckert E; Catapano A; Descamps OS; Von Eckardstein A; Kamstrup PR; Kolovou G; Kronenberg F; Langsted A; Pulkki K; Rifai N; Sypniewska G; Wiklund O; Nordestgaard BRG; NULL NULL. **Quantifying Atherogenic Lipoproteins: Current and Future Challenges in the Era of Personalized Medicine and Very Low Concentrations of LDL Cholesterol. A Consensus Statement from EAS and EFLM.** *CLINICAL CHEMISTRY.* 64(7):1006-1033. I.F.: 8.636

GRANTS FOR RESEARCH IN PROGRESS

Estruch R. **Nous predictors de la cardiopatía coronaria: micropartículas endotelials circulants, funcionalitat de les partícules d'HDL i composició en àcids grassos de les membranes cel·lulars.**
Sponsored by: Fundació la Marató de TV3.
TV3_Cor_15
Duration: 29/06/2016-28/06/2019

Estruch R. **Cardiovascular, Nutrition and Aging Group.**
Sponsored by: Generalitat de Catalunya.
AGAUR_SGR17_01717
Duration: 01/01/2017-31/12/2020

Estruch R. **Efecto de una pérdida de peso con dieta mediterránea hipocalórica y promoción de la actividad física en prevención primaria cardiovascular: Estudio PREDIMED-PLUS.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00381
Duration: 01/01/2017-31/12/2019

Estruch R. **Efecto de una pérdida de peso con dieta mediterránea hipocalórica y promoción de la actividad física en la prevención primaria cardiovascular: Estudio PREDIMED-PLUS.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI044504
Duration:01/01/2017-31/12/2019

Estruch R. **The Moderate Alcohol and Cardiovascular Health Trial.**
Sponsored by: National Institutes of Health.
NIH_PAR-16-363 (38685)
Duration: 30/09/2016-31/07/2021

Sacanella E. **Morbi-mortalidad cardiovascular, adherencia a la dieta mediterranea y efecto legado en 1000 pacientes con dieta mediterranea (Estudio PREDIMED).**
Sponsored by: Fundación Española de Medicina Interna. FEMI_Proyectos15
Duration: 24/12/2015-

2.5 Respiratory biophysics and bioengineering

LOCATION
UB School of Medicine

WEB
www.ub.edu/biofisica

KEYWORDS
1. **Respiratory mechanics**
2. **Lung bioengineering**
3. **Neuroimaging in refractory epilepsy**
4. **Neuroimaging in Parkinson's disease**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	51.56	12	9	3
2017	82.69	18	13	4
2018	77.30	13	10	3

TEAM INVOLVED IN
CIBERES
CIBER-BBN

TEAM LEADER
Ramon Farré (UB)
T. 93 402 45 15
rfarre@ub.edu

RESEARCHERS
Isaac Almendros (UB)
Daniel Navajas (UB)
Javier Pavia (HCB-UB)
Domenec Ros (UB)

POST-DOCTORAL RESEARCHERS
Noelia Campillo (UB)
Maria José Menal (UB)
Aida Niñerola (UB)

PRE-DOCTORAL RESEARCHERS
Jair Asir (UB)
Ignacio Cabrera (UB)
Bryan Falcones (UB)
Ignasi Jorba (UB)
Esther Marhuenda (UB)

TECHNICIANS
Miguel Angel Rodriguez (UB)
Elisabet Urrea (UB)

COLLABORATORS
Aida Niñerola (HCB-UB)
Jorge Otero (UB)
Roser Sala (UB)

STRATEGIC OBJECTIVES

The general objectives are the study of the biophysical mechanisms determining respiratory function, and the development of models and methods for the processing of biomedical images and signals. The work of the group is based on an interdisciplinary scientific approach, promoting industrial transfer of the technological advances derived from the research work.

MAIN LINES OF RESEARCH

1. **Respiratory mechanics.**
   To investigate the viscoelastic properties of the airways and lung tissues. The work focuses on the study of upper airway collapsibility in obstructive apnea-hypopnea and in the monitoring noninvasive mechanical ventilation. We aim to improve noninvasive diagnostic techniques and to optimize the treatments.

2. **Molecular and cellular nanomechanics.**
   To use atomic force microscopy, magnetic microspheres and traction force microscopy to study cell adhesion and mechanics of lung cells. We study the mechanical properties of stem cells and of

TEAM Ramon Farré

the way in which mechanical stimuli enhance differentiation. We also work on lung regeneration, focusing on recreating the mechanical pulmonary micro-nano environment to optimize cell differentiation.

3. **Biomedical imaging analysis.** Imaging analysis focused on the processing of photon emission tomography (SPECT) and positron emission tomography (PET) images aimed at securing more precise quantification of gammagraphic (scintigraphic) studies. Iterative algorithms are being developed for the three-dimensional reconstruction of images and for the fusion of SPECT and magnetic resonance imaging (MRI) images.

PUBLICATIONS

Originals / I.F.: 77.301

1. Walker PP, Pompilio PP, Zanaboni P, Bergmo TS, Prikk K, Malinovschi A, Montserrat JM, Middlemass J, Šonc S, Munaro G, Maruši? D, Sepper R, Rosso R, Siriwardena AN, Janson C, Farré R, Calverley PMA, Dellaca' RL. **Telemonitoring in COPD: The CHROMED Study, a Randomized Clinical Trial.** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE.* 198(5):620-628. I.F.: 15.239

2. Santamaria-Martos F; Benítez I; Girón C; Barbe F; Martinez-Garcia MA; Hernandez L; Montserrat JM; Nagore E; Martorell-Calatayud A; Campos-Rodriguez F; Corral J; Cabriada V; Abad J; Mediano O; Troncoso MF; Cano-Pumarega I; Gutierrez AMF; Díaz-Cambriles T; Somoza-González M; Almendros I; Farré R; Gozal D; Sanchez de la Torre M. **Biomarkers of carcinogenesis and tumour growth in patients with cutaneous melanoma and obstructive sleep apnoea.** *EUROPEAN RESPIRATORY JOURNAL.* 51(3). I.F.: 12.244

3. Notari M, Ventura-Rubio A, Bedford-Guaus SJ, Jorba I, Mulero L, Navajas D, Martí M, Raya Á. **The local microenvironment limits the regenerative potential of the mouse neonatal heart.** *SCIENCE ADVANCES.* 4(5):eaao5553. I.F.: 11.511

4. Martinez-Garcia MA, Campos-Rodriguez F, Nagore E, Martorell A, Rodriguez-Peralto JL, Riveiro-Falkenbach E, Hernandez L, Bañuls J, Arias E, Ortiz P, Cabriada V, Gardeazabal J, Montserrat JM, Carrera C, Corral J, Masa JF, de Terreros JG, Abad J, Boada A, Mediano O, de Eusebio E, Chiner E, Landete P, Mayos M, Fortuño A, Barbé F, Sánchez de la Torre M, Sanchez de la Torre A, Cano I, Gonzalez C, Pérez-Gil A, Gómez-García T, Cullen D, Somoza M, Formigón M, Aizpuru F, Navarro C, Selma-Ferrer MJ, Garcia-Ortega A, de Unamuno B, Almendros I, Farré R, Gozal D, Spanish Sleep Network. **Sleep-Disordered Breathing is Independently Associated with Increased Aggressiveness of Cutaneous Melanoma. A multicentre observational study in 443 patients.** *CHEST.* 154(6):1348-1358. I.F.: 7.652

5. Perea-Gil I, Gálvez-Montón C, Prat-Vidal C, Jorba I, Segú-Vergés C, Roura S, Soler-Botija C, Iborra-Egea O, Revuelta-López E, Fernández MA, Farré R, Navajas D, Bayes-Genis A. **Head-to-head comparison of two engineered cardiac grafts for myocardial repair: From scaffold characterization to pre-clinical testing.** *SCIENTIFIC REPORTS.* 8(1):6708. I.F.: 4.122

6. Menal, Maria Jose; Jorba, Ignasi; Torres, Marta; Montserrat, Josep M.; Gozal, David; Colell, Anna; Pinol-Ripoll, Gerard; Navajas, Daniel; Almendros, Isaac; Farre, Ramon. A**lzheimer's Disease Mutant Mice Exhibit Reduced Brain Tissue Stiffness Compared to Wild-type Mice in both Normoxia and following Intermittent Hypoxia Mimicking Sleep Apnea.** *FRONTIERS IN NEUROLOGY.* 9(JAN):1. I.F.: 3.508

7. Almendros, Isaac; Angel Martinez-Garcia, Miguel; Campos-Rodriguez, Francisco; Riveiro-Falkenbach, Erica; Rodriguez-Peralto, Jose L.; Nagore, Eduardo; Martorell-Calatayud, Antonio; Hernandez Blasco, Luis; Banuls Roca, Jose; Chiner Vives, Eusebi; Sanchez-de-la-Torre, Alicia; Abad-Capa, Jorge; Maria Montserrat, Josep; Perez-Gil, Amalia; Cabriada-Nuno, Valentin; Cano-Pumarega, Irene; Corral-Penafiel, Jaime; Diaz-Cambriles, Trinidad; Mediano, Olga; Dalmau-Arias, Joan; Farre, Ramon; Gozal, David;Spanish Sleep Network. **Intermittent Hypoxia Is Associated With High Hypoxia Inducible Factor-1 alpha but Not High Vascular Endothelial Growth Factor Cell Expression in Tumors of Cutaneous Melanoma Patients.** *FRONTIERS IN NEUROLOGY.* 9(APR):272. I.F.: 3.508

8. Bhattacharjee R., Khalyfa A., Mokhlesi B., Kheirandish-Gozal L., Almendros I., Peris E., Malhotra A., Gozal D. **Exosomal cargo properties, endothelial function and treatment of obesity hypoventilation syndrome: A proof of concept study.** *JOURNAL OF CLINICAL SLEEP MEDICINE.* 14(5):797-807. I.F.: 3.396

9. Suarez-Giron, Monique C.; Castro-Grattoni, Anabel; Torres, Marta; Farre, Ramon; Barbe, Ferran; Sanchez-de-la-Torre, Manuel; Gozal, David; Picado, Cesar; Montserrat, Josep M.; Almendros, Isaac. **Acetylsalicylic Acid Prevents Intermittent Hypoxia-Induced Vascular Remodeling in a Murine Model of Sleep Apnea.** *FRONTIERS IN PHYSIOLOGY.* 9(MAY):600. I.F.: 3.394

10. Farré N., Otero J., Falcones B., Torres M., Jorba I., Gozal D., Almendros I., Farré R., Navajas D. **Intermittent hypoxia mimicking sleep apnea increases passive stiffness of myocardial extracellular matrix. A multiscale study.** *FRONTIERS IN PHYSIOLOGY.* 9(AUG):1143. I.F.: 3.394

11. Farré N, Jorba I, Torres M, Falcones B, Martí-Almor J, Farré R, Almendros I, Navajas D. **Passive Stiffness of Left Ventricular Myocardial Tissue Is Reduced by Ovariectomy in a Post-menopause Mous***e Model.* FRONTIERS IN PHYSIOLOGY. 9(NOV):1545. I.F.: 3.394

12. Zhu K, Farré R, Katz I, Hardy S, Escourrou P. **Mimicking a flow-limited human upper airway using a collapsible tube: Relationships between flow patterns and pressures in a respiratory model.** *JOURNAL OF APPLIED PHYSIOLOGY.* 125(2):605-614. I.F.: 3.256

13. Da Palma RK, Fratini P, Schiavo Matias GS, Cereta AD, Guimarães LL, Anunciação ARA, de Oliveira LVF, Farre R, Miglino MA. **Equine lung decellularization: a potential approach for in vitro modeling the role of the extracellular matrix in asthma.** *JOURNAL OF TISSUE ENGINEERING.* 9:1-11. I.F.: 2.683

Review / I.F.: 31.109

1. Randerath W, Bassetti CL, Bonsignore MR, Farre R, Ferini-Strambi L, Grote L, Hedner J, Kohler M, Martinez-Garcia MA, Mihaicuta S, Montserrat J, Pepin JL, Pevernagie D, Pizza F, Polo O, Riha R, Ryan S, Verbraecken J, McNicholas WT. **Challenges and Perspectives in Obstructive Sleep Apnoea: Report by an ad hoc working group of the**

Sleep Disordered Breathing Group of the European Respiratory Society and the European Sleep Research Society. *EUROPEAN RESPIRATORY JOURNAL.* 52(3). I.F.: 12.244

2. Farré N, Farré R, Gozal D. **Sleep Apnea Morbidity: A Consequence of Microbial-Immune Cross-Talk?** *CHEST.* 154(4):754-759. I.F.: 7.652

3. Farré R, Montserrat JM, Gozal D, Almendros I, Navajas D**. Intermittent Hypoxia Severity in Animal Models of Sleep Apnea.** *FRONTIERS IN PHYSIOLOGY.* 9(NOV):1556. I.F.: 3.394

4. Farré R, Almendros I, Montserrat JM, Gozal D, Navajas D. **Gas Partial Pressure in Cultured Cells: Patho-Physiological Importance and Methodological Approaches.** *FRONTIERS IN PHYSIOLOGY.* 9(1803):1803. I.F.: 3.394

5. Farre, Ramon; Otero, Jordi; Almendros, Isaac; Navajas, Daniel. **Bioengineered Lungs: A Challenge and An Opportunity.** *ARCHIVOS DE BRONCONEUMOLOGIA.* 54(1):31-38. I.F.: 2.633

6. Almendros I., Gozal D. **Intermittent hypoxia and cancer: Undesirable bed partners?** *RESPIRATORY PHYSIOLOGY AND NEUROBIOLOGY.* 256:79-86. I.F.: 1.792

Letters / I.F.: 33.111

1. Villanueva JA, Isetta V, Montserrat JM, Navajas D, Farré R. **A Portable Continuous Positive Airway Pressure Device That Can Perform Optimally Under Strenuous Conditions.** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE.* 198(7):956-958. I.F.: 15.239

2. Torres, Marta; Campillo, Noelia; Nonaka, Paula N.; Montserrat, Josep M.; Gozal, David; Angel Martinez-Garcia, Miguel; Campos-Rodriguez, Francisco; Navajas, Daniel; Farre, Ramon; Almendros, Isaac. **Aging Reduces Intermittent Hypoxia-induced Lung Carcinoma Growth in a Mouse Model of Sleep Apnea.** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE.* 198(9):1234-1236. I.F.: 15.239

3. Suarez-Giron M., Almendros I., Roca-Ferrer J., Picado C. **Overnight Change in Urinary Prostacyclin and Thromboxane in Obstructive Sleep Apnea.** *ARCHIVOS DE BRONCONEUMOLOGIA.* 55(6):334. I.F.: 2.633

Editorial / I.F.: 29.287

1. Farré R, Navajas D, Montserrat JM. **Is Telemedicine a Key Tool for Improving Continuous Positive Airway Pressure Adherence in Patients with Sleep Apnea?** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE.* 197(1):12-14. I.F.: 15.239

2. Farre, Ramon; Hiemstra, Pieter S.; Dinh-Xuan, Anh Tuan. **Basic and translational research in the European Respiratory Journal.** *EUROPEAN RESPIRATORY JOURNAL.* 51(5). I.F.: 12.244

3. Almendros I, Aliverti A. **Clinical physiology and sleep: highlights from the European Respiratory Society Congress 2018 presented by early career members.** *J THORAC DIS.* 10(Suppl 25):S2988-S2991. I.F.: 1.804

Consortium Publications / I.F.: 21.466

1. McNicholas WT, Bassetti CL, Ferini-Strambi L, Pépin JL, Pevernagie D, Verbraecken J, Randerath W, Baveno Working Group members. **Challenges in obstructive sleep apnoea.** *THE LANCET. RESPIRATORY MEDICINE.* 6(3):170-172. I.F.: 21.466

GRANTS FOR RESEARCH IN PROGRESS

Almendros I. **Alteraciones del citoesqueleto y de la matriz extracelular cerebral caracteristicas de la nefermedad de Allzheimer en un modelo celular y animal de apnea obstructiva del sueño.**
Sponsored by: Sociedad Española de Neumología y Cirugía Torácica (SEPAR).
SEPAR-139/2015
Duration: 01/10/2016-30/09/2019

Farré R. **Impacte de l'apnea obstructiva del son en la progressió de la malaltia d'Alzheimer. Paper de la hipòxia i la fragmentació del son.**
Sponsored by: Fundació la Marató de TV3.
Neuro_14
Duration: 03/06/2015-31/12/2020

Farré R. **Efectos de la hipoxia/hipercapnia en la interacción biomecánica célula-matriz pulmonar en la progresión de las enfermedades respiratorias.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2017-85574-R
Duration: 01/01/2018-31/12/2020

Farré R. **Global self-management telematic support for patients with obstructive sleep apneahypopnea syndrome and CPAP treatment. Pilot study on patients with severe obstructive sleep apnea-hypopnea syndrome that are provided bad fulfillers.**
Sponsored by: Proyectos Inter-CIBER.
CIBERER-FES2018-01
Duration: 21/05/2018-30/04/2021

Farré R. **Sleep Apnea diagnostic and monitoring (ApneaBand).**
Sponsored by: European Commission.
H2020_EIT Health (RFP2018KC)
Duration: 01/01/2018-31/12/2018

DOCTORAL THESES

Almendros I, Montserrat JM. **New Therapeutic approaches for obstructive sleep apnea.**
PhD student: Monique Carolina Suarez Giróna

2.6 Applied research in infectious respiratory diseases, critically ill patients and lung cancer

LOCATION
CELLEX building, floor 2B

WEB
www.idibapsrespiratoryresearch.org

KEYWORDS
1. **Respiratory infections**
2. **Mechanical ventilation**
3. **Pneumonia**
4. **COPD, bronchiectasis**
5. **Breathing disturbances in sleep**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	134.54	32	22	7
2017	160.19	30	20	9
2018	312.13	46	32	10

TEAM INVOLVED IN
CIBERES
AGAUR_SGR17: 00787

TEAM LEADER
Antoni Torres (HCB)
T. 93 227 54 00 (Ext.: 3037)
atorres@clinic.cat

GROUP LEADER
Josep Mª Montserrat (HCB)
T. 93 227 57 46
jcanal@clinic.cat

RESEARCHERS
Carles Agustí (HCB)
Joan Ramon Badia (HCB)
Laia Fernández (CIBER)
Miquel Ferrer (HCB)
Nestor Soler (HCB)
Dolors Soy (HCB)

POST-DOCTORAL RESEARCHERS
Rosanel Amaro (HCB)
Roberto Cabrera (CIBER)
Catia Cillóniz (CIBER)
Pamela Conde (FCRB)
Gianluigi Li (HCB-FCRB)
Carmen Lucena (HCB)
Monique Carolina Suárez (HCB)
Marta Torres (CIBER)

PRE-DOCTORAL RESEARCHERS
Victòria Alcaraz (FCRB)
Enric Barbeta (HCB)
Adrian Ceccato (HCB)
Onintza Garmendia (CIBER)
Ruben López (FCRB)
Anna Motos (FCRB)
Carmen Rosa Vargas (HCB)
Hua Yang (FCRB)
Minlan Yang (FCRB)

NURSING STAFF
Mª Concepción Ruiz (HCB)

COLLABORATORS
Joaquim Bobi (FCRB)
Montserrat Rigol (FCRB)

VISITING SCIENTISTS
Denise Battaglini
(Hospital Policlínic, San Martino Genoa, Italy)
Cristina Dominedó
(Fondazione Policlinico Universitario Agostino Gemelli, Milan, Italy)
Andrea Meli
(Hospital San Paolo de Milano)
Francesco Pagliara
(Università degli Studi di Genova, Italy)
Giulia Scioscia
(University of Foggia, Italy)
Giacomo Tanzella
(University of Genova, Italy)

STRATEGIC OBJECTIVES

1. To study respiratory infections, invasive and noninasive mechanical ventilation, exacerbations of chronic obstructive

TEAM Antoni Torres

pulmonary disease (COPD), bronchiectasis.

2. Physiopathological and treatment studies in animals and humans with ventilator associated pneumonia and or ARDS .

3. Human and animal model research in sleep apnea syndrome. Telemedicine and multcentre studies.

MAIN LINES OF RESEARCH

1. Epidemiology, prevention and new treatments of: pneumonia associated with artificial ventilation, community-acquired pneumonia. New treatments. Resistances of microorganisms. Local and systemic inflammatory response.
2. Etiopathogenesis, bronchial infection and inflammation in the patient with chronic obstructive pulmonary disease (COPD).
3. Chronic pulmonary infections: bronchiectasis not associated with cystic fibrosis, immune deficiencies and cystic fibrosis in the adult.
4. Invasive and noninvasive mechanical ventilation: epidemiology, cost-effectiveness and physiopathology. Weaning from mechanical ventilation: role of the inflammatory response and respiratory failure following extubation.
5. Study of the pharmacokinetics of antibiotics and other drugs in the ventilated and non-ventilated patient.
6. Porcine model of acute pulmonary damage due to methicillinresistant P. aeruginosa, S. aureus and S. pneumoniae.
7. Translational research laboratory for the microbiology diagnosis and pathogen-host response in respiratory infections.
8. Chronic sleep apnea models.
9. Multicenter Study to assess the effect of CPAP on cardiovascular diseases in patients with sleep apnea.
10. Telematic control of CPAP treatment in sleep apnea syndrome.

RESEARCH GROUP
BREATHING DISTURBANCES IN SLEEP

GROUP LEADER
Josep M. Montserrat (HCB)

The main research line of this group is the analysis of respiratory disturbances in sleep. Specifically, the two most important lines are the following: the study of diagnostic methods and effects of treatment in a population of apneic patients in which the indication is not clear; and the study of animal models for exploring the mechanisms underlying the origin and consequences of the disorder. Both lines are carried out in the context of national multicenter clinical trials.
Finally, the envelopment of a visrtual sleep unit is one of the major topic during last year as well as other telemedicine procedures to improve the patient management and the cost effectivenes.

PUBLICATIONS

Originals / I.F.: 312.132

1. Torres A., Zhong N., Pachl J., Timsit J., Kollef M., Chen Z., Song J., Taylor D., Laud P., Stone G., Chow J. **Ceftazidime-avibactam versus meropenem in nosocomial pneumonia, including ventilator-associated pneumonia (REPROVE): A randomised, double-blind, phase 3 non-inferiority trial.** *LANCET INFECTIOUS DISEASES, THE.* 18(3):285-295. I.F.: 25.148

2. Ekren PK, Ranzani OT, Ceccato A, Li Bassi G, Muñoz Conejero E, Ferrer M, Niederman MS, Torres A. **Evaluation of the 2016 Infectious Diseases Society of America/American Thoracic Society Guideline Criteria for Risk of Multi-drug Resistant Pathogens in Hospital-acquired and Ventilator-associated Pneumonia Patients in the Intensive Care Unit.** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE.* 197(6):826-830. I.F.: 15.239

3. Walker PP, Pompilio PP, Zanaboni P, Bergmo TS, Prikk K, Malinovschi A, Montserrat JM, Middlemass J, Šonc S, Munaro G, Maruši? D, Sepper R, Rosso R, Siriwardena AN, Janson C, Farré R, Calverley PMA, Dellaca' RL. **Telemonitoring in COPD: The CHROMED Study, a Randomized Clinical Trial.** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE.* 198(5):620-628. I.F.: 15.239

4. Méndez R, Menéndez R, Cillóniz C, Amara-Elori I, Amaro R, González P, Posadas T, Gimeno A, España PP, Almirall J, Torres A. **Initial Inflammatory Profile in Community-acquired Pneumonia Depends on Time since Onset of Symptoms.** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE.* 198(3):370-378. I.F.: 15.239

5. Moreno G, Rodríguez A, Reyes LF, Gomez J, Sole-Violan J, Díaz E, Bodí M, Trefler S, Guardiola J, Yébenes JC, Soriano A, Garnacho-Montero J, Socias L, Del Valle Ortíz M, Correig E, Marín-Corral J, Vallverdú-Vidal M, Restrepo MI, Torres A, Martín-Loeches I, GETGAG Study Group. **Corticosteroid treatment in critically ill patients with severe influenza pneumonia: a propensity score matching study.** *INTENSIVE CARE MEDICINE.* 44(9):1470-1482. I.F.: 15.008

6. Welte T, Dellinger RP, Ebelt H, Ferrer M, Opal SM, Singer M, Vincent JL, Werdan K, Martin-Loeches I, Almirall J, Artigas A, Ignacio Ayestarán J, Nuding S, Ferrer R, Sirgo Rodríguez G, Shankar-Hari M, Álvarez-Lerma F, Riessen R, Sirvent JM, Kluge S, Zacharowski K, Bonastre Mora J, Lapp H, Wöbker G, Achtzehn U, Brealey D, Kempa A, Sánchez García M, Brederlau J, Kochanek M, Reschreiter HP, Wise MP, Belohradsky BH, Bobenhausen I, Dälken B, Dubovy P, Langohr P, Mayer M, Schüttrumpf J, Wartenberg-Demand A, Wippermann U, Wolf D, Torres A . **Efficacy and safety of trimodulin, a novel polyclonal antibody preparation, in patients with severe community-acquired pneumonia: a randomized, placebo-controlled, double-blind, multicenter, phase II trial (CIGMA study).** *INTENSIVE CARE MEDICINE.* 44(4):438-448. I.F.: 15.008

7. Cilloniz C, Ferrer M, Liapikou A, Garcia-Vidal C, Gabarrus A, Ceccato A, Puig de La Bellacasa J, Blasi F, Torres A . **Acute Respiratory Distress Syndrome in Mechanically-Ventilated Patients with Community-Acquired Pneumonia.** *EUROPEAN RESPIRATORY JOURNAL.* 51(3). I.F.: 12.244

8. Vergara, Andrea; Cilloniz, Catia; Luque, Nestor; Garcia-Vidal, Carolina; Tejero, Javier; Perello, Rafael; Maria Lucena, Carmen; Torres, Antoni; Angeles Marcos, Maria. **Detection of human cytomegalovirus in bronchoalveolar lavage of intensive care unit patients.** *EUROPEAN RESPIRATORY JOURNAL.* 51(2). I.F.: 12.244

9. Santamaria-Martos F; Benítez I; Girón C; Barbe F; Martinez-Garcia MA; Hernandez L; Montserrat JM; Nagore E; Martorell-

Calatayud A; Campos-Rodriguez F; Corral J; Cabriada V; Abad J; Mediano O; Troncoso MF; Cano-Pumarega I; Gutierrez AMF; Díaz-Cambriles T; Somoza-González M; Almendros I; Farré R; Gozal D; Sanchez de la Torre M. **Biomarkers of carcinogenesis and tumour growth in patients with cutaneous melanoma and obstructive sleep apnoea.** *EUROPEAN RESPIRATORY JOURNAL*. 51(3). I.F.: 12.244

10. Restrepo MI; Babu BL; Reyes LF; Chalmers JD; Soni NJ; Sibila O; Faverio P; Cilloniz C; Rodriguez-Cintron W; Aliberti S; GLIMP. **Burden and risk factors for Pseudomonas aeruginosa community-acquired pneumonia: a multinational point prevalence study of hospitalised patients.** *EUROPEAN RESPIRATORY JOURNAL*. 52(2):1701190. I.F.: 12.244

11. Briel M, Spoorenberg SMC, Snijders D, Torres A, Fernandez-Serrano S, Meduri GU, Gabarrús A, Blum CA, Confalonieri M, Kasenda B, Siemieniuk RAC, Boersma W, Bos WJW, Christ-Crain M, Ovidius Study Group, Capisce Study Group, STEP Study Group. **Corticosteroids in patients hospitalized with community-acquired pneumonia: systematic review and individual patient data meta-analysis.** *CLINICAL INFECTIOUS DISEASES*. 66(3):346-354. I.F.: 9.117

12. Cillóniz C, Miguel-Escuder L, Pedro-Bonet ML, Falcó V, Lopez Y, García-Vidal C, Gabarrús A, Moreno A, Torres A, Miró JM, Legionella-HIV Researchers. **Community-Acquired Legionella Pneumonia in HIV-Infected Adult Patients: A Matched Case-Control Study.** *CLINICAL INFECTIOUS DISEASES*. 67(6):958-961. I.F.: 9.117

13. Huang DB, O'Riordan W, Overcash JS, Heller B, Amin F, File TM, Wilcox MH, Torres A, Dryden M, Holland TL, McLeroth P, Shukla R, Corey GR . **A Phase 3, Randomized, Double-Blind, Multicenter Study to Evaluate the Safety and Efficacy of Intravenous Iclaprim Vs Vancomycin for the Treatment of Acute Bacterial Skin and Skin Structure Infections Suspected or Confirmed to be Due to Gram-Positive Pathogens: REVIVE-1.** *CLINICAL INFECTIOUS DISEASES*. 66(8):1222-1229. I.F.: 9.117

14. Sanchez-de-la-Torre, Alicia; Soler, Xavier; Barbe, Ferran; Flores, Marina; Maisel, Alan; Malhotra, Atul; Rue, Montserrat; Bertran, Sandra; Aldoma, Albina; Worner, Fernando; Valls, Joan; Lee, Chi-Hang; Turino, Cecilia; Galera, Estefania; de Batlle, Jordi; Sanchez de la Torre, Manuel. **Cardiac Troponin Values in Patients With Acute Coronary Syndrome and Sleep Apnea A Pilot Study.** *CHEST*. 153(2):329-338. I.F.: 7.652

15. Martinez-Garcia MA; Campos-Rodriguez F; Nagore E; Martorell A; Rodríguez-Peralto JL; Riveiro-Falkenbach E; Hernandez L; Bañuls J; Arias E; Ortiz P; Cabriada V; Gardeazabal J; Montserrat JM; Carreres C; Corral J; Masa JF; Gomez De Terreros J; Abad J; Boada A; Mediano O; De Eusebio E; Chiner E; Landete P; Mayos M; Fortuño A; Barbe F; Sánchez de la Torre M; Sanchez de la Torre A; Cano I; Gonzalez C; Pe?ez-Gil A; Gómez-García T; Cullen D; Somoza M; Formigon M; Aizpuru F; Navarro C; Selma-Ferrer MJ; García-Ortega A; de Unamuno B. **Sleep-Disordered Breathing is Independently Associated with Increased Aggressiveness of Cutaneous Melanoma. A multicentre observational study in 443 patients.** *CHEST*. 154(6):1348-1358. I.F.: 7.652

16. Bedi P., Chalmers J., Goeminne P., Mai C., Saravanamuthu P., Velu P., Cartlidge M., Loebinger M., Jacob J., Kamal F., Schembri N., Aliberti S., Hill U., Harrison M., Johnson C., Screaton N., Haworth C., Polverino E., Rosales E., Torres A., Benegas M., Rossi A., Patel D., Hill A. **The BRICS (Bronchiectasis Radiologically Indexed CT Score): A Multicenter Study Score for Use in Idiopathic and Postinfective Bronchiectasis.** *CHEST*. 153(5):1177-1186. I.F.: 7.652

17. Schumann DM, Leeming D, Papakonstantinou E, Blasi F, Kostikas K, Boersma W, Louis R, Milenkovic B, Aerts J, Sand JMB, Wouters EFM, Rohde G, Prat C, Torres A, Welte T, Tamm M, Karsdal M, Stolz D. **Collagen degradation and formation are elevated in exacerbated COPD compared to stable disease.** *CHEST*. 154(4):798-807. I.F.: 7.652

18. Martinez-Garcia, Miguel-Angel; Navarro-Soriano, Cristina; Torres, Gerard; Barbe, Ferran; Caballero-Eraso, Candela; Lloberes, Patricia; Diaz-Cambriles, Teresa; Somoza, Maria; Masa, Juan F.; Gonzalez, Monica; Manas, Eva; de la Pena, Monica; Garcia-Rio, Francisco; Maria Montserrat, Josep; Muriel, Alfonso; Jose Selma-Ferrer, Maria; Garcia Ortega, Alberto; Campos-Rodriguez, Francisco. **Beyond Resistant Hypertension: Relationship Between Refractory Hypertension and Obstructive Sleep Apnea.** *HYPERTENSION*. 72(3):618-624. I.F.: 6.823

19. Li Bassi, G.; Chiurazzi, C.; Aguilera, E.; Travierso, C.; Battaglini, D.; Yang, M.; Motos, A.; Yang, H.; Meli, A.; Marti, D.; Ranzani, O. T.; Blasi, F.; Pelosi, P.; Chiumello, D.; Torres, A. **In-vitro analysis of a novel "add-on' silicone cuff to improve sealing properties of tracheal tubes.** *ANAESTHESIA*. 73(11):1372-1381. I.F.: 5.431

20. Aldasoro E; Posada E; Requena-Méndez A; Calvo-Cano A; Serret N; Casellas A; Sanz S; Soy D; Pinazo MJ; Gascon J. **What to expect and when: benznidazole toxicity in chronic Chagas' disease treatment.** *JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY*. 73:1060-1067. I.F.: 5.217

21. De la Calle C., Ternavasio-de la Vega H., Morata L., Marco F., Cardozo C., García-Vidal C., Del Rio A., Cilloniz C., Torres A., Martínez J., Mensa J., Soriano A. **Effectiveness of combination therapy versus monotherapy with a third-generation cephalosporin in bacteraemic pneumococcal pneumonia: A propensity score analysis.** *JOURNAL OF INFECTION*. 76(4):342-347. I.F.: 4.603

22. Polverino E, Rosales-Mayor E, Benegas M, Menendez R, Alcaraz-Serrano V, Ansotegui E, Montull B, Girón RM, Cisneros C, Vendrell M, Muñoz G, Marcos MA, Sanchez M, Torres A . **Pneumonic and non-pneumonic exacerbations in bronchiectasis: clinical and microbiological differences.** *JOURNAL OF INFECTION*. 77(2):99-106. I.F.: 4.603

23. García de la Mària C, Gasch O, García-Gonzalez J, Soy D, Shaw E, Ambrosioni J, Almela M, Pericàs JM, Tellez A, Falces C, Hernandez-Meneses M, Sandoval E, Quintana E, Vidal B, Tolosana JM, Fuster D, Llopis J, Pujol M, Moreno A, Marco F, Miró JM . **The Combination of Daptomycin plus Fosfomycin has Synergistic, Potent and Rapid Bactericidal Activity against Methicillin-ResistantStaphylococcus aureus(MRSA) in a Rabbit Model of Experimental Endocarditis (EE).** *ANTIMICROBIAL AGENTS AND CHEMOTHERAPY*. 62(6). I.F.: 4.256

24. Holland TL, O'Riordan W, McManus A, Shin E, Borghei A, File TM, Wilcox MH, Torres A, Dryden M, Lodise T, Oguri T, Corey GR, McLeroth P, Shukla R, Huang DB. **A Phase 3,**

Randomized, double-blind, multicenter study to EValuate the safety and efficacy of intravenous Iclaprim versus Vancomycin for the treatment of acute bacterial skin and skin structure infections suspected or confirmed to be due to Gram-positive pathogens: REVIVE-2. *ANTIMICROBIAL AGENTS AND CHEMOTHERAPY.* 62(5):e02580. I.F.: 4.256

25. Huang DB, Corey GR, Holland TL, Lodise T, O'Riordan W, Wilcox MH, File TM, Dryden M, Balser B, Desplats E, Torres A . **Pooled analysis of the phase 3 REVIVE trials: randomised, double-blind studies to evaluate the safety and efficacy of iclaprim versus vancomycin for treatment of acute bacterial skin and skin-structure infections.** *INTERNATIONAL JOURNAL OF ANTIMICROBIAL AGENTS.* 52(2):233-240. I.F.: 4.253

26. Crisafulli E., Guerrero M., Ielpo A., Ceccato A., Huerta A., Gabarrús A., Soler N., Chetta A., Torres A. **Impact of bronchiectasis on outcomes of hospitalized patients with acute exacerbation of chronic obstructive pulmonary disease: A propensity matched analysis.** *SCIENTIFIC REPORTS.* 8(1):9236. I.F.: 4.122

27. Fernández-Barat L, Ben-Aicha S, Motos A, Vila J, Marco F, Rigol M, Muñoz L, Li Bassi G, Ferrer M, Torres A. **Assessment of in vivo versus in vitro biofilm formation of clinical methicillin-resistant Staphylococcus aureus isolates from endotracheal tubes.** *SCIENTIFIC REPORTS.* 8(1):11906. I.F.: 4.122

28. Bastida C, Ruiz-Esquide V, Pascal M, de Vries Schultink AHM, Yagüe J, Sanmartí R, Huitema ADR, Soy D . **Fixed dosing of intravenous tocilizumab in rheumatoid arthritis. Results from a population pharmacokinetic analysis.** *BRITISH JOURNAL OF CLINICAL PHARMACOLOGY.* 84(4):716-725. I.F.: 3.838

29. Estirado C, Ceccato A, Guerrero M, Huerta A, Cilloniz C, Vilaró O, Gabarrús A, Gea J, Crisafulli E, Soler N, Torres A, Torres A. **Microorganisms resistant to conventional antimicrobials in acute exacerbations of chronic obstructive pulmonary disease.** *RESPIRATORY RESEARCH.* 19(1):119. I.F.: 3.751

30. Crisafulli E, Ielpo A, Barbeta E, Ceccato A, Huerta A, Gabarrús A, Soler N, Chetta A, Torres A. **Clinical variables predicting the risk of a hospital stay for longer than 7 days in patients with severe acute exacerbations of chronic obstructive pulmonary disease: a prospective study.** *RESPIRATORY RESEARCH.* 19(1):261. I.F.: 3.751

31. Almendros, Isaac; Angel Martinez-Garcia, Miguel; Campos-Rodriguez, Francisco; Riveiro-Falkenbach, Erica; Rodriguez-Peralto, Jose L.; Nagore, Eduardo; Martorell-Calatayud, Antonio; Hernandez Blasco, Luis; Banuls Roca, Jose; Chiner Vives, Eusebi; Sanchez-de-la-Torre, Alicia; Abad-Capa, Jorge; Maria Montserrat, Josep; Perez-Gil, Amalia; Cabriada-Nuno, Valentin; Cano-Pumarega, Irene; Corral-Penafiel, Jaime; Diaz-Cambriles, Trinidad; Mediano, Olga; Dalmau-Arias, Joan; Farre, Ramon; Gozal, David. **Intermittent Hypoxia Is Associated With High Hypoxia Inducible Factor-1 alpha but Not High Vascular Endothelial Growth Factor Cell Expression in Tumors of Cutaneous Melanoma Patients.** *FRONTIERS IN NEUROLOGY.* 9(APR):272. I.F.: 3.508

32. Menal, Maria Jose; Jorba, Ignasi; Torres, Marta; Montserrat, Josep M.; Gozal, David; Colell, Anna; Pinol-Ripoll, Gerard; Navajas, Daniel; Almendros, Isaac; Farre, Ramon. **Alzheimer's Disease Mutant Mice Exhibit Reduced Brain Tissue Stiffness Compared to Wild-type Mice in both Normoxia and following Intermittent Hypoxia Mimicking Sleep Apnea.** *FRONTIERS IN NEUROLOGY.* 9(JAN):1. I.F.: 3.508

33. Suarez-Giron, Monique C.; Castro-Grattoni, Anabel; Torres, Marta; Farre, Ramon; Barbe, Ferran; Sanchez-de-la-Torre, Manuel; Gozal, David; Picado, Cesar; Montserrat, Josep M.; Almendros, Isaac. **Acetylsalicylic Acid Prevents Intermittent Hypoxia-Induced Vascular Remodeling in a Murine Model of Sleep Apnea.** *FRONTIERS IN PHYSIOLOGY.* 9(MAY):600. I.F.: 3.394

34. Faner R., Noell G., Badia J., López-Giraldo A., Bakke P., Silverman E., Tal-Singer R., Agustí A. **Distribution, temporal stability and association with all-cause mortality of the 2017 GOLD groups in the ECLIPSE cohort.** *RESPIRATORY MEDICINE.* 141:14-19. I.F.: 3.230

35. Serra-Picamal X., Roman R., Escarrabill J., García-Altés A., Argimón J., Soler N., Faner R., Carbonell E., Trilla A., Agusti A.. **Hospitalizations due to exacerbations of COPD: A big data perspective.** *RESPIRATORY MEDICINE.* 145:219-225. I.F.: 3.230

36. López-Aguilar J, Bassi GL, Quilez ME, Martí JD, Tavares OR, Xiol EA, Rigol M, Luque N, Guillamat R, Ferrer I, Torres A, Blanch L . **Hippocampal Damage During Mechanical Ventilation in Trendelenburg Position: A Secondary Analysis of an Experimental Study on the Prevention of Ventilator-Associated Pneumonia.** *SHOCK.* . I.F.: 3.005

37. Herrero-Cortina, Beatriz; Alcaraz, Victoria; Vilaro, Jordi; Torres, Antoni; Polverino, Eva. **Impact of Hypertonic Saline Solutions on Sputum Expectoration and Their Safety Profile in Patients with Bronchiectasis: A Randomized Crossover Trial.** *JOURNAL OF AEROSOL MEDICINE AND PULMONARY DRUG DELIVERY.* 31(5):281-289. I.F.: 2.927

38. Cillóniz C, Liapikou A, Martin-Loeches I, García-Vidal C, Gabarrús A, Ceccato A, Magdaleno D, Mensa J, Marco F, Torres A . **Twenty-year trend in mortality among hospitalized patients with pneumococcal community-acquired pneumonia.** *PLOS ONE.* 13(7):e0200504. I.F.: 2.766

39. Ferrer M., Travierso C., Cilloniz C., Gabarrus A., Ranzani O., Polverino E., Liapikou A., Blasi F., Torres A. **Severe community-acquired pneumonia: Characteristics and prognostic factors in ventilated and non-ventilated patients.** *PLOS ONE.* 13(1):e0191721. I.F.: 2.766

40. Egli A, Egli A, Mandal J, Schumann DM, Roth M, Thomas B, Lorne Tyrrell D, Blasi F, Kostikas K, Boersma W, Milenkovic B, Lacoma A, Rentsch K, Rohde GGU, Louis R, Aerts JG, Welte T, Torres A, Tamm M, Stolz D. **IFN?3/4 locus polymorphisms and IFN?3 circulating levels are associated with COPD severity and outcomes.** *BMC PULMONARY MEDICINE.* 18(1):51. I.F.: 2.721

41. Garmendia O., Suarez-Giron M., Torres M., Montserrat J. **Telemedicine in Sleep Apnea: A Simple Approach for Nasal Pressure (CPAP) Treatment.** *ARCHIVOS DE BRONCONEUMOLOGIA.* 54(9):491-492. I.F.: 2.633

42. Bongard E, van der Velden AW, Cook J, Saville B, Beutels P, Munck Aabenhus R, Brugman C, Chlabicz S, Coenen S, Colliers A, Davies M, De Paor M, De Sutter A, Francis NA,

Glinz D, Godycki-wirko M, Goossens H, Holmes J, Ieven M, de Jong M, Lindbaek M, Little P, Martinón-Torres F, Moragas A, Pauer J, Pfeiferová M, Radzeviciene-Jurgute R, Sundvall PD, Torres A, Touboul P, Varthalis D, Verheij T, Butler CC. **Antivirals for influenza-Like Illness? A randomised Controlled trial of Clinical and Cost effectiveness in primary CarE (ALIC4 E): the ALIC4 E protocol.** *BMJ OPEN.* 8(7):e021032. I.F.: 2.413

43. Mandala, Jyotshna; Roth, Michael; Papakonstantinou, Eleni; Sun, Qingzhu; Costa, Luigi; Boeck, Lucas; Scherr, Andreas; Rakic, Janko; Louis, Renaud; Milenkovic, Branislava; Boersma, Wim; Kostikas, Konstantinos; Blasi, Francesco; Aerts, Joachim; Rohde, Gernot; Lacoma, Alicia; Torres, Antoni; Welte, Tobias; Tamm, Michael; Stolz, Daiana. **Treatment with long acting muscarinic antagonists stimulates serum levels of irisin in patients with COPD.** *PULMONARY PHARMACOLOGY AND THERAPEUTICS.* 48:111-116. I.F.: 2.406

44. Huang D., Duncan L., Flamm R., Dryden M., Corey G., Wilcox M., Torres A., File T. **The effect of pulmonary surfactant on the in vitro activity of Iclaprim against common respiratory bacterial pathogens.** *DIAGNOSTIC MICROBIOLOGY AND INFECTIOUS DISEASE.* 90(1):64-66. I.F.: 2.341

45. Huang D., File T., Dryden M., Corey G., Torres A., Wilcox M. **Surveillance of iclaprim activity: In vitro susceptibility of gram-positive pathogens collected from 2012 to 2014 from the United States, Asia Pacific, Latin American and Europe.** *DIAGNOSTIC MICROBIOLOGY AND INFECTIOUS DISEASE.* 90(4):329-334. I.F.: 2.341

46. Brito-Zeron, Pilar; Acar-Denizli, Nihan; Siso-Almirall, Antoni; Bosch, Xavier; Hernandez, Fernanda; Vilanova, Sergi; Villalta, Mireia; Kostov, Belchin; Paradela, Marina; Sanchez, Marcelo; Ramirez, Jose; Muxi, Africa; Berruezo, Antonio; Galceran-Chaves, Celeste; Xaubet, Antoni; Agusti, Carles; Sellares, Jacobo; Ramos-Casals, Manuel. **The Burden of Comorbidity and Complexity in Sarcoidosis: Impact of Associated Chronic Diseases.** *LUNG.* 196(2):239-248. I.F.: 2.101

Review / I.F.: 62.694

1. Randerath W, Bassetti CL, Bonsignore MR, Farre R, Ferini-Strambi L, Grote L, Hedner J, Kohler M, Martinez-Garcia MA, Mihaicuta S, Montserrat J, Pepin JL, Pevernagie D, Pizza F, Polo O, Riha R, Ryan S, Verbraecken J, McNicholas WT. **Challenges and Perspectives in Obstructive Sleep Apnoea: Report by an ad hoc working group of the Sleep Disordered Breathing Group of the European Respiratory Society and the European Sleep Research Society.** *EUROPEAN RESPIRATORY JOURNAL.* 52(3). I.F.: 12.244

2. Torres A., Motos A., Battaglini D., Li Bassi G. **Inhaled amikacin for severe Gram-negative pulmonary infections in the intensive care unit: Current status and future prospects.** *CRITICAL CARE.* 22(1):343. I.F.: 6.425

3. Ceccato A., Ferrer M., Barbeta E., Torres A. **Adjunctive Therapies for Community-Acquired Pneumonia.** *CLINICS IN CHEST MEDICINE.* 39(4):753-764. I.F.: 4.347

4. Farré R, Montserrat JM, Gozal D, Almendros I, Navajas D. **Intermittent Hypoxia Severity in Animal Models of Sleep Apnea.** *FRONTIERS IN PHYSIOLOGY.* 9:1556. I.F.: 3.394

5. Torres A., Cillóniz C., Blasi F., Chalmers J., Gaillat J., Dartois N., Schmitt H., Welte T. **Burden of pneumococcal community-acquired pneumonia in adults across Europe: A literature review.** *RESPIRATORY MEDICINE.* 137:6-13. I.F.: 3.230

6. Liapikou A, Cilloniz C, Torres A. **Drugs that increase the risk of community-acquired pneumonia: a narrative review.** *EXPERT OPINION ON DRUG SAFETY.* 17(10):991-1003. I.F.: 3.156

7. Cillóniz C, García-Vidal C, Moreno A, Miro JM, Torres A. **Community-acquired bacterial pneumonia in adult HIV-infected patients.** *EXPERT REVIEW OF ANTI-INFECTIVE THERAPY.* 16(7):579-588. I.F.: 3.141

8. Martin-Loeches I, Dale GE, Torres A . **Murepavadin: a new antibiotic class in the pipeline.** *EXPERT REVIEW OF ANTI-INFECTIVE THERAPY.* 16(4):259-268. I.F.: 3.141

9. Cillóniz C, Dominedò C, Garcia-Vidal C, Torres A. **Community-acquired pneumonia as an emergency condition.** *CURRENT OPINION IN CRITICAL CARE.* 24(6):531-539. I.F.: 3.120

10. Ferrer M, Torres A. **Epidemiology of ICU-acquired pneumonia.** *CURRENT OPINION IN CRITICAL CARE.* 24(5):325-331. I.F.: 3.120

11. Martin-Loeches I, Rodriguez AH, Torres A. **New guidelines for hospital-acquired pneumonia/ventilator-associated pneumonia: USA vs. Europe.** *CURRENT OPINION IN CRITICAL CARE.* 24(5):347-352. I.F.: 3.120

12. Ranzani OT, Taniguchi LU, Torres A. **Severity scoring systems for pneumonia: current understanding and next steps.** *CURRENT OPINION IN PULMONARY MEDICINE.* 24(3):227-236. I.F.: 3.000

13. Amaro R, Panagiotaraka M, Alcaraz V, Torres A. **The efficacy of inhaled antibiotics in non-cystic fibrosis bronchiectasis.** *EXPERT REVIEW OF RESPIRATORY MEDICINE.* 12(8):1-9. I.F.: 2.607

14. Crisafulli E., Torres A. **COPD 2017: A Year in Review.** *COPD: JOURNAL OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE.* 15(2):1-5. I.F.: 2.604

15. Cillóniz C, Ielpo A, Torres A . **Treating HIV-Positive/Non-AIDS Patients for Community-Acquired Pneumonia with ART.** *CURRENT INFECTIOUS DISEASE REPORTS.* 20(11):46. I.F.: 2.085

16. Cillóniz C., Rodríguez-Hurtado D., Nicolini A., Torres A. **Clinical Approach to Community-acquired Pneumonia.** *JOURNAL OF THORACIC IMAGING.* 33(5):273-281. I.F.: 1.624

17. Sampol Rubio G; Macías Escalada E; Montserrat Canal J; Terán Santos J. **Mandibular advancement devices in the treatment of obstructive sleep apnea. A necessary and effective option.** *MEDICINA CLINICA.* 151(1):34-38. I.F.: 1.168

18. Gabriel Sampol; Emilio Macías Escalada; Josep María Montserrat; Joaquín Terán Santos. **Los dispositivos de avance mandibular en el tratamiento de la apnea obstructiva del sueño. Una opción necesaria y eficaz.** *MEDICINA CLINICA.* 151(1):34-38. I.F.: 1.168

Letters / I.F.: 48.119

1. Villanueva JA, Isetta V, Montserrat JM, Navajas D, Farré R. **A Portable Continuous Positive Airway Pressure Device That Can Perform Optimally Under Strenuous Conditions.** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE.* 198(7):956-958. I.F.: 15.239

2. Ranzani OT, Torres A, on behalf of all authors. **Reply to: Sepsis-3 in Community-acquired Pneumonia: How Reliable is It?** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE.* 197(4):537-538. I.F.: 15.239

3. Torres A, Ferrer M, Niederman MS. **Adjuvant therapies in critical care: steroids in community-acquired pneumonia.** *INTENSIVE CARE MEDICINE.* 44(4):478-481. I.F.: 15.008

4. Onintza Garmendia; Monique C. Suarez Giron; Marta Torres López; Josep María Montserrat. **Telemedicine in sleep apnea : A simple approach for nasal pressure (CPAP) treatment.** *ARCHIVOS DE BRONCONEUMOLOGIA.* 54(9):491-492. I.F.: 2.633

Editorial / I.F.: 45.842

1. Farré R, Navajas D, Montserrat JM. **Is Telemedicine a Key Tool for Improving Continuous Positive Airway Pressure Adherence in Patients with Sleep Apnea?** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE.* 197(1):12-14. I.F.: 15.239

2. Torres A. **New Insights in the Regulation of the Endothelial Lung Permeability in Pneumonia: The Interplay between Angiopoietins 1 and 2.** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE.* 198(2):149-150. I.F.: 15.239

3. Froes F., Blasi F., Torres A. **Achoo, achis, ATCHIN! Vaccine you.** EUROPEAN *RESPIRATORY JOURNAL.* 51(3):1702558. I.F.: 12.244

4. Torres A**. ICU-acquired pneumonia: is it time to use this term?** *CURRENT OPINION IN CRITICAL CARE.* 24(5):323-324. I.F.: 3.120

Case Reports / I.F.: 3.831

1. Luisa Imaz M., Oriolo G., Torra M., Soy D., García-Esteve L., Martin-Santos R. **Clozapine use during pregnancy and lactation: A case-series report.** *FRONTIERS IN PHARMACOLOGY.* 9:264. I.F.: 3.831

Consortium Publications / I.F.: 5.394

1. Pericàs JM, Moreno A, Almela M, García-de-la-Mària C, Marco F, Muñoz P, Peña C, de Alarcón A, Del Río A, Eworo A, Cruceta A, Paré JC, Mestres CA, Miró JM, FOSIMI Investigators. **Efficacy and Safety of Fosfomycin Plus Imipenem vs. Vancomycin for Complicated Bacteremia and Endocarditis Due to Methicillin-Resistant Staphylococcus aureus: A Randomized Clinical Trial.** *CLINICAL MICROBIOLOGY AND INFECTION.* 24(6):673-676. I.F.: 5.394

GRANTS FOR RESEARCH IN PROGRESS

Montserrat JM. **Telemedicina en pacientes con "sleep APNEA" que no cumplen adecuadamente el tratamiento con CPAP. Cumplidores mínimos vs cumplidores óptimos.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/01068
Duration: 01/01/2018-31/12/2020

Montserrat JM. **Aplicabilidad y coste eficiencia de un modelo de gestión para el síndrome de apneas durante el sueño basado en el trabajo en red y telemedicina.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00416
Duration: 01/01/2015-30/06/2019

Soler N. **Dinámica del microbioma pulmonar en la agudización neumónica y no neumónica de la EPOC y uso como potencial diana terapéutica: estudio discriminativo con TAC torácica de baja radiación.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00803
Duration: 01/01/2017-31/12/2019

Torres A. **Fisiopatologia i tractament de les malalties respiratòries.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_00787
Duration: 01/01/2017-31/12/2020

Torres A. **Eficacia y caracterización de los efectos de los corticosteroides asociados a antibióticos en un modelo animal de neumonía grave por streptococcus pneumoniae.**
Sponsored by: Instituto de Salud Carlos III. PI15/00506
Duration: 01/01/2016-31/12/2019

Torres A. **COMBACTE_APC: Academic Partners of COMBACTE.**
Sponsored by: European Commission. IMI12_8th_2stg
Duration: 01/01/2013-31/12/2021

Torres A. **COMBACTE-MAGNET: Combatting Bacterial Resistance in Europe - Molecules Against Gram Negative Infections.**
Sponsored by: European Commission. IMI13_11th_2stg
Duration: 01/01/2015-31/12/2021

DOCTORAL THESES

Agustí C. **Análisis del impacto clínico, pronóstico y económico de los pacientes con bronquiectasias y EPOC.**
PhD student: David de la Rosa Carrillo

Montserrat JM. **New therapeutic approaches for obstructive sleep apnea.**
PhD student: Monique Carolina Suarez Girón

2.7 Physiopathological mechanisms of respiratory illnesses

LOCATION
HCB
CELLEX building, floor 2A

WEB
www.clinicbarcelona.org/en/idibaps/research-areas

KEYWORDS
1. **Pulmonary hypertension**
2. **COPD**
3. **Systems medicine**
4. **Endothelium**
5. **Stem cells**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	141.51	28	19	5
2017	86.75	16	13	-
2018	109.71	26	13	8

TEAM INVOLVED IN
CIBERES
RETIC Biobancos
AGAUR_SGR17: 00617

AWARDS
Best Clinical Trajectory in Rare Diseases
Institution: Asociación Española de Laboratorios de Medicamentos Huérfanos y Ultrahuérfanos (AELMHU)
Awardee/s: Joan A. Barberà

Fellow of the European Respiratory Society (excellence in research, education and clinical leadership)
Institution: European Respiratory Society
Awardee/s: Felip Burgos

TEAM LEADER
Joan Albert Barberà (HCB)
T. 93 227 57 79
jbarbera@clinic.cat

GROUP LEADER
Isabel Blanco (HCB-IDIBAPS)
T. 93 227 57 47
iblanco2@clinic.cat

EMERITUS
Robert Rodríguez-Roisin (HCB)

RESEARCHERS
Felip Burgos (HCB)
Carme Hernández (HCB)
Graciela Martínez-Pallí (HCB)
Josep Roca (HCB)
Olga Tura (IDIBAPS)
Elizabeth Zavala (HCB)

POST-DOCTORAL RESEARCHERS
Anael Barberan (UB)
Isaac Cano (IDIBAPS)
Ivan Guillermo Dueñas (IDIBAPS)
Jessica Garcia (FCRB)
Elena Gimeno (IDIBAPS)
Maria Isabel Marquina (IDIBAPS)
Víctor Ivo Peinado (CIBER)
Akos Tenyi (IDIBAPS)

PRE-DOCTORAL RESEARCHERS
Eric Baltaxe (IDIBAPS)
Tanya Elisa Orizaga (FCRB)
Jeisson Osorio (CIBER)
Laura Sebastian (IDIBAPS)
Valerie Smolders (UB)
Yolanda Torralba (HCB)

TECHNICIANS
Cristina Bonjoch (IDIBAPS)
Cristina Rodríguez (IDIBAPS)

ADMINISTRATIVE STAFF
Julio Tomas Mas (FCRB)
Mària Sánchez (IDIBAPS)
Maria Dolores Sanz (FCRB)

NURSING STAFF
Xavier Alsina (HCB)
Concepción Gistau (HCB)
María Palomo (HCB)
Ana Maria Ramírez (HCB)

COLLABORATORS
Albert Alonso (HCB)
Mª José Arguis (HCB)
Xavier Borrat (HCB)
Marta Cascante (UB)
Jorge Moisés (HCB)
Lucilla Piccari (FCRB)
Jordi Vilaró (FCRB)

TEAM. Joan Albert Barberà

STRATEGIC OBJECTIVES

Understanding of the molecular mechanisms involved in the development of pulmonary vascular diseases. Identification of biomarkers and therapeutic targets for pulmonary hypertension. Characterization of extrapulmonary disorders in COPD. Determination of intra-and extrapulmonary manifestations of severe obesity. Role of stem cells in lung injury and repair mechanisms. Personalized medical care for chronic respiratory diseases from a systems medicine strategy.

MAIN LINES OF RESEARCH

- Clinical research in pulmonary hypertension: biomarkers and new therapies.
- Endothelial dysfunction and vascular remodeling.
- Experimental models of COPD and pulmonary hypertension.
- Stem and progenitor cells.
- Interaction between airway, lung and systemic inflammation in COPD and severe obesity.
- Pathophysiology of pulmonary gas exchange.
- Systems medicine.

50/50 PROGRAM

TRANSLATIONAL RESEARCH IN PULMONARY VASCULAR DISEASES: CELL PROLIFERATION AND APOPTOTIC MECHANISMS IN PULMONARY ARTERIAL HYPERTENSION

GROUP LEADER
Isabel Blanco (HCB-IDIBAPS)

Pulmonary arterial hypertension (PAH) is a disease of small pulmonary arteries, characterized by gradual obliteration of the arterial lumen due to the enlargement of the vessel wall. It results in a progressive increase of pulmonary vascular resistance (PVR) and, finally, right ventricular failure and death. While vasoconstriction contributes, especially in earlier stages, the obstructive vascular remodelling is the major cause of the elevated PVR and ultimately the right heart failure. There is a need to identify new signaling pathways in the pathogenesis of PAH. We propose going from the bench to the bed side studying potential biomarkers of the disease activity and progression; as well as potential new drugs to reverse the proliferative remodelling phenotype in PAH.

PUBLICATIONS

Originals / I.F.: 109.705

1. Ramon MA, Ter Riet G, Carsin AE, Gimeno-Santos E, Agustí A, Antó JM, Donaire-Gonzalez D, Ferrer J, Rodríguez E, Rodriguez-Roisin R, Puhan MA, Garcia-Aymerich J, PAC-COPD Study Group. **The dyspnoea-inactivity vicious circle in COPD: Development and external validation of a conceptual model.** *EUROPEAN RESPIRATORY JOURNAL.* 52(3):1800079. I.F.: 12.244

2. Arbillaga-Etxarri A., Gimeno-Santos E., Barberan-Garcia A., Balcells E., Benet M., Borrell E., Celorrio N., Delgado A., Jané C., Marin A., Martín-Cantera C., Monteagudo M., Montellà N., Muñoz L., Ortega P., Rodríguez D., Rodríguez-Roisin R., Simonet P., Torán-Monserrat P., Torrent-Pallicer J., Vall-Casas P., Vilaró J., Garcia-Aymerich J. **Long-term efficacy and effectiveness of a behavioural and community-based exercise intervention (Urban Training) to increase physical activity in patients with COPD: a randomised controlled trial.** *EUROPEAN RESPIRATORY JOURNAL.* 52(4). I.F.: 12.244

3. Barberan-Garcia A, Ubré M, Roca J, Lacy AM, Burgos F, Risco R, Momblán D, Balust J, Blanco I, Martínez-Pallí G . **Personalised Prehabilitation in High-risk Patients Undergoing Elective Major Abdominal Surgery: A Randomized Blinded Controlled Trial.** *ANNALS OF SURGERY.* 267(1):50-56. I.F.: 9.203

4. Frost A., Hoeper M., Barberá J., Vachiery J., Blair C., Langley J., Rubin L. **Risk-stratified outcomes with initial combination therapy in pulmonary arterial hypertension: Application of the REVEAL risk score.** *JOURNAL OF HEART AND LUNG TRANSPLANTATION.* 37(12):1410-1417. I.F.: 7.955

5. Papi, Alberto; Ryan, Dermot; Soriano, Joan B.; Chrystyn, Henry; Bjermer, Leif; Rodriguez-Roisin, Roberto; Dolovich, Myrna B.; Harris, Mark; Wood, Lucy; Batsiou, Maria; Thornhill, Susannah I.; Price, David B. **Relationship of Inhaled Corticosteroid Adherence to Asthma Exacerbations in Patients with Moderate-to-Severe Asthma.** *JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY-IN PRACTICE.* 6(6):1989-1998.e3. I.F.: 6.966

6. Selga E., Sendfeld F., Martinez-Moreno R., Medine C., Tura-Ceide O., Wilmut S., Pérez G., Scornik F., Brugada R., Mills N. **Sodium channel current loss of function in induced pluripotent stem cell-derived cardiomyocytes from a Brugada syndrome patient.** *JOURNAL OF MOLECULAR AND CELLULAR CARDIOLOGY.* 114:10-19. I.F.: 5.296

7. Tényi Á, Cano I, Marabita F, Kiani N, Kalko SG, Barreiro E, de Atauri P, Cascante M, Gomez-Cabrero D, Roca J. **Network modules uncover mechanisms of skeletal muscle dysfunction in COPD patients.** *JOURNAL OF TRANSLATIONAL MEDICINE.* 16(1):34. I.F.: 4.197

8. Jacobs, Susan S.; Lindell, Kathleen O.; Collins, Eileen G.; Garvey, Chris M.; Hernandez, Carme; McLaughlin, Sally; Schneidman, Ann M.; Meek, Paula M. **Patient Perceptions of the Adequacy of Supplemental Oxygen Therapy Results of the American Thoracic Society Nursing Assembly Oxygen Working Group Survey**. *ANNALS OF THE AMERICAN THORACIC SOCIETY.* 15(1):24-32. I.F.: 4.006

9. Velickovski, Filip; Ceccaroni, Luigi; Marti, Robert; Burgos, Felip; Gistau, Concepcion; Alsina-Restoy, Xavier; Roca, Josep. **Automated Spirometry Quality Assurance: Supervised Learning From Multiple Experts.** *IEEE JOURNAL OF BIOMEDICAL AND HEALTH INFORMATICS.* 22(1):276-284. I.F.: 3.850

10. Musri MM, Coll-Bonfill N, Maron BA, Peinado VI, Wang RS, Altirriba J, Blanco I, Oldham WM, Tura-Ceide O, García-Lucio J, de la Cruz-Thea B, Meister G, Loscalzo J, Barberà JA. **MicroRNA Dysregulation in Pulmonary Arteries from COPD: Relationships with Vascular Remodeling.**

AMERICAN JOURNAL OF RESPIRATORY CELL AND MOLECULAR BIOLOGY. 59(4):490-499. I.F.: 3.785

11. Watz H, Tetzlaff K, Magnussen H, Mueller A, Rodriguez-Roisin R, Wouters EFM, Vogelmeier C, Calverley PMA. **Spirometric changes during exacerbations of COPD: a post hoc analysis of the WISDOM trial.** *RESPIRATORY RESEARCH.* 19(1):251. I.F.: 3.751

12. Rodriguez-Perez, Raquel; Cortes, Roldan; Guaman, Ana; Pardo, Antonio; Torralba, Yolanda; Gomez, Federico; Roca, Josep; Albert Barbera, Joan; Cascante, Marta; Marco, Santiago. **Instrumental drift removal in GC-MS data for breath analysis: the short-term and long-term temporal validation of putative biomarkers for COPD.** *JOURNAL OF BREATH RESEARCH.* 12(3):036007. I.F.: 3.489

13. Ferguson G., Rodriguez-Roisin R., Reisner C., Maes A., Siddiqui S., Martin U. **Pharmacokinetics of glycopyrronium/formoterol fumarate dihydrate delivered via metered dose inhaler using co-suspension delivery technology in patients with moderate-to-very severe COPD.** *INTERNATIONAL JOURNAL OF COPD.* 13:945-953. I.F.: 2.917

14. Paul T., Salazar-Degracia A., Peinado V., Tura-Ceide O., Blanco I., Barreiro E., Barberà J. **Soluble guanylate cyclase stimulation reduces oxidative stress in experimental Chronic Obstructive Pulmonary Disease.** *PLOS ONE.* 13(1):e0190628. I.F.: 2.766

15. García-Lucio J, Peinado VI, de Jover L, Del Pozo R, Blanco I, Bonjoch C, Coll-Bonfill N, Paul T, Tura-Ceide O, Barberà JA. **Imbalance between endothelial damage and repair capacity in chronic obstructive pulmonary disease.** *PLOS ONE.* 13(4):e0195724-e0195724. I.F.: 2.766

16. Chamorro, Virginia; Morales-Cano, Daniel; Milara, Javier; Barreira, Bianca; Moreno, Laura; Callejo, Maria; Mondejar-Parreno, Gema; Esquivel-Ruiz, Sergio; Cortijo, Julio; Cogolludo, Angel; Barbera, Joan A.; Perez-Vizcaino, Francisco. **Riociguat versus sildenafil on hypoxic pulmonary vasoconstriction and ventilation/perfusion matching.** *PLOS ONE.* 13(1):e0191239. I.F.: 2.766

17. Borràs-Santos A, Garcia-Aymerich J, Soler-Cataluña JJ, Vigil Giménez L, Gea Guiral J, Rodríguez Chiaradía D, Pascual-Guardia S, Marcos Rodríguez PJ, Alvarez Martinez CJ, Casanova Macario C, López-Campos JL, Carrasco Hernández L, Martínez-González C, Santos-Pérez S, Peces-Barba G, Molina Paris J, Román Rodríguez M, Barberà JA, Faner R, Agustí A, Cosío BG, en representación del Grupo Investigador del estudio EARLY COPD. **Determinants of the Appearance and Progression of Early-Onset Chronic Obstructive Pulmonary Disease in Young Adults.** *ARCHIVOS DE BRONCONEUMOLOGIA.* 55(6):312-318. I.F.: 2.633

18. Del Corral T., Cebrià Iranzo M., López-de-Uralde-Villanueva I., Martínez-Alejos R., Blanco I., Vilaró J. **Effectiveness of a Home-Based Active Video Game Programme in Young Cystic Fibrosis Patients.** *RESPIRATION; INTERNATIONAL REVIEW OF THORACIC DISEASES.* 95(2):87-97. I.F.: 2.591

19. Vela E, Tényi Á, Cano I, Monterde D, Cleries M, Garcia-Altes A, Hernandez C, Escarrabill J, Roca J. **Population-based analysis of patients with COPD in Catalonia: a cohort study with implications for clinical management.** *BMJ OPEN.* 8(3):e017283. I.F.: 2.413

20. Gaveikaite V, Fischer C, Schonenberg H, Pauws S, Kitsiou S, Chouvarda I, Maglaveras N, Roca J. **Telehealth for patients with chronic obstructive pulmonary disease (COPD): a systematic review and meta-analysis protocol.** *BMJ OPEN.* 8(9):e021865. I.F.: 2.413

21. Folch Ayora A, Macia-Soler L, Orts-Cortés MI, Hernández C, Seijas-Babot N. **Comparative analysis of the psychometric parameters of two quality-of-life questionnaires, the SGRQ and CAT, in the assessment of patients with COPD exacerbations during hospitalization: A multicenter study.** *CHRONIC RESPIRATORY DISEASE.* 15(4):374-383. I.F.: 2.275

22. Natsiavas P; Rasmussen J; Voss-Knude M; Votis ?; Coppolino L; Campegiani P; Cano I; Marí D; Faiella G; Clemente F; Nalin M; Grivas E; Stan O; Gelenbe E; Dumortier J; Petersen J; Tzovaras D; Romano L; Komnios I; Koutkias V. **Comprehensive user requirements engineering methodology for secure and interoperable health data exchange.** *BMC MEDICAL INFORMATICS AND DECISION MAKING.* 18(1):85. I.F.: 2.134

23. Barberan-Garcia A., Gimeno-Santos E., Blanco I., Cano I., Martínez-Pallí G., Burgos F., Miralles F., Coca M., Murillo S., Sanz M., Steblin A., Ubré M., Benavent J., Vidal J., Sitges M., Roca J. **Protocol for regional implementation of collaborative self-management services to promote physical activity.** *BMC HEALTH SERVICES RESEARCH.* 18(1):560. I.F.: 1.843

24. Rutten-van Mölken M; Leijten F; Hoedemakers M; Tsiachristas A; Verbeek N; Karimi M; Bal R; de Bont A; Islam K; Askildsen JE; Czypionka T; Kraus M; Huic M; Pitter JG; Vogt V; Stokes J; Baltaxe E; SELFIE consortium. **Strengthening the evidence-base of integrated care for people with multi-morbidity in Europe using Multi-Criteria Decision Analysis (MCDA).** *BMC HEALTH SERVICES RESEARCH.* 18(1):576. I.F.: 1.843

25. Hernández C, Aibar J, Seijas N, Puig I, Alonso A, Garcia-Aymerich J, Roca J. **Implementation of Home Hospitalization and Early Discharge as an Integrated Care Service: A Ten Years Pragmatic Assessment.** *INTERNATIONAL JOURNAL OF INTEGRATED CARE.* 18(2):12. I.F.: 1.837

26. Berruezo A, Linhart M, Auricchio A, Zamorano JL, Santamaria P, Borràs R, Burgos F, Brugada J. **Rationale and design of the TRICHAMPION trial: Triple Chamber Pacing in Hypertrophic Obstructive Cardiomyopathy Patients.** *JOURNAL OF INTERVENTIONAL CARDIAC ELECTROPHYSIOLOGY.* 51(2):117-124. I.F.: 1.522

Review / I.F.: 35.084

1. Kovacs G, Agusti A, Barberà JA, Celli B, Criner G, Humbert M, Sin DD, Voelkel N, Olschewski H. **Pulmonary Vascular Involvement in COPD - Is There a Pulmonary Vascular Phenotype?** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE.* 198(8):1000-1011. I.F.: 15.239

2. Huertas A, Guignabert C, Barberà JA, Bärtsch P, Bhattacharya J, Bhattacharya S, Bonsignore MR, Dewachter L, Dinh-Xuan AT, Dorfmüller P, Gladwin MT, Humbert M, Kotsimbos T, Vassilakopoulos T, Sanchez O, Savale L, Testa U, Wilkins MR. **Pulmonary vascular endothelium: the orchestra**

conductor in respiratory diseases: Highlights from basic research to therapy. *EUROPEAN RESPIRATORY JOURNAL.* 51(4):467. I.F.: 12.244

3. Rodríguez-Roisin R., Krowka M., Agustí A. **Hepatopulmonary disorders: Gas exchange and vascular manifestations in chronic liver disease.** *COMPR PHYSIOL.* 8(2):711-729. I.F.: 5.797

4. Sanchez-Lorente D, Navarro-Ripoll R, Guzman R, Moises J, Gimeno E, Boada M, Molins L. **Prehabilitation in thoracic surgery.** *JOURNAL OF THORACIC DISEASE.* 10(Suppl 22):S2593-S2600. I.F.: 1.804

Letters / I.F.: 40.209

1. Agusti A, Faner R, Celli B, Rodriguez-Roisin R. **Precision medicine in COPD exacerbations.** *THE LANCET. RESPIRATORY MEDICINE.* 6(9):657-659. I.F.: 21.466

2. Demeyer, Heleen; Costilla-Frias, Marcos; Louvaris, Zafeiris; Gimeno-Santos, Elena; Tabberer, Maggie; Rabinovich, Roberto A.; de Jong, Corina; Polkey, Michael I.; Hopkinson, Nicholas S.; Karlsson, Niklas; Serra, Ignasi; Vogiatzis, Ioannis; Troosters, Thierry; Garcia-Aymerich, Judith; PROactive Consortium. **Both moderate and severe exacerbations accelerate physical activity decline in COPD patients.** *EUROPEAN RESPIRATORY JOURNAL.* 51(1). I.F.: 12.244

3. Coca-Martinez M, Barberan-Garcia A, Risco R, Lopez-Baamonde M, Martinez-Palli G. **Fit for surgery? Evidence supporting prehabilitation programs.** *BRITISH JOURNAL OF ANAESTHESIA.* 120(6):1429-1429. I.F.: 6.499

Clinical Guidelines / I.F.: 5.266

1. Barberà JA, Román A, Gómez-Sánchez MÁ, Blanco I, Otero R, López-Reyes R, Otero I, Pérez-Peñate G, Sala E, Escribano P. **Guidelines on the Diagnosis and Treatment of Pulmonary Hypertension: Summary of Recommendations.** *ARCHIVOS DE BRONCONEUMOLOGIA.* 54(4):205-215. I.F.: 2.633

2. Pleguezuelos E., Gimeno-Santos E., Hernández C., Mata M., Palacios L., Piñera P., Molina J., Chiner E., Miravitlles M. **Recommendations on non-Pharmacological Treatment in Chronic Obstructive Pulmonary Disease From the Spanish COPD Guidelines (GesEPOC 2017).** *ARCHIVOS DE BRONCONEUMOLOGIA.* 54(11):568-575. I.F.: 2.633

Consortium Publications / I.F.: 76.155

1. Ferrando C, Soro M, Unzueta C, Suarez-Sipmann F, Canet J, Librero J, Pozo N, Peiró S, Llombart A, León I, India I, Aldecoa C, Díaz-Cambronero O, Pestaña D, Redondo F, Garutti I, Balust J, García J, Ibáñez M, Granell M, Rodríguez A, Gallego L, de la Matta M, Gonzalez R, Brunelli A, García J, Rovira L, Barrios F, Torres V, Hernández S, Gracia E, Giné M, García M, García N, Miguel L, Sánchez S, Piñeiro P, Pujol R, García-del-Valle S, Valdivia J, Hernández MJ, Padrón O, Colás A, Puig J, Azparren G, Tusman G, Villar J, Belda J; Individualized PeRioperative Open-lung VEntilation (iPROVE) Network. **Individualised perioperative open-lung approach versus standard protective ventilation in abdominal surgery (iPROVE): A randomised controlled trial.** *THE LANCET. RESPIRATORY MEDICINE.* 6(3):193-203. I.F.: 21.466

2. Vincent J, Lefrant J, Kotfis K, Nanchal R, Martin-Loeches I, Wittebole X, Sakka S, Pickkers P, Moreno R, Sakr Y, ICON and SOAP investigators; SOAP investigators. **Comparison of European ICU patients in 2012 (ICON) versus 2002 (SOAP).** *INTENSIVE CARE MEDICINE.* 44(3):337-344. I.F.: 15.008

3. Haas LEM, Karakus A, Fijen JW, de Lange DW, Vincent JL, Sakr Y, ICON and SOAP Investigators. **True changes in patient characteristics and outcomes or partially a reflection of different study populations? : Discussion on "Comparison of European ICU patients in 2012 (ICON) versus 2002 (SOAP)".** *INTENSIVE CARE MEDICINE.* 44(7):1195-1196. I.F.: 15.008

4. Mahla RS, Vincent JL, Sakr Y, ICON and SOAP Investigators. **Sepsis is a global burden to human health: incidences are underrepresented : Discussion on " Comparison of European ICU patients in 2012 (ICON) versus 2002 (SOAP)".** *INTENSIVE CARE MEDICINE.* 44(7):1197-1198. I.F.: 15.008

5. Vincent JL, Jaschinski U, Wittebole X, Lefrant JY, Jakob SM, Almekhlafi GA, Pellis T, Tripathy S, Rubatto Birri PN, Sakr Y, ICON Investigators. **Worldwide audit of blood transfusion practice in critically ill patients.** *CRITICAL CARE.* 22(1):102. I.F.: 6.425

6. Sakr Y, Jaschinski U, Wittebole X, Szakmany T, Lipman J, Ñamendys-Silva SA, Martin-Loeches I, Leone M, Lupu MN, Vincent JL, ICON Investigators. **Sepsis in Intensive Care Unit Patients: Worldwide Data From the Intensive Care over Nations Audit.** *OPEN FORUM INFECTIOUS DISEASES.* 5(12):ofy313-ofy313. I.F.: 3.240

GRANTS FOR RESEARCH IN PROGRESS

Barberà JA. **Recerca traslacional en malalties pulmonars.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_00617
Duration: 01/01/2017-31/12/2020

Barberà JA. **Caracterització de la hipertensió pulmonar greu a les malalties respiratòries cròniques.**
Sponsored by: Fundació Acadèmia de les Ciències Mèdiques. SOCAP_TemaLliure16
Duration: 01/09/2016-31/12/2018

Barberà JA. **GERAR: Gestión en red de pacientes con Enfermedades Raras: la Hipertensión Pulmonar como caso de uso.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). RTC-2015-4137-1
Duration: 01/09/2015-31/08/2018

Barberà JA. **Proliferación celular en la hipertensión pulmonar: detección y mecanismos de regulación epigenética.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00582
Duration: 01/01/2016-30/06/2019

Barberà JA. **Plataformas de apoyo a la Investigación en Ciencias y Tecnologías de la Salud. Red de Biobanco.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PT13/0010/0011
Duration: 01/01/2014-30/06/2018

Blanco I. **Efectos del entrenamiento físico sobre la función vascular como diana terapéutica en la hipertensión pulmonar.**
Sponsored by: Fundació Acadèmia de les Ciències Mèdiques. SOCAP_TemaLliure18
Duration: 19/06/2018-31/12/2018

Blanco I. **Efectos del entrenamiento físico sobre la función vascular como diana terapéutica en la hipertensión pulmonar.**
Sponsored by Instituto de Salud Carlos III (ISCIII). PI17/01515
Duration: 01/01/2018-31/12/2020

Martínez G. **Implementación de un programa de prehabilitación trimodal como estrategia de optimización prequirúrgica en cirugía cardíaca.**
Sponsored by Instituto de Salud Carlos III (ISCIII). PI17/00852
Duration: 01/01/2018-31/12/2020

Roca J. **Atenció personalitzada del malalt crònic en un marc de salut digital.**
Sponsored by: Fundació Eurecat. COMRDI15-1-0016-08
Duration: 15/10/2016-15/10/2019

Roca J. **Plataforma de innovación en telemedicina y e-salud: TIC para los retos de I+i en servicios de salud. PITES-TIiSS.**
Sponsored by: Instituto de Salud Carlos III. PI15/00576
Duration: 01/01/2016-30/06/2019

Roca J. **SELFIE: Sustainable intEgrated care modeLs for multi-morbidity: delivery, FInancing and performance.**
Sponsored by: European commission. H2020-PHC-2014-2s (634288)
Duration: 01/09/2015-31/08/2019

Roca J. **ACT-at-Scale: Advancing Care Coordination and Telehealth deployment at Scale.**
Sponsored by: European commission. HP-PJ-2015 (709770)
Duration: 04/03/2016-03/04/2019

Roca J. **CONNECARE: Personalised Connected Care for Complex Chronic Patients.**
Sponsored by: European commission. H2020-PHC-2015-1s (689802)
Duration: 01/04/2016-31/12/2019

Roca J. **KONFIDO: Secure and Trusted Paradigm for Interoperable eHealth Services.**
Sponsored by: European commission. H2020-DS-16 (727528)
Duration: 01/11/2016-31/10/2019

Roca J. **MTiH: Master Technological Innovation in Health.**
Sponsored by: European commission. EITHealth_2018 (18284)
Duration: 01/01/2018-31/12/2018

Tura O. **New targets of Chronic Thromboembolic Pulmonary Hypertension (CTEPH): the root cause and an in vivo model of CTEPH endothelial pathology.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). CP17/00114 (PI)
Duration: 01/01/2018-31/12/2020

DOCTORAL THESES

Roca J, Cano I. **A Systems Medicine approach to multimorbidity - Towards personalised care for patients with Chronic Obstructive Pulmonary Disease.**
PhD student: Ákos Tényi

2.8 Clinical and experimental respiratory immunoallergy

LOCATION
CELLEX building, floor 2B

WEB
www.clinicbarcelona.org/en/idibaps/research-areas

KEYWORDS
1. **Upper airway inflammatory diseases (rhinitis, rhinosinusitis)**
2. **NSAID-exacerbated respiratory disease (N-ERD)**
3. **Drug & food allergy**
4. **Olfactory disorders**
5. **Urticaria and mast cells**
6. **Endoscopic & skull base surgery**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	151.13	26	14	5
2017	152.51	35	22	9
2018	154.28	39	20	15

TEAM INVOLVED IN
AGAUR_SGR17: 01090
CIBER_CIBERES
RETIC_RIRAAF
RETIC_ARADYAL

TEAM LEADER
Joaquim Mullol (IDIBAPS)
T. 93 227 98 72
jmullol@clinic.cat

RESEARCHERS
Isam Alobid (HCB)
Joan Bartra (HCB)
Joaquim Enseñat (HCB)
Maria Concepció Marín (IDIBAPS)
Margarita Martin (UB)
Rosa Maria Muñoz-Cano (HCB-IDIBAPS)
Mariona Pascal (HCB)
César Picado (UB)
Laura Pujols (IDIBAPS)
Antonio Valero (HCB)

POST-DOCTORAL RESEARCHERS
Ebymar Arismendi (CIBER)
Joan Berenguer (HCB)
Manuel Bernal (HCB)
Irina Bobolea (HCB)
Francisco de Borja (IDIBAPS)
Josep Maria Guilemany (HCB)
Jordi Roca-Ferrer (FCRB)
Alfonso Santamaría (HCB)
Eva Serrano (FCRB)
Meritxell Valls (UB)

PRE-DOCTORAL RESEARCHERS
Giovanna Araujo (FCRB)
Marina Bantulà (FCRB)
Rocío Casas (IDIBAPS)
Federico de la Roca (FCRB)
Alba García (UB)
Sònia Gelis (HCB)
Adriana Izquierdo (UB)
Francesca Jaume (UB)
Cristobal Langdon (HCB)
Eduardo Lehrer (HCB)
Mauricio López (HCB)
Paula Mackers (UB)
Carla Merma (UB)
Arnau Navinés-Ferrer (UB)
Paula Ribó (HCB)
Maria Rueda (UB)
Clara San Bartolomé (HCB)
Sònia Vicens (IDIBAPS)

TECHNICIANS
Sílvia Centellas (HCB)
Rosa Cortés (HCB)
Rossó de Lluís (FCRB)
Mireya Fuentes (IDIBAPS)
Gemma Lopez (FCRB)
María Pérez (FCRB)
Ma Carmen Sánchez (HCB)

ADMINISTRATIVE STAFF
Paola Cucagna (FCRB)

TEAM Joquim Mullol

VISITING SCIENTISTS
Carla Pereira *(Hospital Santiago (Chile)*
Silvia Quarta *(Hospital Italia)*
Silvia Riggioni *(London Imperial College (UK)*

STRATEGIC OBJECTIVES

1. To investigate mechanisms regulating inflammatory response and remodelling in asthma, rhinitis, rhinosinusitis/polyposis.

2. To investigate mechanisms underlying food and drug allergies.

3. To investigate mechanisms involved in anaphylaxis and mast cell physiology.

4. To investigate mechanisms of smell loss: sinonasal inflammation, Traumatic Brain Injury, Parkinson Disease, iatrogenic, idiopathic.

MAIN LINES OF RESEARCH

1. **Inflammation of the Upper and Lower respiratory mucosa.**
Mechanisms involved in sinonasal and bronchial development, inflammation, and remodelling.

2. **Sense of smell in health and disease.**
Mechanisms involved in olfactory dysfunctions (rhinitis, rhinosinusitis) and neurogenesis of sinonasal diseases, Traumatic Brain Injury, and neurodegenerative (Parkinson) diseases (cell and animal models).

3. **Food and drug allergy.**
Genetic, immunological, and biochemical mechanisms of respiratory, food, and drug allergy.

4. **Glucocorticoid resistance.**
Mechanisms and biomarkers involved in glucocorticoid resistance of respiratory and non-respiratory diseases.

5. **Aspirin and Non-Steroidal Antiinflammatory Drug (NSAID) intolerance.**
Mechanisms of allergy and cofactors, regulation of cyclooxygenase, leukotriene and prostaglandins (PGE2) and their receptors.

6. **Pathophysiology of eosinophils, mast cells, and basophils.**
Anaphylactic reactions (mastocytosis, adapter molecules in the signaling of IgE). Antiinflammatory drugs in eosinophils and epithelial cells (corticosteroids, MP-AzeFlu, anti-PAF), and mast cell and basophils (omalizumab).

7. **Skull Base tumours.**
Impact of skull base tumours in quality of life and olfaction. Different surgical approaches.

RESEARCH GROUP
SINONASAL INFLAMMATORY AND OLFACTORY RESEARCH GROUP (INGENIO)

GROUP LEADER
Joaquim Mullol (IDIBAPS)

1. Upper airway diseases (rhinitis, rhinosinusitis, nasal polyps): A) regulation of mucins and MUC genes; and B) impact on quality of life.

2. Olfactory disorders and their mechanisms of action: A) validation of new adult (BOT-8) and children (pBOT-6) olfactometries; and B) validation of an olfactory training test (BASTAT-6) in post-viral and post-TBI olfactory loss; and C) mechanisms of smell loss and its recovery in sinonasal diseases, traumatic brain injury, and neurodegenerative diseases.

3. Human in vitro model of eosinophilic inflammation to test / compare the antiinflammatory effects of medications: corticosteroids, antihistamines, anti-PAF, antileukotrienes, MP-AzeFlu, biologics.

4. Stem/progenitor respiratory epithelial / neuroepithelial cell differentiation and regenerative medicine in ALI culture model.

PUBLICATIONS

Originals / I.F.: 154.281

1. Mariño-Sanchez F, Valls-Mateus M, Haag O, Alobid I, Bousquet J, Mullol J . **Smell loss is associated with severe and uncontrolled disease in children and adolescents with persistent allergic rhinitis.** *J ALLERGY CLIN IMMUNOL PRACT*. 6(5):1752-1755.e3. I.F.: 13.258

2. Vennera MDC, Sabadell C, Picado C. **Duration of the efficacy of omalizumab after treatment discontinuation in 'real life' severe asthma.** THORAX. 73(8):782-784. I.F.: 9.655

3. Bousquet J, Agache I, Aliberti MR, Angles R, Annesi-Maesano I, Anto JM, Arnavielhe S, Asayag E, Bacci E, Bedbrook A, Bachert C, Baroni I, Barreto BA, Bedolla-Barajas M, Bergmann KC, Bertorello L, Bewick M, Bieber T, Birov S, Bindslev-Jensen C, Blua A, Bochenska Marciniak M, Bogus-Buczynska I, Bosnic-Anticevich S, Bosse I, Bourret R, Bucca C, Buonaiuto R, Burguete Cabanas MT, Caillaud D, Caimmi DP, Caiazza D, Camargos P, Canfora G, Cardona V, Carriazo AM, Cartier C, Castellano G, Chavannes NH, Cecci L, Ciaravolo MM, Cingi C, Ciceran A, Colas L, Colgan E, Coll J, Conforti D, Correia de Sousa J, Cortés-Grimaldo RM, Corti F, Costa E, Courbis AL, Cousein E, Cruz AA, Custovic A, Cvetkovski B, Dario C, da Silva J, Dauvilliers Y, De Blay F, Dedeu T, De Feo G, De Martino B, Demoly P, De Vries G, Di Capua Ercolano S, Di Carluccio N, Doulapsi M, Dray G, Dubakiene R, Eller E, Emuzyte R, Espinoza-Contreras JG, Estrada-Cardona A, Farrell J, Farsi A, Ferrero J, Fokkens WJ, Fonseca J, Fontaine JF, Forti S, Gálvez-Romero JL, García-Cobas CI, Garcia Cruz MH, Gemicioglu B, Gerth van Wijk R, Guidacci M, Gómez-Vera J, Guldemond NA, Gutter Z, Haahtela T, Hajjam J, Hellings PW, Hernández-Velázquez L, Illario M, Ivancevich JC, Jares E, Joos G, Just J, Kalayci O, Kalyoncu AF, Karjalainen J, Keil T, Khaltaev N, Klimek L, Kritikos V, Kull I, Kuna P, Kvedariene V, Kolek V, Krzych-Fa?ta E, Kupczyk M, Lacwik P, La Grutta S, Larenas-Linnemann D, Laune D, Lauri D, Lavrut J, Lessa M, Levato G, Lewis L, Lieten I, Lipiec A, Louis R, Luna-Pech JA, Magnan A, Malva J, Maspero JF, Matta-Campos JJ, Mayora O, Medina-Ávalos MA, Melén E, Menditto E, Millot-Keurinck J, Moda G, Morais-Almeida M, Mösges R, Mota-Pinto A, Mullol J, Muraro A, Murray R, Noguès M, Nalin M, Napoli L, Neffen H, O'Hehir RE, Onorato GL, Palkonen S, Papadopoulos

NG, Passalacqua G, Pépin JL, Pereira AM, Persico M, Pfaar O, Pozzi AC, Prokopakis E, Pugin B, Raciborski F, Rimmer J, Rizzo JA, Robalo-Cordeiro C, Rodríguez-González M, Rolla G, Roller-Wirnsberger RE, Romano A, Romano M, Romano MR, Salimäki J, Samolinski B, Serpa FS, Shamai S, Sierra M, Sova M, Sorlini M, Stellato C, Stelmach R, Strandberg T, Stroetmann V, Stukas R, Szylling A, Tan R, Tibaldi V, Todo-Bom A, Toppila-Salmi S, Tomazic P, Trama U, Triggiani M, Valero A, Valovirta E, Valiulis A, van Eerd M, Vasankari T, Vatrella A, Ventura MT, Verissimo MT, Viart F, Williams S, Wagenmann M, Wanscher C, Westman M, Wickman M, Young I, Yorgancioglu A, Zernotti E, Zuberbier T, Zurkuhlen A, De Oliviera B, Senn A. **Transfer of innovation on allergic rhinitis and asthma multimorbidity in the elderly (MACVIA-ARIA) - Reference Site Twinning (EIP on AHA).** *ALLERGY.* 73(1):77-92. I.F.: 6.048

4. Bousquet J, Arnavielhe S, Bedbrook A, Fonseca J, Morais Almeida M, Todo Bom A, Annesi-Maesano I, Caimmi D, Demoly P, Devillier P, Siroux V, Menditto E, Passalacqua G, Stellato C, Ventura MT, Cruz AA, Sarquis Serpa F, da Silva J, Larenas-Linnemann D, Rodriguez Gonzalez M, Burguete Cabañas MT, Bergmann KC, Keil T, Klimek L, Mösges R, Shamai S, Zuberbier T, Bewick M, Price D, Ryan D, Sheikh A, Anto JM, Mullol J, Valero A, Haahtela T, Valovirta E, Fokkens WJ, Kuna P, Samolinski B, Bindslev-Jensen C, Eller E, Bosnic-Anticevich S, O'Hehir RE, Tomazic PV, Yorgancioglu A, Gemicioglu B, Bachert C, Hellings PW, Kull I, Melén E, Wickman M, van Eerd M, De Vries G, MASK study group. **The Allergic Rhinitis and its Impact on Asthma (ARIA) score of allergic rhinitis using mobile technology correlates with quality of life: The MASK study.** *ALLERGY.* 73(2):505-510. I.F.: 6.048

5. Bousquet J, Devillier P, Arnavielhe S, Bedbrook A, Alexis-Alexandre G, van Eerd M, Murray R, Canonica GW, Illario M, Menditto E, Passalacqua G, Stellato C, Triggiani M, Carreiro-Martins P, Fonseca J, Morais Almeida M, Nogueira-Silva L, Pereira AM, Todo Bom A, Bosse I, Caimmi D, Demoly P, Fontaine JF, Just J, Onorato GL, Kowalski ML, Kuna P, Samolinski B, Anto JM, Mullol J, Valero A, Tomazic PV, Bergmann KC, Keil T, Klimek L, Mösges R, Shamai S, Zuberbier T, Murphy E, McDowall P, Price D, Ryan D, Sheikh A, Chavannes NH, Fokkens WJ, Kvedariene V, Valiulis A, Bachert C, Hellings PW, Kull I, Melen E, Wickman M, Bindslev-Jensen C, Eller E, Haahtela T, Papadopoulos NG, Annesi-Maesano I, Bewick M, Bosnic-Anticevich S, Cruz AA, De Vries G, Gemicioglu B, Larenas-Linnemann D, Laune D, Mathieu-Dupas E, O'Hehir RE, Pfaar O, Portejoie F, Siroux V, Spranger O, Valovirta E, VandenPlas O, Yorgancioglu A. **Treatment of allergic rhinitis using mobile technology with real world data: The MASK observational pilot study.** *ALLERGY.* 73(9):1763-1774. I.F.: 6.048

6. Samreth D, Arnavielhe S, Ingenrieth F, Bedbrook A, Onorato GL, Murray R, Almeida R, Mizani MA, Fonseca J, Costa E, Malva J, Morais-Almeida M, Pereira AM, Todo-Bom A, Menditto E, Stellato C, Ventura MT, Larenas-Linnemann D, Fuentes-Pérez JM, Huerta-Villalobos YR, Cruz AA, Stelmach R, da Silva J, Emuzyte R, Kvedariene V, Valiulis A, Annesi-Maesano I, Bosse I, Demoly P, Devillier P, Fontaine JF, Kuna P, Samolinski B, Klimek L, Mösges R, Pfaar O, Shamai S, Bewick M, Ryan D, Sheikh A, Anto JM, Cardona V, Mullol J, Valero A, Chavannes NH, Fokkens WJ, Reitsma S, Roller-Wirnsberger RE, Tomazic PV, Haahtela T, Toppila-Salmi S, Valovirta E, Makris M, Papadopoulos NG, Prokopakis EP, Psarros F, Gemicioglu B, Yorgancioglu A, Bindslev-Jensen C, Eller E, Kull I, Wickman M, Bachert C, Hellings PW, Pugin B, Bosnic-Anticevich S, O'Hehir RE, Kolek V, Sova M, Wehner K, De Vries G, van Eerd M, Laune D, Wittmann J, Bousquet J, Poncelet P, MASK study group. **Geolocation with respect to personal privacy for the Allergy Diary app - A MASK study.** *WORLD ALLERGY ORGANIZATION JOURNAL.* 11(1):15. I.F.: 5.676

7. Bandara G, Muñoz-Cano R, Tobío A, Yin Y, Komarow HD, Desai A, Metcalfe DD, Olivera A. **Targeting Sphingosine Kinase Isoforms Effectively Reduces Growth and Survival of Neoplastic Mast Cells With D816V-KIT.** *FRONTIERS IN IMMUNOLOGY.* 28(9):631. I.F.: 5.511

8. Baos S, Calzada D, Cremades-Jimeno L, Sastre J, Picado C, Quiralte J, Florido F, Lahoz C, Cárdaba B. **Non-allergic asthma and its severity: Biomarkers for its discrimination in peripheral samples.** *FRONTIERS IN IMMUNOLOGY.* 9(JUN):1416. I.F.: 5.511

9. Serrano-Candelas E, Ainsua-Enrich E, Navinés-Ferrer A, Rodrigues P, García-Valverde A, Bazzocco S, Macaya I, Arribas J, Serrano C, Sayós J, Arango D, Martin M . **Silencing of adaptor protein SH3BP2 reduces KIT/PDGFRA receptors expression and impairs gastrointestinal stromal tumors growth.** *MOL ONCOL.* 12(8):1383-1397. I.F.: 5.264

10. Courbis AL, Murray RB, Arnavielhe S, Caimmi D, Bedbrook A, Van Eerd M, De Vries G, Dray G, Agache I, Morais-Almeida M, Bachert C, Bergmann KC, Bosnic-Anticevich S, Brozek J, Bucca C, Camargos P, Canonica GW, Carr W, Casale T, Fonseca JA, Haahtela T, Kalayci O, Klimek L, Kuna P, Kvedariene V, Larenas Linnemann D, Lieberman P, Mullol J, Ohehir R, Papadopoulos N, Price D, Ryan D, Samolinski B, Simons FE, Tomazic P, Triggiani M, Valiulis A, Valovirta E, Wagenmann M, Wickman M, Yorgancioglu A, Bousquet J. **Electronic Clinical Decision Support System for allergic rhinitis management.** *CLINICAL AND EXPERIMENTAL ALLERGY.* 48(12):1640-1653. I.F.: 5.158

11. Langdon C, Lehrer E, Berenguer J, Laxe S, Alobid I, Quintó L, Mariño-Sánchez F, Bernabeu M, Marin C, Mullol J. **Olfactory training in posttraumatic smell impairment: mild improvement in threshold performances - results from a randomized controlled trial.** *JOURNAL OF NEUROTRAUMA.* 35(22):2641-2652. I.F.: 5.002

12. García S, Torné R, Hoyos JA, Rodríguez-Hernández A, Amaro S, Llull L, López-Rueda A, Enseñat J. **Quantitative versus qualitative blood amount assessment as a predictor for shunt-dependent hydrocephalus following aneurysmal subarachnoid hemorrhage.** *JOURNAL OF NEUROSURGERY.* 21:1-8. I.F.: 4.319

13. Di Somma A, Torales J, Cavallo LM, Pineda J, Solari D, Gerardi RM, Frio F, Enseñat J, Prats-Galino A, Cappabianca P. **Defining the lateral limits of the endoscopic endonasal transtuberculum transplanum approach: anatomical study with pertinent quantitative analysis.** *JOURNAL OF NEUROSURGERY.* 1(1):13. I.F.: 4.319

14. Inciarte-Mundo J, Ramirez J, Hernández MV, Ruiz-Esquide V, Cuervo A, Cabrera-Villalba SR, Pascal M, Yagüe J, Cañete JD, Sanmarti R . **Calprotectin strongly and independently predicts relapse in rheumatoid arthritis and polyarticular psoriatic arthritis patients treated with tumor necrosis factor inhibitors: a 1-year prospective cohort study.** *ARTHRITIS*

RESEARCH AND THERAPY. 20(1):275. I.F.: 4.269

15. Navinés-Ferrer A, Serrano-Candelas E, Lafuente A, Muñoz-Cano R, Martín M, Gastaminza G. **MRGPRX2-mediated mast cell response to drugs used in perioperative procedures and anaesthesia.** *SCIENTIFIC REPORTS.* 8(1):11628. I.F.: 4.122

16. Schiener M, Hilger C, Eberlein B, Pascal M, Kuehn A, Revets D, Planchon S, Pietsch G, Serrano P, Moreno-Aguilar C, De La Roca F, Biedermann T, Darsow U, Schmidt-Weber C, Ollert M, Blank S. **The high molecular weight dipeptidyl peptidase IV Pol d 3 is a major allergen of Polistes dominula venom.** SCIENTIFIC REPORTS. 8(1):1318. I.F.: 4.122

17. Bastida C, Ruiz-Esquide V, Pascal M, de Vries Schultink AHM, Yagüe J, Sanmartí R, Huitema ADR, Soy D . **Fixed dosing of intravenous tocilizumab in rheumatoid arthritis. Results from a population pharmacokinetic analysis.** *BRITISH JOURNAL OF CLINICAL PHARMACOLOGY.* 84(4):716-725. I.F.: 3.838

18. Schriever VA, Agosin E, Altundag A, Avni H, Cao Van H, Cornejo C, de Los Santos G, Fishman G, Fragola C, Guarneros M, Gupta N, Hudson R, Kamel R, Knaapila A, Konstantinidis I, Landis BN, Larsson M, Lundström JN, Macchi A, Mariño-Sánchez F, Martinec Nováková L, Mori E, Mullol J, Nord M, Parma V, Philpott C, Propst EJ, Rawan A, Sandell M, Sorokowska A, Sorokowski P, Sparing-Paschke LM, Stetzler C, Valder C, Vodicka J, Hummel T . **Development of an International Odor Identification Test for Children: The Universal Sniff Test.** *JOURNAL OF PEDIATRICS.* 198:265-272.e3. I.F.: 3.667

19. Muñoz-Cano R, Ribó P, Araujo G, Giralt E, Sánchez-López J, Valero A. **Severity of allergic rhinitis impacts sleep and anxiety: Results from a large Spanish cohort.** *CLINICAL AND TRANSLATIONAL ALLERGY.* 8(1):23. I.F.: 3.539

20. Bousquet J, VandenPlas O, Bewick M, Arnavielhe S, Bedbrook A, Murray R, van Eerd M, Fonseca J, Morais-Almeida M, Todo Bom A, Cruz AA, Sarquis Serpa F, da Silva J, Menditto E, Passalacqua G, Stellato C, Ventura MT, Caimmi D, Demoly P, Bergmann KC, Keil T, Klimek L, Mösges R, Shamai S, Zuberbier T, Larenas-Linnemann D, Rodriguez Gonzalez M, Burguete Cabañas MT, Ryan D, Sheikh A, Anto JM, Mullol J, Valero A, Kowalski ML, Kuna P, Samolinski B, Tomazic PV, Bosnic-Anticevich S, O Hehir RE, De Vries G, Laune D. **Work Productivity and Activity Impairment Allergic Specific (WPAI-AS) Questionnaire using Mobile Technology: The MASK study.** *JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY.* 28(1):42-44. I.F.: 3.457

21. Suarez-Girón MC, Castro-Grattoni A, Torres M, Farré R, Barbe F, Sánchez de la Torre M, Gozal D, Picado C, Montserrat JM, Almendros I. **Acetylsalicylic Acid Prevents Intermittent Hypoxia-Induced Vascular Remodeling in a Murine Model of Sleep Apnea.** *FRONTIERS IN PHYSIOLOGY.* 9(MAY):600. I.F.: 3.394

22. Bobolea I, Del Pozo V, Sanz V, Cabañas R, Fiandor A, Alfonso-Carrillo C, Salcedo MÁ, Heredia Revuelto R, Quirce S. **Aspirin desensitization in aspirin-exacerbated respiratory disease: New insights into the molecular mechanisms.** *RESPIRATORY MEDICINE.* 143:39-41. I.F.: 3.230

23. Martínez-Rivera C, Crespo A, Pinedo-Sierra C, García-Rivero J, Pallarés-Sanmartín A, Marina-Malanda N., Pascual-Erquicia S, Padilla A, Mayoralas-Alises S, Plaza V, López-Viña A, Picado C. **Mucus hypersecretion in asthma is associated with rhinosinusitis, polyps and exacerbations.** *RESPIRATORY MEDICINE.* 135:22-28. I.F.: 3.230

24. Aranda G, Fernández-Ruiz R, Palomo M, Romo M, Mora M, Halperin I, Casals G, Enseñat J, Vidal O, Diaz-Ricart M, Hanzu F. **Translational evidence of prothrombotic and inflammatory endothelial damage in Cushing syndrome after remission.** *CLINICAL ENDOCRINOLOGY.* 88(3):415-424. I.F.: 3.077

25. Santamaria-Gadea A, López-Chacón M, Langdon C, Van Gerven L, Valls-Mateus M, Bernal-Sprekelsen M, Alobid I. **Modified nasal floor and inferior meatus flap for septal perforation repair. Extension and limits.** *RHINOLOGY.* 56(4):386-392. I.F.: 2.931

26. De Llano LP, Cosío BG, Iglesias A, de Las Cuevas N, Soler-Cataluña JJ, Izquierdo JL, López-Campos JL, Calero C, Plaza V, Miravitlles M, Torrego A, Martinez-Moragon E, Soriano JB, Viña AL, Bobolea I. **Mixed Th2 and non-Th2 inflammatory pattern in the asthma-COPD overlap: a network approach.** *INTERNATIONAL JOURNAL OF COPD.* 13:591-601. I.F.: 2.917

27. Muñoz X, Álvarez-Puebla MJ, Arismendi E, Arochena L, Ausín MDP, Barranco P, Bobolea I, Cañas JA, Cardaba B, Crespo A, Del Pozo V, Domínguez-Ortega J, Fernandez-Nieto MDM, Giner J, González-Barcala FJ, Luna JA, Mullol J, Ojanguren I, Olaguibel JM, Picado C, Plaza V, Quirce S, Ramos D, Rial M, Romero-Mesones C, Salgado FJ, San-José ME, Sánchez-Diez S, Sastre B, Sastre J, Soto L, Torrejón M, Urnadoz M, Valdes L, Valero A, Cruz MJ . **The MEGA Project: A Study of the Mechanisms Involved in the Genesis and Disease Course of Asthma. Asthma Cohort Creation and Long-Term Follow-Up.** *ARCHIVOS DE BRONCONEUMOLOGIA.* 54(7):378-385. I.F.: 2.633

28. Valls-Mateus M, Nogués-Sabaté A, Blanch J, Bernal-Sprekelsen M, Avilés-Jurado F, Vilaseca I. **Narrow band imaging for head and neck malignancies: Lessons learned from mistakes.** *HEAD AND NECK.* 40(6):1164-1173. I.F.: 2.471

29. Van Gerven L, Langdon C, Cordero A, Cardelús S, Mullol J, Alobid I. **Lack of long-term add-on effect by montelukast in postoperative chronic rhinosinusitis patients with nasal polyps.** *LARYNGOSCOPE.* 128(8):1743-1751. I.F.: 2.442

30. Alobid I, Langdon C, López-Chacon M, Enseñat J, Carrau R, Bernal-Sprekelsen M, Santamaría A. **Total septal perforation repair with a pericranial flap: Radio-anatomical and clinical findings.** *LARYNGOSCOPE.* 128(6):1320-1327. I.F.: 2.442

31. Jaume F, Quintó L, Alobid I, Mullol J. **Overuse of diagnostic tools and medications in acute rhinosinusitis in Spain: a population-based study (the PROSINUS study).** *BMJ OPEN.* 8(1):e018788. I.F.: 2.413

32. Alobid I, Langdon C, Santamaría A. **Technique to Repair Total Septal Perforation With a Pericranial Flap: The Money Box Approach.** *JAMA FACIAL PLAST SU.* 20(4):324-325. I.F.: 2.388

33. Plaza V, Giner J, Calle M, Rytilä P, Campo C, Ribó P, Valero A. **Impact of patient satisfaction with his or her inhaler on adherence and asthma control.** *ALLERGY*

AND ASTHMA PROCEEDINGS. 39(6):437-444. I.F.: 2.213

34. Roca-Ferrer J, Pujols L, Pérez-González M, Alobid I, Callejas B, Vicens-Artés S, Fuentes M, Valero A, Picado C, Castor D, Nguyen D, Mullol J. **Superior effect of MP-AzeFlu than azelastine or fluticasone propionate alone on reducing inflammatory markers.** *ALLERGY ASTHMA AND CLINICAL IMMUNOLOGY.* 14(1):86. I.F.: 2.051

35. Di Somma A, Andaluz N, Cavallo LM, Topczewski TE, Frio F, Gerardi RM, Pineda J, Solari D, Enseñat J, Prats-Galino A, Cappabianca P. **Endoscopic transorbital route to the petrous apex: a feasibility anatomic study.** *ACTA NEUROCHIRURGICA.* 160(4):707-720. I.F.: 1.929

36. Torné R, Reyes L, Rodríguez-Hernández A, Urra X, Sanroman L, Enseñat J. **Anatomical Variations of Brain Venous Sinuses in Patients with Arteriovenous Malformations: Incidental Finding or Causative Factor?** *WORLD NEUROSURGERY.* 113:e465-e470. I.F.: 1.924

37. Nogués-Sabaté A, Aviles-Jurado F, Ruiz-Sevilla L, Lehrer E, Santamaría-Gadea A, Valls-Mateus M, Vilaseca I. **Intra and interobserver agreement of narrow band imaging for the detection of head and neck tumors.** *EUROPEAN ARCHIVES OF OTO-RHINO-LARYNGOLOGY.* 275(9):2349-2354. I.F.: 1.546

38. Lopatin AS, Ivanchenko OA, Soshnikov SS, Mullol J. **Cyclamen europaeum improves the effect of oral antibiotics on exacerbations and recurrences of chronic rhinosinusitis: a real-life observational study (CHRONOS).** *ACTA OTORHINOLARYNGOLOGICA ITALICA.* 38:115-123. I.F.: 1.196

39. Montoro V, Asensio C, Martínez Á, Lorente J, Rodríguez FJ, Montojo J, Gavilanes J, Sarría P, Langdon C, Prades E. **Efficacy and safety of fluocinolone acetonide 0.025% otic solution in patients with otic eczema: a randomized, double-blind, placebo-controlled clinical trial.** *JOURNAL OF INTERNATIONAL MEDICAL RESEARCH.* 46(10):4050-4060. I.F.: 1.023

Review / I.F.: 61.688

1. Vandenplas O, Vinnikov D, Blanc P, Agache I, Bachert C, Bewick M, Cardell L, Cullinan P, Demoly P, Descatha A, Fonseca J, Haahtela T, Hellings P, Jamart J, Jantunen J, Kalayci Ö, Price D, Samolinski B, Sastre J, Tian L, Valero A, Zhang X, Bousquet J. **Impact of Rhinitis on Work Productivity: A Systematic Review.** *JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY: IN PRACTICE.* 6(4):1274-1286.e9. I.F.: 6.966

2. Bosnic-Anticevich S, Costa E, Menditto E, Lourenço O, Novellino E, Bialek S, Briedis V, Buonaiuto R, Chrystyn H, Cvetkovski B, Di Capua S, Kritikos V, Mair A, Orlando V, Paulino E, Salimäki J, Söderlund R, Tan R, Williams DM, Wroczynski P, Agache I, Ansotegui IJ, Anto JM, Bedbrook A, Bachert C, Bewick M, Bindslev-Jensen C, Brozek JL, Canonica GW, Cardona V, Carr W, Casale TB, Chavannes NH, Correia de Sousa J, Cruz AA, Czarlewski W, De Carlo G, Demoly P, Devillier P, Dykewicz MS, Gaga M, El-Gamal Y, Fonseca J, Fokkens WJ, Guzmán MA, Haahtela T, Hellings PW, Illario M, Ivancevich JC, Just J, Kaidashev I, Khaitov M, Khaltaev N, Keil T, Klimek L, Kowalski ML, Kuna P, Kvedariene V, Larenas-Linnemann DE, Laune D, Le LTT, Lodrup Carlsen KC, Mahboub B, Maier D, Malva J, Manning PJ, Morais-Almeida M, Mösges R, Mullol J, Münter L, Murray R, Naclerio R, Namazova-Baranova L, Nekam K, Nyembue TD, Okubo K, O'Hehir RE, Ohta K, Okamoto Y, Onorato GL, Palkonen S, Panzner P, Papadopoulos NG, Park HS, Pawankar R, Pfaar O, Phillips J, Plavec D, Popov TA, Potter PC, Prokopakis EP, Roller-Wirnsberger RE, Rottem M, Ryan D, Samolinski B, Sanchez-Borges M, Schunemann HJ, Sheikh A, Sisul JC, Somekh D, Stellato C, To T, Todo-Bom AM, Tomazic PV, Toppila-Salmi S, Valero A, Valiulis A, Valovirta E, Ventura MT, Wagenmann M, Wallace D, Waserman S, Wickman M, Yiallouros PK, Yorgancioglu A, Yusuf OM, Zar HJ, Zernotti ME, Zhang L, Zidarn M, Zuberbier T, Bousquet J . **ARIA pharmacy 2018 Allergic rhinitis care pathways for community pharmacy.** *ALLERGY.* I.F.: 6.048

3. Bousquet J, Devillier P, Anto JM, Bewick M, Haahtela T, Arnavielhe S, Bedbrook A, Murray R, van Eerd M, Fonseca JA, Morais Almeida M, Todo Bom A, Menditto E, Passalacqua G, Stellato C, Triggiani M, Ventura MT, Vezzani G, Annesi-Maesano I, Bourret R, Bosse I, Caimmi D, Cartier C, Demoly P, Just J, Portejoie F, Siroux V, Viart F, Bergmann KC, Keil T, Klimek L, Mösges R, Pfaar O, Shamai S, Zuberbier T, Mullol J, Valero A, Spranger O, Tomazic PV, Kowalski ML, Kuna P, Kupczyk M, Raciborski F, Samolinski B, Toppila-Salmi SK, Valovirta E, Cruz AA, Sarquis-Serpa F, da Silva J, Stelmach R, Larenas-Linnemann D, Rodriguez Gonzalez M, Burguete Cabañas MT, Kvedariene V, Valiulis A, Chavannes NH, Fokkens WJ, Ryan D, Sheikh A, Bachert C, Hellings PW, VandenPlas O, Ballardini N, Kull I, Melén E, Westman M, Wickman M, Bindslev-Jensen C, Eller E, Bosnic-Anticevich S, O'Hehir RE, Agache I, Bieber T, Casale T, Gemicioğlu B, Ivancevich JC, De Vries G, Sorensen M, Yorgancioglu A, Laune D, MACVIA working group. **Daily allergic multimorbidity in rhinitis using mobile technology: a novel concept of the MASK study.** *ALLERGY.* 73(8):1622-1631. I.F.: 6.048

4. Pascal M, Pérez-Gordo M, Caballero T, Escribese MM, Lopez Longo MN, Luengo O, Manso L, Matheu V, Seoane, E, Zamorano M, Labrador M, Mayorga C. **Microbiome and Allergic Diseases.** *FRONTIERS IN IMMUNOLOGY.* 9(JUL):1584. I.F.: 5.511

5. Bartra J, Araújo G, Muñoz-Cano R. **Interaction between foods and nonsteroidal anti-inflammatory drugs and exercise in the induction of anaphylaxis.** *CURRENT OPINION IN ALLERGY AND CLINICAL IMMUNOLOGY.* 18(4):310-316. I.F.: 3.544

6. Bousquet J, Arnavielhe S, Bedbrook A, Bewick M, Laune D, Mathieu-Dupas E, Murray R, Onorato GL, Pépin JL, Picard R, Portejoie F, Costa E, Fonseca J, Lourenço O, Morais-Almeida M, Todo-Bom A, Cruz AA, da Silva J, Serpa FS, Illario M, Menditto E, Cecchi L, Monti R, Napoli L, Ventura MT, De Feo G, Larenas-Linnemann D, Fuentes Perez M, Huerta Villabolos YR, Rivero-Yeverino D, Rodriguez-Zagal E, Amat F, Annesi-Maesano I, Bosse I, Demoly P, Devillier P, Fontaine JF, Just J, Kuna TP, Samolinski B, Valiulis A, Emuzyte R, Kvedariene V, Ryan D, Sheikh A, Schmidt-Grendelmeier P, Klimek L, Pfaar O, Bergmann KC, Mösges R, Zuberbier T, Roller-Wirnsberger RE, Tomazic P, Fokkens WJ, Chavannes NH, Reitsma S, Anto JM, Cardona V, Dedeu T, Mullol J, Haahtela T, Salimäki J, Toppila-Salmi S, Valovirta E, Gemicioğlu B, Yorgancioglu A, Papadopoulos N, Prokopakis EP, Bosnic-Anticevich S, O'Hehir R, Ivancevich JC, Neffen H, Zernotti E, Kull I, Melen E, Wickman M, Bachert C, Hellings P, Palkonen S, Bindslev-Jensen C, Eller E, Waserman S, Sova M, De Vries G, van Eerd M,

Agache I, Casale T, Dykewickz M, Naclerio RN, Okamoto Y, Wallace DV, MASK study group. **MASK 2017: ARIA digitally-enabled, integrated, person-centred care for rhinitis and asthma multimorbidity using real-world-evidence.** *CLINICAL AND TRANSLATIONAL ALLERGY*. 8:45. I.F.: 3.539

7. Bobolea I, Arismendi E, Valero A, Agustí A. **Early Life Origins of Asthma: A Review of Potential Effectors.** *JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY*. 29(3):0-179. I.F.: 3.457

8. Valero A, Olaguibel J, Delgado J, Plaza V, Álvarez F, Molina J, Mascarós E, Quirce S. **Re-evolution of asthma management: dilemmas and new paradigms.** *JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY*. 29(1):15-23. I.F.: 3.457

9. Vidal, C.; Antolin, D.; Reano, M.; Valero, A.; Sastre, J. **Safety and Quality Recommendations in Allergy Medicine (Spanish acronym, RESCAL).** *JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY*. 28(1):1-39. I.F.: 3.457

10. Valero A, Navarro AM, Del Cuvillo A, Alobid I, Benito JR, Colás C, de Los Santos G, Fernández Liesa R, García-Lliberós A, González-Pérez R, Izquierdo-Domínguez A, Jurado-Ramos A, Lluch-Bernal MM, Montserrat Gili JR, Mullol J, Puiggròs Casas A, Sánchez-Hernández MC, Vega F, Villacampa JM, Armengot-Carceller M, Dordal MT, SEAIC Rhinoconjunctivitis Committee & SEORL Rhinology, Allergy, and Skull Base Committee. **Position paper on nasal obstruction: evaluation and treatment.** *JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY*. 28(2):67-90. I.F.: 3.457

11. Pereira C, Santamaría A, Langdon C, López-Chacón M, Hernández-Rodríguez J, Alobid I. **Nasoseptal Perforation: from Etiology to Treatment.** *CURRENT ALLERGY AND ASTHMA REPORTS*. 18(1):5. I.F.: 3.449

12. Marin C, Vilas D, Langdon C, Alobid I, López-Chacón M, Haehner A, Hummel T, Mullol J. **Olfactory Dysfunction in Neurodegenerative Diseases.** *CURRENT ALLERGY AND ASTHMA REPORTS*. 18(8):42. I.F.: 3.449

13. Quijada-Manuitt MA, Escamilla Y, Vallano A, Cardesín A, Bernal-Sprekelsen M, Pontes C. **Use of α2-Adrenergic Agonists to Improve Surgical Field Visibility in Endoscopy Sinus Surgery: A Systematic Review of Randomised Controlled Trials.** *CLINICAL THERAPEUTICS*. 40(1):136-149.e19. I.F.: 3.185

14. Seys SF, Bousquet J, Bachert C, Fokkens WJ, Agache I, Bernal-Sprekelsen M, Callebaut I, Cardel LO, Carrie S, Castelnuovo P, Cathcart R, Constantinidis J, Cools L, Cornet M, Clement G, de Sousa JC, Cox T, Doulaptsi M, Gevaert P, Hopkins C, Hox V, Hummel T, Hosemann W, Jacobs R, Jorissen M, Landis BN, Leunig A, Lund VJ, Mullol J, Onerci M, Palkonen S, Proano I, Prokopakis E, Ryan D, Riechelmann H, Saevels J, Segboer C, Speleman K, Steinsvik EA, Surda P, Tomazic PV, Vanderveken O, Van Gerven L, Van Zele T, Verhaeghe B, Vierstraete K, Vlaminck S, Wilkinson J, Williams S, Pugin B, Hellings PW. **mySinusitisCoach: patient empowerment in chronic rhinosinusitis using mobile technology.** *RHINOLOGY*. 56(3):209-215. I.F.: 2.931

15. Serra-Baldrich E, de Frutos J, Jáuregui I, Armario-Hita J, Silvestre J, Herraez L, Martín-Santiago A, Valero A, Sastre J. **Changing perspectives in atopic dermatitis.** *ALLERGOLOGIA ET IMMUNOPATHOLOGIA*. 46(4):397-412. I.F.: 1.644

16. Guntinas-Lichius O, Silver CE, Thielker J, Bernal-Sprekelsen M, Bradford CR, De Bree R, Kowalski LP, Olsen KD, Quer M, Rinaldo A, Rodrigo JR, Sanabria A, Shaha AR, Takes RP, Vander Poorten V, Zbären P, Ferlito A. **Management of the facial nerve in parotid cancer: preservation or resection and reconstruction.** *EUROPEAN ARCHIVES OF OTO-RHINO-LARYNGOLOGY*. 275(11):2615-2626. I.F.: 1.546

Letters / **I.F.: 6.491**

1. Suarez-Giron M, Almendros I, Roca-Ferrer J, Picado C. **Overnight Change in Urinary Prostacyclin and Thromboxane in Obstructive Sleep Apnea.** *ARCHIVOS DE BRONCONEUMOLOGIA*. 55(6):334. I.F.: 2.633

2. Di Somma A, Andaluz N, Cavallo LM, Enseñat J, Prats-Galino A, Cappabianca P. **Reply to letter: Endoscopic transpalpebral transorbital anterior petrosectomy: does safer surgical freedoms necessitates modifications?** *ACTA NEUROCHIRURGICA*. 160(8):1585-1586. I.F.: 1.929

3. Di Somma A, Andaluz N, Cavallo LM, Enseñat J, Prats-Galino A, Cappabianca P. **Reply to letter: "Endoscopic transorbital route to the petrous apex: a feasibility anatomic study".** *ACTA NEUROCHIRURGICA*. 160(11):2251-2253 I.F.: 1.929

Editorial / **I.F.: 2.633**

1. Picado C, Pernigotti A, Arismendi E. **Asthma: A New Cardiovascular Risk Factor?** *ARCHIVOS DE BRONCONEUMOLOGIA*. I.F.: 2.633

Clinical Guidelines / **I.F.: 8.502**

1. Augé J, Vent J, Agache I, Airaksinen L, Campo Mozo P, Chaker A, Cingi C, Durham S, Fokkens W, Gevaert P, Giotakis A, Hellings P, Herknerova M, Hox V, Klimek L, La Melia C, Mullol J, Muluk NB, Muraro A, Naito K, Pfaar O, Riechelmann H, Rondon C, Rudenko M, Samolinski B, Tasca I, Tomazic P, Vogt K, Wagenmann M, Yeryomenko G, Zhang L, Mösges R. **Position Paper on the Standardization of Nasal Allergen Challenges.** *ALLERGY*. 73(8):1597-1608. I.F.: 6.048

2. Wise SK, Lin SY, Toskala E, Orlandi RR, Akdis CA, Alt JA, Azar A, Baroody FM, Bachert C, Canonica GW, Chacko T, Cingi C, Ciprandi G, Corey J, Cox LS, Creticos PS, Custovic A, Damask C, DeConde A, DelGaudio JM, Ebert CS, Eloy JA, Flanagan CE, Fokkens WJ, Franzese C, Gosepath J, Halderman A, Hamilton RG, Hoffman HJ, Hohlfeld JM, Houser SM, Hwang PH, Incorvaia C, Jarvis D, Khalid AN, Kilpeläinen M, Kingdom TT, Krouse H, Larenas-Linnemann D, Laury AM, Lee SE, Levy JM, Luong AU, Marple BF, McCoul ED, McMains KC, Melén E, Mims JW, Moscato G, Mullol J, Nelson HS, Patadia M, Pawankar R, Pfaar O, Platt MP, Reisacher W, Rondón C, Rudmik L, Ryan M, Sastre J, Schlosser RJ, Settipane RA, Sharma HP, Sheikh A, Smith TL, Tantilipikorn P, Tversky JR, Veling MC, Wang Y, Westman M, Wickman M, Zacharek M. **International Consensus Statement on Allergy and Rhinology: Allergic Rhinitis.** *INT FORUM ALLERGY RH*. 8(2):108-352. I.F.: 2.454

Consortium Publications / I.F.: 13.258

1. Sastre J, Crespo A, Fernandez-Sanchez A, Rial M, Plaza V, investigators of the CONCORD Study Group. **Anxiety, depression, and asthma control: Changes after standardized treatment.** *J ALLERGY CLIN IMMUNOL PRACT.* 6(6):1953-1959. I.F.: 13.258

GRANTS FOR RESEARCH IN PROGRESS

Alobid I. **El impacto de la inflamación sobre el sentido del olfato en pacientes con poliposis nasal: el rol de los eosinófilos sobre la neurogenesis del neuroepitelio olfatorio.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00262
Duration: 01/01/2016-31/12/2019

Araujo G. **El papel de la prueba de provocación nasal alérgeno específica con Pru p3 para el diagnóstico de alergia a alimentos por proteína de transferencia de lípidos del melocotón.**
Sponsored by: Societat Catalana d'Al·lèrgia i Immunologia Clínica (SCAIC). BECA_SCAIC2017
Duration: 1/01/2018-31/12/2019

Bartra J. ARADYAL: **Asma, reacciones adversas y alérgicas.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). RD16/0006/0007
Duration: 01/01/2017-31/12/2021

Bartra J. **Mecanismos y predicción de reacciones adversas medicamentosas y enfermedad alérgica.**
Sponsored by: Fundación SEAIC. AYUDAS_18-01
Duration: 25/06/2018-31/12/2018

Bobolea I. **Identificación de biomarcadores no invasivos asociados a los distintos fenotipos y endotipos de asma descritos. Utilidad clínica y valor pronóstico de la periostina, en vistas al tratamiento personalizado.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00711
Duration: 06/06/2017-31/12/2019

Bobolea I. **Estudio de los mecanismos por los cuales el Omalizumab es capaz de mejorar el asma persistente asociada a la Enfermedad Respiratoria Exacerbada por AINES (EREA).**
Sponsored by: SEPAR - BECAS '18
Duration: 1/04/2018-31/12/2021

De la Roca F. **Perfil de sensibilización a alérgenos del D. pteronyssinus en sujetos adultos con alergia a ácaros del polvo doméstico y su relación con la presencia de asma y la gravedad de los síntomas respiratorios (rinitis/conjuntivitis y asma).**
Sponsored by: Fundación SEAIC - AYUDAS '17
Duration: 1/01/2017-31/12/2019

De la Roca F. **Perfil de sensibilización a alérgenos del D. pteronyssinus en sujetos adultos con alergia a ácaros del polvo doméstico y su relación con las características del asma y su respuesta a la inmunoterapia especifica.**
Sponsored by: FUCAP - AJUTS '17
Duration: 1/01/2017-31/12/2019

Mullol J. **Función reguladora de los microRNA sobre los genes diana involucrados en la diferenciación epitelial de la mucosa nasosinusal en la poliposis nasal.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00046
Duration: 01/01/2016-31/12/2019

Mullol J, Roca-Ferrer J. **Expression of Rupatadine on PAF-induced inflammation in blood eosinophils and epithelial cells from nasal polyps and healthy nasal mucosa (RINOPAF-2 Study).**
Sponsored by: URIACH – RINOPAF-02-2018
Duration: 1/01/2018-31/12/2020

Muñoz-Cano R. **Estudios de los mecanismos patogénicos en la anafilaxia inducida por alimentos y exacerbada oir antiinflamatorios no esteroideos (AINEs).**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00696
Duration: 01/01/2017-31/12/2019

Pascal M. **Síndrome LTP: identificación y caracterización clínica de los epítopos inmunodominantes B y T y su presentación antigénica HLA.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00344
Duration: 01/01/2017-31/12/2019

Picado C. **Estudio de la prevalencia y de los mecanismos responsables de las manifestaciones clínicas respiratorias inducidas por las bebidas alcohólicas: Papel de los Receptores de Potenciales Transitorios.**
Sponsored by: SEPAR - BECAS '17
Duration: 1/01/2018-31/12/2021

Ribó P. **Prevalencia y mecanismos responsables de la clínica respiratorias inducida por bebidas alcohólicas: Papel de los Receptores de Potenciales Transitorios.**
Sponsored by: Fundación SEAIC - AYUDAS _17-27
Duration: 1/01/2018-31/12/2021

DOCTORAL THESES

Alobid I, Enseñat J. **Uso endoscópico del colgajo pericraneal para la reconstrucción nasal y de base de cráneo.**
PhD student: Alfonso Santamaría Gadea

Mullol J, Mariño F. **Impacte de les alteracions anatòmiques intranasals sobre els símptomes, la resposta al tractament mèdic i la qualitat de vida en nens i adolescents amb rinitis al·lèrgica persistent.**
PhD student: Meritxell Valls Mateus

2.9 Inflammation and repair in respiratory illnesses

LOCATION
CELLEX building, floor 2A

KEYWORDS
1. **COPD**
2. **Emphysema**
3. **Inflammation**
4. **Networks**
5. **Systems biology**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	111.89	18	11	4
2017	93.59	15	12	2
2018	112.11	18	8	9

TEAM INVOLVED IN
CIBERES

AWARDS
Premio Fundación Lilly de Investigación Clínica 2018
Institution: Fundación Lilly
Awardee/s: Dr. Àlvar Agustí

Honorary membership
Institution: European Respiratory Society
Awardee/s: Dr. Àlvar Agustí

TEAM LEADER
Alvar Agustí (HCB)
T. 93 227 17 01
aagusti@clinic.cat

RESEARCHERS
Eugenio Ballester (HCB)
Maria Rosa Faner (CIBER)
Abel Gómez-Caro (HCB)
Ramón Marrades (HCB)
Jacobo Sellarés (HCB)

PRE-DOCTORAL RESEARCHERS
Sandra Casas (CIBER)
Sandra Cuerpo (HCB)
Angela Guirao (HCB)
Fernanda Hernández (HCB)
Alejandra Lopez (HCB)
Núria Mendoza (IDIBAPS)
Guillaume Noel (IDIBAPS)

TECHNICIANS
Tamara Garcia (CIBER)
Gemma Sunyer (CIBER)

COLLABORATORS
Laureano Molins (HCB)

STRATEGIC OBJECTIVES

The objective of the group is to investigate the biological processed underling the clinical heterogeneity and complexity of chronic obstructive pulmonary disease (COPD) and lung cancer. To investigate the clinical functional correlation and the diagnostic, prognostic and therapeutic value the group uses systems network methods.

MAIN LINES OF RESEARCH

1. Mechanism of abnormal repair in COPD related to the inflammation present in COPD patients.
2. Mechanisms of oncogenesis in COPD.
3. Application systems biology to COPD to understand its natural history.

PUBLICATIONS

Originals / I.F.: 112.113

1. Jones PW, Mullerova H, Agusti A, Decramer M, Adamek L, Raillard A, Zhu CQ, Wedzicha JA. **Cardiovascular Disease Does Not Predict Exacerbation Rate or Mortality in COPD.** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE.* 197(3):400-403. I.F.: 15.239

TEAM Alvar Agustí

2. Almagro P, De la Sierra A, Acosta E, Navarro A, Garcia ME, Valdivieso S, Castañeda T, Agustí A. **Spirometrically Confirmed COPD Worsens Long-term Prognosis After Percutaneous Coronary Intervention.** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE.* 197(6):824-826. I.F.: 15.239

3. Ramon MA, Ter Riet G, Carsin AE, Gimeno-Santos E, Agustí A, Antó JM, Donaire-Gonzalez D, Ferrer J, Rodríguez E, Rodriguez-Roisin R, Puhan MA, Garcia-Aymerich J, PAC-COPD Study Group. **The dyspnoea-inactivity vicious circle in COPD: Development and external validation of a conceptual model.** *EUROPEAN RESPIRATORY JOURNAL.* 52(3):1800079. I.F.: 12.244

4. Alcázar-Navarrete B, Ruiz Rodríguez O, Conde Baena P, Romero Palacios PJ, Agusti A. **Persistently elevated exhaled nitric oxide fraction is associated with increased risk of exacerbation in COPD.** *EUROPEAN RESPIRATORY JOURNAL.* 51(1). I.F.: 12.244

5. Celli, Bartolome R.; Locantore, Nicholas; Tal-Singer, Ruth; Riley, John; Miller, Bruce; Vestbo, Jorgen; Yates, Julie C.; Silverman, Edwin K.; Owen, Caroline A.; Divo, Miguel; Pinto-Plata, Victor; Wouters, Emiel F. M.; Faner, Rosa; Agusti, Alvar; ECLIPSE Study Investigators. **Emphysema and extrapulmonary tissue loss in COPD: a multi-organ loss of tissue phenotype.** *EUROPEAN RESPIRATORY JOURNAL.* 51(2). I.F.: 12.244

6. Cardenes N; Álvarez D; Sellarés J; Peng Y; Corey C; Wecht S; Nouraie SM; Shanker S; Sembrat J; Bueno M; Shiva S; Mora AL; Rojas M. **Senescence of bone marrow-derived mesenchymal stem cells from patients with idiopathic pulmonary fibrosis.** *STEM CELL RESEARCH & THERAPY.* 9(1):257. I.F.: 4.963

7. Qiao D; Ameli A; Prokopenko D; Chen H; Kho AT; Parker MM; Morrow J; Hobbs BD; Liu Y; Beaty TH; Crapo JD; Barnes KC; Nickerson DA; Bamshad M; Hersh CP; Lomas DA; Agustí A; Make BJ; Calverley PMA; Donner CF; Wouters EF; Vestbo J; Paré PD; Levy RD; Rennard SI; Tal-Singer R; Spitz MR; Sharma A; Ruczinski I; Lange C; Silverman EK; Cho MH. **Whole exome sequencing analysis in severe chronic obstructive pulmonary disease.** *HUMAN MOLECULAR GENETICS.* 27(21):3801-3812. I.F.: 4.902

8. Obeidat M., Dvorkin-Gheva A., Li X., Bossé Y., Brandsma C., Nickle D., Hansbro P., Faner R., Agusti A., Paré P., Stampfli M., Sin D. **The Overlap of Lung Tissue Transcriptome of Smoke Exposed Mice with Human Smoking and COPD.** *SCIENTIFIC REPORTS.* 8(1):11881. I.F.: 4.122

9. Yoon JH, Nouraie M, Chen X, Zou RH, Sellares J, Veraldi KL, Chiarchiaro J, Lindell K, Wilson DO, Kaminski N, Burns T, Trejo Bittar H, Yousem S, Gibson K, Kass DJ. **Characteristics of lung cancer among patients with idiopathic pulmonary fibrosis and interstitial lung disease - analysis of institutional and population data.** *RESPIRATORY RESEARCH.* 19(1):195. I.F.: 3.751

10. Toledo-Pons N., Noell G., Jahn A., Iglesias A., Duran M., Iglesias J., Rios A., Scrimini S., Faner R., Gigirey O., Agustí A., Cosío B. **Bone marrow characterization in COPD: A multi-level network analysis.** *RESPIRATORY RESEARCH.* 19(1):118. I.F.: 3.751

11. Olloquequi J, Jaime S, Parra V, Cornejo-Córdova E, Valdivia G, Agustí À, Silva O R. **Comparative analysis of COPD associated with tobacco smoking, biomass smoke exposure or both.** *RESPIRATORY RESEARCH.* 19(1):13. I.F.: 3.751

12. Faner R., Noell G., Badia J., López-Giraldo A., Bakke P., Silverman E., Tal-Singer R., Agustí A. **Distribution, temporal stability and association with all-cause mortality of the 2017 GOLD groups in the ECLIPSE cohort.** *RESPIRATORY MEDICINE.* 141:14-19. I.F.: 3.230

13. Andrea R., López-Giraldo A., Falces C., López T., Sanchis L., Gistau C., Sabaté M., Sitges M., Brugada J., Agustí À. **Pulmonary function predicts mortality and hospitalizations in outpatients with heart failure and preserved ejection fraction.** *RESPIRATORY MEDICINE.* 134:124-129. I.F.: 3.230

14. Serra-Picamal X., Roman R., Escarrabill J., García-Altés A., Argimón J., Soler N., Faner R., Carbonell E., Trilla A., Agusti A. **Hospitalizations due to exacerbations of COPD: A big data perspective.** *RESPIRATORY MEDICINE.* 145:219-225. I.F.: 3.230

15. López-Giraldo A, Cruz T, Molins L, Guirao Á, Saco A, Cuerpo S, Ramirez J, Agustí Á, Faner R. **Characterization, localization and comparison of c-Kit+ lung cells in never smokers and smokers with and without COPD.** *BMC PULMONARY MEDICINE.* 18(1):123. I.F.: 2.721

16. Borràs-Santos A, Garcia-Aymerich J, Soler-Cataluña JJ, Vigil Giménez L, Gea Guiral J, Rodríguez Chiaradía D, Pascual-Guardia S, Marcos Rodríguez PJ, Alvarez Martinez CJ, Casanova Macario C, López-Campos JL, Carrasco Hernández L, Martínez-González C, Santos-Pérez S, Peces-Barba G, Molina Paris J, Román Rodríguez M, Barberà JA, Faner R, Agustí A, Cosío BG, en representación del Grupo Investigador del estudio EARLY COPD. **Determinants of the Appearance and Progression of Early-Onset Chronic Obstructive Pulmonary Disease in Young Adults.** *ARCHIVOS DE BRONCONEUMOLOGIA.* 55(6):312-318. I.F.: 2.633

17. Breyer-Kohansal R, Hartl S, Burghuber OC, Urban M, Schrott A, Agusti A, Sigsgaard T, Vogelmeier C, Wouters E, Studnicka M, Breyer MK. **The LEAD (Lung, Heart, Social, Body) Study: Objectives, Methodology, and External Validity of the Population-Based Cohort Study.** *JOURNAL OF EPIDEMIOLOGY.* I.F.: 2.518

18. Brito-Zerón P., Acar-Denizli N., Sisó-Almirall A., Bosch X., Hernández F., Vilanova S., Villalta M., Kostov B., Paradela M., Sanchez M., Ramírez J., Muxí A., Berruezo A., Galceran-Chaves C., Xaubet A., Agustí C., Sellarés J., Ramos-Casals M. **The Burden of Comorbidity and Complexity in Sarcoidosis: Impact of Associated Chronic Diseases.** *LUNG.* 196(2):239-248. I.F.: 2.101

Review / I.F.: 94.729

1. Pavord ID, Beasley R, Agusti A, Anderson GP, Bel E, Brusselle G, Cullinan P, Custovic A, Ducharme FM, Fahy JV, Frey U, Gibson P, Heaney LG, Holt PG, Humbert M, Lloyd CM, Marks G, Martinez FD, Sly PD, von Mutius E, Wenzel S, Zar HJ, Bush A . **After asthma: redefining airways diseases.** *LANCET.* 391(10118):350-400. I.F.: 53.254

2. Kovacs G, Agusti A, Barberà JA, Celli B, Criner G, Humbert M, Sin DD, Voelkel N, Olschewski H. **Pulmonary Vascular Involvement in COPD - Is There a Pulmonary Vascular Phenotype?**

AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE. 198(8):1000-1011. I.F.: 15.239

3. Agusti A, Fabbri LM, Singh D, Vestbo J, Celli B, Franssen FME, Rabe KF, Papi A. **Inhaled corticosteroids in COPD: Friend or foe?** *EUROPEAN RESPIRATORY JOURNAL.* 52(6). I.F.: 12.244

4. Rodríguez-Roisin R., Krowka M., Agustí A. **Hepatopulmonary disorders: Gas exchange and vascular manifestations in chronic liver disease.** *COMPR PHYSIOL.* 8(2):711-729. I.F.: 5.797

5. Bobolea I, Arismendi E, Valero A, Agustí A. **Early Life Origins of Asthma: A Review of Potential Effectors.** *JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY.* 29(3):0-179. I.F.: 3.457

6. Sanchez-Lorente D, Guzman R, Boada M, Guirao A, Carriel N, Molins L. **N2 disease in non-small-cell lung cancer: straight to surgery?** *FUTURE ONCOLOGY.* 14(6s):13-16. I.F.: 2.369

7. Sanchez-Lorente D, Guzman R, Boada M, Carriel N, Guirao A, Molins L. **Is it appropriate to perform video-assisted thoracoscopic surgery for advanced lung cancer?** *FUTURE ONCOLOGY.* 14(6s):29-31. I.F.: 2.369

Letters / I.F.: 132.891

1. Agusti A. **Filling the gaps in COPD: The TRIBUTE study.** *LANCET.* 391(10125):1004-1006. I.F.: 53.254

2. Agusti A, Faner R, Celli B, Rodriguez-Roisin R. **Precision medicine in COPD exacerbations.** *THE LANCET. RESPIRATORY MEDICINE.* 6(9):657-659. I.F.: 21.466

3. Agustí A, Faner R. **COPD beyond smoking: new paradigm, novel opportunities.** *THE LANCET. RESPIRATORY MEDICINE.* 6(5):324-326. I.F.: 21.466

4. Agusti A, Pavord ID. **Do we really need a new classification of airway diseases?** *THE LANCET. RESPIRATORY MEDICINE.* 6(12):891-893. I.F.: 21.466

5. Agusti A, Faner R. **How to Define Early COPD.** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE.* 198(7):973-973. I.F.: 15.239

Editorial / I.F.: 53.238

1. Agustí A, Faner R. **The Changing Landscape of COPD.** *AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE.* 198(8):978-981. I.F.: 15.239

2. Agusti A. **The disease model: implications for clinical practice.** *EUROPEAN RESPIRATORY JOURNAL.* 51(4):467. I.F.: 12.244

3. Singh, Dave; Barnes, Peter J.; Stockley, Robert; Lopez Valera, Maria Victorina; Vogelmeier, Claus; Agusti, Alvar. **Pharmacological treatment of COPD: the devil is always in the detail.** *EUROPEAN RESPIRATORY JOURNAL.* 51(4). I.F.: 12.244

4. Boaventura R, Sibila O, Agusti A, Chalmers JD . **Treatable traits in bronchiectasis.** *EUROPEAN RESPIRATORY JOURNAL.* 52(3). I.F.: 12.244

5. Sellares J., Strambu I., Crouser E., Freudenberg M., Gulati M., Hart S., Herzog E., Kolb M., Weichhart T., Drake W., Spitzer G., Singh N., Culver D. **New advances in the development of sarcoidosis models: A synopsis of a symposium sponsored by the Foundation for Sarcoidosis Research.** *SARCOIDOSIS VASCULITIS AND DIFFUSE LUNG DISEASES.* 35(1):2-4. I.F.: 1.267

Case Reports / I.F.: 2.633

1. Martin-Deleon R, Llabrés de Prada M, López-Giraldo A. **Diffuse Idiopathic Pulmonary Neuroendocrine Cell Hyperplasia Causing Chronic Cough.** *ARCHIVOS DE BRONCONEUMOLOGIA.* 54(11):577. I.F.: 2.633

GRANTS FOR RESEARCH IN PROGRESS

Agustí A. **Análisis multinivel en red de las similitudes y diferencias moleculares entre enfisema y cáncer de pulmón en pacientes con enfermedad pulmonar obstructiva crónica: papel de la respuesta inmune y de las células madre mesenquimales pulmonares.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00799
Duration: 01/01/2016-31/12/2018

Agustí A. **Valoración de la heterogeneidad y progresión de la EPOC en base a biomarcadores moleculares y de imagen.**
Sponsored by: Sociedad Española de Neumología y Cirugía Torácica (SEPAR)
Duration: 01/01/2018-31/12/2020

Fané R. **Toward a new understanding and clinical stratification of COPD through the molecular mechanisms underlying different vital lung function trajectories.**
Sponsored by: Instituto de Salud Carlos III (ISCIII).
Duration: 01/01/2017-31/12/2019

Fané R. **Abnormal lung development vs. Accelerated aging in COPD: a multilevel network analysis approach.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/000369
Duration: 01/01/2018-31/12/2020

Fané R. **Respiratory Microbiome and COPD Exacerbations.**
Sponsored by: Fundació Ramón Pla i Armengol
Duration: 01/01/2015-31/12/2018

Hernández F. **Integrative network genomics approach to address molecular differences and commonalities in COPD and IPF.**
Sponsored by: Sociedad Española de Neumología y Cirugía Torácica (SEPAR)
Duration: 01/12/2017-30/06/2019

Sellarés J. **Caracterización de las enfermedades pulmonares instersticiales difusas asociadas al tabaquismo mediante la biología de sistemas: estudio del radio-transcripto-proteoma.**
Sponsored by: Fundació Catalana de Pneumologia (FUCAP)
Duration: 01/01/2018-31/12/2021

Sellarés J. **Caracterización y uso terapéutico de las células progenitoras mesenquimales residentes en el pulmón en la fibrosis pulmonar.**
Sponsored by: Sociedad Española de Neumología i Cirugía Torácica (SEPAR)
Duration: 01/01/2018-31/12/2021

2.10 Genetics and urologic tumors

LOCATION
CELLEX building, floor 2B

KEYWORDS
1. **Bladder cancer**
2. **Prostate cancer**
3. **Upper tract urothelial carcinoma**
4. **Renal cell carcinoma**
5. **Biomarkers for diagnosis, prognosis and treatment response**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	28.18	10	4	2
2017	64.02	12	6	2
2018	51.24	12	6	1

TEAM INVOLVED IN
AGAUR_SGR17: 01801

TEAM LEADER
Antonio Alcaraz (HCB)
T. 93 227 55 45
aalcaraz@clinic.cat

RESEARCHERS
Laura Izquierdo (HCB-IDIBAPS)
Lourdes Mengual (IDIBAPS-FCRB)
Mireia Musquera (HCB-IDIBAPS)
María José Ribal (HCB-IDIBAPS)

PRE-DOCTORAL RESEARCHERS
Raquel Carrasco (FCRB)
Maria Mercedes Ingelmo (IDIBAPS)
Ruth Montalbo (FCRB)

ADMINISTRATIVE STAFF
Maria Teresa Dalet (FCRB)

COLLABORATORS
Agustín Franco (HCB)
Francisco Lozano (HCB-UB)
Begoña Mellado (HCB-UB)
Aleix Prat (HCB-UB)

VISITING SCIENTISTS
Marco Franco
(Università Degli Studi di Napoli "Federico II", Napoles, Italia)

STRATEGIC OBJECTIVES

The group is focused on the translational research in urological oncology, aimed at generating knowledge that provides a direct benefit to patients.

1. Develop non-invasive tools for the diagnosis and prognosis of bladder, upper urinary tract and prostate cancer.
2. Identify biomarkers to predict the response to chemotherapy in bladder cancer.
3. Determine molecular prognostic factors in bladder, upper urinary tract, kidney and prostate cancer.

MAIN LINES OF RESEARCH

1. **Non-invasive diagnosis and prognosis of bladder tumors.**
- Development of a gene/miRNA expression signatures in urine samples.
- Identification of DNA aneuploidies in urine samples by FISH.
- Determination of methylation profiles of urine samples.
- Identification of somatic mutations in circulating tumor cells and tumor cell free DNA (liquid biopsy) .

2. **Predictive biomarkers of prognosis and response to treatments.**
- Markers of disseminated cells from bladder tumours in lymph nodes and peripheral blood.
- Markers of response to neoadjuvant chemotherapy in bladder cancer patients.
- Prognostic markers in bladder, kidney and upper urinary tract tumors.
- Radiogenomics in prostate cancer and renal cell carcinoma

3. **Non-invasive diagnosis and prognosis of prostate tumours.**
- Development of a gene/miRNA expression signature in post-prostatic massage urine samples.
- Prognostic biomrakers for prostate cancer.

PUBLICATIONS

Originals / I.F.: 51.241

1. Breda A, Territo A, Gausa L, Tuğcu V, Alcaraz A, Musquera M, Decaestecker K, Desender L, Stockle M, Janssen M, Fornara P, Mohammed N, Siena G, Serni S, Guirado L, Facundo C, Doumerc N. **Robot-assisted Kidney Transplantation: The European Experience.** *EUROPEAN UROLOGY.* 73(2):273-281. I.F.: 17.581

2. Van der Heijden, Antoine G.; Mengual, Lourdes; Ingelmo-Torres, Mercedes; Lozano, Juan J.; van Rijt-van de Westerlo, Cindy C. M.; Baixauli, Montserrat; Geavlete, Bogdan; Moldoveanud, Cristian; Ene, Cosmin; Dinney, Colin P.; Czerniak, Bogdan; Schalken, Jack A.; Kiemeney, Lambertus A. L. M.; Ribal, Maria J.; Witjes, J. Alfred; Alcaraz, Antonio**. Urine cell-based DNA methylation classifier for monitoring bladder cancer.** *CLINICAL EPIGENETICS.* 10(1):71. I.F.: 6.091

3. Castelló A, Boldo E, Amiano P, Castaño-Vinyals G, Aragonés N, Gómez-Acebo I, Peiró R, Jimenez-Moleón JJ, Alguacil J, Tardón A, Cecchini L, Lope V, Dierssen-Sotos T, Mengual L, Kogevinas M, Pollán M, Pérez-Gómez B, MCC-Spain Researchers. **Mediterranean Dietary Pattern is Associated with Low Risk of Aggressive Prostate Cancer: MCC-Spain Study.** *JOURNAL OF UROLOGY.* 199(2):430-437. I.F.: 5.381

4. Vela-Navarrete R, Alcaraz A, Rodríguez-Antolín A, Miñana López B, Fernández-Gómez JM, Angulo JC, Castro Díaz D, Romero-Otero J, Brenes FJ, Carballido J, Molero García JM, Fernández-Pro Ledesma A, Cózar Olmos JM, Manasanch Dalmau J, Subirana Cachinero I, Herdman M, Ficarra V. **Efficacy and safety of a hexanic extract of Serenoa repens (Permixon®) for the treatment of lower urinary tract symptoms associated with benign prostatic hyperplasia (LUTS/BPH): Systematic review and meta-analysis of randomized controlled trials and observational studies.** *BJU INTERNATIONAL.* 122(6):1049-1065. I.F.: 4.688

5. Territo A, Gausa L, Alcaraz A, Musquera M, Doumerc N, Decaestecker K, Desender L, Stockle M, Janssen M, Fornara P, Mohammed N, Siena G, Serni S, Sahin S, Tu?cu V, Basile G, Breda A. **European experience of robot-assisted kidney transplantation: minimum of 1-year follow-up.** *BJU INTERNATIONAL.* 122(2):255-262. I.F.: 4.688

6. Mateu Arrom L, Peri Cusi L, Franco de Castro A, López-Fando L, Jiménez Cidre MÁ, Alcaraz Asensio A. **Development and feasibility assessment of a 3 day electronic bladder diary as an app for smart-phone.** *NEUROUROLOGY AND URODYNAMICS.* 37(5):1717-1723. I.F.: 3.263

7. Mengual L., Kang B., Lozano J., Yang X., Zhang C., Alcaraz A., Liang J., Ye D. **Validation of urine-based gene classifiers for detecting bladder cancer in a Chinese study.** *JOURNAL OF CANCER.* 9(17):3208-3215. I.F.: 3.249

8. Unda-Urzaiz M, Cozar-Olmos JM, Miñana-Lopez B, Camarero-Jimenez J, Brugarolas-Rossello X, Zubiaur-Libano C, Ribal-Caparros MJ, Suarez-Charneco AJ, Rodriguez-Tesedo V, Chantada-Abal V, Ruiz-de-Leon C, Carrillo-George C, Carballido-Rodriguez J, Villacampa-Auba F, en representación del Grupo Español del Registro de Cepas de BCG en representación del Grupo Español del Registro de Cepas de BCG. **Safety and efficacy of various strains of bacille Calmette-Guérin in the treatment of bladder tumours in standard clinical practice.** 42(4):238-248. I.F.: 1.260

9. Carrion, A.; D'Anna, M.; Costa-Grau, M.; Luque, P.; Garcia-Cruz, E.; Franco, A.; Alcaraz, A. **Office stent placement under local anesthesia is a safe and efficient procedure for the management of multiple ureteral disorders.** *ACTAS UROLOGICAS ESPANOLAS.* 42(2):126-132. I.F.: 1.260

10. García-Cruz E, Carrión A, Ajami T, Álvarez M, Correas MÁ, García B, García JV, González C, Portillo JA, Romero-Otero J, Simón C, Torremadé J, Vigués F, Alcaraz A. **The Patient's Comorbidity Burden Correlates with the Erectile Dysfunction Severity.** *ACTAS UROLOGICAS ESPANOLAS.* 42(1):57-63. I.F.: 1.260

11. García-Cruz E, Bretonnet A, Alcaraz A. T**esting Smart Glasses in urology: Clinical and surgical potential applications.** *ACTAS UROLOGICAS ESPANOLAS.* 42(3):207-211. I.F.: 1.260

12. Mateu L, Peri L, Franco A, Roldán F, Musquera M, Ribal MJ. **Functional outcomes after prostatic cryosurgery.** *ACTAS UROLOGICAS ESPANOLAS.* 42(5):338-343. I.F.: 1.260

Review / I.F.: 3.78

1. Linares-Espinós E, Hernández V, Domínguez-Escrig JL, Fernández-Pello S, Hevia V, Mayor J, Padilla-Fernández B, Ribal MJ. **Methodology of a systematic review.** 42(8):499-506. I.F.: 1.260

2. E. García Cruz; J. Romero Otero; M. Fode; Antonio Alcaraz Asensio. **El entorno digital en los trastornos sexuales masculinos: revisión sistemática.** *ACTAS UROLOGICAS ESPANOLAS.* 42(6):365-374. I.F.: 1.260

3. Gomez-Veiga, F.; Alcaraz-Asensio, A.; Burgos-Revilla, J.; Cozar-Olmo, J. **Developments in urologic oncology "OncoForum": The best of 2017.** *ACTAS UROLOGICAS ESPANOLAS.* 42(8):488-498. I.F.: 1.260

Letters / I.F.: 20.562

1. Alcaraz A, Mengual L. **Re: Role of Genetic Testing for Inherited Prostate Cancer Risk: Philadelphia Prostate Cancer Consensus Conference 2017.** *EUROPEAN UROLOGY.* 74(3):397. I.F.: 17.581

2. Borgmann H, Musquera M, May M, Brookman-May SD. A**nswer to comment on manuscript Prognostic significance of Fuhrman grade and age for cancer-specific and overall survival in patients with papillary renal cell carcinoma: results of an international multi-institutional study on 2189 patients.** *WORLD JOURNAL OF UROLOGY.* 36(12):2091-2092. I.F.: 2.981

Clinical Guidelines / I.F.: 17.581

1. Borgmann H, Cooperberg M, Murphy D, Loeb S, N'Dow J, Ribal MJ, Woo H, Rouprêt M, Winterbottom A, Wijburg C, Wirth M, Catto J, Kutikov A. **Online Professionalism-2018 Update of European Association of Urology (@Uroweb) Recommendations on the Appropriate Use of Social Media.** 74(5):644-650. I.F.: 17.581

Consortium Publications / I.F.: 131.091

1. Smith MR, Saad F, Chowdhury S, Oudard S, Hadaschik BA, Graff JN, Olmos D, Mainwaring PN, Lee JY, Uemura H, Lopez-Gitlitz A, Trudel GC, Espina BM, Shu Y, Park YC, Rackoff WR, Yu

MK, Small EJ, SPARTAN Investigators SPARTAN Investigators. **Apalutamide Treatment and Metastasis-free Survival in Prostate Cancer.** 378(15):1408-1418. I.F.: 79.260

2. Schumacher FR, Al Olama AA, Berndt SI, Benlloch S, Ahmed M, Saunders EJ, Dadaev T, Leongamornlert D, Anokian E, Cieza-Borrella C, Goh C, Brook MN, Sheng X, Fachal L, Dennis J, Tyrer J, Muir K, Lophatananon A, Stevens VL, Gapstur SM, Carter BD, Tangen CM, Goodman PJ, Thompson IM, Batra J, Chambers S, Moya L, Clements J, Horvath L, Tilley W, Risbridger GP, Gronberg H, Aly M, Nordström T, Pharoah P, Pashayan N, Schleutker J, Tammela TLJ, Sipeky C, Auvinen A, Albanes D, Weinstein S, Wolk A, Håkansson N, West CML, Dunning AM, Burnet N, Mucci LA, Giovannucci E, Andriole GL, Cussenot O, Cancel-Tassin G, Koutros S, Beane Freeman LE, Sorensen KD, Orntoft TF, Borre M, Maehle L, Grindedal EM, Neal DE, Donovan JL, Hamdy FC, Martin RM, Travis RC, Key TJ, Hamilton RJ, Fleshner NE, Finelli A, Ingles SA, Stern MC, Rosenstein BS, Kerns SL, Ostrer H, Lu YJ, Zhang HW, Feng N, Mao X, Guo X, Wang G, Sun Z, Giles GG, Southey MC, MacInnis RJ, FitzGerald LM, Kibel AS, Drake BF, Vega A, Gómez-Caamaño A, Szulkin R, Eklund M, Kogevinas M, Llorca J, Castaño-Vinyals G, Penney KL, Stampfer M, Park JY, Sellers TA, Lin HY, Stanford JL, Cybulski C, Wokolorczyk D, Lubinski J, Ostrander EA, Geybels MS, Nordestgaard BG, Nielsen SF, Weischer M, Bisbjerg R, Røder MA, Iversen P, Brenner H, Cuk K, Holleczek B, Maier C, Luedeke M, Schnoeller T, Kim J, Logothetis CJ, John EM, Teixeira MR, Paulo P, Cardoso M, Neuhausen SL, Steele L, Ding YC, De Ruyck K, De Meerleer G, Ost P, Razack A, Lim J, Teo SH, Lin DW, Newcomb LF, Lessel D, Gamulin M, Kulis T, Kaneva R, Usmani N, Singhal S, Slavov C, Mitev V, Parliament M, Claessens F, Joniau S, Van den Broeck T, Larkin S, Townsend PA, Aukim-Hastie C, Gago-Dominguez M, Castelao JE, Martinez ME, Roobol MJ, Jenster G, van Schaik RHN, Menegaux F, Truong T, Koudou YA, Xu J, Khaw KT, Cannon-Albright L, Pandha H, Michael A, Thibodeau SN, McDonnell SK, Schaid DJ, Lindstrom S, Turman C, Ma J, Hunter DJ, Riboli E, Siddiq A, Canzian F, Kolonel LN, Le Marchand L, Hoover RN, Machiela MJ, Cui Z, Kraft P, Amos CI, Conti DV, Easton DF, Wiklund F, Chanock SJ, Henderson BE, Kote-Jarai Z, Haiman CA, Eeles RA, Profile Study, Australian Prostate Cancer BioResource (APCB), IMPACT Study, Canary PASS Investigators, Breast and Prostate Cancer Cohort Consortium (BPC3), PRACTICAL (Prostate Cancer Association Group to Investigate Cancer-Associated Alterations in the Genome) Consortium, Cancer of the Prostate in Sweden (CAPS), Prostate Cancer Genome-wide Association Study of Uncommon Susceptibility Loci (PEGASUS), Genetic Associations and Mechanisms in Oncology (GAME-ON)/Elucidating Loci Involved in Prostate Cancer Susceptibility (ELLIPSE) Consortium Profile Study, Australian Prostate Cancer BioResource (APCB), IMPACT Study, Canary PASS Investigators, Breast and Prostate Cancer Cohort Consortium (BPC3), PRACTICAL (Prostate Cancer Association Group to Investigate Cancer-Associated Alterations in the Genome) Consortium, Cancer of the Prostate in Sweden (CAPS), Prostate Cancer Genome-wide Association Study of Uncommon Susceptibility Loci (PEGASUS), Genetic Associations and Mechanisms in Oncology (GAME-ON)/Elucidating Loci Involved in Prostate Cancer Susceptibility (ELLIPSE) Consortium. **Association analyses of more than 140,000 men identify 63 new prostate cancer susceptibility loci.** *NATURE GENETICS.* 50(7):928-936. I.F.: 27.125

3. Matejcic M, Saunders E, Dadaev T, Brook M, Wang K, Sheng X, Olama A, Schumacher F, Ingles S, Govindasami K, Benlloch S, Berndt S, Albanes D, Koutros S, Muir K, Stevens V, Gapstur S, Tangen C, Batra J, Clements J, Gronberg H, Pashayan N, Schleutker J, Wolk A, West C, Mucci L, Kraft P, Cancel-Tassin G, Sorensen K, Maehle L, Grindedal E, Strom S, Neal D, Hamdy F, Donovan J, Travis R, Hamilton R, Rosenstein B, Lu Y, Giles G. **Germline variation at 8q24 and prostate cancer risk in men of European ancestry.** *NATURE COMMUNICATIONS.* 9(1):4616. I.F.: 12.353

4. Dadaev T; Saunders EJ; Newcombe PJ; Anokian E; Leongamornlert DA; Brook MN; Cieza-Borrella C; Mijuskovic M; Wakerell S; Olama AAA; Schumacher FR; Berndt SI; Benlloch S; Ahmed M; Goh C; Sheng X; Zhang Z; Muir K; Govindasami K; Lophatananon A; Stevens VL; Gapstur SM; Carter BD; Tangen CM; Goodman P; Thompson IM; Batra J; Chambers S; Moya L; Clements J; Horvath L; Tilley W; Risbridger G; Grönberg H; Aly M; Nordström T; Pharoah P; Pashayan N; Schleutker J; Tammela TLJ. **Fine-mapping of prostate cancer susceptibility loci in a large meta-analysis identifies candidate causal variants.** *NATURE COMMUNICATIONS.* 9(1):2256-2256. I.F.: 12.353

GRANTS FOR RESEARCH IN PROGRESS

Alcaraz A. **Validación Clínica Robot Quirúrgico.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). RTC-2015-3926-1
Duration: 01/03/2015- 30/06/2018

Mengual L. **Identificación de biomarcadores pronósticos del tumor vesical músculo invasivo y su inferencia en la biopsia líquida.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/01343
Duration: 01/01/2018-31/12/2020

DOCTORAL THESES

Mengual L, Izquierdo L. **Estudi del Carcinoma Urotelial. Identificació de biomarcadors amb valor diagnòstic i pronòstic.**
PhD student: Ruth Montalbo Calafell

ANNUAL
SCIENTIFIC REPORT
2018

AREA 3

LIVER, DIGESTIVE SYSTEM AND METABOLISM

3

© Iñigo Chivite

AREA 3

LIVER, DIGESTIVE SYSTEM AND METABOLISM

3.1 **Gynecological endocrinology and human reproduction** 154
María Ángeles Martínez Zamora

3.2 **Fetal and perinatal medicine** 156
Eduard Gratacós

3.3 **Viral, toxic and metabolic hepatopathies** 162
Xavier Forns

3.4 **Mechanisms of liver disease and complications of cirrhosis** 166
Pere Ginès

3.5 **Hepatic oncology** 172
Jordi Bruix

3.6 **Hepatic hemodynamics and portal hypertension. Hemorrhage from ruptured gastroesophageal varices** 177
Juan Carlos García-Pagán

3.7 **Inflammatory bowel disease** 182
Julià Panés

3.8 **Cholestasis and bone pathology** 186
Albert Parés / Núria Guañabens

3.9 **Mitochondrial regulation of cell death and steatohepatitis** 189
José Carlos Fernández-Checa

3.10 **Liver transplantation and graft viability** 192
Miquel Navasa

3.11 **Gastrointestinal and pancreatic oncology** 197
Antoni Castells

3.12 **Inherited metabolic diseases** 203
Antonia Ribes

3.13 **Genomic programming of beta cells and diabetes** 205
Jorge Ferrer

3.14 **Diabetes: metabolic and molecular networks** 207
Josep Vidal

3.15 **Pathogenesis and prevention of diabetes** 214
Anna Novials

3.1 Gynecological endocrinology and human reproduction

LOCATION
HCB building

KEYWORDS
1. **Human papillomavirus**
2. **Endometrial cancer**
3. **Assisted reproductive technologies**
4. **Recurrent miscarriage**
5. **Gynecological laparoscopy**
6. **Endometriosis**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	30.28	10	5	1
2017	68.24	19	10	5
2018	38.68	9	4	3

TEAM LEADER
María Ángeles Martínez Zamora (HCB)
T. 93 227 54 36
mazamora@clinic.cat

RESEARCHERS
Immaculada Alonso (HCB)
Francesc Carmona (HCB)
Camil Castelo-Branco (HCB)
Marta del Pino (HCB)
Francisco J. Fábregues (HCB)
Dolors Manau (HCB)
Aureli Torné (HCB)

PRE-DOCTORAL RESEARCHERS
Meritxell Gracia (HCB)
Mariona Rius (HCB)

NURSING STAFF
Ana Carrión (HCB)

STRATEGIC OBJECTIVES

The global aim of this research group for the coming years is to advance in the knowledge of different aspects relating to the physiopathology of human reproduction: from endocrinological considerations to the most important benign and malignant pathological processes of the female reproductive system, as well as the investigation and treatment of human reproduction failure.

MAIN LINES OF RESEARCH

1. **Reproductive failure markers.**
To find new markers of hemostasis alterations in early and advanced pregnancy in patients with or without antiphospholipid syndrome and in endometriosis patients. To assess the usefulness of immunohistochemical and proteomic parameters in the human endometrium as markers of endometrial receptiveness.

2. **Ovarian dysfunction and stimulation/ hyperstimulation.**
Investigation of the possibilities of ultrasound, hormonal, endocrinemetabolic and genetic markers in relation to the prediction of ovarian response. To assess the role of the ovarian follicular cells in the pathogenesis of ovarian hyperstimulation syndrome in order to improve the results of assisted reproduction techniques.

3. **Optimization of the surgical management of diseases of the reproductive apparatus.**
To analyze the role of the surgical variables allowing improvement of the results and reduction of the morbidity in the surgical treatment of benign and malignant gynaecological disorders. To define the prognostic value of human papillomavirus detection and viral typing as progression markers of precancerous lesions of the cervix, vagina and vulva.

PUBLICATIONS

Originals / I.F.: 38.684

1. Paré L, Pascual T, Seguí E, Teixidó C, Gonzalez-Cao M, Galván P, Rodríguez A, González B, Cuatrecasas M, Pineda E, Torné A, Crespo G, Martin-Algarra S, Pérez-Ruiz E, Reig Ò, Viladot M, Font C, Adamo B, Vidal M, Gaba L, Muñoz M, Victoria I, Ruiz G, Viñolas N, Mellado B, Maurel J, Garcia-Corbacho J, Molina-Vila MÁ, Juan M, Llovet JM, Reguart N, Arance A, Prat A. **Association between PD1 mRNA and response to anti-PD1 monotherapy across multiple cancer-types.** *ANNALS OF ONCOLOGY.* 29(10):2121-2128. I.F.: 13.930

2. Rakislova N, Alemany L, Clavero O, Del Pino M, Saco A, Quirós B, Lloveras B, Alejo M, Halec G, Quint W, de Sanjosé S, Ordi J, VVAP study group. **Differentiated Vulvar Intraepithelial Neoplasia-like and Lichen Sclerosus-like Lesions in HPV-associated Squamous Cell Carcinomas of the Vulva.** *AMERICAN JOURNAL OF SURGICAL PATHOLOGY.* 42(6):828-835. I.F.: 5.878

3. Fabregues F, González-Foruria I, Peñarrubia J, Carmona F. **Ovarian response is associated with anogenital distance in patients undergoing controlled ovarian stimulation for IVF.** *HUMAN REPRODUCTION.* 33(9):1696-1704. I.F.: 4.990

4. Gracia M, Alcalà M, Ferreri J, Rius M, Ros C, Saco MA, Martínez-Zamora MÁ, Carmona F. **Ulipristal Acetate Improves Clinical Symptoms in Women with Adenomyosis and Uterine Fibroids.** *JOURNAL OF MINIMALLY INVASIVE GYNECOLOGY.* 25(7):1274-1280. I.F.: 3.061

5. Rodríguez-Trujillo A, Fusté P, Paredes P, Mensión E, Agustí N, Gil-Ibáñez B, Del Pino M, González-Bosquet E, Torné A . **Long-term oncological outcomes of patients with negative sentinel lymph node in vulvar cancer. Comparative study with conventional lymphadenectomy.** *ACTA OBSTETRICIA ET GYNECOLOGICA SCANDINAVICA.* 97(12):1427-1437. I.F.: 2.649

6. Rodríguez-Trujillo A, Martí C, Angeles MA, Sierra A, Esteve R, Saco A, Barnadas E, Marimón L, Nicolás I, Torné A, Ordi J, Del Pino M. **Value of HPV 16/18 Genotyping and p16/Ki-67 Dual Staining to Predict Progression to HSIL/CIN2+ in Negative Cytologies From a Colposcopy Referral Population.** *AMERICAN JOURNAL OF CLINICAL PATHOLOGY.* 150(5):432-440. I.F.: 2.413

7. Del Valle Aguilera, Maria; Rovirosa, Angeles; Ascaso, Carlos; Herreros, Antonio; Sanchez, Joan; Garcia-Miguel, Julia; Cortes, Stephania; Agusti, Eduardo; Camacho, Cristina; Zhang, Yaowen; Li, Yan; Sabater, Sebastia; Torne, Aureli; Arenas, Meritxell. **Late G2 vagina toxicity in post-operative endometrial carcinoma is associated with a 68 Gy dose equivalent to 2 Gy per fraction (α/β=3Gy) at 2 cm³ of vagina.** *JOURNAL OF CONTEMPORARY BRACHYTHERAPY.* 10(1):40-46. I.F.: 2.146

8. Lopez, Noelia; Torne, Aureli; Franco, Agustin; San-Martin, Maria; Viayna, Elisabet; Barrull, Carmen; Perulero, Nuria. **Epidemiologic and economic burden of HPV diseases in Spain: implication of additional 5 types from the 9-valent vaccine.** *INFECTIOUS AGENTS AND CANCER.* 13(15). I.F.: 2.123

9. Munmany M, Torné A, Nonell R, Barnadas E, Luqui N, Ordi J, Del Pino M. **Colposcopy Evaluation at the Time of Loop Electrosurgical Excision Procedure May Avoid Unnecessary Treatment.** *JOURNAL OF LOWER GENITAL TRACT DISEASE.* 22(4):367-374. I.F.: 1.494

Review / I.F.: 2.367

1. Fabregues F., Ferreri J., Calafell J., Moreno V., Borrás A., Manau D., Carmona F. **Pregnancy after drug-free in vitro activation of follicles and fresh tissue autotransplantation in primary ovarian insufficiency patient: A case report and literature review.** *JOURNAL OF OVARIAN RESEARCH.* 11(76). I.F.: 2.367

Case Reports / I.F.: 1.453

1. Garrido Oyarzún MF, Saco A, Castelo-Branco C. **Anterior abdominal wall parasitic leiomyoma: case report.** *GYNECOLOGICAL ENDOCRINOLOGY.* 34(2):103-106. I.F.: 1.453

GRANTS FOR RESEARCH IN PROGRESS

Del Pino M. **Valor de la detección del ARNm de los biomarcadores CDKN2A, MKi67, TOP2A en la prevención secundaria del cáncer de cuello de útero.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00772
Duration: 01/01/2018-31/12/2020

Torné A. **Estudi multicèntric sobre el procés assistencial del càncer d'ovari a l'atenció primària de Catalunya: Avaluació de dues intervencions per reduir el retard diagnòstic.**
Sponsored by: Generalitat de Catalunya. PERIS_Projectes Atenció Primària (SLT002/16/00200)
Duration: 27/03/2017-31/12/2019

DOCTORAL THESES

Carmona F, Chapron C . **Endometriosis pathogenesis: The relationship between oxidative stress, fibrosis and immunological dysfunction.**
PhD student: Iñaki González Foruria

Torné A, Del Pino M. **Detecció de la regressió post-biòpsia de la neoplàsia cervical intraepitelial. Valor de la colposcòpia immediata preconització.**
PhD student: Meritxell Munmany Delgado

Torné A, Del Pino M. **Utilidad de la determinación VPH, genotipado y tinción dual p16/Ki67 en la prevención secundaria del cáncer de cuello de útero.**
PhD student: Adriano Rodríguez Trujillo

3.2 Fetal and perinatal medicine

LOCATION
Maternitat building

WEB
www.fetalmedbarcelona.org

KEYWORDS
1. **Prenatal diseases**
2. **Intrauterine growth restriction**
3. **Fetal programming**
4. **Fetal brain damage**
5. **Prematurity**
6. **Environment and pregnancy complications**
7. **Neonatal risk factors for impaired neurodevelopment outcome**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	149.32	44	33	5
2017	182.64	51	28	18
2018	119.25	41	13	8

TEAM INVOLVED IN
CIBERER
AGAUR_SGR17: 01531, 01734

AWARDS
Premi extraordinari de doctorat per la tesi:
"Development of combined screening test for the prediction of preeclampsia and intrauterine growth restriction in the first trimester of pregnancy"
Intitution: Universitat de Barcelona
Awardee/s: Francesca Crovetto

TEAM LEADER
Eduard Gratacós (HCB)
T. 93 227 99 46
gratacos@clinic.cat

RESEARCHERS
Antoni Borrell (HCB)
Francesc Botet (HCB)
Elena Casals (HCB)
Maria Teresa Cobo (HCB)
Fátima Crispi (HCB-IDIBAPS)
Elisenda Eixarch (HCB-IDIBAPS)
Josep Figueras (HCB)
Francesc Figueras (HCB)
Oscar García (HCB)
Olga Gomez (HCB)
Anna Gonce (HCB)
Jose Mª Martinez (HCB)
Montserrat Palacio (HCB)

POST-DOCTORAL RESEARCHERS
Ángela Arranz (HCB-FCRB)
Francesca Crovetto (CIBER)
Narcís Masoller (HCB)
Mónica Zamora (FCRB)

PRE-DOCTORAL RESEARCHERS
Paz Ahumada (UB)
Maria Laura Boutet (UB)
Laura Garcia (HCB)
Nadine Margit Hahner (UB)
Eduardo Herreros (UB)
Mari Kinoshita (UB)
Talita Micheletti (UB)
Lucas Monteiro (UB)
Ana Moreno (UB)
Cristina Paules (IDIBAPS)
Sergio Quesada (IDIBAPS)
Marta Rial (IDIBAPS)
Alvaro Sepulveda (UB)
Ximena Francisca Torres (HCB)
Kilian Vellvé (FCRB)
Lina Youssef (UB)

TECHNICIANS
Carla Loreiro (FCRB)
Miriam Osorio (FCRB)
Nuria Rierola (FCRB)
Ana Belén Sánchez (FCRB)

ADMINISTRATIVE STAFF
Maite Aguilera (FCRB)
María Mercedes Alonso (FCRB)
Estefanía Callado (FCRB)
Ester Cardet (FCRB)
Marta Dacal (FCRB)
Luis Enrique Enciso (FCRB)
Pedro Lorente (FCRB)
Paula Navarro (FCRB)
Isil Tekeli (FCRB)
Nathalia Torrico (FCRB)

TEAM Eduard Gratacós

NURSING STAFF
Alba Camacho (FCRB)
Nadia Rojas (FCRB)

VISITING SCIENTISTS
Ayako Nakaki (National Hospital Organization Kyoto Medical Center)

STRATEGIC OBJECTIVES

Our main objectives are to develop new imaging and molecular tools for early diagnosis and prenatal disease monitoring, to provide new clinical solutions and interventions for improving fetal growth, to develop and validate new technological solutions for fetal surgery and to consolidate animal models to better characterise fetal programming.

MAIN LINES OF RESEARCH

1. **Prematurity.** This line focuses on patients at risk of preterm labor, investigating non-invasive diagnostic tools such as quantitative ultrasound textures analysis and biomarkers for intraamniotic inflammation and infection.

2. **Placental Disease.** We aim to identify suboptimal fetal growth before birth providing new diagnosis tools for the correct classification of small babies at highest perinatal risk and optimal timing to delivery.

3. **Fetal Brain Development.** We aim to develop quantitative imaging biomarkers for early diagnosis of neurodevelopmental disorders of prenatal origin based on ultrasound and magnetic resonance.

4. **Fetal Programming.** We focus on the long-term impact of prenatal conditions such as fetal growth restriction, preeclampsia, assisted reproductive technologies, perinatal infections or congenital heart disease, providing a better phenotypic characterization and testing preventive strategies for fetal growth restriction.

5. **Fetal Therapy and Surgery.** This research line aims to characterize neuroprotective therapies that could mitigate the neurodevelopmental impairment related to fetal growth restriction and to develop new technological solutions for fetal surgery.

6. **Environment and pregnancy complications.** This research line studies the effect of exposure to environmental pollutants during pregnancy and evaluates their impact and drug abuse impact during pregnancy.

7. **Neonatal risk factors for impaired neurodevelopment outcome.** This line focuses on epigenetic, toxic and environmental risk factors for abnormal neurodevelopmental, nutritional and metabolic outcome.

PUBLICATIONS

Originals / I.F.: 119.253

1. Caradeux J, Eixarch E, Mazarico E, Basuki TR, Gratacos E, Figueras F . **Longitudinal growth assessment for the prediction of adverse perinatal outcome in SGA-suspected fetuses.** *ULTRASOUND IN OBSTETRICS AND GYNECOLOGY.* 52(3):325-331. I.F.: 5.654

2. Valenzuela-Alcaraz B, Cruz-Lemini M, Rodríguez-López M, Goncé A, García-Otero L, Ayuso H, Sitges M, Bijnens B, Balasch J, Gratacós E, Crispi F. **Fetal cardiac remodeling in twin pregnancies conceived by assisted reproductive technologies.** *ULTRASOUND IN OBSTETRICS AND GYNECOLOGY.* 51(1):94-100. I.F.: 5.654

3. Migliorelli F, Rueda C, Angeles MA, Baños N, Posadas DE, Gratacós E, Palacio M. **Cervical consistency index and risk of cesarean delivery after induction of labor at term.** *ULTRASOUND IN OBSTETRICS AND GYNECOLOGY.* 53(6):798-803. I.F.: 5.654

4. Baños N, Murillo-Bravo C, Julià C, Migliorelli F, Perez-Moreno A, Ríos J, Gratacós E, Valentin L, Palacio M. **Mid-trimester sonographic Cervical Consistency Index to predict spontaneous preterm birth in a low-risk population.** *ULTRASOUND IN OBSTETRICS AND GYNECOLOGY.* 51(5):629-636. I.F.: 5.654

5. Baños N, Perez-Moreno A, Julià C, Murillo-Bravo C, Coronado D, Gratacós E, Deprest J, Palacio M. **Quantitative analysis of the cervical texture by ultrasound in the mid-pregnancy is associated with spontaneous preterm birth.** *ULTRASOUND IN OBSTETRICS AND GYNECOLOGY.* 51(5):637-643. I.F.: 5.654

6. Caradeux J, Eixarch E, Mazarico E, Basuki TR, Gratacós E, Figueras F. **Second to third trimester longitudinal growth assessment for the prediction of SGA and late FGR.** *ULTRASOUND IN OBSTETRICS AND GYNECOLOGY.* 51(2):219-224. I.F.: 5.654

7. Guirado L, Crispi F, Masoller N, Bennasar M, Marimon E, Carretero J, Gratacós E, Martínez JM, Friedberg MK, Gómez O. **Biventricular impact of mild to moderate pulmonary valve stenosis in fetal life.** *ULTRASOUND IN OBSTETRICS AND GYNECOLOGY.* 51(3):349-356. I.F.: 5.654

8. Spencer R, Rossi C, Lees M, Peebles D, Brocklehurst P, Martin J, Hansson S, Hecher K, Marsal K, Figueras F, Gratacos E, David A. **Achieving orphan designation for placental insufficiency: annual incidence estimations in Europe.** *BJOG: AN INTERNATIONAL JOURNAL OF OBSTETRICS AND GYNAECOLOGY.* I.F.: 4.876

9. Miranda J, Simões RV, Paules C, Cañueto D, Pardo-Cea MA, García-Martín ML, Crovetto F, Fuertes-Martin R, Domenech M, Gómez-Roig MD, Eixarch E, Estruch R, Hansson SR, Amigó N, Cañellas N, Crispi F, Gratacós E . **Metabolic profiling and targeted lipidomics reveals a disturbed lipid profile in mothers and fetuses with intrauterine growth restriction.** *SCIENTIFIC REPORTS.* 8(1):13614. I.F.: 4.122

10. Benkarim OM, Hahner N, Piella G, Gratacos E, González Ballester MA, Eixarch E, Sanroma G. **Cortical folding alterations in fetuses with isolated non-severe ventriculomegaly.** *NEUROIMAGE: CLINICAL.* 18:103-114. I.F.: 3.869

11. Guitart-Mampel M, Gonzalez-Tendero A, Niñerola S, Morén C, Catalán-Garcia M, González-Casacuberta I, Juárez-Flores DL, Ugarteburu O, Matalonga L, Cascajo MV, Tort F, Cortés A, Tobias E, Milisenda JC, Grau JM, Crispi F, Gratacós E, Garrabou G, Cardellach F . **Cardiac and placental mitochondrial**

characterization in a rabbit model of intrauterine growth restriction. *BBA BIOCHIMICA ET BIOPHYSICA ACTA.* 1862(5):1157-1167. I.F.: 3.679

12. Wald N, Bestwick J, Huttly W, Aldis J, Borrell A, Goodburn S, Mills I. **Prenatal screening for Down syndrome in twin pregnancies: Estimates of screening performance based on 61 affected and 7302 unaffected twin pregnancies.** *PRENATAL DIAGNOSIS.* 38(13):1079-1085. I.F.: 2.779

13. Hahner N, Puerto B, Perez-Cruz M, Policiano C, Monterde E, Crispi F, Gratacos E, Eixarch E. **Altered cortical development in fetuses with isolated non-severe ventriculomegaly assessed by neurosonography.** *PRENATAL DIAGNOSIS.* 38(5):365-375. I.F.: 2.779

14. Cruz-Lemini M, Valenzuela-Alcaraz B, Granados-Montiel J, Martínez JM, Crispi F, Gratacós E, Cruz-Martínez R. **Characterizing cardiac dysfunction in fetuses with left congenital diaphragmatic hernia.** *PRENATAL DIAGNOSIS.* 38(6):422-427. I.F.: 2.779

15. Kammoun M., Souche E., Brady P., Ding J., Cosemans N., Gratacos E., Devriendt K., Eixarch E., Deprest J., Vermeesch J. **Genetic profile of isolated congenital diaphragmatic hernia revealed by targeted next-generation sequencing.** *PRENATAL DIAGNOSIS.* 38(9):654-663. I.F.: 2.779

16. Gumus H., Illa M., Pla L., Zamora M., Crispi F., Gratacos E. **Nutritional intra-amniotic therapy increases survival in a rabbit model of fetal growth restriction.** *PLOS ONE.* 13(2):e0193240. I.F.: 2.766

17. Simoes, Rui V.; Cabanas, Miquel E.; Loreiro, Carla; Illa, Miriam; Crispi, Fatima; Gratacos, Eduard. **Assessment of prenatal cerebral and cardiac metabolic changes in a rabbit model of fetal growth restriction based on C-13-labelled substrate infusions and ex vivo multinuclear HRMAS.** *PLOS ONE.* 13(12):e0208784. I.F.: 2.766

18. Sanroma G., Benkarim O., Piella G., Lekadir K., Hahner N., Eixarch E., González Ballester M. **Learning to combine complementary segmentation methods for fetal and 6-month infant brain MRI segmentation.** *COMPUTERIZED MEDICAL IMAGING AND GRAPHICS.* 69:52-59. I.F.: 2.435

19. Kulkarni A, Garcia-Cañadilla P, Khan A, Lorenzo JM, Beckerman K, Valenzuela-Alcaraz B, Cruz-Lemini M, Gomez O, Gratacos E, Crispi F, Bijnens B. **Remodeling of the cardiovascular circulation in fetuses of mothers with diabetes: A fetal computational model analysis.** *PLACENTA.* 63:1-6. I.F.: 2.434

20. Miranda J., Paules C., Nair S., Lai A., Palma C., Scholz-Romero K., Rice G., Gratacos E., Crispi F., Salomon C. **Placental exosomes profile in maternal and fetal circulation in intrauterine growth restriction - Liquid biopsies to monitoring fetal growth.** *PLACENTA.* 64:34-43. I.F.: 2.434

21. Sabra S., Malmqvist E., Almeida L., Gratacos E., Gomez Roig M. **Differential correlations between maternal hair levels of tobacco and alcohol with fetal growth restriction clinical subtypes.** *ALCOHOL.* 70:43-49. I.F.: 2.425

22. Gomez-Roig M., Marchei E., Sabra S., Busardò F., Mastrobattista L., Pichini S., Gratacós E., Garcia-Algar O. **Maternal hair testing to disclose self-misreporting in drinking and smoking behavior during pregnancy.** *ALCOHOL.* 67:1-6. I.F.: 2.425

23. Crispi F., Crovetto F., Gratacos E. **Intrauterine growth restriction and later cardiovascular function.** *EARLY HUMAN DEVELOPMENT.* 126:23-27. I.F.: 2.025

24. Blazquez A, García D, Vassena R, Figueras F, Rodriguez A. **Risk of preeclampsia in pregnancies resulting from double gamete donation and from oocyte donation alone.** *PREGNANCY HYPERTENSION.* 13:133-137. I.F.: 2.011

25. Illa M., Brito V., Pla L., Eixarch E., Arbat-Plana A., Batallé D., Muñoz-Moreno E., Crispi F., Udina E., Figueras F., Ginés S., Gratacós E. **Early Environmental Enrichment Enhances Abnormal Brain Connectivity in a Rabbit Model of Intrauterine Growth Restriction.** *FETAL DIAGNOSIS AND THERAPY.* 44(3):184-193. I.F.: 1.813

26. Pérez-Cruz M; Crispi F; Fernandez M; Parra J; Valls A; Gomez Roig M; Gratacos E. **Cord Blood Biomarkers of Cardiac Dysfunction and Damage in Term Growth-Restricted Fetuses Classified by Severity Criteria**. *FETAL DIAGNOSIS AND THERAPY.* 44(4):271-276. I.F.: 1.813

27. Torres X., Bennasar M., Eixarch E., Rueda C., Goncé A., Muñoz M., Marimón E., Martínez J., Gratacós E., Figueras F. **Gender-Specific Antenatal Growth Reference Charts in Monochorionic Twins.** *FETAL DIAGNOSIS AND THERAPY.* 44(3):202-209. I.F.: 1.813

28. Cobo T, Palacio M, Grande M, Sánchez-García AB, Estanyol JM, López M, Bosch J, Martí C, Gratacós E. **Cervical Alpha-Actinin-4 Is Upregulated in Women with Threatened Preterm Labor and Microbial Invasion of the Amniotic Cavity.** *FETAL DIAGNOSIS AND THERAPY.* 44(1):36-43. I.F.: 1.813

29. Kacerovsky, Marian; Musilova, Ivana; Bestvina, Tomas; Stepan, Martin; Cobo, Teresa; Jacobsson, Bo. **Preterm Prelabor Rupture of Membranes between 34 and 37 Weeks: A Point-of-Care Test of Vaginal Fluid Interleukin-6 Concentrations for a Noninvasive Detection of Intra-Amniotic Inflammation.** *FETAL DIAGNOSIS AND THERAPY.* 43(3):175-183. I.F.: 1.813

30. Basuki TR, Triunfo S, Caradeux J, Eixarch E, Hansson S, Gratacos E, Figueras F. **Third-Trimester Conditional Reference Values for Longitudinal Fetal Growth Assessment.** *FETAL DIAGNOSIS AND THERAPY.* 43(1):34-39. I.F.: 1.813

31. Cobo T., Munrós J., Ríos J., Ferreri J., Migliorelli F., Baños N., Gratacós E., Palacio M. **Contribution of Amniotic Fluid along Gestation to the Prediction of Perinatal Mortality in Women with Early Preterm Premature Rupture of Membranes.** *FETAL DIAGNOSIS AND THERAPY.* 43(2):105-112. I.F.: 1.813

32. Palacio M., Caradeux J., Sánchez M., Cobo T., Figueras F., Coll O., Gratacós E., Cararach V. **Uterine Cervical Length Measurement to Reduce Length of Stay in Patients Admitted for Threatened Preterm Labor: A Randomized Trial.** *FETAL DIAGNOSIS AND THERAPY.* 43(3):184-190. I.F.: 1.813

33. Caradeux J, Eixarch E, Mazarico E, Basuki TR, Gratacós E, Figueras F. **Second- to Third-Trimester Longitudinal Growth**

Assessment for the Prediction of Largeness for Gestational Age and Macrosomia in an Unselected Population. *FETAL DIAGNOSIS AND THERAPY.* 43(4):284-290. I.F.: 1.813

34. Ortiz J., Torres X., Eixarch E., Bennasar M., Cruz-Lemini M., Gómez O., Lobmaier S., Martínez J., Gratacós E., Crispi F. **Differential Changes in Myocardial Performance Index and Its Time Intervals in Donors and Recipients of Twin-to-Twin Transfusion Syndrome before and after Laser Therapy.** *FETAL DIAGNOSIS AND THERAPY.* 44(4):305-310. I.F.: 1.813

35. Migliorelli F, Baños N, Angeles MA, Rueda C, Salazar L, Gratacós E, Palacio M. **Clinical and Sonographic Model to Predict Cesarean Delivery after Induction of Labor at Term.** *FETAL DIAGNOSIS AND THERAPY.* 1-9. I.F.: 1.813

36. Blazquez, Anna; Garcia, Desiree; Vassena, Rita; Figueras, Francesc; Rodriguez, Amelia. **Risk of pre-eclampsia after fresh or frozen embryo transfer in patients undergoing oocyte donation.** *EUROPEAN JOURNAL OF OBSTETRICS, GYNECOLOGY AND REPRODUCTIVE BIOLOGY.* 227:27-31. I.F.: 1.809

37. Musilova I; Andrys C; Holeckova M; Kolarova V; Pliskova L; Drahosova M; Bolehovska R; Pilka R; Huml K; Cobo T; Jacobsson B; Kacerovsky M. **Interleukin-6 measured using the automated electrochemiluminescence immunoassay method for the identification of intra-amniotic inflammation in preterm prelabor rupture of membranes.** *THE JOURNAL OF MATERNAL-FETAL & NEONATAL MEDICINE.* 1-131. I.F.: 1.493

38. Hallingström M, Cobo T, Kacerovsky M, Skogstrand K, Hougaard D, Holst R, Tsiartas P, Bullarbo M, Carlsson Y, Nilsson S, Jacobsson B. **The association between selected mid-trimester amniotic fluid candidate proteins and spontaneous preterm delivery.** *JOURNAL OF MATERNAL-FETAL & NEONATAL MEDICINE.* 10:1-10. I.F.: 1.493

39. Tanis JC, Mohammed N, Bennasar M, Martinez JM, Bijnens B, Crispi F, Gratacos E. **Online versus offline spatiotemporal image correlation (STIC) M-mode for the evaluation of cardiac longitudinal annular displacement in fetal growth restriction.** *THE JOURNAL OF MATERNAL-FETAL & NEONATAL MEDICINE.* 31(14):1845-1850. I.F.: 1.493

40. Nuruddin R., Urpi-Sarda M., Rodriguez-Lopez M., Garcia-Arenas D., Gratacos E., Crispi F., Acosta-Rojas R. **Macronutrient and fibre intake of young Spanish children with reference to their in utero growth status: Are they eating a healthy diet?** *JOURNAL OF PAEDIATRICS AND CHILD HEALTH.* 54(5):563-571. I.F.: 1.449

41. Gumus HG, Illa M, Pla L, Gonzalez A, Demicheva E, Ley D, Crispi F, Gratacos E. **Ultrasound-Guided Intrauterine Labeling of Rat Fetuses.** *GYNECOLOGIC AND OBSTETRIC INVESTIGATION.* 83(2):116-123. I.F.: 1.183

Review / I.F.: 17.204

1. Figueras F., Caradeux J., Crispi F., Eixarch E., Peguero A., Gratacos E. **Diagnosis and surveillance of late-onset fetal growth restriction.** *AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY.* 218(2):S790-S802. I.F.: 5.732

2. McCowan L, Figueras F, Anderson N. **Evidence-based national guidelines for the management of suspected fetal growth restriction: comparison, consensus, and controversy.** *AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY.* 218(2):S855-S868. I.F.: 5.732

3. Crispi F., Miranda J., Gratacós E. **Long-term cardiovascular consequences of fetal growth restriction: biology, clinical implications, and opportunities for prevention of adult disease.** *AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY.* 218(2):S869-S879. I.F.: 5.732

4. Caradeux J., Martinez-Portilla R., Basuki T., Kiserud T., Figueras F. **Risk of fetal death in growth-restricted fetuses with umbilical and/or ductus venosus absent or reversed end-diastolic velocities before 34 weeks of gestation: A systematic review and meta-analysis.** *AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY.* 218(2):S774-S782. I.F.: 5.732

5. Pauta M, Grande M, Rodriguez-Revenga L, Kolomietz E, Borrell A. **Added value of Chromosomal Microarray Analysis (CMA) over karyotyping in Early Pregnancy Loss - a Systematic Review and Meta-Analysis.** *ULTRASOUND IN OBSTETRICS AND GYNECOLOGY.* 51(4):453-462. I.F.: 5.654

6. Sebastiani G, Borrás-Novell C, Casanova M, Tutusaus M, Martínez S, Roig M, García-Algar O. **The effects of alcohol and drugs of abuse on maternal nutritional profile during pregnancy.** *NUTRIENTS.* 10(8). I.F.: 4.196

7. Palma-Gudiel H., Cirera F., Crispi F., Eixarch E., Fañanás L. **The impact of prenatal insults on the human placental epigenome: A systematic review.** *NEUROTOXICOLOGY AND TERATOLOGY.* 66:80-93. I.F.: 2.811

8. Borrell A., Grande M., Pauta M., Rodriguez-Revenga L., Figueras F. **Chromosomal Microarray Analysis in Fetuses with Growth Restriction and Normal Karyotype: A Systematic Review and Meta-Analysis.** *FETAL DIAGNOSIS AND THERAPY.* 44(1):1-9. I.F.: 1.813

Letters / I.F.: 10.447

1. Kumar S, Figueras F, Ganzevoort W, Turner J, McCowan L**. Using cerebroplacental ratio in non-SGA fetuses to predict adverse perinatal outcome: Caution is required.** *ULTRASOUND IN OBSTETRICS & GYNECOLOGY.* 52(4):427-429. I.F.: 5.654

2. Figueras F. **Response to comment on "First Trimester screening for early and late preeclampsia based on maternal characteristics, biophysical parameters, and angiogenic factors".** *PRENATAL DIAGNOSIS.* 38(11):892-892. I.F.: 2.779

3. Borrell A., Grande M., Meler E., Sabrià J., Mazarico E., Muñoz A., Rodriguez-Revenga L., Badenas C., Figueras F. **Genomic Microarray in Fetuses with Early Growth Restriction: A Multicenter Study.** *OBSTETRICAL AND GYNECOLOGICAL SURVEY.* 73(2):73-74. I.F.: 2.014

Editorial / I.F.: 5.654

1. Borrell A. **A new comprehensive paradigm for prenatal diagnosis: seeing the forest through the trees.**
ULTRASOUND IN OBSTETRICS AND GYNECOLOGY. 52(5):563-568. I.F.: 5.654

Clinical Guidelines / I.F.: 5.654

1. Coelho Neto M, Ludwin A, Borrell A, Benacerraf B, Dewailly D, da Silva Costa F, Condous G, Alcazar J, Jokubkiene L, Guerriero S, Van den Bosch T, Martins W. **Counting ovarian antral follicles by ultrasound: a practical guide.**
ULTRASOUND IN OBSTETRICS AND GYNECOLOGY. 51(1):10-20. I.F.: 5.654

GRANTS FOR RESEARCH IN PROGRESS

Borrell A. **Pérdida gestacional precoz: causas genéticas y riesgo de recurrencia.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00588
Duration: 01/01/2015-31/12/2018

Borrell A. **Secuenciación del exoma completo (SEC) en fetos con anomalías fetales estructurales.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/01153
Duration: 01/01/2018-31/12/2020

Cobo T. **Validación de biomarcadores proteómicos y metabolómicos de inflamación intraamniótica en el parto prematuro en muestras cervico-vaginales y desarrollo de algoritmos clínicos predictores.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00344
Duration: 01/01/2016-31/12/2019

Crispi F. **Impacto de la restricción de crecimiento intrauterino en la dinámica del remodelado cardiovascular en las diferentes etapas de la vida.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00226
Duration: 01/01/2015-31/12/2018

Crispi F. **Impacto de las técnicas de reproducción asistida en la programación cardiovascular fetal, resultado perinatal y epigenética fetal.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00675
Duration: 01/01/2018-31/12/2020

Eixarch E. **Desarrollo de herramientas predictivas para la identificación precoz de las alteraciones del neurodesarrollo de origen prenatal basadas en el estudio del desarrollo cortical fetal.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00861
Duration: 01/01/2017-31/12/2019

Figueras F. **Papel del factor de crecimineto placentario en el manejo de la preeclampsia no severa: estudio aleatorizado. Estudio MAP.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00903
Duration: 01/01/2016-31/12/2019

Garcia Algar O. **Alteraciones epigenéticas generadas por exposición prenatal al alcohol en pacientes con SAF (síndrome alcohol fetal). Antioxidante epigalocatequina (EGCG) como herramienta terapéutica.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00566
Duration: 17/03/2017-31/12/2019

Garcia Algar O. **Red de Salud Materno-Infantil y del desarrollo.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). RD16/0022/0002
Duration: 04/01/2017-31/12/2021

Gomez del Rincón O. **Evaluación pronóstica de las cardiopatías congénitas desde la etapa prenatal mediante ecocardiografía avanzada y biomarcadores plasmáticos.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00263
Duration: 01/01/2016-31/12/2019

Gratacós E. **Grup de medicina Maternofetal i Reproductiva mixta Hospital Clínic de Barcelona i Hospital Sant Joan de Déu.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_01531
Duration: 01/01/2017-31/12/2020

Gratacós E. **Identificación de moduladores y dianas terapéuticas en el remodelado y enfermedad cardiovascular del adulto asociada a retraso de crecimiento intrauterino.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00130
Duration: 01/01/2016-31/12/2019

Gratacós E. **Targeting endothelial dysfunction in highly prevalent diseases: characterization and validation of prognostic biomarkers and identification of potential therapeutic strategies.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PIE15/00027
Duration: 01/01/2016-31/12/2019

Gratacós E. **EVERREST - Does vascular endothelial growth factor gene therapy safely improve outcome in severe early-onset fetal growth restriction?**
Sponsored by: European Commission. FP7_Health_12 (305823)
Duration: 01/01/2013-31/12/2018

Palacio M. **Impacto de la detección y tratamiento precoz de las gestantes portadoras asintomáticas de vaginosis bacteriana, en la tasa de parto pretérmino (VB-PREM): ensayo clínico multicéntrico.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00975
Duration: 01/01/2018-31/12/2020

Paules C. **Development of prenatal biomarkers for the prediction of neurological impairment at early stages of life.**
Sponsored by: Fundació Santiago Dexeus Font 2017.
Duration: 01/01/2018-31/12/2018

DOCTORAL THESES

Crispi F, López M. **Fetal cardiovascular remodelling in HIV pregnancies.**
PhD student: Laura García Otero

Crispi F, Ley D. **Intrauterine therapy for fetal growth restriction.**
PhD student: Hatice Gulcin Gumus

Figueras F, Vassena R. **Donation of gametes and Risk of Preeclampsia.**
PhD student: Anna Blazquez Ventura

Figueras F. **Longitudinal assessment for the prediction of abnormal fetal growth.**
PhD student: Javier Caradeux Bull

Gratacós E, Figueras F. **Longitudinal Study of Fetal Growth in Low-Risk Population.**
PhD student: Tri Rahmat Basuki

Gratacós E, Crispi F. **Phenomapping of fetal growth restriction.**
PhD student: Jezid Enrique Miranda Quintero

Gratacós E, Gómez MD. **Maternal Heavy Metals and Toxins Exposure and their influences on Fetal Growth Restriction Clinical Subtypes.**
PhD student: Sally Sabra

3.3 Viral, toxic and metabolic hepatopathies

LOCATION
CEK building, floor 4

KEYWORDS
1. **Hepatitis C virus**
2. **Direct-acting antivirals (DAA)**
3. **Hepatitis B virus**
4. **Antiviral immune responses**
5. **Wilson's disease**
6. **DILI**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	135.49	22	18	2
2017	175.86	25	20	3
2018	182.38	19	16	1

TEAM INVOLVED IN
CIBEREHD
AGAUR_SGR17: 01753

TEAM LEADER
Xavier Forns (HCB)
T. 93 227 54 99
xforns@clinic.cat

RESEARCHERS
Josep Costa (HCB)
Sabela Lens (HCB)
Maria Carlota Londoño (HCB)
Zoe Mariño (HCB)
Sofía Pérez del Pulgar (CIBER)

POST-DOCTORAL RESEARCHERS
Georgios Koutsoudakis (FCRB)

PRE-DOCTORAL RESEARCHERS
Mireia Garcia-López (IDIBAPS)
Elena Perpiñán (CIBER)
Sergio Rodríguez-Tajes (HCB)

TECHNICIANS
Patricia González (CIBER)
Thais Leonel (FCRB)

NURSING STAFF
Concepció Bartres (HCB)
Anna Miralpeix (FCRB-IDIBAPS)

STRATEGIC OBJECTIVES

- Influence of virological and immunological factors on the natural history and treatment response in chronic hepatitis B.
- Strategies of hepatitis C microelimination in our geographical area.
- Evaluation of the impact of HCV eradication on clinical follow-up.
- Clinical and biological characterization of patients with Wilson's disease.

MAIN LINES OF RESEARCH

- Characterization of virological biomarkers in the natural history of chronic HBV infection.
- Molecular mechanisms and clinical significance of cccDNA persistence in HBV infection.
- Influence of viral and host factors in the natural history and response to treatment in chronic hepatitis B.
- Microelimination of HCV infection in persons who inject drugs.
- Neurocognitive and cerebral connectivity changes in HCV patients after viral eradication.

TEAM Xavier Forns

- Incidence of hepatic and extrahepatic cancer and tumoral characterization after HCV cure.
- Long term impact of HCV eradication on portal and systemic pressures in cirrhotic patients.
- Study of immune responses against hepatitis C after viral eradication, as a vaccine development strategy.
- Interplay between HBV, HDV and host factors: impact on liver disease progression.
- Clinical and functional characterization of a cohort of patients with Wilson's disease.
- Development of a Wilson's disease database in Catalonia.

PUBLICATIONS

Originals / I.F.: 182.379

1. Bonacci M, Lens S, Mariño Z, Londoño MC, Rodriguez-Tajes S, Sánchez-Tapias JM, Ramos-Casals M, Hernández-Rodríguez J, Forns X. **Long-Term Outcomes of Patients With HCV-Associated Cryoglobulinemic Vasculitis After Virologic Cure.** *GASTROENTEROLOGY.* 155(2):311-315. I.F.: 20.773

2. Esteban R, Pineda JA, Calleja JL, Casado M, Rodríguez M, Turnes J, Morano Amado LE, Morillas RM, Forns X, Pascasio Acevedo JM, Andrade RJ, Rivero A, Carrión JA, Lens S, Riveiro-Barciela M, McNabb B, Zhang G, Camus G, Stamm LM, Brainard DM, Subramanian GM, Buti M. **Efficacy of Sofosbuvir and Velpatasvir, With and Without Ribavirin, in Patients With HCV genotype 3 Infection and Cirrhosis.** *GASTROENTEROLOGY.* 155(4):1120-1127. I.F.: 20.773

3. Crespo G., Trota N., Londoño M., Mauro E., Baliellas C., Castells L., Castellote J., Tort J., Forns X., Navasa M. **The efficacy of direct anti-HCV drugs improves early post-liver transplant survival and induces significant changes in waiting list composition.** *JOURNAL OF HEPATOLOGY.* 69(1):11-17. I.F.: 15.040

4. Agarwal K, Castells L, Müllhaupt B, Rosenberg WMC, McNabb B, Arterburn S, Camus G, McNally J, Stamm LM, Brainard DM, Mani Subramanian G, Mariño Z, Dufour JF, Forns X. **Sofosbuvir/Velpatasvir for 12 Weeks in Genotype 1-4 HCV-Infected Liver Transplant Recipients.** *JOURNAL OF HEPATOLOGY.* 69(3):603-607. I.F.: 15.040

5. Londoño M., Souza L., Lozano J., Miquel R., Abraldes J., Llovet L., Quaglia A., Rimola A., Navasa M., Sánchez-Fueyo A. **Molecular profiling of subclinical inflammatory lesions in long-term surviving adult liver transplant recipients.** *JOURNAL OF HEPATOLOGY.* 69(3):626-634. I.F.: 15.040

6. Ampuero J., Jimeno C., Quiles R., Rosales J., Llerena S., Palomo N., Cordero P., Serrano F., Urquijo J., Moreno-Planas J., Ontanilla G., Hernández M., Ortega-Alonso A., Maraver M., Bonacci M., Rojas Á., Figueruela B., Forns X., Andrade R., Calleja J., Diago M., Carmona I., de la Mata M., Buti M., Crespo J., Pascasio J., Navarro J., Salmerón J., Romero-Gómez M. **Impact of comorbidities on patient outcomes after interferon-free therapy-induced viral eradication in hepatitis C.** *JOURNAL OF HEPATOLOGY.* 68(5):940-948. I.F.: 15.040

7. Reau N, Kwo PY, Rhee S, Brown RS, Agarwal K, Angus P, Gane E, Kao JH, Mantry PS, Mutimer D, Reddy KR, Tran TT, Hu YB, Gulati A, Krishnan P, Dumas EO, Porcalla A, Shulman NS, Liu W, Samanta S, Trinh R, Forns X. **Glecaprevir/Pibrentasvir Treatment in Liver or Kidney Transplant Patients With Hepatitis C Virus Infection.** *HEPATOLOGY.* 68(4):1298-1307. I.F.: 14.079

8. Mauro E, Crespo G, Montironi C, Londoño MC, Hernández-Gea V, Ruiz P, Sastre L, Lombardo J, Mariño Z, Díaz A, Colmenero J, Rimola A, Garcia-Pagán JC, Brunet M, Forns X, Navasa M. **Portal pressure and liver stiffness measurements in the prediction of fibrosis regression after SVR in recurrent hepatitis C.** *HEPATOLOGY.* 67(5):1683-1694. I.F.: 14.079

9. Bonacci M, Lens S, Mariño Z, Londoño MC, Rodríguez-Tajes S, Mas A, García-López M, Pérez-Del-Pulgar S, Sánchez-Tapias JM, Forns X. **Anti-viral therapy can be delayed or avoided in a significant proportion of HBeAg-negative Caucasian patients in the Grey Zone.** *ALIMENTARY PHARMACOLOGY AND THERAPEUTICS.* 47(10):1397-1408. I.F.: 7.357

10. Oriolo G, Egmond E, Mariño Z, Cavero M, Navines R, Zamarrenho L, Solà R, Pujol J, Bargallo N, Forns X, Martin-Santos R. **Systematic review with meta-analysis: neuroimaging in hepatitis C chronic infection.** *ALIMENTARY PHARMACOLOGY AND THERAPEUTICS.* 47(9):1238-1252. I.F.: 7.357

11. Manzardo C, Londoño MC, Castells L, Testillano M, Luis Montero J, Peñafiel J, Subirana M, Moreno A, Aguilera V, Luisa González-Diéguez M, Calvo-Pulido J, Xiol X, Salcedo M, Cuervas-Mons V, Manuel Sousa J, Suarez F, Serrano T, Ignacio Herrero J, Jiménez M, Fernandez JR, Giménez C, Del Campo S, Esteban-Mur JI, Crespo G, de la Rosa G, Rimola A, Miro JM,and the FIPSE **LT-HIV investigators. Direct-acting antivirals are effective and safe in HCV/HIV-coinfected liver transplant recipients who experience recurrence of hepatitis C: A prospective nationwide cohort study.** *AMERICAN JOURNAL OF TRANSPLANTATION.* 18(10):2513-2522. I.F.: 6.493

12. Mingorance L, Castro V, Ávila-Pérez G, Calvo G, Rodriguez MJ, Carrascosa JL, Pérez-Del-Pulgar S, Forns X, Gastaminza P. **Host phosphatidic acid phosphatase lipin1 is rate limiting for functional hepatitis C virus replicase complex formation.** *PLOS PATHOGENS.* 14(9):e1007284. I.F.: 6.158

13. Nicolás D, Ambrosioni J, de Lazzari E, Suarez A, Manzardo C, Agüero F, Mosquera MM, Costa J, Ligero C, Marcos MÁ, Sánchez-Palomino S, Fernández E, Plana M, Yerly S, Gatell JM, Miró JM, Hospital Clinic Acute/Recent HIV Study Group. **Epidemiological changes of acute/recent HIV-1 infection in Barcelona, Spain (1997-2015): A prospective cohort study.** *CLINICAL MICROBIOLOGY AND INFECTION.* 25(7):878-884. I.F.: 5.394

14. Lens S, García-Eliz M, Fernández I, Castells L, Bonacci M, Mas A, Crespo G, Buti M, Prieto M, Forns X. **Shorter HBIG administration is not associated to HBV recurrence when receiving combined prophylaxis after liver transplantation**. *LIVER INTERNATIONAL.* 38(11):1940-1950. I.F.: 4.500

15. Rodríguez-Tajes S, Perpiñán E, Caballol B, Lens S, Mariño Z, Costa J, Vilella A, Pérez-Del-Pulgar S, Forns X, Koutsoudakis G. **Hepatitis A outbreak in Barcelona among men who have sex with men (MSM), January-June 2017: A hospital**

perspective. *LIVER INTERNATIONAL.* 38(4):588-593. I.F.: 4.500

16. Perpiñán E, Caro-Pérez N, García-González N, Gregori J, González P, Bartres C, Soria ME, Perales C, Lens S, Mariño Z, Londoño MC, Ariza X, Koutsoudakis G, Quer J, González-Candelas F, Forns X, Pérez-Del-Pulgar S . **Hepatitis C virus early kinetics and resistance-associated substitution dynamics during antiviral therapy with direct-acting antivirals.** *JOURNAL OF VIRAL HEPATITIS.* 25(12):1515-1525. I.F.: 4.237

17. González-Colominas E., Londoño M., Morillas R., Torras X., Mojal S., Lens S., López D., Gallego A., Mariño Z., Ardèvol M., Pagès N., Solà R., Carrión J. **Potential drug-drug interactions of OMBITASVIR, PARITAPREVIR/ritonavir ± DASABUVIR ± ribavirin in clinical practice.** *JOURNAL OF GASTROENTEROLOGY AND HEPATOLOGY.* 33(5):1100-1107. I.F.: 3.483

18. Bodro M, Londoño MC, Esforzado N, Sanclemente G, Linares L, Solano MF, Cofan F, Marcos MA, Diekmann F, Moreno A . **Hepatitis C viremia as a risk factor for opportunistic infections in kidney transplant recipients.** *CLINICAL TRANSPLANTATION.* 32(10):e13382. I.F.: 1.518

19. Kerbert AJC, Reverter E, Verbruggen L, Tieleman M, Navasa M, Mertens BJA, Rodríguez-Tajes S, de Vree M, Metselaar HJ, Chiang FWT, Verspaget HW, van Hoek B, Bosch J, Coenraad MJ. **Impact of hepatic encephalopathy on liver transplant waiting list mortality in regions with different transplantation rates.** *CLINICAL TRANSPLANTATION.* 32(11):e13412. I.F.: 1.518

Review / I.F.: 7.224

1. Fernández-Carrillo C., Pérez-Vilaró G., Díez J., Pérez-del-Pulgar S. **Hepatitis C virus plays with fire and yet avoids getting burned. A review for clinicians on processing bodies and stress granules.** *LIVER INTERNATIONAL.* 38(3):388-398. I.F.: 4.500

2. Aoufi-Rabih S, García-Agudo R, Londoño MC, Fraga-Fuentes MD, Barril-Cuadrado G, On behalf on the Spanish Association of the Liver and the Kidney (AEHR) On behalf on the Spanish Association of the Liver and the Kidney (AEHR). **Recommendations for the treatment of hepatitis C virus infection in chronic kidney disease: a position statement by the Spanish association of the liver and the kidney.** *JOURNAL OF NEPHROLOGY.* 31(1):1-13. I.F.: 2.724

Letters / I.F.: 62.305

1. Lens S., Forns X., García-Pagán J**. Reply.** *GASTROENTEROLOGY.* 154(5):1551-1552. I.F.: 20.773

2. Londoño M., Forns X., Pascasio J. **Reply to: Extended DAA indications for hepatitis C patients awaiting liver transplantation and further statistical considerations**. *JOURNAL OF HEPATOLOGY.* 68(3):627-628. I.F.: 15.040

3. Forns X, Sarrazin C . **Treatment of chronic hepatitis C.** *JOURNAL OF HEPATOLOGY.* 69(2):544-546. I.F.: 15.040

4. Gratacós-Ginès J, Jung G, Díaz A, Forns X . **An uncommon presentation of alcoholic liver disease.** *LIVER INTERNATIONAL.* 38(8):1514-1514. I.F.: 4.500

5. Mauro E, Crespo G, Montironi C, Londoño MC, Díaz A, Forns X, Navasa M . **Viral eradication and fibrosis resolution in post liver transplant cholestatic hepatitis C.** *LIVER TRANSPLANTATION.* 24(5):703-707. I.F.: 3.756

6. Gelpi R, Rodríguez-Villar C, Paredes D, Roque R, Ruiz A, Adalia R, de Sousa E, Revuelta I, Sole M, Martinez M, Navarro M, Lens S, Oppenheimer F, Diekmann F . **Safety of Hepatitis C Virus (HCV) treated donors for kidney transplantation (KT) excluding occult HCV infection through kidney biopsies.** *TRANSPLANT INTERNATIONAL.* 31(8):938-939. I.F.: 3.196

Editorial / I.F.: 7.357

1. Bonacci M., Lens S. **Editorial: STAT-4 polymorphism - a tool to personalise clinical practice in chronic HBV infection.** *ALIMENTARY PHARMACOLOGY AND THERAPEUTICS.* 48(7):768-769. I.F.: 7.357

Case Reports / I.F.: 7.345

1. Jung G., Olivas P., Díaz A., Lens S. **Hepatitis E-induced acute-on-chronic liver failure and VI nerve paralysis.** *LIVER INTERNATIONAL.* 38(9):1696-1697. I.F.: 4.500

2. Carpio, Adria; Merino, Anna; Rodriguez-Tajes, Sergio; Reverter, Enric; Bruguera, Miquel; Forns, Xavier; Fernandez, Javier. **Massive hemolysis complicating acute granulomatous hepatitis.** *ANNALS OF HEMATOLOGY.* 97(9):1741-1742. I.F.: 2.845

Clinical Guidelines / I.F.: 1.078

1. Calleja, Jose L.; Macias, Juan; Forns, Xavier; Garcia, Federico; Berenguer, Marina; Garcia Deltoro, Miguel; Buti, Maria; Granados, Rafael; Carrion, Jose A.; Morano, Luis; Fernandez, Inmaculada; Coste, Pablo; Pineda, Juan A. **Guidelines on treatment of hepatitis C virus infection. Spanish Association for the Study of the Liver (AEEH).** *GASTROENTEROLOGIA Y HEPATOLOGIA.* 41(9):597-608. I.F.: 1.078

GRANTS FOR RESEARCH IN PROGRESS

Forns X. **Hepatopaties víriques, tòxiques i metabòliques.**
Sponsored by: Generalitat de Catalunya.
AGAUR_SGR17_01753
Duration: 01/01/2017-31/12/2020

Forns X. **Estudio de los factores virológicos e inmunológicos relacionados con la recurrencia de la infección por los virus de la hepatitis C y B tras la interrupción del tratamiento antiviral.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00151
Duration: 01/01/2016-31/12/2018

Forns X. **Virological and immunological factors associated with hepatitis C and hepatitis B virus infection recurrence after treatment discontinuation.**
Sponsored by: Gilead Sciences.
GLD15/00274
Duration: 07/03/2016-31/12/2018

Londoño MC. **Identificación de biomarcadores para predecir el éxito de la retirada de la inmunosupresión en pacientes con hepatitis autoinmune.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00955
Duration: 01/01/2018-31/12/2020

Mariño Z. **Brain metabolic and functional connectivity dysfunction in patients with chronic hepatitis C and reversibility after viral eradication with direct acting antivirals.**
Sponsored by: Gilead Sciences.
GLD17/00273
Duration: 18/01/2018-31/12/2018

Pérez del Pulgar S. **Estudio de la persistencia del cccDNA durante la infección por el VHB in vivo, e in vitro mediante un bioreactor que simula el microambiente hepático.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00111
Duration: 01/01/2017-31/12/2019

DOCTORAL THESES

Forns X, Lens S. **Historia natural de la infección crónica por el VHB en Portadores Inactivos y Pacientes en Zona Gris e Impacto Virológico, Inmunológico y Clínico del Tratamiento con Antivirales de Acción Directa sobre la Vasculitis Crioglobulinémica asociada al VHC.**
PhD student: Martin Sebastian Bonacci

3.4 Mechanisms of liver disease and complications of cirrhosis

LOCATION
CEK building, floor 3

KEYWORDS
1. **Cirrhosis**
2. **Non-alcoholic steatohepatitis**
3. **Liver stem cells**
4. **Kidney failure**
5. **Chronic liver diseases**
6. **Alcoholic liver disease**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	182.19	25	21	2
2017	140.22	23	17	2
2018	196.66	23	18	3

TEAM INVOLVED IN
CIBEREHD
AGAUR_SGR17: 01449, 01281, 00858, 01456

TEAM LEADER
Pere Ginès (HCB)
T. 93 227 17 13
pgines@clinic.cat

GROUP LEADERS
Joan Clària (HCB)
T. 93 227 54 00 (Ext.: 4784)
jclaria@clinic.cat

Pere Ginès (HCB)
T. 93 227 17 13
pgines@clinic.cat

Wladimiro Jiménez (HCB)
T. 93 227 54 00 (Ext.: 2199)
wjimenez@clinic.cat

Pau Sancho-Bru (IDIBAPS)
T. 93 227 54 00 (Ext.: 3371)
psancho@clinic.cat

EMERITUS
Vicente Arroyo (HCB)

RESEARCHERS
Núria Fabrellas (UB)
Javier Fernández-Gómez (HCB)
Isabel Graupera (HCB)
Elsa Solà (HCB)
Gregori Casals (HCB)
Guillermo Fernández-Varo (CIBER)
Manuel Morales-Ruiz (HCB)

POST-DOCTORAL RESEARCHERS
Martin Bonacci (IDIBAPS-FCRB)
Pedro Melgar-Lesmes (IDIBAPS)
Jordi Ribera (CIBER)
Cristina Lopez (FCRB)
Maria del Mar Coll (CIBER)

PRE-DOCTORAL RESEARCHERS
Laura Napoleone (IDIBAPS)
Elisa Pose (IDIBAPS)
Cristina Sole (HCB)
Silvia Carvajal (FCRB)
Bernat Córdoba (IDIBAPS)
Marina Parra-Robert (HCB)
Meritxell Perramón (IDIBAPS)
Irene Portolés (IDIBAPS)
Jose Alcaraz (HCB)
Mireia Casulleras (FCRB)
Marta Duran (FCRB)
Roger Flores (FCRB)
Beatriz Aguilar (IDIBAPS)
Silvia Ariño (IDIBAPS)
Delia Blaya (IDIBAPS)
Luis Perea (IDIBAPS)
Julia Vallverdu (IDIBAPS)

TECHNICIANS
Montserrat Bernat (HCB)
Carmen Cano (HCB)
Cristina Diez (HCB)
Ana Isabel Martinez (FCRB)
Mònica Romo (IDIBAPS)
Albert Salvatella (FCRB)
Sílvia Sanz (FCRB)
Pau Bosch (IDIBAPS)
Ana Teresa Rubio (IDIBAPS)

ADMINISTRATIVE STAFF
Rosario Poblet (IDIBAPS)
Nicki Van Berckel (HCB-FCRB)

NURSING STAFF
Marta Carol (IDIBAPS)
Marta Cervera (HCB)
Gloria de Prada (HCB)

COLLABORATORS
Enric Reverter (HCB)
Bernardino González (HCB)
Silvia Sandalinas (HCP)
Esther Titos (HCB)

STRATEGIC OBJECTIVES

To investigate new therapeutic and diagnostic strategies in the most common complications present in chronic liver diseases.
The basic and translational studies investigate the mechanisms implicated in disease progression of chronic liver diseases as well as the role of progenitor cells in liver regeneration and tissue repair.
To assess the role of bioactive lipid mediators on the onset and resolution of systemic and tissue inflammatory responses in chronic liver disease.

MAIN LINES OF RESEARCH

1. To explore new therapeutic targets useful in the treatment of endothelial dysfunction, vascular remodeling, hepatic fibrosis and the characteristic hemodynamic disturbances of chronic liver diseases.
2. To search for molecular strategies to stimulate a functional liver regeneration.
3. To identify novel serum biomarkers of liver disease progression and complications of cirrhosis.
4. To investigate molecular pathways of acute-on-chronic liver failure development (ACLF) and identify new biomarkers of ACLF.
5. To investigate the role of liver cell plasticity and progenitor cells in liver disease.
6. Mechanisms of liver inflammation, with particular emphasis on the role of lipid mediators generated from both omega-6 and omega-3 polyunsaturated fatty acids.
7. Mechanisms of resolution of inflammation in adipose tissue and its relationship with obesity-associated complications, particularly non-alcoholic steatohepatitis.
8. To study the role of systemic inflammation in Acute-on-Chronic Liver Failure.
9. To explore the potential of iPSC-derived liver cells for disease modeling.

RESEARCH GROUP
INFLAMMATION AND LIVER DISEASE

GROUP LEADER
Joan Clària (HCB)

Our group is interested in the study of the molecular mechanisms underlying the inflammatory process commonly observed in patients with chronic liver disease. Our main priorities are:

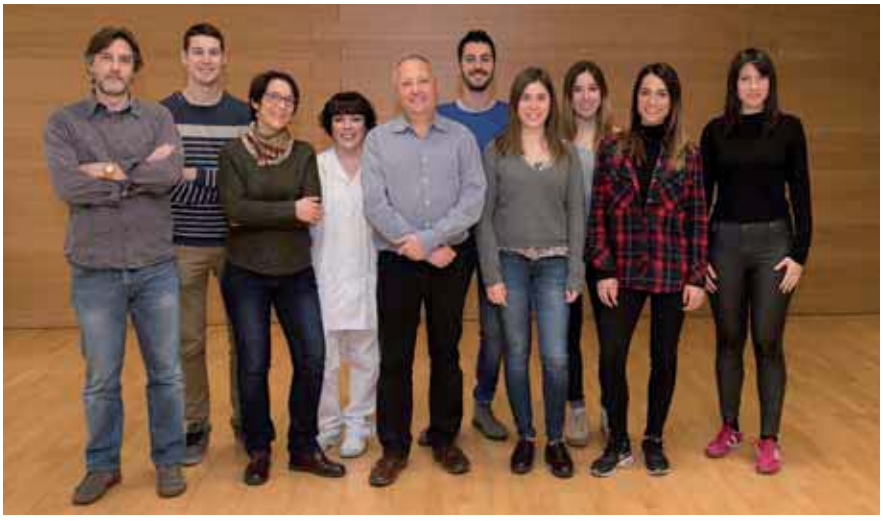
1. To discern the mechanisms that trigger the activation of innate immunity;
2. To profile the inflammatory lipid mediators, especially the so-called pro-resolving lipid mediators, which have the ability to promote resolution without inducing immunosuppression;
3. To characterize genetic modifiers of systemic inflammation.
The ultimate goal of our group is to translate the in vitro and in vivo findings into novel therapeutic approaches to fight persistent inflammation in chronic liver disease.

RESEARCH GROUP
CHRONIC LIVER DISEASES: MOLECULAR MECHANISMS AND CLINICAL CONSEQUENCES

GROUP LEADER
Pere Ginès (HCB)

Our research is on chronic liver diseases (CLD) and progression to advance disease via bench to beside studies.
1. End-stage CLD: Role of urine biomarkers in diagnosis and treatment of renal dysfunction in cirrhosis. Inflammatory biomarkers and disease progression. Intestinal microbiome in patients with different stages of liver cirrhosis, particularly in ACLF. Efficacy and safety of rifaximin and simvastatin as a treatment for prevention of ACLF. Analysis of liver transcriptome at varying stages of disease to assess molecular networks relevant to disease progression.
2. Role of systemic inflammation in progression of end-stage CLD.
3. Screening of CLD: Referral pathways from general population to specialist.
4. Non alcoholic liver disease: Role of adipose tissue in NAFLD development and progression.

GROUP Pere Ginès



GROUP Joan Clària

RESEARCH GROUP

TRANSLATIONAL RESEARCH GROUP IN NEW THERAPEUTIC AND DIAGNOSTIC STRATEGIES IN LIVER DISEASES

GROUP LEADER

Wladimiro Jiménez (HCB)

Our group have an extensive research experience on the pathophysiological and molecular bases of the most common complications present in patients with chronic liver disease. The projects have a profound translational character, with special interest in identifying new therapeutic tools to stop or reverse the progression of the fibroproliferative events. We also intend that the knowledge generated in these studies result in substantial improvements in the biochemical diagnosis of patients, which also constitutes a substantial part of our activity. This would represent an improvement from the point of view of comfort, diagnosis, monitoring and treatment of patients with liver disease.

GROUP Wladimiro Jiménez

RESEARCH GROUP

PLASTICITAT I REPARACIÓ TISSULAR EN MALALTIES HEPÀTIQUES GROUP LEADER

GROUP LEADER

Pau Sancho-Bru (IDIBAPS)

GROUP Pau Sánchez-Bru

Liver regeneration and tissue repair are complex and well-orchestrated processes that become deregulated in chronic liver disease. By using human samples, animal models as well as primary and stem cell-based *in vitro* approaches we aim at identifying those factors leading to deficient liver regeneration and tissue repair and to develop means to enhance liver function in chronic liver disease. Our group is particularly interested in understanding cell plasticity and inflammatory responses in chronic liver injury, as well as exploring the potential of iPSC-derived liver cells for the generation of multicellular *in vitro* models of liver disease.

PUBLICATIONS

Originals / I.F.: 196.662

1. Coll M., Perea L., Boon R., Leite S., Vallverdú J., Mannaerts I., Smout A., El Taghdouini A., Blaya D., Rodrigo-Torres D., Graupera I., Aguilar-Bravo B., Chesne C., Najimi M., Sokal E., Lozano J., van Grunsven L., Verfaillie C., Sancho-Bru P. **Generation of Hepatic Stellate Cells from Human Pluripotent Stem Cells Enables In Vitro Modeling of Liver Fibrosis.** *CELL STEM CELL.* 23(1):101-113. I.F.: 23.290

2. Fernández J., Acevedo J., Wiest R., Gustot T., Amoros A., Deulofeu C., Reverter E., Martínez J., Saliba F., Jalan R., Welzel T., Pavesi

M., Hernández-Tejero M., Ginès P., Arroyo V. **Bacterial and fungal infections in acute-on-chronic liver failure: Prevalence, characteristics and impact on prognosis.** *GUT.* 67(10):1870-1880. I.F.: 17.016

3. Solà E, Solé C, Simón-Talero M, Martín-Llahí M, Castellote J, Garcia-Martínez R, Moreira R, Torrens M, Márquez F, Fabrellas N, de Prada G, Huelin P, Lopez Benaiges E, Ventura M, Manríquez M, Nazar A, Ariza X, Suñé P, Graupera I, Pose E, Colmenero J, Pavesi M, Guevara M, Navasa M, Xiol X, Córdoba J, Vargas V, Ginès P . **Midodrine &albumin for preventing complications in patients with cirrhosis awaiting liver transplantation.** *JOURNAL OF HEPATOLOGY.* 69(6):1250-1259. I.F.: 15.040

4. Blasi A, Calvo A, Prado V, Reverter E, Reverter JC, Hernández-Tejero M, Aziz F, Amoros A, Cardenas A, Fernández J. **Coagulation failure in patients with Acute-on-Chronic Liver Failure (ACLF) and decompensated cirrhosis: beyond INR.** *HEPATOLOGY.* 68(6):2325-2337. I.F.: 14.079

5. Alcaraz-Quiles J., Casulleras M., Oettl K., Titos E., Flores-Costa R., Duran-Güell M., López-Vicario C., Pavesi M., Stauber R., Arroyo V., Clària J. **Oxidized Albumin Triggers a Cytokine Storm in Leukocytes Through P38 Mitogen-Activated Protein Kinase: Role in Systemic Inflammation in Decompensated Cirrhosis.** *HEPATOLOGY.* 68(5):1937-1952. I.F.: 14.079

6. Delia Blaya; Beatriz Aguilar-Bravo; Fengie Hao; Silvia Casacuberta-Serra; Mar Coll; Luis Perea; Julia Vallverdu; Isabel Graupera; Elisa Pose; Barquinero Mañez, Jordi; Francisco Javier Cubero; Juan Caballería; Pere Ginès; Pau Sancho-Bru. **Expression of microRNA-155 in inflammatory cells modulates liver injury.** *HEPATOLOGY.* 68(2):691-706. I.F.: 14.079

7. Macdonald S, Andreola F, Bachtiger P, Amoros A, Pavesi M, Mookerjee R, Zheng YB, Gronbaek H, Gerbes AL, Sola E, Caraceni P, Moreau R, Gines P, Arroyo V, Jalan R . **Cell death markers in cirrhotic patients with acute decompensation.** *HEPATOLOGY.* 67(3):989-1002. I.F.: 14.079

8. Melgar-Lesmes P, Luquero A, Parra-Robert M, Mora A, Ribera J, Edelman ER, Jiménez W. **Graphene-Dendrimer Nanostars for Targeted Macrophage Overexpression of Metalloproteinase 9 and Hepatic Fibrosis Precision Therapy.** *NANO LETTERS.* 18(9):5839-5845. I.F.: 12.080

9. Caballería L, Pera G, Arteaga I, Rodríguez L, Alumà A, Morillas RM, de la Ossa N, Díaz A, Expósito C, Miranda D, Sánchez C, Prats RM, Urquizu M, Salgado A, Alemany M, Martinez A, Majeed I, Fabrellas N, Graupera I, Planas R, Ojanguren I, Serra M, Torán P, Caballería J, Ginès P . **High Prevalence of Liver Fibrosis Among European Adults with Unknown Liver Disease. A Population-Based Study.** *CLINICAL GASTROENTEROLOGY AND HEPATOLOGY.* 16(7):1138-1145. I.F.: 7.683

10. Piano S, Schmidt HH, Ariza X, Amoros A, Romano A, Hüsing-Kabar A, Solà E, Gerbes A, Bernardi M, Alessandria C, Scheiner B, Tonon M, Maschmeier M, Solè C, Trebicka J, Gustot T, Nevens F, Arroyo V, Gines P, Angeli P, EASL CLIF Consortium, European Foundation for the Study of Chronic Liver Failure (EF Clif). **Association Between Grade of Acute on Chronic Liver Failure and Response to Terlipressin and Albumin in Patients With Hepatorenal Syndrome.** *CLINICAL GASTROENTEROLOGY AND HEPATOLOGY.* 16(11):1792-1800. I.F.: 7.683

11. Medina-Caliz I, Garcia-Cortes M, Gonzalez-Jimenez A, Cabello MR, Robles-Diaz M, Sanabria-Cabrera J, Sanjuan-Jimenez R, Ortega-Alonso A, García-Muñoz B, Moreno I, Jimenez-Perez M, Fernandez MC, Ginés P, Prieto M, Conde I, Hallal H, Soriano G, Roman E, Castiella A, Blanco-Reina E, Montes MR, Quiros-Cano M, Martin-Reyes F, Lucena MI, Andrade RJ, Spanish DILI Registry. **Herbal and Dietary Supplement-Induced Liver Injuries in the Spanish DILI Registry.** *CLINICAL GASTROENTEROLOGY AND HEPATOLOGY.* 16(9):1495-1502. I.F.: 7.683

12. Bonacci M, Lens S, Mariño Z, Londoño MC, Rodríguez-Tajes S, Mas A, García-López M, Pérez-Del-Pulgar S, Sánchez-Tapias JM, Forns X. **Anti-viral therapy can be delayed or avoided in a significant proportion of HBeAg-negative Caucasian patients in the Grey Zone.** *ALIMENTARY PHARMACOLOGY AND THERAPEUTICS.* 47(10):1397-1408. I.F.: 7.357

13. Flores-Costa R., Alcaraz-Quiles J., Titos E., López-Vicario C., Casulleras M., Duran-Güell M., Rius B., Diaz A., Hall K., Shea C., Sarno R., Currie M., Masferrer J., Clària J. **The soluble guanylate cyclase stimulator IW-1973 prevents inflammation and fibrosis in experimental non-alcoholic steatohepatitis.** *BRITISH JOURNAL OF PHARMACOLOGY.* 175(6):953-967. I.F.: 6.810

14. Carracedo M, Artiach G, Witasp A, Clària J, Carlström M, Laguna-Fernandez A, Stenvinkel P, Bäck M. **The G-protein coupled receptor ChemR23 determines smooth muscle cell phenotypic switching to enhance high phosphate-induced vascular calcification.** *CARDIOVASCULAR RESEARCH.* I.F.: 6.290

15. Melgar-Lesmes, Pedro; Sanchez-Herrero, Alvaro; Lozano-Juan, Ferran; de la Torre Hernandez, Jose Maria; Montell, Eulalia; Jimenez, Wladimiro; Edelman, Elazer R.; Balcells, Mercedes. **Chondroitin Sulphate Attenuates Atherosclerosis in ApoE Knockout Mice Involving Cellular Regulation of the Inflammatory Response.** *THROMBOSIS AND HAEMOSTASIS.* 118(7):1329-1339. I.F.: 4.952

16. Artiach G., Carracedo M., Clària J., Laguna-Fernandez A., Bäck M. **Opposing effects on vascular smooth muscle cell proliferation and macrophage -induced inflammation reveal a protective role for the proresolving lipid mediator receptor ChemR23 in intimal hyperplasia.** *FRONTIERS IN PHARMACOLOGY.* 9:1327. I.F.: 3.831

17. Llovet JM, Pavel M, Rimola J, Diaz MA, Colmenero J, Saavedra-Perez D, Fondevila C, Ayuso C, Fuster J, Ginès P, Bruix J, Garcia-Valdecasas JC . **Pilot study of living donor liver transplantation for patients with HCC exceeding Milan criteria (BCLC extended criteria).** *LIVER TRANSPLANTATION.* 24(3):369-379. I.F.: 3.756

18. Auge J., Rodriguez C., Espanyol O., Rivero L., Sandalinas S., Grau J., Jimenez W., Castells A. **An evaluation of the SENTiFIT 270 analyser for quantitation of faecal haemoglobin in the investigation of patients with suspected colorectal cancer.** *CLINICAL CHEMISTRY AND LABORATORY MEDICINE.* 56(4):625-633. I.F.: 3.556

19. Massey V., Qin L., Cabezas J., Caballeria J., Sancho-Bru P., Bataller R., Crews F. **TLR7-let-7 Signaling Contributes to**

Ethanol-Induced Hepatic Inflammatory Response in Mice and in Alcoholic Hepatitis. *ALCOHOLISM: CLINICAL AND EXPERIMENTAL RESEARCH.* 42(11):2107-2122. I.F.: 3.183

20. Aranda G., Fernandez-Ruiz R., Palomo M., Romo M., Mora M., Halperin I., Casals G., Enseñat J., Vidal O., Diaz-Ricart M., Hanzu F. **Translational evidence of prothrombotic and inflammatory endothelial damage in Cushing syndrome after remission.** *CLINICAL ENDOCRINOLOGY.* 88(3):415-424. I.F.: 3.077

21. Fabrellas N, Hernández R, Graupera I, Solà E, Ramos P, Martín N, Sáez G, Simón C, Pérez A, Graell T, Larrañaga A, Garcia M, de la Arada A, Juanola A, Coiduras A, Duaso I, Casado A, Martin J, Ginès M, Moreno N, Gema Perez A, Marti L, Bernat M, Sola M, Olivé C, Solé C, Ginès P. **Prevalence of hepatic steatosis as assessed by controlled attenuation parameter (CAP) in subjects with metabolic risk factors in primary care. A population-based study.** *PLOS ONE.* 13(9):e0200656. I.F.: 2.766

22. Fernández-Galán E., Massana N., Parra-Robert M., Hidalgo S., Casals G., Esteve J., Jiménez W. **Validation of a routine gas chromatography mass spectrometry method for 2-hydroxyglutarate quantification in human serum as a screening tool for detection of idh mutations.** *JOURNAL OF CHROMATOGRAPHY B: ANALYTICAL TECHNOLOGIES IN THE BIOMEDICAL AND LIFE SCIENCES.* 1083:28-34. I.F.: 2.441

23. Blasi A, Hernandez V, Fernandez J, Colmenero J, Beltran J, Garcia-Valdecasas JC, Reverter JC . **Venous Thrombotic Events After Liver Transplantation.** *CLINICAL AND APPLIED THROMBOSIS/HEMOSTASIS.* 24(2):317-322. I.F.: 1.852

Review / I.F.: 22.193

1. Ginès P., Solà E., Angeli P., Wong F., Nadim M., Kamath P. **Hepatorenal syndrome.** *NATURE REVIEWS DISEASE PRIMERS.* 4(1):23. I.F.: 16.071

2. Solé C, Pose E, Solà E, Ginès P . **Hepatorenal syndrome in the era of Acute Kidney injury.** *LIVER INTERNATIONAL.* 38(11):1891-1901. I.F.: 4.500

3. Laleman W., Claria J., Van Der Merwe S., Moreau R., Trebicka J. **Systemic Inflammation and Acute-on-Chronic Liver Failure: Too Much, Not Enough.** *CANADIAN JOURNAL OF GASTROENTEROLOGY AND HEPATOLOGY.* 2018: 1027152. I.F.: 1.622

Editorial / I.F.: 60.16

1. Graupera I., Lammert F. **Screening is caring: Community-based non-invasive diagnosis and treatment strategies for hepatitis C to reduce liver disease burden.** *JOURNAL OF HEPATOLOGY.* 69(3):562-563. I.F.: 15.040

2. Fernández J, Saliba F. **Liver transplantation in patients with ACLF and multiple organ failure: Time for priority after initial stabilization.** *JOURNAL OF HEPATOLOGY.* 69(5):1004-1006. I.F.: 15.040

3. Arroyo V, Clària J . **Acute-On-Chronic Liver Failure, Human Serum Albumin and Immune-Modulation: The Beginning of an Exciting Adventure.** *CLINICAL GASTROENTEROLOGY AND HEPATOLOGY.* 16(5):633-636. I.F.: 7.683

4. Ginès P, Sarin S . **More Than Meets the Eye in Using Interleukin 6 as a Marker of Inflammation and Prognostic Factor for Patients With Cirrhosis.** *CLINICAL GASTROENTEROLOGY AND HEPATOLOGY.* 16(5):630-632. I.F.: 7.683

5. Bonacci M., Lens S. **Editorial: STAT-4 polymorphism - a tool to personalise clinical practice in chronic HBV infection.** *ALIMENTARY PHARMACOLOGY AND THERAPEUTICS.* 48(7):768-769. I.F.: 7.357

6. Solé C, Pose E, Solà E. **Editorial: macrophage activation markers predict prognosis and decompensation in patients with cirrhosis-linking gut permeability, inflammation and cirrhosis progression.** *ALIMENTARY PHARMACOLOGY AND THERAPEUTICS.* 47(6):851-853. I.F.: 7.357

Clinical Guidelines / I.F.: 15.04

1. Angeli P., Bernardi M., Villanueva C., Francoz C., Mookerjee R., Trebicka J., Krag A., Laleman W., Gines P. **EASL Clinical Practice Guidelines for the management of patients with decompensated cirrhosis.** *JOURNAL OF HEPATOLOGY.* 69(2):406-460. I.F.: 15.040

GRANTS FOR RESEARCH IN PROGRESS

Casals G. **Evaluación de las propiedades antioxidantes y antiinflamatorias de las nanopartículas de óxido de cerio como nueva estrategia terapéutica en la esteatosis hepática.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00777
Duration: 01/01/2016-31/12/2019

Claria J. **Investigació hepàtica: recerca bàsica i experimental.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_01449
Duration: 01/01/2017-31/12/2020

Claria J. **Mecanismos moleculares determinantes de la resolución inadecuada de la inflamación en tejido adiposo obeso. Nuevas oportunidades en la prevención de comorbilidades metabólicas.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). SAF2015-63674-R
Duration: 01/01/2016-31/12/2019

Fernández Gómez J. **Impacto clínico y coste/eficacia de estrategias de vigilancia epidemiológica y de optimización farmacoterapéutica antibiótica en la cirrosis descompensada.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00885
Duration: 01/01/2017-31/12/2019

Ginés P. **Grup de Hepatologia Recerca Clínica.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_01281
Duration: 01/01/2017-31/12/2020

Ginés P. **Insuficiencia hepática crónica agudizada y disfunción multiorgánica: Mecanismos moleculares y evaluación de nuevos métodos diagnósticos y terapéuticos.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI12/00330
Duration: 01/01/2013-31/12/2018

Ginés P. **Síndrome de insuficiencia**

hepática crónica agudizada en la cirrosis. Relación con el microbioma y la inflamación.
Sponsored by: Instituto de Salud Carlos III (ISCIII). FIS PI16/00043
Duration: 01/01/2017 -31/12/2019

Ginés P. **CARBALIVE: Clinical evaluation of carbons of controlled porosity as a new therapy for the treatment of liver cirrhosis and non-alcoholic fatty liver disease.**
Sponsored by: European Commission. H2020_PHC2014 (634579-2).
Duration: 01/05/2015-31/10/2019

Ginés P. **LIVERHOPE: SIMVASTIN and RIFAXIMIN as New Therapy for patients with decompensated cirrhosis.**
Sponsored by: European Commission. H2020_SC1 (731875)
Duration: 01/01/2017-31/12/2021

Ginés P. **LIVERSCREEN: Screening for Chronic Liver Diseases in the Population.**
Sponsored by: EIT Health_2018
Duration: 01/01/2018-31/12/2019

Jiménez W, Fernández-Varo G. **Utilidad terapéutica de las Nanopartículas de Óxido de Cerio en las enfermedades hepáticas.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). SAF2015-64126-R
Duration: 01/01/2016-31/03/2019

Morales M. **Estimulación de la regeneración funcional de hígados cirróticos mediante la normalización vascular intrahepática y la modulación de dianas de Akt.**
Sponsored by: Ministerio de Economia y Competitividad (MINECO). SAF2016-75358-R
Duration: 30/12/2016-29/12/2019

Sancho-Bru P. **Papel de las células progenitoras hepáticas en la hepatitis alcohólica y su potencial como nueva diana terapéutica.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00320
Duration: 01/01/2015-30/06/2018

Sancho-Bru P. **Mecanismos implicados en la deficiente reparación tisular del hígado en enfermedades crónicas hepáticas. Nuevas dianas terapéuticas.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00673
Duration: 01/01/2018-31/12/2020

Sancho-Bru P. **InTeam: Molecular subtypes for targeted therapies in alcoholic hepatitis.**
Sponsored by: National Institutes of Health, NIH (U01AA021908)
Duration: 01/06/2017-31/12/2018

Sancho-Bru P. **LiverTF: Liver-enriched transcription factors as prognostic markers and therapeutic targets in alcoholic hepatitis.**
Sponsored by: National Institutes of Health, NIH (1U01AA026972-01)
Duration: 22/09/2018-30/06/2019

Sancho-Bru P. **Role of liver progenitor cells in the progression of alcoholic liver disease.**
Sponsored by: The European Foundation for Alcohol Research (ERAB)
Duration: 01/01/2017-31/12/2018

DOCTORAL THESES

Clària J. **Influencia de factores séricos y genéticos en la respuesta inflamatoria sistémica en pacientes cirróticos descompensados.**
PhD student: José Alcaraz Quiles

Ginés P, Guevara M. **Insuficiencia renal en la cirrosis: Validación de los criterios akin y utilidad de la Ngal en el diagnóstico diferencial.**
PhD student: Cláudia Gonçalves Fagundes Pereira

Ginés P. **Valoración de la función ventricular izquierda en la cirrosis hepática: relación con la hemodinámica sistémica y la disfunción renal.**
PhD student: Andrè Nogueira Nazar

Sancho-Bru P. **Las células estrelladas hepáticas en las enfermedades del hígado y el desarrollo de nuevos modelos de fibrosis.**
PhD student: Luis Perea Sanchez

3.5 Hepatic oncology

LOCATION
HCB
CEK building, floor 3
IIBB-CSIC labs

WEB
www.bclc.cat

KEYWORDS
1. **Hepatocellular carcinoma**
2. **Intrahepatic cholangiocarcinoma**
3. **Biomarker profiling**
4. **Treatment**
5. **Outcomes research**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	186.48	17	16	1
2017	186.91	22	12	2
2018	165.22	17	15	1

TEAM INVOLVED IN
CIBEREHD
AGAUR_SGR17: 01465, 01358

TEAM LEADER
Jordi Bruix (HCB)
T. 93 227 98 03
jbruix@clinic.cat

GROUP LEADERS
Josep M. Llovet (ICREA-IDIBAPS)
T 93 227 91 55
jmllovet@clinic.cat

Albert Morales (IIBB-CSIC)
T 93 363 83 00 (Ext.: 363)
amorales@clinic.cat

RESEARCHERS
Mari Carmen Ayuso (HCB)
Loreto Boix (CIBER)
Alejandro Forner (HCB)
Josep Fuster (HCB)
María Reig (HCB-FCRB)
Ramon Vilana (HCB)

POST-DOCTORAL RESEARCHERS
Laia Bassaganyas (IDIBAPS)
Agrin Moeini (IDIBAPS)
Roser Pinyol (IDIBAPS)
Catherine Willoughby (IDIBAPS)
Anna Tutusaus (IDIBAPS)

PRE-DOCTORAL RESEARCHERS
Álvaro Díaz-González (FCRB)
Marco Sanduzzi-Zamparelli (FCRB)
Carmen Andreu (IDIBAPS)
Roger Esteban (IDIBAPS)
Robert Montal (IDIBAPS)
Carla Montironi (HCB)
Sara Torrecilla (CIBER)
Laura Torrens (IDIBAPS)
Blanca Cucarull (IIBB-CSIC)

TECHNICIANS
Josep Corominas (FCRB)
Cristina Millan (FCRB)
Maragda Quintas (FCRB)
Esther Samper (FCRB)
Victor Sapena (CIBER)
Judit Peix (CIBER)

ADMINISTRATIVE STAFF
Nuria Perez (FCRB)
Celia Cortez (IDIBAPS)
Ariadna Farré (IDIBAPS)

NURSING STAFF
Neus Llarch (HCB)

COLLABORATORS
Jordi Abril (IDIBAPS)
Marta Piqué (IDIBAPS)
Milica Stefanovic (IIBB-CSIC)

STRATEGIC OBJECTIVES

It is a multidisciplinary team, known internationally as "Barcelona Clinic Liver Cancer (BCLC) group", which develops an intense clinical and translational research in liver cancer. The aim of the team is to

TEAM Jordi Bruix

investigate the efficacy of clinical and therapeutic interventions as well as the mechanisms regulating the disease progression.

MAIN LINES OF RESEARCH

The team investigates how to refine the selection criteria for potentially curative treatment (surgical resection, transplantation, percutaneous approach with ablation) with the aim of ensuring maximum efficacy in terms of survival. Evaluations are made of the options for improving the efficacy of non-curative therapies which have been shown to improve survival (arterial chemoembolization, sorafenib, regorafenib). In this sense, phase 1, 2 and 3 studies are carried out and led at international level together with the Biomedical Industry, with a view to determining the efficacy of new molecular agents in phase 1, 2 and 3.
The team is also actively involved in studies about diagnosis and treatment of cholangiocarcinoma. Major projects in clinical research are developed as investigator initiated trials or in collaboration with the pharmaceutical industry.
These include clinical and translational activity using BCLC human cell lines, while the two subgroups coordinated by JM Llovet and A Morales base their activity in bench studies to advance knowledge in the pathogenesis and signalling pathways in hepatocyte and cholangiocte proliferation and liver cancer.

RESEARCH GROUP
TRANSLATIONAL RESEARCH IN HEPATIC ONCOLOGY

GROUP LEADER
Josep M. Llovet (ICREA-IDIBAPS)

The group aims to identify new therapeutic targets and biomarkers of response/resistance to systemic therapies. There are several lines of research within two international consortiums involving the BCLC-IDIBAPS, the Mount Sinai School of Medicine, the Dana-Farber Cancer Institute, the Broad Institute (Boston), INSERM (Paris), the National Tumor Institute (Milan), and several others. These explore: - molecular classification of hepatocellular carcinoma and Intrahepatic cholangiocarcinoma. - drivers and signalling pathways, - role of co-morbidities in the pathogenesis of HCC (EU-grant HEP-CAR), - characterization of immune subclasses in HCC and the impact of checkpoint inhibitor in treatment response.

RESEARCH GROUP
HEPATOCELULAR SIGNALING AND CANCER

GROUP LEADER
Albert Morales (IIBB-CSIC)

Our work is focused on identifying cellular targets with therapeutic potential in liver cancer and the development of prognostic markers of antitumor efficacy for the treatment of the hepatocellular carcinoma

GROUP Albert Morales

GROUP Josep Maria Llobet

(HCC). In particular, mitochondrial-directed and lipid-based therapies that may improve current HCC management, and help to overcome sorafenib/regorafenib resistance, are under present evaluation. Protein and RNA signatures that categorize potential candidates for each specific treatment represent another area of interest in our research.

PUBLICATIONS

Originals / I.F.: 165.223

1. Rimassa L, Assenat E, Peck-Radosavljevic M, Pracht M, Zagonel V, Mathurin P, Rota Caremoli E, Porta C, Daniele B, Bolondi L, Mazzaferro V, Harris W, Damjanov N, Pastorelli D, Reig M, Knox J, Negri F, Trojan J, López López C, Personeni N, Decaens T, Dupuy M, Sieghart W, Abbadessa G, Schwartz B, Lamar M, Goldberg T, Shuster D, Santoro A, Bruix J . **Tivantinib for second-line treatment of MET-high, advanced hepatocellular carcinoma (METIV-HCC): a final analysis of a phase 3, randomised, placebo-controlled study.** *LANCET ONCOLOGY.* 19(5):682-693. I.F.: 36.421

2. Finn R., Merle P., Granito A., Huang Y., Bodoky G., Pracht M., Yokosuka O., Rosmorduc O., Gerolami R., Caparello C., Cabrera R., Chang C., Sun W., LeBerre M., Baumhauer A., Meinhardt G., Bruix J. **Outcomes of sequential treatment with sorafenib followed by regorafenib for HCC: Additional analyses from the phase III RESORCE trial.** *JOURNAL OF HEPATOLOGY.* 69(2):353-358. I.F.: 15.040

3. Mauro E, Crespo G, Montironi C, Londoño MC, Hernández-Gea V, Ruiz P, Sastre L, Lombardo J, Mariño Z, Díaz A, Colmenero J, Rimola A, Garcia-Pagán JC, Brunet M, Forns X, Navasa M . **Portal pressure and liver stiffness measurements in the prediction of fibrosis regression after SVR in recurrent hepatitis C.** *HEPATOLOGY.* 67(5):1683-1694. I.F.: 14.079

4. Rimola J, Díaz-González Á, Darnell A, Varela M, Pons F, Hernandez-Guerra M, Delgado M, Castroagudin J, Matilla A, Sangro B, Rodriguez de Lope C, Sala M, Gonzalez C, Huertas C, Minguez B, Ayuso C, Bruix J, Reig M . **Complete response under sorafenib in patients with hepatocellular carcinoma. Relationship with dermatologic adverse events.** *HEPATOLOGY.* 67(2):612-622. I.F.: 14.079

5. Paré L, Pascual T, Seguí E, Teixidó C, Gonzalez-Cao M, Galván P, Rodríguez A, González B, Cuatrecasas M, Pineda E, Torné A, Crespo G, Martin-Algarra S, Pérez-Ruiz E, Reig Ò, Viladot M, Font C, Adamo B, Vidal M, Gaba L, Muñoz M, Victoria I, Ruiz G, Viñolas N, Mellado B, Maurel J, Garcia-Corbacho J, Molina-Vila MÁ, Juan M, Llovet JM, Reguart N, Arance A, Prat A . **Association between PD1 mRNA and response to anti-PD1 monotherapy across multiple** *cancer-types.* ANNALS OF ONCOLOGY. 29(10):2121-2128. I.F.: 13.930

6. Barbero-Camps E, Roca-Agujetas V, Bartolessis I, de Dios C, Fernández-Checa JC, Marí M, Morales A, Hartmann T, Colell A. **Cholesterol impairs autophagy-mediated clearance of amyloid beta while promoting its secretion.** *AUTOPHAGY.* 14(7):1129-1154. I.F.: 11.100

7. Piulats JM, Vidal A, García-Rodríguez FJ, Muñoz C, Nadal M, Moutinho C, Martínez-Iniesta M, Mora J, Figueras A, Guinó E, Padullés L, Aytés À, Molleví DG, Puertas S, Martínez-Fernández C, Castillo W, Juliachs M, Moreno V, Muñoz P, Stefanovic M, Pujana MA, Condom E, Esteller M, Germà JR, Capella G, Farré L, Morales A, Viñals F, García-Del-Muro X, Cerón J, Villanueva A . **Orthoxenografts of testicular germ cell tumors demonstrate genomic changes associated with cisplatin resistance and identify PDMP as a re-sensitizing agent.** *CLINICAL CANCER RESEARCH.* 24(15):3755-3766. I.F.: 10.199

8. Lim, Ho Yeong; Merle, Philippe; Weiss, Karl Heinz; Yau, Thomas; Ross, Paul; Mazzaferro, Vincenzo; Blanc, Jean-Frederic; Ma, Yuk Ting; Yen, Chia Jui; Kocsis, Judit; Choo, Su Pin; Sukeepaisarnjaroen, Wattana; Gerolami, Rene; Dufour, Jean-Francois; Gane, Edward J.; Ryoo, Baek-Yeol; Peck-Radosavljevic, Markus; Thong Dao; Yeo, Winnie; Lamlertthon, Wisut; Thongsawat, Satawat; Teufel, Michael; Roth, Katrin; Reis, Diego; Childs, Barrett H.; Krissel, Heiko; Llovet, Josep M. **Phase II Studies with Refametinib or Refametinib plus Sorafenib in Patients with RAS-Mutated Hepatocellular Carcinoma.** *CLINICAL CANCER RESEARCH.* 24(19):4650-4661. I.F.: 10.199

9. Baulies A, Montero J, Matías N, Insausti N, Terrones O, Basañez G, Vallejo C, Conde de La Rosa L, Martinez L, Robles D, Morales A, Abian J, Carrascal M, Machida K, Kumar DBU, Tsukamoto H, Kaplowitz N, Garcia-Ruiz C, Fernández-Checa JC . T**he 2-oxoglutarate carrier promotes liver cancer by sustaining mitochondrial GSH despite cholesterol loading.** *REDOX BIOLOGY.* 14:164-177. I.F.: 7.126

10. Labgaa I, Villacorta-Martin C, D'Avola D, Craig AJ, von Felden J, Martins-Filho SN, Sia D, Stueck A, Ward SC, Fiel MI, Mahajan M, Tabrizian P, Thung SN, Ang C, Friedman SL, Llovet JM, Schwartz M, Villanueva A . **A pilot study of ultra-deep targeted sequencing of plasma DNA identifies driver mutations in hepatocellular carcinoma.** *ONCOGENE.* 37(27):3740-3752. I.F.: 6.854

11. Pulido Á., de Gregorio E., Chandra S., Colell A., Morales A., Kronenberg M., Marí M. **Differential role of cathepsins S and B in hepatic APC-mediated NKT cell activation and cytokine secretion.** *FRONTIERS IN IMMUNOLOGY.* 9(391):391. I.F.: 5.511

12. Kamath, Geetanjali R.; Taioli, Emanuela; Egorova, Natalia N.; Llovet, Josep M.; Perumalswami, Ponni V.; Weiss, Jeffrey J.; Schwartz, Myron; Ewala, Stanley; Bickell, Nina A. **Liver Cancer Disparities in New York City: A Neighborhood View of Risk and Harm Reduction Factors.** *FRONTIERS IN ONCOLOGY.* 8(220):220. I.F.: 4.416

13. García-Pérez R, Ferrer Fábrega J, Varona-Bosque A, Martínez CM, Revilla-Nuin B, Cabellos L, Pena R, Vilana R, Gonzalez-Abós C, García-Valdecasas JC, Fuster Obregón J. **Role of Kupffer cells in the progression of CRC liver metastases after the first stage of ALPPS.** *SCIENTIFIC REPORTS.* 8(1):8089. I.F.: 4.122

14. Llovet JM, Pavel M, Rimola J, Diaz MA, Colmenero J, Saavedra-Perez D, Fondevila C, Ayuso C, Fuster J, Ginès P, Bruix J, Garcia-Valdecasas JC . **Pilot study of living donor liver transplantation for patients with HCC exceeding Milan criteria (BCLC extended criteria).** *LIVER TRANSPLANTATION.* 24(3):369-379. I.F.: 3.756

15. Hessheimer AJ, Vendrell M, Muñoz J, Ruíz Á, Díaz A, Sigüenza LF, Lanzilotta JR, Delgado Oliver E, Fuster J, Navasa M, García-Valdecasas JC, Taurá P, Fondevila C. **Heparin but not tissue plasminogen activator improves outcomes in DCD**

liver transplantation in a porcine model. *LIVER TRANSPLANTATION.* 24(5):665-676. I.F.: 3.756

16. Molina V., Sampson-Dávila J., Ferrer J., Fondevila C., Díaz del Gobbo R., Calatayud D., Bruix J., García-Valdecasas J., Fuster J. **Benefits of laparoscopic liver resection in patients with hepatocellular carcinoma and portal hypertension: a case-matched study.** *SURGICAL ENDOSCOPY.* 32(5):2345-2354. I.F.: 3.117

17. Bodro M, Ferrer J, Ricart MJ, Sanclemente G, Linares L, Cervera C, Cofan F, Ventura-Aguiar P, Lopez-Boado MÁ, Marco F, Fuster J, García-Valdecasas JC, Moreno A . **Epidemiology, risk factors, and impact of bacterial infections on outcomes for pancreatic grafts.** *CLINICAL TRANSPLANTATION.* 32(8):e13333. I.F.: 1.518

Review / I.F.: 124.228

1. Forner A., Reig M., Bruix J. **Hepatocellular carcinoma.** *LANCET.* 391(10127):1301-1314. I.F.: 53.254

2. Llovet J., Montal R., Sia D., Finn R. **Molecular therapies and precision medicine for hepatocellular carcinoma.** *NATURE REVIEWS CLINICAL ONCOLOGY.* 15(10):599-616. I.F.: 24.653

3. Gerbes, Alexander; Zoulim, Fabien; Tilg, Herbert; Dufour, Jean-Francois; Bruix, Jordi; Paradis, Valerie; Salem, Riad; Peck-Radosavljevic, Markus; Galle, Peter R.; Greten, Tim F.; Nault, Jean-Charles; Avila, Matias A. **Gut roundtable meeting paper: selected recent advances in hepatocellular carcinoma.** *GUT.* 67(2):380-388. I.F.: 17.016

4. Reig M, da Fonseca LG, Faivre S. **New trials and results in systemic treatment of HCC.** *JOURNAL OF HEPATOLOGY.* 69(2):525-533. I.F.: 15.040

5. Raoul J., Kudo M., Finn R., Edeline J., Reig M., Galle P. **Systemic therapy for intermediate and advanced hepatocellular carcinoma: Sorafenib and beyond.** *CANCER TREATMENT REVIEWS.* 68:16-24. I.F.: 8.122

6. Pavel M., Fuster J. **Expansion of the hepatocellular carcinoma Milan criteria in liver transplantation: Future directions.** *WORLD JOURNAL OF GASTROENTEROLOGY.* 24(32):3626-3636. I.F.: 3.300

7. Ayuso C., Rimola J., Vilana R., Burrel M., Darnell A., García-Criado Á., Bianchi L., Belmonte E., Caparroz C., Barrufet M., Bruix J., Brú C. **Diagnosis and staging of hepatocellular carcinoma (HCC): current guidelines.** *EUROPEAN JOURNAL OF RADIOLOGY.* 101:72-81. I.F.: 2.843

Letters / I.F.: 55.217

1. Llovet JM, Finn R. **Negative phase 3 study of ^{90}Y microspheres versus sorafenib in HCC.** *LANCET ONCOLOGY.* 19(2):e69-E69. I.F.: 36.421

2. Bruix J, Lii Cheng A, Llovet JM. **Predictors of Sorafenib Benefit in Patients with Hepatocellular Carcinoma.** *JOURNAL OF HEPATOLOGY.* 68(3):620-621. I.F.: 15.040

3. Mauro E, Crespo G, Montironi C, Londoño MC, Díaz A, Forns X, Navasa M . **Viral eradication and fibrosis resolution in post liver transplant cholestatic hepatitis C.** *LIVER TRANSPLANTATION.* 24(5):703-707. I.F.: 3.756

Editorial / I.F.: 82.407

1. Reig, Maria; Bruix, Jordi. **Lenvatinib: can a non-inferiority trial change clinical practice?** *LANCET.* 391(10126):1123-1124. I.F.: 53.254

2. Sanduzzi-Zamparelli, Marco; Bruix, Jordi. **Locoregional versus systemic therapy - robust positive data remain elusive.** *NATURE REVIEWS CLINICAL ONCOLOGY.* 15(9):537-538. I.F.: 24.653

3. Da Fonseca L., Forner A. **Carbon-ion radiotherapy for HCC-A potential tool to fulfil an unmet gap in the treatment algorithms?** *LIVER INTERNATIONAL.* 38(12):2132-2133. I.F.: 4.500

Case Reports / I.F.: 15.157

1. Díaz-González Á, Monclús E, Darnell A, Solé M, Bruix J. **Liver metastases from gastric adenocarcinoma mimicking multinodular hepatocellular carcinoma.** *HEPATOLOGY.* 68(5):2042-2044. I.F.: 14.079

2. Caballol B, Ruiz P, Ferrer-Fàbrega J, Diaz A, Forner A. **A rare cause of systemic inflammatory response syndrome.** *GASTROENTEROLOGIA Y HEPATOLOGIA.* . I.F.: 1.078

Clinical Guidelines / I.F.: 30.048

1. Galle, Peter R.; Forner, Alejandro; Llovet, Josep M.; Mazzaferro, Vincenzo; Piscaglia, Fabio; Raoul, Jean-Luc; Schirmacher, Peter; Vilgrain, Valerie. **EASL Clinical Practice Guidelines: Management of hepatocellular carcinoma.** *JOURNAL OF HEPATOLOGY.* 69(1):182-236. I.F.: 15.040

2. Vogel A, Cervantes A, Chau I, Daniele B, Llovet J, Meyer T, Nault JC, Neumann U, Ricke J, Sangro B, Schirmacher P, Verslype C, Zech CJ, Arnold D, Martinelli E, ESMO Guidelines Committee. **Hepatocellular carcinoma: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up.** *ANNALS OF ONCOLOGY.* 29(4):iv238-iv255. I.F.: 13.930

3. Aller R., Fernández-Rodríguez C., Io Iacono O., Bañares R., Abad J., Carrión J., García-Monzón C., Caballería J., Berenguer M., Rodríguez-Perálvarez M., Miranda J., Vilar-Gómez E., Crespo J., García-Cortés M., Reig M., Navarro J., Gallego R., Genescà J., Arias-Loste M., Pareja M., Albillos A., Muntané J., Jorquera F., Solà E., Hernández-Guerra M., Rojo M., Salmerón J., Caballería L., Diago M., Molina E., Bataller R., Romero-Gómez M. **Consensus document. Management of non-alcoholic fatty liver disease (NAFLD). Clinical practice guideline.** *GASTROENTEROLOGIA Y HEPATOLOGIA.* 41(5):328-349. I.F.: 1.078

GRANTS FOR RESEARCH IN PROGRESS

Bruix J. **Influencia de la heterogeneidad del micro-ambiente tumoral en la respuesta terapéutica del carcinoma hepatocelular humano (CHC).**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00962
Duration: 01/01/2015-31/12/2018

Bruix J. **Molecular regulation of the progression from hepatic steatosis to cirrhosis and hepatocellular carcinoma: Role and therapeutic potential of CPEB proteins.**

Sponsored by: Asociación Española Contra el Cáncer. AECC_Grupo Estable15
Duration: 01/09/2015-31/08/2020

Bruix J. **Role and therapeutic potential of CPEB proteins in the transition from cirrhosis to hepatocellular carcinoma.**
Sponsored by:World Wide Cancer Research (WCR). 16-0026
Duration: 01/01/2016-31/12/2018

Llovet JM. **Laboratori de Recerca Translacional en Oncología Hepàtica.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_01358
Duration: 01/01/2017-31/12/2020

Llovet JM. **Mecanismos de resistencia adquirida a sorafenib en el carcinoma hepatocelular.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). SAF2016-76390-R
Duration: 30/12/2016-29/12/2019

Llovet JM. **Integrative molecular classification of extrahepatic cholangiocarcinoma.**
Sponsored by: Sociedad Española de Oncología Médica. SEOM_Retorno18
Duration:26/10/2018-30/10/2019

Llovet JM. **HUNTER: Hepatocellular Carcinoma Expediter Network.**
Sponsored by: Asociación Española Contra el Cáncer. AECC_Accelerator Award17
Duration: 01/12/2018-30/11/2023

Llovet JM. **HEP-CAR: Mechanisms underlying hepatocellular carcinoma pathogenesis and impact of co-morbidities.**
Sponsored by: European Commission. H2020_PHC_2015 (667273-1)
Duration: 01/01/2016-31/12/2019

Llovet JM. **CRISH-2: Co-cReating Innovative Solutions for Health 2.0.**
Sponsored by: European Commission. EITHealth_2018 (18053-IDBPS)
Duration: 01/01/2018-31/12/2019

Morales A. **Regulación terapéutica de la transición EMT/MET y la quimioresistencia en enfermedad hepática crónica.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). SAF2015-66515-R
Duration: 01/01/2016-30/06/2019

Reig M. **Evaluación clínica prospectiva del perfil genético-inmuno/inflamatorio en el tratamiento del carcinoma hepatocelular con sorafenib para predecir tolerancia y supervivencia.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI115/00145
Duration: 23/05/2016-31/12/2019

Reig M. **Prospective clinical evaluation of the genetic-immuno / inflammatory profile in the treatment of hepatocellular carcinoma with sorafenib to predict tolerance and survival.**
Sponsored by: Asociación Española Contra el Cáncer. AECC_Clínico18
Duration: 01/08/2018-

DOCTORAL THESES

Llovet JM. **Characterization of novel actionable molecular subgroups in Hepatocellular Carcinoma: Immune class and IGF2-driven tumors.**
PhD student: Iris Martínez Quetglas

Marí M, Morales A. **Identificación de dianas terapéuticas en fibrosis hepáticas y cáncer.**
PhD student: Anna Tutusaus López

3.6 Hepatic hemodynamics and portal hypertension. Hemorrhage from ruptured gastroesophageal varices

LOCATION
CEK building, floor 4

KEYWORDS
1. **Portal hypertension**
2. **Cirrhosis of the liver**
3. **Angiogenesis**
4. **Obesity**
5. **Liver sinusoidal endothelial cells**
6. **Vascular liver diseases**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	151.24	16	16	-
2017	219.10	27	22	4
2018	191.41	17	15	-

TEAM INVOLVED IN
CIBEREHD
AGAUR_SGR17: 00517

TEAM LEADER
Juan Carlos García-Pagán (HCB)
T. 93 227 54 00 (Ext.: 5790)
jcgarcia@clinic.cat

GROUP LEADERS
Mercedes Fernández Lobato (IDIBAPS)
T. 606 958 606
mercefernandez@ub.edu

Juan Carlos García-Pagán (HCB)
T. 93 227 54 00 (Ext.: 5790)
jcgarcia@clinic.cat

Jordi Gracia-Sancho (IDIBAPS)
T. 93 227 54 00 (Ext.: 4306)
jordi.gracia@idibaps.org

EMERITUS
Jaume Bosch (IDIBAPS)

RESEARCHERS
Ramón Deulofeu (HCB)
Àngels Escorsell (HCB)
M. Rosa Gilabert (HCB)
Virginia Hernández-Gea (HCB)
Montserrat Marí (IIBB-CSIC)

POST-DOCTORAL RESEARCHERS
Genís Campreciós (CIBER)
Anabel Fernández-Iglesias (CIBER)
Javier Gallego (CIBER)
Ester Garcia-Pras (CIBER)
Marc Mejias (CIBER)
Salvador Naranjo-Suárez (IDIBAPS)
Dinesh Mani Tripathi (IDIBAPS)
Marina Vilaseca (IDIBAPS)

PRE-DOCTORAL RESEARCHERS
Anna Baiges (HCB-FCRB)
Michel Ble (HCB)
Estefanía de Gregorio (IDIBAPS)
Jose Alberto Ferrusquía (IDIBAPS)
Erica Lafoz (FCRB)
Marta Magaz-Martínez (HCB)
Maria Ruart (IDIBAPS)
Fanny Turon (HCB)
Nuria Pell (IDIBAPS)
Marta Ramírez (IDIBAPS)
Laia Abad (IDIBAPS)
Raquel Maeso-Díaz (IDIBAPS)
Nico Manicardi (IDIBAPS)
Martí Ortega-Ribera (IDIBAPS)

TECHNICIANS
Héctor García-Calderó (CIBER-FCRB)
Montserrat Monclús (IDIBAPS)

ADMINISTRATIVE STAFF
Oliva Ros (IDIBAPS)

NURSING STAFF
Lara Orts-Salvador (CIBER)

STRATEGIC OBJECTIVES

Translational research aimed at advancing in the knowledge of the pathophysiology of portal hypertension, which represents the main complication of chronic liver diseases. Discovery of new therapeutic targets, introduction of new treatments for this syndrome, and development of new non-invasive techniques for its clinical evaluation.
In addition, the group is active in the fields of vascular liver diseases, angiogenesis abnormalities in liver disease and on organ preservation.

MAIN LINES OF RESEARCH

1. Factors regulating liver microcirculation under normal conditions and in cirrhosis, based on isolated liver perfusion studies and studies in isolated liver sinusoid endothelial cells.
2. Regulation of the phenotype of liver sinusoidal endothelial cells: relevance in the pathophysiology of chronic liver disease, portal hypertension, liver preservation, and in the complications of cirrhosis.
3. Liver protection from external injury in healthy and cirrhotic livers.
4. Angiogenesis in chronic liver disease: function, regulation/dysregulation and therapeutic potential.
5. Impact of obesity on chronic liver disease: pathogenic mechanisms and therapeutic implications.
6. Molecular regulation of the progression from liver steatosis to cirrhosis and liver

cancer. Identification of new therapeutic targets.
7. New non-invasive methods for evaluating cirrhosis.
8. Randomized clinical studies of novel treatments for portal hypertension.
9. Hepatic vascular diseases (Budd-Chiari syndrome, Portal Vein Thrombosis; Idiopathic non-cirrhotic portal hypertension).
10. Prevention of decompensation of cirrhosis.
11. Discovery of diagnostic biomarkers for idiopathic portal hypertension and for risk-stratification.
12. Mechanisms in liver inflammation and fibrosis.

GROUP Mercedes Fernández Lobato

RESEARCH GROUP
ANGIOGENESIS IN LIVER DISEASES

GROUP LEADER
Mercedes Fernández Lobato (IDIBAPS)

Our research (www.mercedesfernandezlab.com) focuses on identifying the causes and drivers of chronic liver diseases, including cirrhosis of the liver and liver cancer, which affect millions of humans beings and are leading causes of death and liver transplantation worldwide. This is essential to fully elucidate unresolved pathogenetic mechanisms of disease, and to facilitate the identification of novel therapeutic avenues to improve human health.
Our specific research projects include:

1. Angiogenesis in chronic liver disease: function, regulation/dysregulation and therapeutic potential.
2. Impact of obesity on chronic liver disease: pathogenic mechanisms and therapeutic implications.
3. Molecular regulation of the progression from liver steatosis to cirrhosis and liver cancer: identification of new therapeutic targets.

GROUP Juan Carlos García-Pagán

RESEARCH GROUP
REGULATION OF LIVER MICROCIRCULATION IN CIRRHOSIS AND HEPATIC VASCULAR DISEASES

GROUP LEADER
Juan Carlos García-Pagán (HCB)

Increased hepatic vascular resistance is one of the main mechanisms responsible for the development of portal hypertension in cirrhosis. Better understanding the mechanisms involved in the increased intrahepatic resistance in cirrhosis and their potential modulation will allow us to design new therapeutic strategies for the treatment of portal hypertension. Liver vascular disorders, particularly Budd-Chiari syndrome, non-cirrhotic portal thrombosis and idiopathic portal hypertension, are infrequent causes of portal hypertension. For a number of years our group has served as a reference center for these illnesses allowing us to advance in their knowledge (prognosis, diagnosis and treatment).

RESEARCH GROUP
VASCULAR BIOLOGY OF THE LIVER

GROUP LEADER
Jordi Gracia-Sancho (IDIBAPS)

The cells of the liver microcirculation, principally sinusoidal endothelial cells, stellate cells and resident macrophages (Kupffer cells), play a key role in the development and progression of liver diseases, and therefore represent an important therapeutic target for the treatment and improvement of patients with liver damage.
Our research group studies the molecular and biomechanical processes that regulate the phenotype of these sinusoidal cells, and the hepatic intercellular communication mechanisms, in health, in response to acute liver damage, in chronic liver disease (cirrhosis and fatty liver), and in ageing.
Our results are the basis for the development of new therapies to improve liver microcirculation, fibrosis and function. In order to achieve our goals, we use a wide range of experimental methods that include tissues and primary cells, both from human and rodents, in vivo/in vitro models of liver disease, cell co-culture by means of liver-on-a-chip technology, and analysis of big data.

GROUP Jordi Gracia-Sancho

PUBLICATIONS

Originals / I.F.: 191.414

1. Tripathi DM, Vilaseca M, Lafoz E, Garcia-Calderó H, Viegas Haute G, Fernández-Iglesias A, Rodrigues de Oliveira J, García-Pagán JC, Bosch J, Gracia-Sancho J . **Simvastatin Prevents Progression of Acute on Chronic Liver Failure in Rats With Cirrhosis and Portal Hypertension.** *GASTROENTEROLOGY.* 155(5):1564-1577. I.F.: 20.773

2. Simón-Talero M, Roccarina D, Martínez J, Lampichler K, Baiges A, Low G, Llop E, Praktiknjo M, Maurer MH, Zipprich A, Triolo M, Vangrinsven G, Garcia-Martinez R, Dam A, Majumdar A, Picón C, Toth D, Darnell A, Abraldes JG, Lopez M, Kukuk G, Krag A, Bañares R, Laleman W, La Mura V, Ripoll C, Berzigotti A, Trebicka J, Calleja JL, Tandon P, Hernandez-Gea V, Reiberger T, Albillos A, Tsochatzis EA, Augustin S, Genescà J, Baveno VI-SPSS group from the Baveno Cooperation. **Association Between Portosystemic Shunts and Increased Complications and Mortality in Patients With Cirrhosis.** *GASTROENTEROLOGY.* 154(6):1694-1705.e4. I.F.: 20.773

3. Harrison SA; Abdelmalek MF; Caldwell S; Shiffman ML; Diehl AM; Ghalib R; Lawitz EJ; Rockey DC; Schall RA; Jia C; McColgan BJ; Mchutchison JG; Subramanian GM; Myers RP; Younossi Z; Ratziu V; Muir AJ; Afdhal NH; Goodman Z; Bosch J; Sanyal AJ; GS-US-321-0105GS-US-321-0106 **Investigators. Simtuzumab Is Ineffective for Patients with Bridging Fibrosis or Compensated Cirrhosis Caused by Nonalcoholic Steatohepatitis.** *GASTROENTEROLOGY.* 155(4):1140-1153. I.F.: 20.773

4. Andrade F, Shukla A, Bureau C, Senzolo M, D'Alteroche L, Heurgué A, Garcia-Pagan JC, Turon F, Oberti F, Tripathi D, Roux O, Ceccaldi PF, de Raucourt E, Payancé A, Valla D, Plessier A, Rautou PE, VALDIG investigators. **Pregnancy in Idiopathic Non-Cirrhotic Portal Hypertension: A Multicentric Study on Maternal and Fetal Management and Outcome.** *JOURNAL OF HEPATOLOGY.* 69(6):1242-1249. I.F.: 15.040

5. De Chiara F, Heebøll S, Marrone G, Montoliu C, Hamilton-Dutoit S, Ferrandez A, Andreola F, Rombouts K, Grønbæk H, Felipo V, Gracia-Sancho J, Mookerjee RP, Vilstrup H, Jalan R, Thomsen KL. **Urea cycle dysregulation in non-alcoholic fatty liver disease.** *JOURNAL OF HEPATOLOGY.* 69(4):905-915. I.F.: 15.040

6. Younossi Z., Stepanova M., Sanyal A., Harrison S., Ratziu V., Abdelmalek M., Diehl A., Caldwell S., Shiffman M., Schall R., McColgan B., Subramanian G., Myers R., Muir A., Afdhal N., Bosch J., Goodman Z. **The conundrum of cryptogenic cirrhosis: Adverse outcomes without treatment options.** *JOURNAL OF HEPATOLOGY.* 69(6):1365-1370. I.F.: 15.040

7. Mauro E, Crespo G, Montironi C, Londoño MC, Hernández-Gea V, Ruiz P, Sastre L, Lombardo J, Mariño Z, Díaz A, Colmenero J, Rimola A, Garcia-Pagán JC, Brunet M, Forns X, Navasa M . **Portal pressure and liver stiffness measurements in the prediction of fibrosis regression after SVR in recurrent hepatitis C.** *HEPATOLOGY.* 67(5):1683-1694. I.F.: 14.079

8. Marrone G, De Chiara F, Böttcher K, Levi A, Dhar D, Longato L, Mazza G, Zhang Z, Marrali M, Fernández-Iglesias A, Hall A, Luong TV, Viollet B, Viollet B, Viollet B, Pinzani M, Rombouts K. **The AMPK-v-ATPase-pH axis: A key regulator of the pro-fibrogenic phenotype of human hepatic stellate cells.** *HEPATOLOGY.* 68(3):1140-1153. I.F.: 14.079

9. Payancé A, Silva-Junior G, Bissonnette J, Tanguy M, Pasquet B, Levi C, Roux O, Nekachtali O, Baiges A, Hernández-Gea V, Laouénan C, Lebrec D, Albuquerque M, Paradis V, Moreau R, Valla D, Durand F, Boulanger CM, Garcia-Pagan JC, Rautou PE. **Hepatocyte microvesicle levels improve prediction of mortality in patients with cirrhosis.** *HEPATOLOGY.* 68(4):1508-1518. I.F.: 14.079

10. Barbero-Camps E, Roca-Agujetas V, Bartolessis I, de Dios C, Fernández-Checa JC, Marí M, Morales A, Hartmann T, Colell A. **Cholesterol impairs autophagy-mediated clearance of amyloid beta while promoting its secretion.** *AUTOPHAGY.* 14(7):1129-1154. I.F.: 11.100

11. Maeso-Díaz R., Ortega-Ribera M., Fernández-Iglesias A., Hide D., Muñoz L., Hessheimer A., Vila S., Francés R., Fondevila C., Albillos A., Peralta C., Bosch J., Tacke F., Cogger V., Gracia-Sancho J. **Effects of aging on liver microcirculatory function and sinusoidal phenotype.** *AGING CELL.* 17(6):e12829. I.F.: 7.627

12. Moya A, Ortega-Ribera M, Guimerà X, Sowade E, Zea M, Illa X, Ramon E, Villa R, Gracia-Sancho J, Gabriel G. **Online oxygen monitoring using integrated inkjet-printed sensors in a liver-on-a-chip system.** *LAB ON A CHIP - MINIATURISATION FOR CHEMISTRY AND BIOLOGY.* 18(14):2023-2035. I.F.: 5.995

13. Pulido Á., de Gregorio E., Chandra S., Colell A., Morales A., Kronenberg M., Marí M. **Differential role of cathepsins S and B in hepatic APC-mediated NKT cell activation and cytokine secretion.** FRONTIERS IN IMMUNOLOGY. 9(391):391. I.F.: 5.511

14. Gómez-Hurtado I, Zapater P, Portune K, Juanola O, Fernández-Iglesias A, González-Navajas JM, Gracia-Sancho J, Sanz Y, Francés R. **Improved hemodynamic and liver function in portal hypertensive cirrhotic rats after administration of B. pseudocatenulatum CECT 7765.** *EUROPEAN JOURNAL OF NUTRITION.* 58(4):1-12. I.F.: 4.423

15. Ortega-Ribera M, Fernández-Iglesias A, Illa X, Moya A, Molina V, Maeso-Díaz R, Fondevila C, Peralta C, Bosch J, Villa R, Gracia-Sancho J. **Resemblance of the human liver sinusoid in a fluidic device with biomedical and pharmaceutical applications.** *BIOTECHNOLOGY AND BIOENGINEERING.* 115(10):2585-2594. I.F.: 3.952

16. Klinger C, Riecken B, Schmidt A, De Gottardi A, Meier B, Bosch J, Caca K. **Transjugular portal vein recanalization with creation of intrahepatic portosystemic shunt (PVR-TIPS) in patients with chronic non-cirrhotic, non-malignant portal vein thrombosis.** *ZEITSCHRIFT FUR GASTROENTEROLOGIE.* 56(3):221-237. I.F.: 1.612

17. Kerbert AJC, Reverter E, Verbruggen L, Tieleman M, Navasa M, Mertens BJA, Rodríguez-Tajes S, de Vree M, Metselaar HJ, Chiang FWT, Verspaget HW, van Hoek B, Bosch J, Coenraad MJ. **Impact of hepatic encephalopathy on liver transplant waiting list mortality in regions with different transplantation rates.** *CLINICAL TRANSPLANTATION.* 32(11):e13412. I.F.: 1.518

Review / I.F.: 37.154

1. Hernández-Gea V, Baiges A, Turon F, Garcia-Pagán JC. **Idiopathic Portal Hypertension.** *HEPATOLOGY.* 68(6):2413-2423. I.F.: 14.079

2. Vilaseca M., Guixé-Muntet S., Fernández-Iglesias A., Gracia-Sancho J. **Advances in therapeutic options for portal hypertension.** *THERAPEUTIC ADVANCES IN GASTROENTEROLOGY.* 11:1-19. I.F.: 4.168

3. Baiges A., Hernández-Gea V., Bosch J. **Pharmacologic prevention of variceal bleeding and rebleeding.** *HEPATOLOGY INTERNATIONAL.* 12(1):S68-S80. I.F.: 4.117

4. Hernández-Gea V, Berbel C, Baiges A, García-Pagán JC. **Acute variceal bleeding: risk stratification and management (including TIPS).** *HEPATOLOGY INTERNATIONAL.* 12(1):81-90. I.F.: 4.117

5. Bosch J, Iwakiri Y. **The portal hypertension syndrome: etiology, classification, relevance, and animal models.** *HEPATOLOGY INTERNATIONAL.* 12(1):S1-S10. I.F.: 4.117

6. Álvarez-Mercado A., Bujaldon E., Gracia-Sancho J., Peralta C. **The Role of Adipokines in Surgical Procedures Requiring Both Liver Regeneration and Vascular Occlusion.** *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES.* 19(11):3395. I.F.: 3.687

7. Turon F, Hernández-Gea V, García-Pagán JC . **Portal vein thrombosis: yes or no on anticoagulation therapy.** *CURRENT OPINION IN ORGAN TRANSPLANTATION.* 23(2):250-256. I.F.: 2.869

Letters / I.F.: 49.892

1. Lens S., Forns X., García-Pagán J. **Reply.** *GASTROENTEROLOGY.* 154(5):1551-1552. I.F.: 20.773

2. Gracia-Sancho J, Guixé-Muntet S. **The many-faced role of autophagy in liver diseases.** *JOURNAL OF HEPATOLOGY.* 68(3):593-594. I.F.: 15.040

3. Berzigotti, Annalisa; Bosch, Jaime; Spordiet Study Investigators. **Balancing Exercise-Induced Weight Loss With Protein Caloric Requirement Remains a Challenge in Overweight Patients With Cirrhosis Reply.** *HEPATOLOGY.* 67(4):1645-1646. I.F.: 14.079

Editorial / I.F.: 38.334

1. Fernandez M. **Placental Growth Factor: New Treatment Target Bringing Hope in Hepatopulmonary Syndrome.** *HEPATOLOGY.* 68(2):404-407. I.F.: 14.079

2. Hernandez-Gea, Virginia; Bureau, Christophe. **Practice makes better: TIPS procedures in referral centers.** *HEPATOLOGY.* 67(2):473-475. I.F.: 14.079

3. Bosch, J.; Berzigotti, A. **Editorial: use of beta-blockers and of band ligation in preventing first and recurrent variceal bleeding-"real life" vs evidence-based decisions.** *ALIMENTARY PHARMACOLOGY AND THERAPEUTICS.* 47(8):1222-1223. I.F.: 7.357

4. Escorsell À., García-Pagán J., Bosch J. **Esophageal Stents for Acute Variceal Bleeding: Expanding the Possibilities.** *DIGESTIVE DISEASES AND SCIENCES.* 63(2):275-276. I.F.: 2.819

GRANTS FOR RESEARCH IN PROGRESS

Bosch J. **CLEVER: Contrast-enhanced uLtrasound for livEr-disease eValuation: development and validation of a novel E-Health-software for Risk-stratification.**
Sponsored by: European Commission.
FP7_People_2013_IAPP (612273)
Duration: 01/10/2013-30/09/2018

Escorsell A. **Eficacia de la derivación portosistémica intrahepática (TIPS) en el tratamiento de la hemorragia aguda por varices gástricas: estudio aleatorizado y controlado vs tratamiento convencional.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00392
Duration: 01/01/2015-31/12/2018

Fernández M. **Mecanismos moleculares y celulares implicados en la interacción entre obesidad y enfermedad hepática crónica: papel y potencial terapéutico de la angiogénesis y proteínas CPEB.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2014-55473-R
Duration: 01/01/2015-31/12/2018

Fernández M. **UPROLC: Papel y potencial terapéutico de la respuesta a proteínas desplegadas en el cáncer de hígado asociado a la obesidad.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2017-87988-R
Duration: 01/01/2018-31/12/2020

Fernández M. **Molecular regulation of the progression from hepatic steatosis to cirrhosis and hepatocellular carcinoma: Role and therapeutic potential of CPEB proteins.**
Sponsored by: Asociación Española Contra el Cáncer (AECC). Grupo Estable_2015
Duration: 01/09/2015-31/08/2020

Fernández M. **Role and therapeutic potential of CPEB proteins in the transition from cirrhosis to hepatocellular carcinoma.**
Sponsored by: Worldwide Cancer Research (WCR). 16-0026
Duration: 01/01/2016-31/12/2018

Garcia-Pagán JC. **Hemodinàmica hepàtica i hipertensió portal.**
Sponsored by: Generalitat de Catalunya.
AGAUR_SGR17_00517
Duration: 01/01/2017-31/12/2020

García-Pagán JC. **Hipertensión Portal Idiopática. Fisiopatología e identificación de dianas terapéuticas.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2016-75767-R
Duration: 30/12/2016-29/12/2019

García-Pagán JC. **Estudio prospectivo multicéntrico, aleatorizado del efecto de Rivaroxaban sobre la supervivencia y el desarrollo de complicaciones de la hipertensión portal en pacientes con cirrosis.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). ICI14/00133
Duration: 01/01/2015-31/12/2019

García-Pagán JC. **Proyecto Integrado de Excelencia. Targeting endothelial dysfunction in highly prevalent diseases: characterization and validation of prognostic biomarkers and identification of potential therapeutic strategies.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PIE15/00027
Duration: 01/01/2016-31/12/2019

Gracia-Sancho J. **Capilarización del endotelio sinusoidal hepático en la cirrosis: caracterización integral para el descubrimiento de nuevas dianas terapéuticas.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00012
Duration: 01/01/2018-31/12/2020

Gracia-Sancho J. **ExoLiver: Liver on a Chip platform for toxicology and drug development.**
Sponsored by: Fundació La Caixa.
CI16-00052
Duration: 01/05/2017-31/12/2018

Gracia-Sancho J. **Capillarization of the liver sinusoidal endothelium: Orchestration by miRNAs.**
Sponsored by: Gilead Sciences. International Research Scholars Program in Liver Disease.
GILEAD_IRS_16_02
Duration: 02/08/2016-01/08/2019

Hernandez-Gea V. **La autofagia endotelial gobierna la respuesta de la célula hepática estrellada al daño hepático: regeneración o fibrosis? Análisis del secretoma endotelial para el desarrollo de nuevos tratamientos antifibroticos.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). FIS PI17/00398
Duration: 01/01/2018-31/12/2020

Marí M. **Actuación sobre el eje sirtuina-1/catepsina como terapia antiinflamatoria en esteatohepatitis no alcohólica y obesidad.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00930
Duration: 01/01/2017-31/12/2019

DOCTORAL THESES

Fernández M. **Mecanismes moleculars i cel·lulars de la neovascularització associada a la hipertensió portal i la cirrosi hepàtica.**
PhD student: Ester Garcia Pras

Fernández M. **Mecanismos reguladores de la angiogénesis mediada por la vía del factor de crecimiento endotelial (VEGF) en hipertensión portal i cirrosis.**
PhD student: Javier Gallego Pinos

Marí M, Morales A**. Identificación de dianas terapéuticas en fibrosis hepáticas y cáncer.**
PhD student: Anna Tutusaus López

3.7 Inflammatory bowel disease

LOCATION
CEK building, floor 3

WEB
www.clinicbarcelona.org/en/idibaps/research-areas

KEYWORDS
1. **Inflammatory bowel diseases**
2. **Crohn's disease**
3. **Ulcerative colitis**
4. **Cell therapy**
5. **Cross-sectional imaging**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	229.49	20	17	2
2017	247.99	17	13	3
2018	198.52	23	19	2

TEAM INVOLVED IN
CIBEREHD
AGAUR_SGR17: 00992

TEAM LEADER
Julián Panés (HCB)
T. 93 227 54 18
jpanes@clinic.cat

RESEARCHERS
Faust Feu (HCB)
Glòria Lacima (HCB)
Josep Llach (HCB)
Ingrid Ordás (HCB)
Elena Ricart (HCB)
María Azucena Salas (IDIBAPS)

POST-DOCTORAL RESEARCHERS
Helena Bassolas (IDIBAPS)
Isabella Dotti (IDIBAPS)
Elena Ferrer (IDIBAPS)
Marisol Veny (IDIBAPS)

PRE-DOCTORAL RESEARCHERS
Jesús Castro (HCB)
Ana Maria Corraliza (IDIBAPS)
Agnès Fernández (IDIBAPS)
Aida Mayorgas (IDIBAPS)
Lluís Revilla (CIBER)

TECHNICIANS
Montserrat Arroyes (IDIBAPS)
Miriam Esteller (CIBER)
Alba Garrido (CIBER)
Maria Carme Masamunt (CIBER)

NURSING STAFF
Rebeca Barastegui (HCB)
Marta Gallego (HCB)
Àngel Giner (FCRB)

STRATEGIC OBJECTIVES

This IDIBAPS research team has a translational orientation, aimed at generating knowledge in the area of inflammatory bowel diseases to provide a benefit to patients suffering from Crohn's disease or ulcerative colitis in the near future, with a special emphasis on the discovery of disease biomarkers, new molecular and cellular targets, as well as imaging techniques for diagnosis and monitoring.

MAIN LINES OF RESEARCH

1. Autologous hematopoietic stem cell transplantation in refractory Crohn's disease. Role of host, immune and intestinal microbiota related factors on the therapeutic response.

2. Efficacy of mesenchymal stem cells for treatment of fistulizing Crohn's disease.

TEAM Julián Panés

3. Development and optimization of intestinal epithelial stem cells production. Application of the technology for characterization of pathobiological aspects of inflammatory bowel diseases and vitro drug testiing.

4. Transcriptional analysis in IBD as a tool to understand the pathophysiology of IBD and to evaluate therapeutic responses.

5. Microbial antigen specific responses in the pathophysiology of Crohn's disease.

6. Optimization of cross sectional imaging techniques, for evaluation of the extent, severity and prognosis of the inflammatory lesions in Crohn's disease. Study permanent damage in ulcerative colitis.

7. Advanced endoscopic techniques for diagnosis and treatment of IBD.

PUBLICATIONS

Originals / I.F.: 198.52

1. Panés J., García-Olmo D., Van Assche G., Colombel J., Reinisch W., Baumgart D., Dignass A., Nachury M., Ferrante M., Kazemi-Shirazi L., Grimaud J., de la Portilla F., Goldin E., Richard M., Diez M., Tagarro I., Leselbaum A., Danese S., Stift A., Tschmelitsch J., Mrak K., Tilg H., Kroberger I., D'Hoore A., De Looze D., Baert F., Pattyn P., Zerbib P., Zerbib F., Viennot S., Dupas J., Orsoni P., Hebuterne X., Rahili A., Allez M., Panis Y., Reinshagen M., Scherer R., Sturm A., Kruis W., Panés J., García-Olmo D., Van Assche G., Colombel J., Reinisch W., Baumgart D., Dignass A., Nachury M., Ferrante M., Kazemi-Shirazi L., Grimaud J., de la Portilla F., Goldin E., Richard M., Diez M., Tagarro I., Leselbaum A., Danese S., Stift A., Tschmelitsch J., Mrak K., Tilg H., Kroberger I., D'Hoore A., De Looze D., Baert F., Pattyn P., Zerbib P., Zerbib F., Viennot S., Dupas J., Orsoni P. **Long-term Efficacy and Safety of Stem Cell Therapy (Cx601) for Complex Perianal Fistulas in Patients With Crohn's Disease.** *GASTROENTEROLOGY.* 154(5):1334-1342. I.F.: 20.773

2. Danese S, Bonovas S, Lopez A, Fiorino G, Sandborn WJ, Rubin DT, Kamm MA, Colombel JF, Sands BE, Vermeire S, Panes J, Rogler G, D'Haens G, Peyrin-Biroulet L . **Identification of Endpoints for Development of Anti-fibrosis Drugs for Treatment of Crohn's Disease.** *GASTROENTEROLOGY.* 155(1):76-87. I.F.: 20.773

3. Carballal S, Maisterra S, López-Serrano A, Gimeno-García AZ, Vera MI, Marín-Garbriel JC, Díaz-Tasende J, Márquez L, Álvarez MA, Hernández L, De Castro L, Gordillo J, Puig I, Vega P, Bustamante-Balén M, Acevedo J, Peñas B, López-Cerón M, Ricart E, Cuatrecasas M, Jimeno M, Pellisé M, EndoCAR group of the Spanish Gastroenterological Association and Spanish Digestive Endoscopy Society. **Real-life chromoendoscopy for neoplasia detection and characterisation in long-standing IBD.** *GUT.* 67(1):70-78. I.F.: 17.016

4. Siegel C., Whitman C., Spiegel B., Feagan B., Sands B., Loftus E., Panaccione R., D'Haens G., Bernstein C., Gearry R., Ng S., Mantzaris G., Sartor B., Silverberg M., Riddell R., Koutroubakis I., O'Morain C., Lakatos P., McGovern D., Halfvarson J., Reinisch W., Rogler G., Kruis W., Tysk C., Schreiber S., Danese S., Sandborn W., Griffiths A., Moum B., Gasche C., Pallone F., Travis S., Panes J., Colombel J., Hanauer S., Peyrin-Biroulet L. **Development of an index to define overall disease severity in IBD.** *GUT.* 67(2):244-254. I.F.: 17.016

5. Laharie D; Bourreille A; Branche J; Allez M; Bouhnik Y; Filippi J; Zerbib F; Savoye G; Vuitton L; Moreau J; Amiot A; Cosnes J; Ricart E; Dewit O; Lopez-Sanroman A; Fumery M; Carbonnel F; Bommelaer G; Coffin B; Roblin X; Van Assche G; Esteve M; Färkkilä M; Gisbert JP; Marteau P; Nahon S; De Vos M; Lambert J; Mary JY; Louis E; Groupe d'Etudes Thérapeutiques des Affections Inflammatoires Digestives. **Long-term outcome of patients with steroid-refractory acute severe UC treated with ciclosporin or infliximab.** *GUT.* 67(2):237-243. I.F.: 17.016

6. Ordás I., Domènech E., Mañosa M., García-Sánchez V., Iglesias-Flores E., Rodríguez-Moranta F., Márquez L., Merino O., Fernández-Bañares F., Gomollón F., Vera M., Gutiérrez A., Llaó J., Gisbert J., Aguas M., Arias L., Rodríguez-Lago I., Muñoz C., Alcaide N., Calvet X., Rodríguez C., Montoro M., García S., De Castro M., Piqueras M., Pareja L., Ribes J., Panés J., Esteve M. **Post-operative morbidity and mortality of a cohort of steroid refractory acute severe ulcerative colitis: Nationwide multicenter study of the GETECCU ENEIDA Registry.** *AMERICAN JOURNAL OF GASTROENTEROLOGY.* 113(7):1009-1016. I.F.: 10.231

7. Sandborn WJ, Panés J, D'Haens GR, Sands BE, Su C, Moscariello M, Jones T, Pedersen R, Friedman GS, Lawendy N, Chan G. **Safety of Tofacitinib for Treatment of Ulcerative Colitis, Based on 4.** *CLINICAL GASTROENTEROLOGY AND HEPATOLOGY.* S1542-3565(18):31278-3. I.F.: 7.683

8. Olivera P, Sandborn WJ, Panés J, Baumann C, D'Haens G, Vermeire S, Danese S, Peyrin-Biroulet L . **Physicians' perspective on the clinical meaningfulness of inflammatory bowel disease trial results: an International Organization for the Study of Inflammatory Bowel Disease (IOIBD) survey.** *ALIMENTARY PHARMACOLOGY AND THERAPEUTICS.* 47(6):773-783. I.F.: 7.357

9. Rieder, F.; Bettenworth, D.; Ma, C.; Parker, C. E.; Williamson, L. A.; Nelson, S. A.; van Assche, G.; Di Sabatino, A.; Bouhnik, Y.; Stidham, R. W.; Dignass, A.; Rogler, G.; Taylor, S. A.; Stoker, J.; Rimola, J.; Baker, M. E.; Fletcher, J. G.; Panes, J.; Sandborn, W. J.; Feagan, B. G.; Jairath, V. **An expert consensus to standardise definitions, diagnosis and treatment targets for anti-fibrotic stricture therapies in Crohn's disease.** *ALIMENTARY PHARMACOLOGY AND THERAPEUTICS.* 48(3):347-357. I.F.: 7.357

10. Rimola J., Alfaro I., Fernández-Clotet A., Castro-Poceiro J., Vas D., Rodríguez S., Masamunt M., Ordás I., Ricart E., Panés J. **Persistent damage on magnetic resonance enterography in patients with Crohn's disease in endoscopic remission.** *ALIMENTARY PHARMACOLOGY AND THERAPEUTICS.* 48(11-12):1232-1241. I.F.: 7.357

11. Chaparro M, Garre A, Ricart E, Iborra M, Mesonero F, Vera I, Riestra S, García-Sánchez V, Luisa De Castro M, Martin-Cardona A, Aldeguer X, Mínguez M, de-Acosta MB, Rivero M, Muñoz F, Andreu M, Bargalló A, González-Muñoza C, Pérez Calle JL, García-Sepulcre MF, Bermejo F, Huguet JM, Cabriada JL, Gutiérrez A, Mañosa M, Villoria A, Carbajo AY, Lorente R, García-López S, Piqueras M, Hinojosa E, Arajol C, Sicilia B, Conesa AM, Sainz E, Almela P, Llaó J, Roncero O, Camo P, Taxonera C, Domselaar MV, Pajares R, Legido J, Madrigal R, Lucendo AJ,

Alcaín G, Doménech E, Gisbert JP, GETECCU study group GETECCU study group. **Short and long-term effectiveness and safety of vedolizumab in inflammatory bowel disease: results from the ENEIDA registry.** *ALIMENTARY PHARMACOLOGY AND THERAPEUTICS.* 48(8):839-851. I.F.: 7.357

12. Panes, Julian; Vermeire, Severine; Lindsay, James O.; Sands, Bruce E.; Su, Chinyu; Friedman, Gary; Zhang, Haiying; Yarlas, Aaron; Bayliss, Martha; Maher, Stephen; Cappelleri, Joseph C.; Bushmakin, Andrew G.; Rubin, David T. **Tofacitinib in Patients with Ulcerative Colitis: Health-Related Quality of Life in Phase 3 Randomised Controlled Induction and Maintenance Studies.** *JOURNAL OF CROHN'S AND COLITIS.* 12(2):145-156. I.F.: 6.637

13. Domènech E, Panés J, Hinojosa J, Annese V, Magro F, Sturniolo GC, Bossa F, Fernández F, González-Conde B, García-Sánchez V, Dignass A, Herrera JM, Cabriada JL, Guardiola J, Vecchi M, Portela F, Ginard D, ATTICA Study Group by the Grupo Español de Trabajo en Enfermedad de Crohn y Colitis Ulcerosa [listed at the end of the article] . **Addition of granulocyte/monocyte apheresis to oral prednisone for steroid-dependent ulcerative colitis: A randomized, multicentre, clinical trial.** *JOURNAL OF CROHN'S AND COLITIS.* 12(6):687-694. I.F.: 6.637

14. Brierley, Charlotte K.; Castilla-Llorente, Cristina; Labopin, Myriam; Badoglio, Manuela; Rovira, Montserrat; Ricart, Elena; Dierickx, Daan; Vermeire, Severine; Hasselblatt, Peter; Finke, Juergen; Onida, Francesco; Cassinotti, Andrea; Satsangi, Jack; Kazmi, Majid; Lopez-Sanroman, Antonio; Schmidt, Carsten; Farge, Dominique; Travis, Simon P. L.; Hawkey, Chris J.; Snowdens, John A.; European Soc Blood Marrow Transpl. **Autologous Haematopoietic Stem Cell Transplantation for Crohn's Disease: A Retrospective Survey of Long-term Outcomes from the European Society for Blood and Marrow Transplantation.** *JOURNAL OF CROHN'S AND COLITIS.* 12(9):1097-1103. I.F.: 6.637

15. Visvanathan S, Baum P, Salas A, Vinisko R, Schmid R, Grebe KM, Davis JW, Wallace K, Böcher WO, Padula SJ, Fine JS, Panés J . **Selective IL-23 inhibition by risankizumab modulates the molecular profile in the colon and ileum of patients with active Crohn's disease: Results from a randomised phase II biopsy substudy.** *JOURNAL OF CROHN'S AND COLITIS.* 12(10):1170-1179. I.F.: 6.637

16. Sands BE, Sandborn WJ, Feagan BG, Lichtenstein GR, Zhang H, Strauss R, Szapary P, Johanns J, Panes J, Vermeire S, O'Brien CD, Yang Z, Bertelsen K, Marano C, Peficitinib-UC Study Group. **Peficitinib, an Oral Janus Kinase Inhibitor, in Moderate-to-Severe Ulcerative Colitis: Results From a Randomized, Phase 2 Study.** *JOURNAL OF CROHN'S AND COLITIS.* 12(10):1158-1169. I.F.: 6.637

17. Bassolas-Molina, Helena; Raymond, Ernest; Labadia, Mark; Wahle, Joseph; Ferrer-Picon, Elena; Panzenbeck, Mark; Zheng, Jie; Harcken, Christian; Hughes, Robert; Turner, Michael; Smith, Dustin; Calderdon-Gomez, Elisabeth; Esteller, Miriam; Carrasco, Anna; Esteve, Maria; Dotti, Isabella; Maria Corraliza, Ma; Carme Masamunt, Maria; Arajol, Claudia; Guardiola, Jordi; Ricart, Elena; Nabozny, Gerald; Salas, Azucena. **An ROR gamma t Oral Inhibitor Modulates IL-17 Responses in Peripheral Blood and Intestinal Mucosa of Crohn's Disease Patients.** *FRONTIERS IN IMMUNOLOGY.* 9(2307):2307. I.F.: 5.511

18. Jairath, Vipul; Ordas, Ingrid; Zou, Guangyong; Panes, Julian; Stoker, Jaap; Taylor, Stuart A.; Santillan, Cynthia; Horsthuis, Karin; Samaan, Mark A.; Shackelton, Lisa M.; Stitt, Larry W.; Hindryckx, Pieter; Khanna, Reena; Sandborn, William J.; D'Haens, Geert; Feagan, Brian G.; Levesque, Barrett G.; Rimola, Jordi. **Reliability of Measuring Ileo-Colonic Disease Activity in Crohn's Disease by Magnetic Resonance Enterography.** *INFLAMMATORY BOWEL DISEASES.* 24(2):440-449. I.F.: 4.347

19. González-Suárez B., Rodriguez S., Ricart E., Ordás I., Rimola J., Díaz-González Á., Romero C., De Miguel C., Jáuregui A., Araujo I., Ramirez A., Gallego M., Fernández-Esparrach G., Ginés Á., Sendino O., Llach J., Panés J. **Comparison of Capsule Endoscopy and Magnetic Resonance Enterography for the Assessment of Small Bowel Lesions in Crohn's Disease.** *INFLAMMATORY BOWEL DISEASES.* 24(4):775-780. I.F.: 4.347

20. Sendino, Oriol; Fernandez-Simon, Alejandro; Law, Ryan; Abu Dayyeh, Barham; Leise, Michael; Chavez-Rivera, Karina; Cordova, Henry; Colmenero, Jordi; Crespo, Gonzalo; Rodriguez de Miguel, Cristina; Fondevila, Constantino; Llach, Josep; Navasa, Miquel; Baron, Todd; Cardenas, Andres;. **Endoscopic management of bile leaks after liver transplantation: An analysis of two high-volume transplant centers.** *UNITED EUR GASTROENT.* 6(1):89-96 I.F.: 3.477

21. Castro-Poceiro J, Fernández-Clotet A, Panés J . **Mesenchymal stromal cells in the treatment of perianal fistulas in Crohn's disease.** *IMMUNOTHERAPY.* 10(14):1203-1217. I.F.: 3.461

22. Garcia-Planella E., Mañosa M., Chaparro M., Beltrán B., Barreiro-de-Acosta M., Gordillo J., Ricart E., Bermejo F., García-Sánchez V., Piqueras M., Llaó J., Gisbert J., Cabré E., Domènech E. **Serial semi-quantitative measurement of fecal calprotectin in patients with ulcerative colitis in remission.** *SCANDINAVIAN JOURNAL OF GASTROENTEROLOGY.* 53(2):152-157. I.F.: 2.629

23. Mira J, Lacima G, Cortés Gil X. **Perceptions of the public healthcare system from private-care patients with irritable bowel syndrome with constipation in Spain.** *REVISTA ESPAÑOLA DE ENFERMEDADES DIGESTIVAS.* 110(10):612-620. I.F.: 1.632

Review / I.F.: 35.738

1. Snowden J., Panés J., Alexander T., Allez M., Ardizzone S., Dierickx D., Finke J., Hasselblatt P., Hawkey C., Kazmi M., Lindsay J., Onida F., Salas A., Saccardi R., Vermeire S., Rovira M., Ricart E. **Autologous haematopoietic stem cell transplantation (AHSCT) in severe Crohn's disease: A review on behalf of ECCO and EBMT.** *JOURNAL OF CROHN'S AND COLITIS.* 12(4):476-488. I.F.: 6.637

2. Yarlas, Aaron; Rubin, David T.; Panes, Julian; Lindsay, James O.; Vermeire, Severine; Bayliss, Martha; Cappelleri, Joseph C.; Maher, Stephen; Bushmakin, Andrew G.; Chen, Lea Ann; DiBonaventura, Marco. **Burden of Ulcerative Colitis on Functioning and Well-being: A Systematic Literature Review of the SF-36 (R) Health Survey.** *JOURNAL OF CROHN'S AND COLITIS.* 12(5):600-609. I.F.: 6.637

3. Panés J, Salas A . Past, **Present and Future of Therapeutic Interventions Targeting Leukocyte Trafficking in Inflammatory Bowel Disease.** *JOURNAL OF CROHN'S AND COLITIS.* 12(2):S633-S640. I.F.: 6.637

4. Dotti I, Salas A . **Potential Use of Human Stem Cell-Derived Intestinal Organoids to Study Inflammatory Bowel Diseases.** *INFLAMMATORY BOWEL DISEASES.* 24(12):2501-2509. I.F.: 4.347

5. Fernández-Clotet A., Castro-Poceiro J., Panés J. **Tofacitinib for the treatment of ulcerative colitis.** *EXPERT REVIEW OF CLINICAL IMMUNOLOGY.* 14(11):881-892. I.F.: 3.436

6. Panes J., Reinisch W., Rupniewska E., Khan S., Forns J., Khalid J., Bojic D., Patel H. **Burden and outcomes for complex perianal fistulas in Crohn's disease: Systematic review.** *WORLD JOURNAL OF GASTROENTEROLOGY.* 24(42):4821-4834. I.F.: 3.300

7. Panés J., Ricart E. **Can we monitor a patient with inflammatory bowel disease and adapt treatment without endoscopy?** *CURRENT DRUG TARGETS.* 17(10):777-781. I.F.: 3.112

8. Ciriza-de-los-Rios, Constanza; Minguez, Miguel; Maria Remes-Troche, Jose; Lacima, Gloria. **High-resolution and high-definition anorectal manometry: rediscovering anorectal function.** *REVISTA ESPANOLA DE ENFERMEDADES DIGESTIVAS.* 110(12):794-805. I.F.: 1.632

Letters / I.F.: 1.078

1. Uchima HI, Araujo IK, Ferrer J, Burrell M, Sotomayor A, García-Criado Á, Feu F, Ricart MJ, Llach J, González-Suárez B. **Superior mesenteric artery pseudoaneurysm fistulised to the small intestine in a pancreas-kidney transplant recipient: Can it be detected by capsule endoscopy?** *GASTROENTEROLOGIA Y HEPATOLOGIA.* 41(2):109-111. I.F.: 1.078

Editorial / I.F.: 7.683

1. Panés J, Rimola J . **Therapeutic objectives in Crohn's disease: mucosal or transmural healing?** *CLINICAL GASTROENTEROLOGY AND HEPATOLOGY.* 16(7):1037-1039. I.F.: 7.683

GRANTS FOR RESEARCH IN PROGRESS

Ricart E. **Efficacy and safety of autologous hematopoietic stem cells transplantation for refractory Crohn's disease after cyclophosphamide-free mobilization.**
Sponsored by: Instituto de salud Carlos III (ISCIII). PI17/00513
Duration: 01/01/2018-31/12/2020

Salas A. **Mecanismes cel·lulars i moleculars de la malaltia inflamatòria intestinal.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_00992
Duration: 01/01/2017-31/12/2020

Salas A. Panés J. **Transplante autólogo de células madre hematopoyéticas en la enfermedad de Crohn: factores moleculares, inmunes y microbiológicos implicados en el control de la enfermedad.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2015-66379-R
Duration: 01/01/2016 - 31/12/2018

Salas A. **New NEW DEAL: New siRNA Nanotherapy for Inflammatory Bowel Diseases, targeting Janus kinase 3.**
Sponsored by: European Commission.
H2020_NMBP16-17 (720905)
Duration: 01/01/2017-31/12/2020

Salas A. **Cellular mechanisms in Crohn's Disease: unraveling new therapeutic avenues.**
Sponsored by: The Leona M & Harry B Helmsley Charitable Trust
Duration: 01/08/2014-31/03/2019

DOCTORAL THESES

Salas A. **Resposta T específica contra antígens de la microbiota comensal en la malaltia de Crohn i inhibició de RORyt com a estratègia terapèutica.**
PhD student: Helena Bassolas Molina

Salas A, Dotti I. **Ús d'organoides humans per a l'estudi de la barrera epitelial i la resposta a productes microbians en la malaltia inflamatòria intestinal.**
PhD student: Elena Ferrer Picón

Salas A, Lozano JJ. **Estudi transcripcional de la Colitis Ulcerosa. Caracterització i cerca de biomarcadors.**
PhD student: Núria Planell Picola

3.8 Cholestasis and bone pathology

LOCATION
HCB building

KEYWORDS
1. **Primary biliary cholangitis**
2. **Primary sclerosing cholangitis**
3. **Autoimmune hepatitis**
4. **Osteoporosis**
5. **Bone metabolism**
6. **Pruritus**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	41.48	7	6	1
2017	87.79	11	6	4
2018	76.1	10	5	1

TEAM INVOLVED IN
CIBEREHD

TEAM LEADER
Albert Parés (HCB)
T. 93 227 57 53
apares@clinic.cat

TEAM LEADER
Núria Guañabens (HCB)
T. 93 227 54 00 (Ext.: 2235)
nguana@clinic.cat

RESEARCHERS
Lluisa Álvarez (HCB)
Ana Isabel Monegal (HCB)
Pilar Peris (HCB)

POST-DOCTORAL RESEARCHERS
Susana Jurado (FCRB)

PRE-DOCTORAL RESEARCHERS
Anna Reig (FCRB)

NURSING STAFF
Pilar Sesé (HCP)

STRATEGIC OBJECTIVES

1. Epidemiology, natural history and treatment in cholestatic diseases.
2. Natural history diagnosis, prognosis and treatment of autoimmune hepatitis.
3. Phenotype and prognosis in primary sclerosing cholangitis.
4. Itching of cholestasis.
5. Presentation forms of autoimmune hepatitis.
6. Osteoporosis in cholestatic diseases.
7. Osteoporosis in premenopausal women and men.
8. Bone remodelling in liver transplantation.
9. Management of vertebral fractures in osteoporosis.
10. Rare bone diseases.

TEAM Albert Parés and Núria Guañabens

MAIN LINES OF RESEARCH

1. Epidemiology, natural history and therapeutic response of chronic cholestatic disorders in adults.
2. Evaluation of the factors of treatment response, and new treatment regimens in patients withsuboptimal response to ursodeoxycholic acid.
3. Development of new prognostic scores in primary biliary cholangitis.
4. Pruritus in chronic cholestasis: Pathogenesis and treatment.
5. Pathogenesis of osteoporosis and fracture development in primary biliary cholangitis and other chronic cholestatic disorders.
6. Course and prognosis in primary sclerosing cholangitis.
7. Presentation, course and prognosis of autoimmune hepatitis.
8. Osteoporosis in premenopausal women and in males. Study of the clinical characteristics and mechanisms involved in the development of the disorder.
9. Osteoporosis in primary biliary cholangitis. Clinical and experimental evaluation.
10. Osteoporosis in liver transplantation.
11. Evaluation of bone remodelling regulators in the pathogenesis of osteoporosis.
12. Biomarkers in Paget disease.

RESEARCH GROUP CHOLESTASIS

GROUP LEADER
Albert Parés (HCB)

The research group consist of clinicians (hepatologists) who follow a large number of patients with autoimmune cholestatic diseases, basically primary biliary cholangitis, autoimmune hepatitis and primary sclerosing cholangitis.
The group actively participates in international research groups in these diseases and they contribute in the knowledge of the phenotype, natural history, diagnosis, prognosis and treatment of these diseases.
Close collaboration with the bone pathology group.

RESEARCH GROUP BONE METABOLIC DISEASE

GROUP LEADER
Núria Guañabens (HCB)

The research group consists of rheumatologists specialized in metabolic bone disease, a specialist in clinical analysis and a biologist who is dedicated specifically to studies in cell cultures.
The group is a world leader in bone pathology of liver diseases and liver transplantation, as well as in male osteoporosis and bone turnover markers. It has a close collaboration with the group of cholestasis.

PUBLICATIONS

Originals / I.F.: 76.1

1. Alberts R; de Vries EMG; Goode EC; Jiang X; Sampaziotis F; Rombouts K; Böttcher K; Folseraas T; Weismüller TJ; Mason AL; Wang W; Alexander G; Alvaro D; Bergquist A; Björkström NK; Beuers U; Bjornsson E; Boberg KM; Bowlus CL; Bragazzi MC; Carbone M; Chazouillères O; Cheung A; Dalekos G; Eaton J; Eksteen B; Ellinghaus D; Färkkilä M; Festen EAM; Floreani A; Franceschet I; Gotthardt DN; Hirschfield GM; Hoek BV. **Genetic association analysis identifies variants associated with disease progression in primary sclerosing cholangitis.** *GUT.* 67(8):1517-1524. I.F.: 17.016

2. Kowdley K., Luketic V., Chapman R., Hirschfield G., Poupon R., Schramm C., Vincent C., Rust C., Parés A., Mason A., Marschall H., Shapiro D., Adorini L., Sciacca C., Beecher-Jones T., Böhm O., Pencek R., Jones D. **A randomized trial of obeticholic acid monotherapy in patients with primary biliary cholangitis.** *HEPATOLOGY.* 67(5):1890-1902. I.F.: 14.079

3. Murillo Perez CF, Goet JC, Lammers WJ, Gulamhusein A, van Buuren HR, Ponsioen CY, Carbone M, Mason A, Corpechot C, Invernizzi P, Mayo MJ, Battezzati PM, Floreani A, Pares A, Nevens F, Kowdley KV, Bruns T, Dalekos GN, Thorburn D, Hirschfield G, LaRusso NF, Lindor KD, Zachou K, Poupon R, Trivedi PJ, Verhelst X, Janssen HLA, Hansen BE, GLOBAL PBC Study Group. **Milder disease stage in patients with primary biliary cholangitis over a 44-year period: A changing natural history.** *HEPATOLOGY.* 67(5):1920-1930. I.F.: 14.079

4. Harms MH, Lammers WJ, Thorburn D, Corpechot C, Invernizzi P, Janssen HLA, Battezzati PM, Nevens F, Lindor KD, Floreani A, Ponsioen CY, Mayo MJ, Dalekos GN, Bruns T, Parés A, Mason AL, Verhelst X, Kowdley KV, Goet JC, Hirschfield GM, Hansen BE, van Buuren HR, Global PBC Study Group. **Major Hepatic Complications in Ursodeoxycholic Acid-Treated Patients With Primary Biliary Cholangitis: Risk Factors and Time Trends in Incidence and Outcome.** *AMERICAN JOURNAL OF GASTROENTEROLOGY.* 113(2):254-264. I.F.: 10.231

5. Reig, Anna; Sese, Pilar; Pares, Albert. **Effects of Bezafibrate on Outcome and Pruritus in Primary Biliary Cholangitis With Suboptimal Ursodeoxycholic Acid Response.** *AMERICAN JOURNAL OF GASTROENTEROLOGY.* 113(1):49-55. I.F.: 10.231

6. Gifre L, Humbert L, Muxi A, Del Rio L, Vidal J, Portell E, Monegal A, Guañabens N, Peris P. **Analysis of the evolution of cortical and trabecular bone compartments in the proximal femur after spinal cord injury by 3D-DXA**. *OSTEOPOROSIS INTERNATIONAL.* 29(1):201-209. I.F.: 3.857

7. Lemoinne S., Pares A., Reig A., Ben Belkacem K., Kemgang Fankem A., Gaouar F., Poupon R., Housset C., Corpechot C., Chazouillères O. **Primary sclerosing cholangitis response to the combination of fibrates with ursodeoxycholic acid: French–Spanish experience.** *CLINICS AND RESEARCH IN HEPATOLOGY AND GASTROENTEROLOGY.* 42(6):521-528. I.F.: 2.623

8. Parés A, Albillos A, Andrade RJ, Berenguer M, Crespo J, Romero-Gómez M, Vergara M, Vendrell B, Gil A . Primary biliary cholangitis in Spain. **Results of a Delphi study of epidemiology, diagnosis, follow-up and treatment.** *REVISTA ESPAÑOLA DE ENFERMEDADES DIGESTIVAS.* 110(10):641-649. I.F.: 1.632

9. Redondo L, Puigoriol E, Rodríguez JR, Peris P, Kanterewicz E. **Usefulness of the**

Trabecular Bone Score for assessing the risk of osteoporotic fracture. *REVISTA CLINICA ESPAÑOLA.* 218(3):121-127. I.F.: 1.184

10. Florez H., Mandelikova S., Filella X., Monegal A., Guañabens N., Peris P. **Clinical significance of increased serum levels of FGF-23 in fibrous dysplasia.** *MEDICINA CLINICA.* 151(2):65-67. I.F.: 1.168

Review / I.F.: 10.468

1. Guañabens N, Parés A . **Osteoporosis in chronic liver disease.** *LIVER INTERNATIONAL.* 38(5):776-785. I.F.: 4.500

2. Parés A., Guañabens N. **Primary biliary cholangitis and bone disease.** *BAILLIERE'S BEST PRACTICE AND RESEARCH IN CLINICAL GASTROENTEROLOGY.* 34-35:63-70. I.F.: 3.632

3. Parés A. **Primary biliary cholangitis.** *MEDICINA CLINICA.* 151(6):242-249. I.F.: 1.168

4. Guañabens N., Blanch J., Martínez-Díaz-Guerra G., Muñoz Torres M. **Identification of hypophosphatasia in a clinical setting: Clinical manifestations and diagnostic recommendations in adult patients.** *MEDICINA CLINICA.* 150(2):75-79. I.F.: 1.168

Case Reports / I.F.: 5.245

1. Fustà X, Combalia A, Guañabens N, Iranzo P. **Uncommon local reaction at the injection site of subcutaneous methotrexate.** *RHEUMATOLOGY.* 57(1):27. I.F.: 5.245

GRANTS FOR RESEARCH IN PROGRESS

Guañabens N. **Efectos de la bilirrubina y ácidos biliares sobre las células reguladoras del remodelado óseo. Estudio in vitro en células osteocitarias MLO-A5/MLO-Y4.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00478
Duration: 01/01/2015-30/06/2019

Guañabens N. **Efectos de la bilirrubina y ácidos biliares sobre osteoclastos humanos in vitro y sobre el patrón de expresión de MicroRNAs implicados en la osteoclastogénesis.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00444
Duration: 01/01/2018-31/12/2020

Parés A. **Efecto del bezafibrato sobre el prurito de la colestasis. Mecanismos patogénicos.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00797
Duration: 01/01/2016-30/06/2020

DOCTORAL THESES

Parés A, Caballeria LL. **Detección precoz de fibrosis hepática en población adulta.**
PhD student: Ingrid Cecibel Arteaga Pillasagua

3.9 Mitochondrial regulation of cell death and steatohepatitis

LOCATION
CEK building, floor 4

KEYWORDS
1. **Cholesterol/sphingolipids**
2. **Mitochondrial death**
3. **Oxidative stress**
4. **Alcoholic and non-alcoholic steatohepatitis (ASH/NASH)**
5. **Lipid therapies**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	62.32	8	7	1
2017	101.61	10	10	-
2018	111.64	12	10	2

TEAM INVOLVED IN
CIBEREHD
AGAUR_SGR17: 01112

TEAM LEADER
José Carlos Fernández-Checa (IIBB-CSIC)
T. 93 227 57 09
checa229@yahoo.com

RESEARCHERS
Joan Caballeria (HCB)
Carmen García (IIBB-CSIC)

POST-DOCTORAL RESEARCHERS
Laura Conde (CIBER)
Raquel Fucho (IIBB-CSIC)
Anna Moles (IIBB-CSIC)
Vicente Ribas (IIBB-CSIC)
Sandra Torres (IIBB-CSIC)

PRE-DOCTORAL RESEARCHERS
Naroa Insausti (IIBB-CSIC)
David Robles (IIBB-CSIC)
Estel Solsona (IIBB-CSIC)

TECHNICIANS
Gemma Gay (IIBB-CSIC)
Susana Núñez (CIBER)

STRATEGIC OBJECTIVES

The overall aim is to examine the cell biology of lipids and cholesterol trafficking in liver diseases and neurodegeneration. This includes the role of mitochondrial cholesterol and sphingolipids in steatohepatitis, liver cancer, liver fibrogenesis, hepatic ischemia/reperfusion injury, Alzheimer's disease and lysosomal storage disorders.

MAIN LINES OF RESEARCH

1. Sphingolipid and mitochondrial oxidative-stress regulation of cell death.
2. Mechanisms responsible for cholesterol transport to the mitochondria and role in NASH, hepatocellular carcinoma and Alzheimer's disease.
3. Translational research in nonalcoholic steatohepatitis (NASH): Development of NASH in a humanized mouse model to identify potential targets in human NASH.
4. Contribution of acid sphingomyelinase in acetaminophen induced acute liver failure.
5. Development of non-invasive diagnostic methods for diagnosis and prognosis in alcohol-induced liver disease.
6. Mitochondrial cholesterol and glycosphingolipids in liver fibrosis. Reciprocal regulation between HIF1a and StARD1 in steatohepatitis and hepatocellular carcinoma.

TEAM José Carlos Fernández-Checa

7. Establishment of a mouse model with a humanized liver to study ALD and NASH.
8. ER stress-mitochondrial cholesterol axis in obesity-associated insulin resistance and comorbidities

PUBLICATIONS

Originals / I.F.: 101.614

1. Ouyang X, Han SN, Zhang JY, Dioletis E, Nemeth BT, Pacher P, Feng D, Bataller R, Cabezas J, Stärkel P, Caballeria J, Pongratz RL, Cai SY, Schnabl B, Hoque R, Chen Y, Yang WH, Garcia-Martinez I, Wang FS, Gao B, Torok NJ, Kibbey RG, Mehal WZ. **Digoxin Suppresses Pyruvate Kinase M2-Promoted HIF-1? Transactivation in Steatohepatitis.** *CELL METABOLISM.* 27(2):339-350. I.F.: 20.565

2. Estes C, Anstee QM, Arias-Loste MT, Bantel H, Bellentani S, Caballeria J, Colombo M, Craxi A, Crespo J, Day CP, Eguchi Y, Geier A, Kondili LA, Kroy DC, Lazarus JV, Loomba R, Manns MP, Marchesini G, Nakajima A, Negro F, Petta S, Ratziu V, Romero-Gomez M, Sanyal A, Schattenberg JM, Tacke F, Tanaka J, Trautwein C, Wei L, Zeuzem S, Razavi H. **Modeling NAFLD disease burden in China, France, Germany, Italy, Japan, Spain, United Kingdom, and United States for the period 2016-2030.** *JOURNAL OF HEPATOLOGY.* 69(4):896-904. I.F.: 15.040

3. Delia Blaya; Beatriz Aguilar-Bravo; Fengie Hao; Silvia Casacuberta-Serra; Mar Coll; Luis Perea; Julia Vallverdu; Isabel Graupera; Elisa Pose; Barquinero Mañez, Jordi; Francisco Javier Cubero; Juan Caballería; Pere Ginès; Pau Sancho-Bru. **Expression of microRNA-155 in inflammatory cells modulates liver injury.** *HEPATOLOGY.* 68(2):691-706. I.F.: 14.079

4. Friedman S., Ratziu V., Harrison S., Abdelmalek M., Aithal G., Caballeria J., Francque S., Farrell G., Kowdley K., Craxi A., Simon K., Fischer L., Melchor-Khan L., Vest J., Wiens B., Vig P., Seyedkazemi S., Goodman Z., Wong V., Loomba R., Tacke F., Sanyal A., Lefebvre E. **A randomized, placebo-controlled trial of cenicriviroc for treatment of nonalcoholic steatohepatitis with fibrosis.** *HEPATOLOGY.* 67(5):1754-1767. I.F.: 14.079

5. Barbero-Camps E, Roca-Agujetas V, Bartolessis I, de Dios C, Fernández-Checa JC, Marí M, Morales A, Hartmann T, Colell A. **Cholesterol impairs autophagy-mediated clearance of amyloid beta while promoting its secretion.** *AUTOPHAGY.* 14(7):1129-1154. I.F.: 11.100

6. Caballería L, Pera G, Arteaga I, Rodríguez L, Alumà A, Morillas RM, de la Ossa N, Díaz A, Expósito C, Miranda D, Sánchez C, Prats RM, Urquizu M, Salgado A, Alemany M, Martinez A, Majeed I, Fabrellas N, Graupera I, Planas R, Ojanguren I, Serra M, Torán P, Caballería J, Ginès P . **High Prevalence of Liver Fibrosis Among European Adults with Unknown Liver Disease. A Population-Based Study.** *CLINICAL GASTROENTEROLOGY AND HEPATOLOGY.* 16(7):1138-1145. I.F.: 7.683

7. Ampuero, Javier; Aller, Rocio; Gallego-Duran, Rocio; Banales, Jesus M.; Crespo, Javier; Garcia-Monzon, Carmelo; Pareja, Maria Jesus; Vilar-Gomez, Eduardo; Caballeria, Juan; Escudero-Garcia, Desamparados; Gomez-Camarero, Judith; Calleja, Jose Luis; Latorre, Mercedes; Albillos, Agustin; Salmeron, Javier; Aspichueta, Patricia; Lo Iacono, Oreste; Frances, Ruben; Benlloch, Salvador; Fernandez-Rodriguez, Conrado; Garcia-Samaniego, Javier; Estevez, Pamela; Andrade, Raul J.; Turnes, Juan; Romero-Gomez, Manuel; HEPAmet Registry. **The effects of metabolic status on non-alcoholic fatty liver disease-related outcomes, beyond the presence of obesity.** *ALIMENTARY PHARMACOLOGY AND THERAPEUTICS.* 48(11-12):1260-1270. I.F.: 7.357

8. Baulies A, Montero J, Matías N, Insausti N, Terrones O, Basañez G, Vallejo C, Conde de La Rosa L, Martinez L, Robles D, Morales A, Abian J, Carrascal M, Machida K, Kumar DBU, Tsukamoto H, Kaplowitz N, Garcia-Ruiz C, Fernández-Checa JC . **The 2-oxoglutarate carrier promotes liver cancer by sustaining mitochondrial GSH despite cholesterol loading.** *REDOX BIOLOGY.* 14:164-177. I.F.: 7.126

9. Pané A, Ruiz S, Orois A, Martínez D, Squarcia M, Sastre L, Ruiz P, Caballería J, Hanzu FA, Halperin I. **Primary adrenal insufficiency due to hereditary apolipoprotein AI amyloidosis: endocrine involvement beyond hypogonadism.** *AMYLOID : THE INTERNATIONAL JOURNAL OF EXPERIMENTAL AND CLINICAL INVESTIGATION : THE OFFICIAL JOURNAL OF THE INTERNATIONAL SOCIETY OF AMYLOIDOSIS.* 25(2):75-78. I.F.: 4.048

10. Hadj Abdallah N, Baulies A, Bouhlel A, Bejaoui M, Zaouali MA, Ben Mimouna S, Messaoudi I, Fernandez-Checa JC, García Ruiz C, Ben Abdennebi H. **Zinc mitigates renal ischemia-reperfusion injury in rats by modulating oxidative stress, endoplasmic reticulum stress, and autophagy.** *JOURNAL OF CELLULAR PHYSIOLOGY.* 233(11):8677-8690. I.F.: 3.923

11. Hadj Abdallah N, Baulies A, Bouhlel A, Bejaoui M, Zaouali MA, Ben Mimouna S, Messaoudi I, Fernandez-Checa JC, García Ruiz C, Ben Abdennebi H. **The effect of zinc acexamate on oxidative stress, inflammation and mitochondria induced apoptosis in rat model of renal warm ischemia.** *BIOMEDICINE AND PHARMACOTHERAPY.* 105:573-581. I.F.: 3.457

12. Massey V., Qin L., Cabezas J., Caballeria J., Sancho-Bru P., Bataller R., Crews F. **TLR7-let-7 Signaling Contributes to Ethanol-Induced Hepatic Inflammatory Response in Mice and in Alcoholic Hepatitis.** *ALCOHOLISM: CLINICAL AND EXPERIMENTAL RESEARCH.* 42(11):2107-2122. I.F.: 3.183

Review / I.F.: 3.831

1. Moles A., Torres S., Baulies A., Garcia-Ruiz C., Fernandez-Checa J. **Mitochondrial-lysosomal axis in acetaminophen hepatotoxicity.** *FRONTIERS IN PHARMACOLOGY.* 9:453. I.F.: 3.831

Clinical Guidelines / I.F.: 1.078

1. Aller R., Fernández-Rodríguez C., Io Iacono O., Bañares R., Abad J., Carrión J., García-Monzón C., Caballería J., Berenguer M., Rodríguez-Perálvarez M., Miranda J., Vilar-Gómez E., Crespo J., García-Cortés M., Reig M., Navarro J., Gallego R., Genescà J., Arias-Loste M., Pareja M., Albillos A., Muntané J., Jorquera F., Solà E., Hernández-Guerra M., Rojo M., Salmerón J., Caballería L., Diago M., Molina E., Bataller R., Romero-Gómez M. **Consensus document. Management of non-alcoholic fatty liver disease (NAFLD). Clinical practice guideline.** *GASTROENTEROLOGIA Y HEPATOLOGIA.* 41(5):328-349. I.F.: 1.078

GRANTS FOR RESEARCH IN PROGRESS

Fernández-Checa JC. **Mitochondrial Regulation of Cell Death and Role in Liver Diseases.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). CB06/04/0035
Duración: 01/01/2018-31/12/2018

Fernández-Checa JC. **Regulation and contribution of HIF-1 and StARD1 to steatohepatitis and hepatocellular carcinoma.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). SAF2015-069944
Duration: 01/01/2016-31/12/2019

Fernández-Checa JC. **COST Action CA17112 Prospective European Drug-Induced Liver Injury Network.**
Sponsored by: European Commission. H2020.
Duration: 01/04/2018-31/03/2022

Fernández-Checa JC. **Mechanisms and impact of StARD1 activation and mitochondrial cholesterol in ALD.**
Sponsored by: National Institute of Alcohol Abuse and Alcoholism
Duration: 01/01/2014-31/12/2018

García-Ruiz C. **Investigación traslacional en esteatohepatitis no alcohólica (ehna): desarrollo de Ehna en un modelo murino con hígado humanizado para la identificación de dianas Terapeuticas.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2017-85877-R
Duration: 01/01/2018-31/12/2020

Ribas V. **Papel de colesterol mitocondrial en carcinoma hepatocelular.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2015-735579-JIN
Duration: 01/01/2017-31/12/2019

3.10 Liver transplantation and graft viability

LOCATION
CEK building, floor 3

KEYWORDS
1. **Liver transplantation**
2. **Graft viability**
3. **Immunosuppression**
4. **Allograft tolerance**
5. **Hepatic ischemia-reperfusion injury**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	106.38	22	14	3
2017	94.43	25	11	8
2018	192.79	32	22	6

TEAM INVOLVED IN
CIBEREHD
AGAUR_SGR17: 00551

TEAM LEADER
Miquel Navasa (HCB)
T. 93 227 57 53 (Ext.: 4406)
mnavasa@clinic.cat

GROUP LEADER
Carmen Peralta (IDIBAPS)
T. 93 227 54 00 (Ext.: 4177)
cperalta@clinic.cat

RESEARCHERS
Annabel Blasi (HCB)
Mercedes Brunet (HCB)
Jordi Felix Colmenero (HCB)
Gonzalo Crespo (HCB)
Constantino Fondevila (HCB)
Juan Carlos García-Valdecasas (HCB)
Joan Rosello (IIBB-CSIC)

POST-DOCTORAL RESEARCHERS
Amelia Judith Hessheimer (HCB)
Olga Millán (CIBER)
Ana Isabel Álvarez (IDIBAPS)
María Eugenia Cornide (IDIBAPS)
Jose Gulfo (CIBER)
Monica Bibiana Jimenez (IDIBAPS)
Floriana Rotondo (IDIBAPS)

PRE-DOCTORAL RESEARCHERS
Maryury Andrea Calvo (HCB)
Cindy Ávalos (IDIBAPS)
Esther Bujaldon (IDIBAPS)
Ana Teresa Menjivar (FCRB)
Elsa Negrete (IDIBAPS)

TECHNICIANS
Marta Martinez (IDIBAPS)
Xavier Muñoz (CIBER)
David Sabater (CIBER)

STRATEGIC OBJECTIVES

Aloimmune response and immunosuppression. Operational Tolerance. Ischemic reperfussion injury. Evaluation of new ways of graft preservation. Ex-vivo perfusion devices.
Complications of immunosuppression. Prevention and treatment of cardiovascular risk factors after liver transplantation.

MAIN LINES OF RESEARCH

1. Evaluation of the impact of alloreactivity in graft outcome. Diferent studies are ongoing aimed at investigating the role of different markers of the immunosuppressive balance and graft outcome after LT. A prospective, multicentre, European trial has been started to translate the results of the studies done by the group in operational tolerance into clinical practice.

TEAM Miquel Navasa

2. In the field of organ retrieval, we are characterizing new targets based on adipocytokines modulation and investigating the protective effect of polyethilenglycol in the preservation solutions. We are conducting several studies evaluating ex-vivo perfusion devices.

3. Prevention and treatment of cardiovascular risk factors after liver transplantation. Studies on cardiovascular risk factors in patients with liver transplantation are ongoing.

RESEARCH GROUP
PROTECTIVE STRATEGIES AGAINST HEPATIC ISCHEMIA-REPERFUSION INJURY

GROUP LEADER
Carmen Peralta (IDIBAPS)

The investigations led by Carmen Peralta are pioneers in the study of experimental surgical, technological and pharmacological strategies (in vivo pharmacological treatments, improvements in preservation solutions, ischemic preconditioning, etc.) that protect livers against damage induced by ischemia-reperfusion and increase the tolerance of steatotic livers and reduced-size liver grafts against the risk that show these liver types to damage and regenerative failure when they are submitted to transplantation or hepatic resections.

PUBLICATIONS

Originals / I.F.: 192.794

1. Solà E, Solé C, Simón-Talero M, Martín-Llahí M, Castellote J, Garcia-Martínez R, Moreira R, Torrens M, Márquez F, Fabrellas N, de Prada G, Huelin P, Lopez Benaiges E, Ventura M, Manríquez M, Nazar A, Ariza X, Suñé P, Graupera I, Pose E, Colmenero J, Pavesi M, Guevara M, Navasa M, Xiol X, Córdoba J, Vargas V, Ginès P . **Midodrine &Albumin for preventing complications in patients with Cirrhosis awaiting liver transplantation.** *JOURNAL OF HEPATOLOGY.* 69(6):1250-1259. I.F.: 15.040

2. Crespo G., Trota N., Londoño M., Mauro E., Baliellas C., Castells L., Castellote J., Tort J., Forns X., Navasa M. **The efficacy of direct anti-HCV drugs improves early post-liver transplant survival and induces significant changes in waiting list composition.** *JOURNAL OF HEPATOLOGY.* 69(1):11-17. I.F.: 15.040

3. Londoño M., Souza L., Lozano J., Miquel R., Abraldes J., Llovet L., Quaglia A., Rimola A., Navasa M., Sánchez-Fueyo A. **Molecular profiling of subclinical inflammatory lesions in long-term surviving adult liver transplant recipients.** *JOURNAL OF HEPATOLOGY.* 69(3):626-634. I.F.: 15.040

4. Belli L, Perricone G, Adam R, Cortesi P, Strazzabosco M, Facchetti R, Karam V, Salizzoni M, Andujar R, Fondevila C, De Simone P, Morelli C, Fabregat-Prous J, Samuel D, Agarwaal K, Moreno Gonzales E, Charco R, Zieniewicz K, De Carlis L, Duvoux C. **Impact of DAAs on liver transplantation: major effects on the evolution of indications and results. An ELITA study based on the ELTR registry.** *JOURNAL OF HEPATOLOGY.* 69(4):810-817. I.F.: 15.040

5. Blasi A, Calvo A, Prado V, Reverter E, Reverter JC, Hernández-Tejero M, Aziz F, Amoros A, Cardenas A, Fernández J. **Coagulation failure in patients with Acute-on-Chronic Liver Failure (ACLF) and decompensated cirrhosis: beyond INR.** *HEPATOLOGY.* 68(6):2325-2337. I.F.: 14.079

6. Mauro E, Crespo G, Montironi C, Londoño MC, Hernández-Gea V, Ruiz P, Sastre L, Lombardo J, Mariño Z, Díaz A, Colmenero J, Rimola A, Garcia-Pagán JC, Brunet M, Forns X, Navasa M . **Portal pressure and liver stiffness measurements in the prediction of fibrosis regression after SVR in recurrent hepatitis C.** *HEPATOLOGY.* 67(5):1683-1694. I.F.: 14.079

7. Sánchez-Cabús S., Cherqui D., Rashidian N., Pittau G., Elkrief L., Vanlander A., Toso C., Fondevila C., Cunha A., Berney T., Castaing D., de Hemptinne B., Fuster J., Rogiers X., Adam R., Majno P., García-Valdecasas J., Troisi R. **Left-liver Adult-to-Adult Living Donor Liver Transplantation: Can It Be Improved? A Retrospective Multicenter European Study.** *ANNALS OF SURGERY.* 268(5):876-884. I.F.: 9.203

8. Staiger RD, Cimino M, Javed A, Biondo S, Fondevila C, Périnel J, Aragão AC, Torzilli G, Wolfgang C, Adham M, Pinto-Marques H, Dutkowski P, Puhan MA, Clavien PA . **The Comprehensive Complication Index (CCI®) is a Novel Cost Assessment Tool for Surgical Procedures.** *ANNALS OF SURGERY.* 268(5):784-791. I.F.: 9.203

9. Maeso-Díaz R., Ortega-Ribera M., Fernández-Iglesias A., Hide D., Muñoz L., Hessheimer A., Vila S., Francés R., Fondevila C., Albillos A., Peralta C., Bosch J., Tacke F.,

GROUP Carmen Peralta

Cogger V., Gracia-Sancho J. **Effects of aging on liver microcirculatory function and sinusoidal phenotype.** *AGING CELL.* 17(6):e12829. I.F.: 7.627

10. Lombardo-Quezada J, Sanclemente G, Colmenero J, Español-Rego M, Arias MT, Ruiz P, Mauro E, Sastre L, Crespo G, Rimola A, Moreno A, Lozano F, Navasa M. **Mannose-binding lectin deficient donors increase the risk of bacterial infection and bacterial infection-related mortality after liver transplantation.** *AMERICAN JOURNAL OF TRANSPLANTATION.* 18(1):197-206. I.F.: 6.493

11. Manzardo C, Londoño MC, Castells L, Testillano M, Luis Montero J, Peñafiel J, Subirana M, Moreno A, Aguilera V, Luisa González-Diéguez M, Calvo-Pulido J, Xiol X, Salcedo M, Cuervas-Mons V, Manuel Sousa J, Suarez F, Serrano T, Ignacio Herrero J, Jiménez M, Fernandez JR, Giménez C, Del Campo S, Esteban-Mur JI, Crespo G, de la Rosa G, Rimola A, Miro JM, and the FIPSE LT-HIV investigators. **Direct-acting antivirals are effective and safe in HCV/HIV-coinfected liver transplant recipients who experience recurrence of hepatitis C: A prospective nationwide cohort study.** *AMERICAN JOURNAL OF TRANSPLANTATION.* 18(10):2513-2522. I.F.: 6.493

12. Ventura-Aguiar P, Ventura-Aguiar P, Ferrer J, Revuelta I, Revuelta I, Revuelta I, Paredes D, de Sousa-Amorim E, Rovira J, Esmatjes E, Garcia-Valdecasas JC, Campistol JM, Campistol JM, Campistol JM, Oppenheimer F, Diekmann F, Diekmann F, Diekmann F, Ricart MJ, Ricart MJ. **Pancreas outcomes between living and deceased kidney donor in pancreas after kidney transplantation patients.** *NEPHROLOGY, DIALYSIS AND TRANSPLANTATION.* 33(11):2052-2059. I.F.: 4.602

13. Lens S, García-Eliz M, Fernández I, Castells L, Bonacci M, Mas A, Crespo G, Buti M, Prieto M, Forns X . **Shorter HBIG administration is not associated to HBV recurrence when receiving combined prophylaxis after liver transplantation.** *LIVER INTERNATIONAL.* 38(11):1940-1950. I.F.: 4.500

14. García-Pérez R, Ferrer Fábrega J, Varona-Bosque A, Martínez CM, Revilla-Nuin B, Cabellos L, Pena R, Vilana R, Gonzalez-Abós C, García-Valdecasas JC, Fuster Obregón J. **Role of Kupffer cells in the progression of CRC liver metastases after the first stage of ALPPS.** *SCIENTIFIC REPORTS.* 8(1):8089. I.F.: 4.122

15. Rovira J, Ramírez-Bajo MJ, Banon-Maneus E, Lazo-Rodríguez M, Moya-Rull D, Hierro-Garcia N, Tubita V, Piñeiro GJ, Revuelta I, Ventura-Aguiar P, Cucchiari D, Oppenheimer F, Brunet M, Campistol JM, Diekmann F . **Tofacitinib halts progression of graft dysfunction in a rat model of mixed cellular and humoral rejection.** *TRANSPLANTATION.* 102(7):1075-1084. I.F.: 3.960

16. Ortega-Ribera M, Fernández-Iglesias A, Illa X, Moya A, Molina V, Maeso-Díaz R, Fondevila C, Peralta C, Bosch J, Villa R, Gracia-Sancho J. **Resemblance of the human liver sinusoid in a fluidic device with biomedical and pharmaceutical applications.** *BIOTECHNOLOGY AND BIOENGINEERING.* 115(10):2585-2594. I.F.: 3.952

17. Llovet JM, Pavel M, Rimola J, Diaz MA, Colmenero J, Saavedra-Perez D, Fondevila C, Ayuso C, Fuster J, Ginès P, Bruix J, Garcia-Valdecasas JC . **Pilot study of living donor liver transplantation for patients with HCC exceeding Milan criteria (BCLC extended criteria).** *LIVER TRANSPLANTATION.* 24(3):369-379. I.F.: 3.756

18. Hessheimer AJ, Vendrell M, Muñoz J, Ruíz Á, Díaz A, Sigüenza LF, Lanzilotta JR, Delgado Oliver E, Fuster J, Navasa M, García-Valdecasas JC, Taurá P, Fondevila C. **Heparin but not tissue plasminogen activator improves outcomes in DCD liver transplantation in a porcine model.** *LIVER TRANSPLANTATION.* 24(5):665-676. I.F.: 3.756

19. Panisello-Roselló A., Verde E., Lopez A., Flores M., Folch-Puy E., Rolo A., Palmeira C., Hotter G., Carbonell T., Adam R., Roselló-Catafau J. **Cytoprotective mechanisms in fatty liver preservation against cold ischemia injury: A comparison between IGL-1 and HTK.** *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES.* 19(2):348. I.F.: 3.687

20. Panisello-Roselló A, Alva N, Flores M, Lopez A, Castro Benítez C, Folch-Puy E, Rolo A, Palmeira C, Adam R, Carbonell T, Roselló-Catafau J. **Aldehyde Dehydrogenase 2 (ALDH2) in Rat Fatty Liver Cold Ischemia Injury.** *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES.* 19(9):2479. I.F.: 3.687

21. Sendino, Oriol; Fernandez-Simon, Alejandro; Law, Ryan; Abu Dayyeh, Barham; Leise, Michael; Chavez-Rivera, Karina; Cordova, Henry; Colmenero, Jordi; Crespo, Gonzalo; Rodriguez de Miguel, Cristina; Fondevila, Constantino; Llach, Josep; Navasa, Miquel; Baron, Todd; Cardenas, Andres. **Endoscopic management of bile leaks after liver transplantation: An analysis of two high-volume transplant centers.** *UNITED EUR GASTROENT.* 6(1):89-96. I.F.: 3.477

22. Pommergaard HC; Rostved AA; Adam R; Thygesen LC; Salizzoni M; Gómez Bravo MA; Cherqui D; De Simone P; Boudjema K; Mazzaferro V; Soubrane O; Garcia-Valdecasas JC; Fabregat Prous J; Pinna AD; O'Grady J; Karam V; Duvoux C; Rasmussen A; European Liver and Intestine Transplant Association (ELITA). **Locoregional treatments before liver transplantation for hepatocellular carcinoma: A study from the European Liver Transplant Registry.** *TRANSPLANT INTERNATIONAL.* 531-539. I.F.: 3.196

23. Adam R; Karam V; Cailliez V; O Grady JG; Mirza D; Cherqui D; Klempnauer J; Salizzoni M; Pratschke J; Jamieson N; Hidalgo E; Paul A; Andujar RL; Lerut J; Fisher L; Boudjema K; Fondevila C; Soubrane O; Bachellier P; Pinna AD; Berlakovich G; Bennet W; Pinzani M; Schemmer P; Zieniewicz K; Romero CJ; De Simone P; Ericzon BG; Schneeberger S; Wigmore SJ; Prous JF; Colledan M; Porte RJ; Yilmaz S; Azoulay D; Pirenne J; Line PD; Trune?ka P; Navarro F; Lopez AV. 2018 **Annual Report of the European Liver Transplant Registry (ELTR) - 50-year evolution of liver transplantation.** *TRANSPLANT INTERNATIONAL.* 31(12):1293-1317. I.F.: 3.196

24. Pommergaard H; Rostved A; Adam R; Thygesen L; Salizzoni M; Gómez Bravo M; Cherqui D; Filipponi F; Boudjema K; Mazzaferro V; Soubrane O; García-Valdecasas J; Prous J; Pinna A; O'Grady J; Karam V; Duvoux C; Rasmussen A. **Vascular invasion and survival after liver transplantation for hepatocellular carcinoma: a study from the European Liver Transplant Registry**. *HPB.* 20(8):768-775. I.F.: 3.131

25. Molina V., Sampson-Dávila J., Ferrer J., Fondevila C., Díaz del Gobbo R., Calatayud D., Bruix J., García-Valdecasas J., Fuster J. **Benefits of laparoscopic liver resection in patients with hepatocellular carcinoma and portal hypertension: a case-matched study.** *SURGICAL ENDOSCOPY.* 32(5):2345-2354. I.F.: 3.117

26. Sabate A, Blasi A, Costa M, Reyes R, Beltran J, Torres F . **Assessment of rotational thromboelastometry for the prediction of red blood cell requirements in orthotopic liver transplantation.** *MINERVA ANESTESIOLOGICA.* 84(4):447-454. I.F.: 2.693

27. Delgado-Oliver E, Vidal-Sicart S, Martínez D, Squarcia M, Mora M, Hanzu FA, Halperin I, Fuster D, Fondevila C, Vidal-Perez Ó. **Applicability of sentinel lymph node biopsy in papillary thyroid cancer.** *THE QUARTERLY JOURNAL OF NUCLEAR MEDICINE AND MOLECULAR IMAGING : OFFICIAL PUBLICATION OF THE ITALIAN ASSOCIATION OF NUCLEAR MEDICINE (AIMN) [AND] THE INTERNATIONAL ASSOCIATION OF RADIOPHARMACOLOGY (IAR), [AND] SECTION OF THE SOCIETY OF RADIOPHARMACEUTICAL CHEMISTRY AND BIOLOGY.* I.F.: 2.368

28. Gómez-Bravo MA, Apellaniz-Ruiz M, Salcedo M, Fondevila C, Suarez F, Castellote J, Rufian S, Pons JA, Bilbao I, Alamo JM, Millán O, Brunet M, Rodríguez-Antona C . **Influence of donor liver CYP3A4*20 loss-of-function genotype on tacrolimus pharmacokinetics in transplanted patients.** *PHARMACOGENETICS AND GENOMICS.* 28(2):41-48. I.F.: 2.250

29. Blasi A, Hernandez V, Fernandez J, Colmenero J, Beltran J, Garcia-Valdecasas JC, Reverter JC . **Venous Thrombotic Events After Liver Transplantation.** *CLINICAL AND APPLIED THROMBOSIS/ HEMOSTASIS.* 24(2):317-322. I.F.: 1.852

30. Bodro M, Ferrer J, Ricart MJ, Sanclemente G, Linares L, Cervera C, Cofan F, Ventura-Aguiar P, Lopez-Boado MÁ, Marco F, Fuster J, García-Valdecasas JC, Moreno A . **Epidemiology, risk factors, and impact of bacterial infections on outcomes for pancreatic grafts**. *CLINICAL TRANSPLANTATION.* 32(8):e13333. I.F.: 1.518

31. Kerbert AJC, Reverter E, Verbruggen L, Tieleman M, Navasa M, Mertens BJA, Rodríguez-Tajes S, de Vree M, Metselaar HJ, Chiang FWT, Verspaget HW, van Hoek B, Bosch J, Coenraad MJ. **Impact of hepatic encephalopathy on liver transplant waiting list mortality in regions with different transplantation rates.** *CLINICAL TRANSPLANTATION.* 32(11):e13412. I.F.: 1.518

32. Blasi, Annabel; Molina, Victor; Sanchez-Cabus, Santiago; Balust, Jaume; Carlos Garcia-Valdecasas, J.; Taura, Pilar. **Prediction of thromboembolic complications after liver resection for cholangiocarcinoma: is there a place for thromboelastometry?** *BLOOD COAGULATION AND FIBRINOLYSIS.* 29(1):61-66. I.F.: 1.119

Review / I.F.: 9.68

1. Álvarez-Mercado A., Bujaldon E., Gracia-Sancho J., Peralta C. **The Role of Adipokines in Surgical Procedures Requiring Both Liver Regeneration and Vascular Occlusion**. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES.* 19(11):3395. I.F.: 3.687

2. Panisello-Roselló A, Lopez A, Folch-Puy E, Carbonell T, Rolo A, Palmeira C, Adam R, Net M, Roselló-Catafau J. **Role of aldehyde dehydrogenase 2 in ischemia reperfusion injury: An update.** *WORLD JOURNAL OF GASTROENTEROLOGY.* 24(27):2984-2994. I.F.: 3.300

3. Blasi A, Reverter JC . **Time to change the classical vision of coagulation in liver disease: from the balance disequilibrium to the systems biology network modelling.** *MINERVA ANESTESIOLOGICA.* 84(7):848-857. I.F.: 2.693

Letters / I.F.: 9.112

1. Mauro E, Crespo G, Montironi C, Londoño MC, Díaz A, Forns X, Navasa M . **Viral eradication and fibrosis resolution in post liver transplant cholestatic hepatitis C.** *LIVER TRANSPLANTATION.* 24(5):703-707. I.F.: 3.756

2. Blasi, Annabel; Saner, Fuat; Biancofiore, Gianni; Lisman, Ton. **Comment to Antithrombin III administration for portal vein thrombosis in patients with liver disease: A randomized double-blind controlled trial.** *HEPATOLOGY RESEARCH.* 48(3):E379-E380. I.F.: 3.418

3. Falgàs N., Alfaro I., Crespo G., Berenguer J., García-Pagán J., Muñoz E. **Aphasia in a patient with acute hepatic encephalopathy associated with multifocal cortical brain lesions.** *NEUROLOGIA.* 33(6):410-412. I.F.: 1.938

Consortium Publications / I.F.: 5.394

1. Pericàs JM, Moreno A, Almela M, García-de-la-Mària C, Marco F, Muñoz P, Peña C, de Alarcón A, Del Río A, Eworo A, Cruceta A, Paré JC, Mestres CA, Miró JM, FOSIMI Investigators. Efficacy and Safety of Fosfomycin Plus Imipenem vs. **Vancomycin for Complicated Bacteremia and Endocarditis Due to Methicillin-Resistant Staphylococcus aureus: A Randomized Clinical Trial.** *CLINICAL MICROBIOLOGY AND INFECTION.* 24(6):673-676. I.F.: 5.394

GRANTS FOR RESEARCH IN PROGRESS

Brunet M, Navasa M. **Evaluación del impacto de la aloreactividad en la evolución del injerto y de la reversibilidad de la fibrosis tras el tratamiento de la hepatitis C post-transplante hepático.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/01055
Duration: 01/01/2015-30/06/2019

Fondevila C. **Evaluación de la regeneración hepatocelular tras hepatectomía mayor en un modelo clínico y otro experimental. Utilidad del tratamiento con somatostanina y debutamina en un modelo porcino de cirugía hepática extrema.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/01092
Duration: 01/01/2016-30/06/2019

García-Valdecasas JC. **Evaluation of the feasibilty of normothermic regional perfusion followed by ex-vivo normothermic machine perfusion in Type II DCD (Donation after Cardiac Death) Liver Transplants.**
Sponsored by: Fundacio La Caixa (ConvExcel15)
Duration: 01/05/2016-30/04/2019

Garcia-Valdecasas J.C. **Consortium on organ preservation in Europe (COPE)**
Sponsored by: European Commission. COPE 305934
Duration: 01/09/2013-30/06/2018

Peralta C. **Preservació del l'empelt hepatic (Hepatic graft perseveration).**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_00551
Duration: 01/01/2017-31/12/2020

Peralta C. **PROTECTRASPLANT: La hormona de crecimiento en el trasplante de injertos hepáticos esteatósicos y no esteatósicos procedentes de donantes con muerte cerebral.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). SAF2015-64857-R
Duration: 01/01/2016-31/12/2018

Peralta C. **Nuevas tecnologías de preservación y transporte de órganos abdominales – Proyecto ALBA (Retos-Colaboración 2015)**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). RTC-2015-3859-1
Duration: 01/03/2015-30/06/2018

DOCTORAL THESES

Garcia-Valdecasas JC. **Factores pronósticos para la supervivencia y recidiva en los pacientes con carcinoma hepatocelular sobrepasando los criterios de Milán sometidos a trasplante hepático de donante vivo.**
PhD student: Mihai Calin Pavel

Fondevila C. Garcia-Valdecasas JC. **Evaluación de las alteraciones de la coagulación de los donantes a corazón parado, su relación con la viabilidad de los injertos hepáticos y posibles acciones terapéuticas.**
PhD student: Marina Vendrell Jordà

3.11 Gastrointestinal and pancreatic oncology

LOCATION
CEK building, floor 4

KEYWORDS
1. **Colorectal cancer**
2. **Pancreatic cancer**
3. **Genetics**
4. **Inherited disorders**
5. **Susceptibility to cancer**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	295.29	44	39	3
2017	261.86	49	32	10
2018	201.17	34	26	7

TEAM INVOLVED IN
CIBEREHD
CIBERER
AGAUR_SGR17: 01035, 00653, 00021, 00861

AWARDS
Premi a l'Excel·lència Professional 2018
Intitution: Col·legi de Metges de Barcelona
Awardee/s: Gloria Fernández Esparrach

TEAM LEADER
Antoni Castells (HCB)
T. 93 227 57 03
castells@clinic.cat

GROUP LEADERS
Sergi Castellví-Bel (IDIBAPS)
T. 93 227 54 00 (Ext.: 4183/2915)
sbel@clinic.cat

Cristina Fillat (IDIBAPS)
T. 93 227 54 00 (Ext.: 4579)
cfillat@clinic.cat

RESEARCHERS
Juan Ramon Ayuso (HCB)
Francesc Balaguer (HCB)
Jordi Camps (IDIBAPS)
José Ignacio Elizalde (HCB)
Gloria Fernández (HCB)
Mª Àngels Ginès (HCB)
Meritxell Gironella (CIBER)
Antonio Maria Lacy (HCB)
Maria Pellisé (HCB)
Santiago Sanchez (HCB)
Eva Cristina Vaquero (HCB)
Oscar Vidal (HCB)
Santiago Sánchez (HCB)

POST-DOCTORAL RESEARCHERS
Josep Maria Augé (HCB)
Sabela Carballal (HCB)
Henry Nelson Cordova (HCB)
Eva Hernandez (FCRB)
Irene Sangrador (CIBER)
Oriol Sendino (HCB)
Elena Vila (FCRB)
Sabrina Gea (CIBER)
Jeronimo Luna (IDIBAPS)
Leticia Moreira (HCB)
Laia Bonjoch (FCRB)

PRE-DOCTORAL RESEARCHERS
Isis Karina Araujo (HCB)
Coral Arnau-Colell (CIBER)
Pau Brugada (IDIBAPS)
Marcos Diaz-Gay (IDIBAPS)
Saray Durán (IDIBAPS)
Sebastià Franch-Expósito (FCRB-CIBER)
Claudia Galofre (CIBER)
Estela Nuñez (IDIBAPS)
Marc Otero (IDIBAPS)
Giulia Raimondi (IDIBAPS)
Liseth Rivero (IDIBAPS)
Cristina Sanchez (IDIBAPS)
Ariadna Sánchez (HCB)

TECHNICIANS
Elena Asensio (IDIBAPS)
Manuel Dominguez (CIBER)
Maria Marcuello (CIBER)
Lorena Moreno (HCB-FCRB)
Jenifer Muñoz (CIBER)

ADMINISTRATIVE STAFF
Diana Patricia Vargas (HCB)

NURSING STAFF
Mireia Diaz (HCB)

TEAM Antoni Castells

Teresa Ocaña (HCB)
Àngels Pozo (HCB)
Cristina Rodriguez (FCRB)
Anna Serradesanferm (HCB)

STRATEGIC OBJECTIVES

The gaining of in-depth knowledge of the mechanisms underlying the development and progression of gastrointestinal and pancreatic premalignant and malignant lesions, with a view to defining new diagnostic, therapeutic and/or preventive strategies.

MAIN LINES OF RESEARCH

The activity of the research group in Gastrointestinal and Pancreatic Oncology is divided into four areas, and these in turn correspond to different lines of investigation:

1. **Physiopathology of colorectal cancer:**
- Hereditary forms of colorectal cancer, screening and surveillance.
- Genetic susceptibility in colorectal cancer.
- Epigenetics of colorectal cancer.

2. **Physiopathology of pancreatic cancer:**
- Implication of microRNAs in pancreatic cancer.
- Epithelial-mesenchymal transition in the local and metastatic spread of pancreatic cancer.

3. **Research and innovation in endoscopy:**
- Endoscopic ultrasound.
- Advanced diagnostic techniques.
- Endoscopic therapies.

4. **Research and innovation in surgery:**
- Surgery for colorectal cancer.
- Surgery for pancreatic cancer.

RESEARCH GROUP
GENETIC PREDISPOSITION TO GASTROINTESTINAL CANCER

GROUP LEADER
Sergi Castellví-Bel (IDIBAPS)

The "Genetic predisposition to colorectal gastrointestinal cancer" is a research group led by Sergi Castellví-Bel has the main objective of identifying genetic variants involved in germline susceptibility to colorectal cancer (CRC) and gastric cancer (GC), and to explore its application in the clinical management of patients.

The main research lines are:

1. Next generation sequencing: new predisposition genes for CRC and GC.
2. Genetic association studies: new genetic variants for CRC and advanced adenoma risk.
3. State-of-the-art Fine mapping and functionality studies for genetic variants using gene editing in cellular models.
4. Genotype-phenotype correlation of the genetic variants with clinical characteristics of patients, including their value in establishing prognosis.

RESEARCH GROUP
GENE THERAPY AND CANCER GROUP

GROUP LEADER
Cristina Fillat (IDIBAPS)

Our group main research interests focus on pancreatic cancer and in the development of gene therapy strategies for rare diseases. Main research lines:

1. Understand the contribution of specific molecules to pancreatic carcinogenesis.
2. Rationally design and preclinically evaluate therapeutic strategies based on engineered

GROUP Cristina Fillat

GROUP Sergi Castellví -Bel

oncolytic adenovirus.
3. Understand the host contribution to the oncolytic virus effect and identify biological interfaces between viruses and tumors to maximize effective therapeutic viruses and/or chemical-biological combination therapies.
4. Develop gene therapy and genome editing strategies for metabolic defects.

PUBLICATIONS

Originals / I.F.: 204.173

1. Luna J, Boni J, Cuatrecasas M, Bofill-De Ros X, Núñez-Manchón E, Gironella M, Vaquero EC, Arbones ML, de la Luna S, Fillat C. **DYRK1A modulates c-MET in pancreatic ductal adenocarcinoma to drive tumour growth.** *GUT*. 316128. I.F.: 17.016

2. Carballal S, Maisterra S, López-Serrano A, Gimeno-García AZ, Vera MI, Marín-Garbriel JC, Díaz-Tasende J, Márquez L, Álvarez MA, Hernández L, De Castro L, Gordillo J, Puig I, Vega P, Bustamante-Balén M, Acevedo J, Peñas B, López-Cerón M, Ricart E, Cuatrecasas M, Jimeno M, Pellisé M, EndoCAR group of the Spanish Gastroenterological Association and Spanish Digestive Endoscopy Society. **Real-life chromoendoscopy for neoplasia detection and characterisation in long-standing IBD.** *GUT*. 67(1):70-78. I.F.: 17.016

3. Murcia O, Jover R, Egoavil C, Perez-Carbonell L, Juárez M, Hernández-Illán E, Rojas E, Alenda C, Balaguer F, Andreu M, Llor X, Castells A, Boland CR, Goel A. **TFAP2E Methylation and Expression Status Does Not Predict Response to 5FU-based Chemotherapy in Colorectal Cancer.** *CLINICAL CANCER RESEARCH*. 24(12):2820-2827. I.F.: 10.199

4. Reichert, Maximilian; Bakir, Basil; Moreira, Leticia; Pitarresi, Jason R.; Feldmann, Karin; Simon, Lauren; Suzuki, Kensuke; Maddipati, Ravikanth; Rhim, Andrew D.; Schlitter, Anna M.; Kriegsmann, Mark; Weichert, Wilko; Wirth, Matthias; Schuck, Kathleen; Schneider, Guenter; Saur, Dieter; Reynolds, Albert B.; Klein-Szanto, Andres J.; Pehlivanoglu, Burcin; Memis, Bahar; Adsay, N. Volkan; Rustgi, Anil K. **Regulation of Epithelial Plasticity Determines Metastatic Organotropism in Pancreatic Cancer.** *DEVELOPMENTAL CELL*. 45(6):696-711. I.F.: 9.616

5. Barberan-Garcia A, Ubré M, Roca J, Lacy AM, Burgos F, Risco R, Momblán D, Balust J, Blanco I, Martínez-Pallí G. **Personalised Prehabilitation in High-risk Patients Undergoing Elective Major Abdominal Surgery: A Randomized Blinded Controlled Trial.** *ANNALS OF SURGERY*. 267(1):50-56. I.F.: 9.203

6. Sánchez-Cabús S., Cherqui D., Rashidian N., Pittau G., Elkrief L., Vanlander A., Toso C., Fondevila C., Sa Cunha A., Berney T., Castaing D., De Hemptinne B., Fuster J., Rogiers X., Adam R., Majno P., García-Valdecasas J., Troisi R. **Left-liver Adult-to-Adult Living Donor Liver Transplantation: Can It Be Improved? A Retrospective Multicenter European Study.** *ANNALS OF SURGERY*. 268(5):876-884. I.F.: 9.203

7. Sangrador I, Molero X, Campbell F, Franch-Expósito S, Rovira-Rigau M, Samper E, Domínguez-Fraile M, Fillat C, Castells A, Vaquero EC. **Zeb1 in stromal myofibroblasts promotes Kras-driven development of pancreatic cancer.** *CANCER RESEARCH*. 78(10):2624-2637. I.F.: 9.130

8. Paquet-Fifield S, Koh SL, Cheng L, Beyit LM, Shembrey C, Mølck C, Behrenbruch C, Papin M, Gironella M, Guelfi S, Nasr R, Grillet F, Prudhomme M, Bourgaux JF, Castells A, Pascussi JM, Heriot AG, Puisieux A, Davis MJ, Pannequin J, Hill AF, Sloan EK, Hollande F. **Tight junction protein claudin-2 promotes self-renewal of human colorectal cancer stem-like cells**. *CANCER RESEARCH*. 78(11):2925-2938. I.F.: 9.130

9. Rozen EJ, Roewenstrunk J, Barallobre MJ, Di Vona C, Jung C, Figueiredo AF, Luna J, Fillat C, Arbonés ML, Graupera M, Valverde MA, de la Luna S. **DYRK1A Kinase Positively Regulates Angiogenic Responses in Endothelial Cells.** *CELL REPORTS*. 23(6):1867-1878. I.F.: 8.032

10. López-Vicente J, Rodríguez-Alcalde D, Hernández L, Pons FR, Vega P, Herrero Rivas JM, Santiago García J, Salces Franco I, Bustamante Balén M, López-Cerón Pinilla M, Pellisé M, EndoCAR group of the Spanish Gastroenterological Association and Spanish Digestive Endoscopy Society. **Panchromoendoscopy Increases Detection of Polyps in Patients With Serrated Polyposis Syndrome.** *CLINICAL GASTROENTEROLOGY AND HEPATOLOGY*. I.F.: 7.683

11. Companioni O, Bonet C, García N, Ramírez-Lázaro MJ, Lario S, Mendoza J, Adrados MM, Poves E, Espinosa L, Pozo-Kreilinger JJ, Ortega L, Bujanda L, Cosme A, Ferrández A, Muñoz G, Cuatrecasas M, Elizalde I, Andreu V, Paules MJ, Madrigal B, Barrio J, Berdasco M, Calvet X, Sanz-Anquela JM, Gisbert JP, González CA, Sala N, Study Group. **Genetic variation analysis in a follow-up study of gastric cancer precursor lesions confirms the association of MUC2 variants with the evolution of the lesions and identifies a significant association with NFKB1 and CD14.** *INTERNATIONAL JOURNAL OF CANCER*. 143(11):2777-2786. I.F.: 7.360

12. Vangala DB, Cauchin E, Balmaña J, Wyrwicz L, van Cutsem E, Güller U, Castells A, Carneiro F, Hammel P, Ducreux M, van Laethem JL, Matysiak-Budnik T, Schmiegel W. **Screening and surveillance in hereditary gastrointestinal cancers: Recommendations from the European Society of Digestive Oncology (ESDO) expert discussion at the 20th European Society for Medical Oncology (ESMO)/World Congress on Gastrointestinal Cancer, Barcelona, June 2018.** *EUROPEAN JOURNAL OF CANCER*. 104:91-103. I.F.: 7.191

13. Perlaza P, Ortín J, Pagès M, Buxó E, Fernández-Esparrach G, Colletti PM, Rubello D, Mayoral M, Sánchez N, Ruiz C, Ginés A, Fuster D. **Should 18F-FDG PET/CT Be Routinely Performed in the Clinical Staging of Locally Advanced Gastric Adenocarcinoma?** *CLINICAL NUCLEAR MEDICINE*. 43(6):402-410. I.F.: 6.309

14. Gallardo-Gómez M; Páez de la Cadena M; Martínez-Zorzano V; Rodríguez-Berrocal F; Rodríguez-Girondo M; Cubiella J; Bujanda L; Balaguer F; Jover R; De Chiara L. **A new approach to epigenome-wide discovery of non-invasive methylation biomarkers for colorectal cancer screening in circulating cell-free DNA using pooled samples.** *CLINICAL EPIGENETICS*. 10(53):53. I.F.: 6.091

15. Moreno V., Alonso M., Closa A., Vallés X., Diez-Villanueva A., Valle L., Castellví-Bel S., Sanz-Pamplona R., Lopez-Doriga A., Cordero D., Solé X. **Colon-specific eQTL analysis to inform on functional SNPs.** *BRITISH JOURNAL OF CANCER*. 119(8):971-977. I.F.: 5.922

16. Wangsa D, Quintanilla I, Torabi K, Vila-

Casadesús M, Ercilla A, Klus G, Yuce Z, Galofré C, Cuatrecasas M, Lozano JJ, Agell N, Cimini D, Castells A, Ried T, Camps J . **Near-tetraploid cancer cells show chromosome instability triggered by replication stress and exhibit enhanced invasiveness.** *FASEB JOURNAL.* 32(7):3502-3517. I.F.: 5.595

17. Benyamine, Audrey; Loncle, Celine; Foucher, Etienne; Blazquez, Juan-Luis; Castanier, Celine; Chretien, Anne-Sophie; Modesti, Mauro; Secq, Veronique; Chouaib, Salem; Gironella, Meritxell; Vila-Navarro, Elena; Montalto, Giuseppe; Dagorn, Jean-Charles; Dusetti, Nelson; Iovanna, Juan; Olive, Daniel. **BTN3A is a prognosis marker and a promising target for V gamma 9V delta 2 T cells based-immunotherapy in pancreatic ductal adenocarcinoma (PDAC).** *ONCOIMMUNOLOGY.* 7(1):e1372080. I.F.: 5.503

18. De Batlle J., Gracia-Lavedan E., Romaguera D., Mendez M., Castaño-Vinyals G., Martín V., Aragonés N., Gómez-Acebo I., Olmedo-Requena R., Jimenez-Moleon J., Guevara M., Azpiri M., Llorens-Ivorra C., Fernandez-Tardon G., Lorca J., Huerta J., Moreno V., Boldo E., Pérez-Gómez B., Castilla J., Fernández-Villa T., Barrio J., Andreu M., Castells A., Dierssen T., Altzibar J., Kogevinas M., Pollán M., Amiano P. **Meat intake, cooking methods and doneness and risk of colorectal tumours in the Spanish multicase-control study (MCC-Spain).** *EUROPEAN JOURNAL OF NUTRITION.* 57(2):1-11. I.F.: 4.423

19. González-Suárez B., Rodriguez S., Ricart E., Ordás I., Rimola J., Díaz-González Á., Romero C., De Miguel C., Jáuregui A., Araujo I., Ramirez A., Gallego M., Fernández-Esparrach G., Ginés Á., Sendino O., Llach J., Panés J. **Comparison of Capsule Endoscopy and Magnetic Resonance Enterography for the Assessment of Small Bowel Lesions in Crohn's Disease.** *INFLAMMATORY BOWEL DISEASES.* 24(4):775-780. I.F.: 4.347

20. Franch-Expósito S., Esteban-Jurado C., Garre P., Quintanilla I., Duran-Sanchon S., Díaz-Gay M., Bonjoch L., Cuatrecasas M., Samper E., Muñoz J., Ocaña T., Carballal S., López-Cerón M., Castells A., Vila-Casadesús M., Derdak S., Laurie S., Beltran S., Carvajal J., Bujanda L., Ruiz-Ponte C., Camps J., Gironella M., Lozano J., Balaguer F., Cubiella J., Caldés T., Castellví-Bel S. **Rare germline copy number variants in colorectal cancer predisposition characterized by exome sequencing analysis.** *JOURNAL OF GENETICS AND GENOMICS.* 45(1):41-45. I.F.: 4.066

21. Auge J., Rodriguez C., Espanyol O., Rivero L., Sandalinas S., Grau J., Jimenez W., Castells A. **An evaluation of the SENTiFIT 270 analyser for quantitation of faecal haemoglobin in the investigation of patients with suspected colorectal cancer.** *CLINICAL CHEMISTRY AND LABORATORY MEDICINE.* 56(4):625-633. I.F.: 3.556

22. Sendino, Oriol; Fernandez-Simon, Alejandro; Law, Ryan; Abu Dayyeh, Barham; Leise, Michael; Chavez-Rivera, Karina; Cordova, Henry; Colmenero, Jordi; Crespo, Gonzalo; Rodriguez de Miguel, Cristina; Fondevila, Constantino; Llach, Josep; Navasa, Miquel; Baron, Todd; Cardenas, Andres;. **Endoscopic management of bile leaks after liver transplantation: An analysis of two high-volume transplant centers.** *UNITED EUR GASTROENT.* 6(1):89-96. I.F.: 3.477

23. Carot L, Castells A, Hernández C, Alvarez-Urturi C, Balaguer F, Lanas A, Cubiella J, Tasende JD, Jover R, Hernandez V, Carballo F, Bujanda L, Quintero E, Andreu M, Bessa X. **Detection of serrated lesions in proximal colon by simulated sigmoidoscopy vs faecal immunochemical testing in a multicentre, pragmatic, randomised controlled trial.** *UNITED EUROPEAN GASTROENTEROLOGY JOURNAL.* 6(10):1527-1537. I.F.: 3.477

24. Mangas-Sanjuan, Carolina; Zapater, Pedro; Cubiella, Joaquin; Murcia, Oscar; Bujanda, Luis; Hernandez, Vicent; Martinez-Ares, David; Pellise, Maria; Seoane, Agustin; Lanas, Angel; Nicolas-Perez, David; Herreros-de-Tejada, Alberto; Chaparro, Maria; Cacho, Guillermo; Fernandez-Diez, Servando; Marin-Gabriel, Jose-Carlos; Quintero, Enrique; Castells, Antoni; Jover, Rodrigo; COLONPREV study investigators. **Importance of endoscopist quality metrics for findings at surveillance colonoscopy: The detection-surveillance paradox.** *UNITED EUR GASTROENT.* 6(4):622-629. I.F.: 3.477

25. Esteban I, Vilaró M, Adrover E, Angulo A, Carrasco E, Gadea N, Sánchez A, Ocaña T, Llort G, Jover R, Cubiella J, Servitja S, Herráiz M, Cid L, Martínez S, Oruezábal-Moreno MJ, Garau I, Khorrami S, Herreros-de-Tejada A, Morales R, Cano JM, Serrano R, López-Ceballos MH, González-Santiago S, Juan-Fita MJ, Alonso-Cerezo C, Casas A, Graña B, Teulé A, Alba E, Antón A, Guillén-Ponce C, Sánchez-Heras AB, Alés-Martínez JE, Brunet J, Balaguer F, Balmaña J . **Psychological impact of multi-gene cancer panel testing in patients with a clinical suspicion of hereditary cancer across Spain.** *PSYCHO-ONCOLOGY.* 27(6):1530-1537. I.F.: 3.455

26. Jover R, Dekker E, Schoen RE, Hassan C, Pellise M, Ladabaum U, WEO Expert Working Group of Surveillance after colonic neoplasm. **Colonoscopy quality requisites for selecting surveillance intervals: A World Endoscopy Organization Delphi Recommendation.** *DIGESTIVE ENDOSCOPY.* 30(6):750-759. I.F.: 3.375

27. De Lacy FB, van Laarhoven JJEM, Pena R, Arroyave MC, Bravo R, Cuatrecasas M, Lacy AM. **Transanal total mesorectal excision: pathological results of 186 patients with mid and low rectal cancer.** *SURGICAL ENDOSCOPY AND OTHER INTERVENTIONAL TECHNIQUES.* 32(5):2442-2447. I.F.: 3.117

28. Aranda G., Fernandez-Ruiz R., Palomo M., Romo M., Mora M., Halperin I., Casals G., Enseñat J., Vidal O., Diaz-Ricart M., Hanzu F. **Translational evidence of prothrombotic and inflammatory endothelial damage in Cushing syndrome after remission.** *CLINICAL ENDOCRINOLOGY.* 88(3):415-424. I.F.: 3.077

29. Guardiola M, Buitrago S, Fernández-Esparrach G, O'Callaghan JM, Romeu J, Cuatrecasas M, Córdova H, González Ballester MÁ, Camara O . **Dielectric properties of colon polyps, cancer and normal mucosa: ex vivo measurements from 0.5 to 20 GHz.** *MEDICAL PHYSICS.* 45(8):3768-3782. I.F.: 2.884

30. Maurel J, Sánchez-Cabús S, Laquente B, Gaba L, Visa L, Fabregat J, Povés I, Roselló S, Díaz-Beveridge R, Martín-Richard M, Rodriguez J, Sabater L, Conill C, Cambray M, Reig A, Ayuso JR, Valls C, Ferrández A, Bombí JA, Ginés A, García-Albéniz X, Fernández-Cruz L . **Outcomes after neoadjuvant treatment with gemcitabine and erlotinib followed by gemcitabine-erlotinib and radiotherapy for resectable pancreatic cancer (GEMCAD 10-03 trial).**

CANCER CHEMOTHERAPY AND PHARMACOLOGY. 82(6):935-943. I.F.: 2.808

31. Murcia O, Juárez M, Rodríguez-Soler M, Hernández-Illán E, Giner-Calabuig M, Alustiza M, Egoavil C, Castillejo A, Alenda C, Barberá V, Mangas-Sanjuan C, Yuste A, Bujanda L, Clofent J, Andreu M, Castells A, Llor X, Zapater P, Jover R. **Colorectal cancer molecular classification using BRAF, KRAS, microsatellite instability and CIMP status: Prognostic implications and response to chemotherapy.** *PLOS ONE*. 13(9):e0203051. I.F.: 2.766

32. Mizrahi I., de Lacy F., Abu-Gazala M., Fernandez L., Otero A., Sands D., Lacy A., Wexner S. **Transanal total mesorectal excision for rectal cancer with indocyanine green fluorescence angiography.** *TECHNIQUES IN COLOPROCTOLOGY*. 22(10):785-791. I.F.: 2.378

33. Diaz-Gay, Marcos; Vila-Casadesus, Maria; Franch-Exposito, Sebastia; Hernandez-Illan, Eva; Jose Lozano, Juan; Castellvi-Bel, Sergi. **Mutational Signatures in Cancer (MuSiCa): a web application to implement mutational signatures analysis in cancer samples.** *BMC BIOINFORMATICS*. 19(1):224. I.F.: 2.213

34. García-Rodriguez A; Fernández-Esparrach G; Sendino O; Gines A; en representación del Grupo de Ecoendoscopia de la SEED. **State of endoscopic ultrasonography in Spain in 2017.** *GASTROENTEROLOGIA Y HEPATOLOGIA*. 41(10):672-678. I.F.: 1.078

Review / I.F.: 1.549

1. De Lacy FB, Chadi SA, Berho M, Heald RJ, Khan J, Moran B, Panis Y, Perez R, Tekkis P, Mortensen NJ, Lacy AM, Wexner SD, Chand M. **The Future of Rectal Cancer Surgery: A Narrative Review of an International Symposium.** *SURGICAL INNOVATION*. 25(5):525-535. I.F.: 1.549

Editorial / I.F.: 3.546

1. Martin-Perez B, Bennis H, Lacy AM. **Virtual reality simulation for surgery: from video games to transanal total mesorectal excision.** *TECHNIQUES IN COLOPROCTOLOGY*. 22(1):5-6. I.F.: 2.378

2. Castells A. **Post-colonoscopy colorectal cancer: Next enemy to beat.** MEDICINA CLINICA. 150(1):24-25. I.F.: 1.168

Case Reports / I.F.: 4.756

1. Martin-Perez B, Otero-Piñeiro A, Lacy AM. **Purse-string rupture: pitfalls of transanal total mesorectal excision (Cecil approach).** *TECHNIQUES IN COLOPROCTOLOGY*. 22(5):393-394. I.F.: 2.378

2. Otero-Piñeiro AM, De Lacy FB, Martín-Pérez B, Lacy AM. **Indications for a transanal approach in complicated inflammatory bowel disease.** *TECHNIQUES IN COLOPROCTOLOGY*. 22(6):469-470. I.F.: 2.378

Clinical Guidelines / I.F.: 2.156

1. Albéniz E, Pellisé M, Gimeno García AZ, Lucendo AJ, Alonso Aguirre PA, Herreros de Tejada A, Álvarez MA, Fraile M, Herráiz Bayod M, López Rosés L, Martínez Ares D, Ono A, Parra Blanco A, Redondo E, Sánchez Yagüe A, Soto S, Díaz Tasende J, Montes Díaz M, Téllez MR, García O, Zuñiga Ripa A, Hernández Conde M, Alberca de Las Parras F, Gargallo C, Saperas E, Navas MM, Gordillo J, Ramos Zabala F, Echevarría JM, Bustamante M, González Haba M, González Huix F, González Suárez B, Vila Costas JJ, Guarner Argente C, Múgica F, Cobián J, Rodríguez Sánchez J, López Viedma B, Pin N, Marín Gabriel JC, Nogales Ó, de la Peña J, Navajas León FJ, León Brito H, Remedios D, Esteban JM, Barquero D, Martínez Cara JG, Martínez Alcalá F, Fernández Urién I, Valdivielso E, en nombre del Grupo Español de Resección Endoscópica de la Sociedad Española de Endoscopia Digestiva. **Clinical guidelines for endoscopic mucosal resection of non-pedunculated colorectal lesions.** *GASTROENTEROLOGIA Y HEPATOLOGIA*. 41(3):175-190. I.F.: 1.078

2. Cubiella J., Marzo-Castillejo M., Mascort-Roca J., Amador-Romero F., Bellas-Beceiro B., Clofent-Vilaplana J., Carballal S., Ferrándiz-Santos J., Gimeno-García A., Jover R., Mangas-Sanjuán C., Moreira L., Pellisè M., Quintero E., Rodríguez-Camacho E., Vega-Villaamil P.. Clinical practice guideline. **Diagnosis and prevention of colorectal cancer. 2018 Update**. *GASTROENTEROLOGIA Y HEPATOLOGIA*. 41(9):585-596. I.F.: 1.078

Consortium Publications / I.F.: 3.117

1. Adamina M, Buchs NC, Penna M, Hompes R, StGallen Colorectal Consensus Expert Group. **St.Gallen consensus on safe implementation of transanal total mesorectal excision.** *SURGICAL ENDOSCOPY AND OTHER INTERVENTIONAL TECHNIQUES*. 32(3):1091-1103. I.F.: 3.117

GRANTS FOR RESEARCH IN PROGRESS

Balaguer F. **Análisis del defecto de campo mediado por metilación aberrante del ADN en el síndrome de poliposis serrada.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00766
Duration: 01/01/2017-31/12/2019

Balaguer F. **Identificación de neoantígenos para desarrollar una inmunoterapia eficaz para la prevención del cáncer en el síndrome de Lynch.**
Sponsored by: Asociación Española de Gastroenterología.
AEG_BecaGrupoOncología18
Duration: 01/04/2018-

Camps J. **Genòmica traslacional del càncer colorectal.**
Sponsored by: Generalitat de Catalunya.
AGAUR_SGR17_01035
Duration: 01/01/2017-31/12/2020

Camps J. **Implicaciones de la heterogeneidad intratumoral en la respuesta al tratamiento de quimio-radioterapia neoadyuvante en pacientes con cáncer de recto.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00783
Duration: 01/01/2015-30/06/2019

Camps J, Cuatrecasas M. **Nuevas estrategias para la estratificación del riesgo de recidiva en pacientes con cáncer de colon en estadio II: Integración de perfiles genómicos y carga tumoral ganglionar.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/01304
Duration: 01/01/2018-31/12/2020

Castells A. **Grup de recerca en Oncologia Gastrointestinal i Pancreàtica.**
Sponsored by: Generalitat de Catalunya.
AGAUR_SGR17_00653

Duration: 01/01/2017-31/12/2020

Castells A, Castellví S, Camps J. **Prevenció del càncer colorectal en la població de risc mitjà mitjançant biomarcadors genòmics i microbiòmics (CRIPREV).**
Sponsored by: Generalitat de Catalunya. PERIS_Programes16 (SLT002/16/00398).
Duration: 27/03/2017-31/12/2019

Castells A. **Detección de miRNA en heces con nueva estrategia de cribado del cancer colorrectal: identificación y validación en población de riesgo medio.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2014-54453-R
Duration: 01/01/2015-31/12/2018

Castells A. **Desarollo de un kit de diagnóstico precoz de cáncer colorrectal mediante método no invsivo en plasma basado en la expresión de miRNAs.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). RTC-2015-3850-1
Duration: 25/02/2015-30/06/2019

Castells A, Pellisé M, Balaguer F, Camps J, Castellví S, Gironella M. **Identificación de nuevos biomarcadores para la prevención del cáncer colorrectal.**
Sponsored by: Asociación Española Contra el Cáncer. AECC_Grupo Estable_2013
Duration: 01/10/2013-30/09/2019

Castellví-Bel S. **Caracterización funcional de variantes en nuevos genes candidatos en la predisposición germinal al cáncer colorrectal y el síndrome de poliposis serrada (FUNCTION4GENE).**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00878
Duration: 01/01/2018-31/12/2020

Castellví-Bel S. **Transcoloncan: Identifying biomarkers through translational research for prevention and stratification of colorectal cancer.**
Sponsored by: European Commission. H2020 _COST17 (CA17118)
Duration: 01/06/2013-29/09/2017

Fernandez-Esparrach G. **Validación clínica del primer sistema in-vivo de predicción histológica automática de los pólopis de colon integrando la visión del endoscopista con la visión por computador (HISINVIA).**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00894
Duration: 01/01/2018-31/12/2020

Fernandez-Esparrach G. **Validación preclínica de un dispositivo de endoscopia basado en microondas (MiWendo) para el diagnóstico de neoplasias colorectales.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). DTS17/00090
Duration: 01/01/2018-31/12/2019

Fillat C. **ONCO-SELEC: Oncoselective mechanism for gene or viral therapy.**
Sponsored by: Generalitat de Catalunya. CERCA_Ginjol_16
Duration: 24/04/2017-23/04/2022

Fillat C. **Increasing the efficacy of oncolytic adenovirus through replication enhancement strategies in pancreatic tumors.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
BIO2014-57716-C2-2-R
Duration: 01/01/2015-30/06/2018

Fillat C. **Adenovirus oncolíticos protegidos frente anticuerpos neutralizantes y optimizados para la expresión de transgenes y reprogramación del estroma de tumores pancreáticos.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
BIO2017-89754-C2-2-R
Duration: 01/01/2018-31/12/2020

Fillat C. **Recubrimiento polimérico multicapa de adenovirus oncolíticos para la regulación de su tropismo en el tratamiento del adenocarcinoma de páncreas.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). RTC-2015-4189-1
Duration: 01/09/2015-31/03/2018

Pellisé M. **Utilidad de la Imagen de Color Vinculada (Linked Color Imaging; LCI) en la vigilancia del Síndrome de Poliposis Serrada: Ensayo clínico Aleatorizado, Controlado, Paralelo y Multicéntrico.**
Sponsored by: Fundación SEED
Duration: 21/12/2018-31/12/2019

DOCTORAL THESES

Gironella M. **MicroRNA biomarkers for early detection of pancreatic ductal adenocarcinoma and functional characterization of miR-93 in the pancreatic carcinogenesis.**
PhD student: Elena Vila Navarro

Balaguer F, Pellisé M. **Caracterización clínica y endoscópica de formas de alto riesgo de cáncer colorrectal.**
PhD student: Sabela Carballal Ramil

De Lacy A. **Abordaje transanal en patología rectal.**
PhD student: Marta María Tasende Presedo

Fillat C. **Boosting intravenous administration of therapeutic viral vectors using an oligopeptide-modified poly (-amino ester)s-based coating technology.**
PhD student: Pau Brugada Vilà

Ginés A, Fernandez G. **Nuevas aplicaciones de la ultrasonografía endoscópica (USE) en oncología digestiva.**
PhD student: Nadia Alberghina

Vaquero EC. **Zeb1 en las células estrelladas del páncreas: implicación en la oncogénesis pancreática dependientede Kras.**
PhD student: Irene Sangrador Escrig

3.12 Inherited metabolic diseases

LOCATION
HCB building

KEYWORDS
1. **Mitochondrial diseases**
2. **Mitochondrial cofactors**
3. **Lysosomal diseases**
4. **Inherited metabolic diseases**
5. **Inborn errors of metabolism**
6. **Organic acidurias**

Original publications from 2016to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	51.81	11	7	4
2017	12.73	3	3	-
2018	14.28	3	3	-

TEAM INVOLVED IN
CIBERER
AGAUR_SGR17: 01428

TEAM LEADER
Antonia Ribes (HCB)
T. 93 227 54 00 (Ext.: 9340)
aribes@clinic.cat

RESEARCHERS
Mª José Coll (HCB)
Judit Garcia-Villoria (HCB)
Laura Gort (HCB)
Rosa Mª López-Galera (HCB)

POST-DOCTORAL RESEARCHERS
Xènia Ferrer (FCRB)
Laura Texido (CIBER)
Frederic Tort (CIBER)

PRE-DOCTORAL RESEARCHERS
Gerard Muñoz (IDIBAPS)
Eulàlia Segur (FCRB)
Olatz Ugarteburu (CIBER)

COLLABORATORS
Marisa Giros (HCB)
Sonia Pajares (HCB)

STRATEGIC OBJECTIVES

The strategic objective of our group is to investigate the genetic and biochemical bases, as well as the physiopathological mechanisms, of a group of rare diseases called "inherited metabolic diseases or inborn errors of metabolism". The ultimate aim is to develop new diagnostic and therapeutic strategies. On the other hand, we conduct translational research, stimulating the transfer of knowledge from basic research to the clinical practice, and vice versa.

MAIN LINES OF RESEARCH

Within the general line of inherited metabolic diseases, our specific research lines are:

1. Identification of genes responsible for Mendelian disorders, particularly in patients with defects of the mitochondrial energy metabolism. These patients are preselected on the basis of their clinical and biochemical characteristics. Within this line we aim to identify new defects to generate knowledge that could be implemented to the diagnosis and to the design of therapeutic options.

2. Physiopathology of the identified diseases. In addition to the classical methodologies we aim to introduce the study of lipidomics, organelle-organelle interaction, mitochondrial dynamics, mitochondrial supercomplexes and high resolution respirometry.

TEAM Antonia Ribes

3. Therapeutic approaches. This line involves the testing of chemical and peptide libraries. Selection has been made of disease-causing missense mutations previously identified by our group in a wide range of diseases. We are particularly interested in compounds with chaperone action and compounds capable of inducing lysosomal exocytosis and autophagy promotion.

PUBLICATIONS

Originals / I.F.: 14.276

1. Guitart-Mampel M, Gonzalez-Tendero A, Niñerola S, Morén C, Catalán-Garcia M, González-Casacuberta I, Juárez-Flores DL, Ugarteburu O, Matalonga L, Cascajo MV, Tort F, Cortés A, Tobias E, Milisenda JC, Grau JM, Crispi F, Gratacós E, Garrabou G, Cardellach F. **Cardiac and placental mitochondrial characterization in a rabbit model of intrauterine growth restriction.** *BBA BIOCHIMICA ET BIOPHYSICA ACTA.* 1862(5):1157-1167. I.F.: 5.108

2. Mir JF, Zagmutt S, Lichtenstein MP, García-Villoria J, Weber M, Gracia A, Fabriàs G, Casas J, López M, Casals N, Ribes A, Suñol C, Herrero L, Serra D . **Ghrelin Causes a Decline in GABA Release by Reducing Fatty Acid Oxidation in Cortex.** *MOLECULAR NEUROBIOLOGY.* 55(9):7216-7228. I.F.: 5.076

3. Batllori M, Molero-Luis M, Ormazabal A, Montero R, Sierra C, Ribes A, Montoya J, Ruiz-Pesini E, O'Callaghan M, Pias L, Nascimento A, Palau F, Armstrong J, Yubero D, Ortigoza-Escobar J, García-Cazorla A, Artuch R. **Cerebrospinal fluid monoamines, pterins, and folate in patients with mitochondrial diseases: systematic review and hospital experience.** *JOURNAL OF INHERITED METABOLIC DISEASE.* 41(6):1147-1158. I.F.: 4.092

Letters / I.F.: 3.512

1. García-Villoria J, De Azua B, Tort F, Mosegaard S, Ugarteburu O, Texidó L, Morales-Romero B, Olsen RKJ, Ribes A . **FLAD1, encoding FAD synthase, is mutated in a patient with myopathy, scoliosis and cataracts.** *CLINICAL GENETICS.* 94(6):592-593. I.F.: 3.512

Case Reports / I.F.: 1.377

1. Sisinni L., Pineda M., Coll M., Gort L., Turon E., Torrent M., Ey A., Tobajas E., Badell I. **Haematopoietic stem cell transplantation for mucopolysaccharidosis type VII: A case report.** *PEDIATRIC TRANSPLANTATION.* 22(7):e13278. I.F.: 1.377

Clinical Guidelines / I.F.: 3.607

1. Geberhiwot T, Moro A, Dardis A, Ramaswami U, Sirrs S, Marfa M, Vanier M, Walterfang M, Bolton S, Dawson C, Héron B, Stampfer M, Imrie J, Hendriksz C, Gissen P, Crushell E, Coll M, Nadjar Y, Klünemann H, Mengel E, Hrebicek M, Jones S, Ory D, Bembi B, Patterson M. **Consensus clinical management guidelines for Niemann-Pick disease type C.** *ORPHANET JOURNAL OF RARE DISEASES.* 13(1):50. I.F.: 3.607

GRANTS FOR RESEARCH IN PROGRESS

Ribes A. **Implementació de la medicina personalitzada basada en la genómica en malalties minoritaries neurologiques no diagnosticades.**
Sponsored by: Generalitat de Catalunya. PERIS_Programes16 (SLT002/16/00174)
Duration: 27/03/2017-31/12/2019

Ribes A. **Identificación y caracterización de nuevos defectos del metabolismo energético mitocondrial asociados a aciduria 3-metilglutacónica.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/01048
Duration: 01/01/ 2017-31/12/2019

DOCTORAL THESES

Ribes A. **Identificació de mutacions en gens implicats en el metabolisme de l'àcid lipòic en l'acidúrica 3- metilglutacònica.**
PhD student: Xènia Ferrer Cortès

3.13 Genomic programming of beta cells and diabetes

LOCATION
CEK building, floor 5

WEB
www.crg.eu/en/programmes-groups/ferrer-lab

KEYWORDS
1. **Epigenetics**
2. **Mouse genetic analysis of beta cells regulation**
3. **Genomic regulation of pancreatic beta cells**
4. **Pancreas regeneration**
5. **Type 2 diabetes**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	16.03	2	2	-
2017	29.65	3	3	-
2018	15.12	2	2	-

TEAM INVOLVED IN
CIBERDEM

TEAM LEADER
Jorge Ferrer
(IDIBAPS / Imperial College London)
T. 93 227 54 00 (Ext.: 4542)
jferrer@clinic.cat

POST-DOCTORAL RESEARCHERS
Edgar Bernardo (IDIBAPS)
Silvia Bonas (IDIBAPS)
Miguel Angel Maestro (CIBER)
Irene Miguel (IDIBAPS)

PRE-DOCTORAL RESEARCHERS
Mar Armengol (IDIBAPS)
Goutham Atla (IDIBAPS)

TECHNICIANS
Xavi García (CIBER)
Vanessa Grau (CIBER)

ADMINISTRATIVE STAFF
Carme Sanahuja (CIBER)

STRATEGIC OBJECTIVES

A study has been published that defines the function of long non-coding RNAs (lncRNAs) in genetic networks involved in type 2 diabetes

MAIN LINES OF RESEARCH

1. Dissection of the genetic mechanisms underlying the pathogenesis of human diabetes.
2. Understanding the epigenome of pancreatic beta cells and its implications for the development, plasticity and growth of beta cells.
3. Mouse genetic analysis of beta-cell gene regulation.
4. The regeneration of pancreatic beta cells.

PUBLICATIONS

Originals / I.F.: 15.119

1. Bonas-Guarch, Silvia; Guindo-Martinez, Marta; Miguel-Escalada, Irene; Grarup, Niels; Sebastian, David; Rodriguez-Fos, Elias; Sanchez, Friman; Planas-Felix, Merce; Cortes-Sanchez, Paula; Gonzalez, Santi; Timshel, Pascal; Pers, Tune H.; Morgan, Claire C.; Moran, Ignasi; Atla, Goutham; Gonzalez,

TEAM Jorge Ferrer

Juan R.; Puiggros, Montserrat; Marti, Jonathan; Andersson, Ehm A.; Diaz, Carlos; Badia, Rosa M.; Udler, Miriam; Leong, Aaron; Kaur, Varindepal; Flannick, Jason; Jorgensen, Torben; Linneberg, Allan; Jorgensen, Marit E.; Witte, Daniel R.; Christensen, Cramer; Brandslund, Ivan; Appel, Emil V.; Scott, Robert A.; Luan, Jian'an; Langenberg, Claudia; Wareham, Nicholas J.; Pedersen, Oluf; Zorzano, Antonio; Florez, Jose C.; Hansen, Torben; Ferrer, Jorge; Maria Mercader, Josep; Torrents, David. **Re-analysis of public genetic data reveals a rare X-chromosomal variant associated with type 2 diabetes.** *NATURE COMMUNICATIONS*. 9(1):321. I.F.: 12.353

2. Gudmundsdottir V., Pedersen H., Allebrandt K., Brorsson C., van Leeuwen N., Banasik K., Mahajan A., Groves C., de Bunt M., Dawed A., Fritsche A., Staiger H., Simonis-Bik A., Deelen J., Kramer M., Dietrich A., Hübschle T., Willemsen G., Häring H., de Geus E., Boomsma D., Eekhoff E., Ferrer J., McCarthy M., Pearson E., Gupta R., Brunak S., t Hart L. **Integrative network analysis highlights biological processes underlying GLP-1 stimulated insulin secretion: A DIRECT study.** *PLOS ONE*. 13(1):e0189886. I.F.: 2.766

GRANTS FOR RESEARCH IN PROGRESS

Ferrer J. **Genome regulators as targets for enhancing beta cell regeneration and function / Evaluación de reguladores genómicos como dianas para estimular la regeneración y función de las células beta (Betareg).**
Sponsored by: Ministerio de Economía y competitividad (MINECO).
BFU2014-54284-R
Duration: 01/01/2015-31/12/2018

Ferrer J. **DIRECT: DIabetes REsearCh on patient sTratification.**
Sponsored by: European Commission.
Innovative Medicines Initiative-2010
(IMI/115317)
Duration: 01/02/2012-31/07/2019

Ferrer J. **ZENCODE: Computational and functional annotation of genomic elements during development of the model vertebrate zebrafish.**
Sponsored by: European Commission.
H2020_MSCA_ITN_14 (643062)
Duration: 01/01/2015-31/12/2018

Ferrer J. **T2DSystems: Development of a systems biomedicine approach for risk identification, prevention and treatment of type 2 diabetes.**
Sponsored by: European Commission.
H2020_PHC_2015 (667191)
Duration: 01/01/2016-30/09/2019

Ferrer J. **Modeling three-dimensional chromosomal structure in beta cells to identify genetic mechanisms underlying type 2 diabetes.**
Sponsored by: Fundacio La Marató de TV3
(201611-30)
Duration: 31/03/2017-30/03/2020

3.14 Diabetes: metabolic and molecular networks

LOCATION
CEK building, floor 5

KEYWORDS
1. **Type 1 diabetes**
2. **Type 2 diabetes**
3. **Obesity**
4. **Autoimmunity**
5. **Pancreatic islets**
6. **Steroids**
7. **Endocrine tumours**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	168.97	32	24	3
2017	153.32	18	12	3
2018	144.02	27	22	4

TEAM INVOLVED IN
CIBERDEM
AGAUR_SGR17: 00338, 01166
REEM

AWARDS
Premi Gaudí Gresol a la Notorietat i l'Excel·lència
Awardee/s: Ramon Gomis

TEAM LEADER
Josep Vidal (HCB)
T. 93 227 57 39
jovidal@clinic.cat

GROUP LEADERS
Marc Claret (IDIBAPS)
T. 93 227 54 00 (Ext.: 4552)
mclaret@clinic.cat

Ramon Gomis (HCB-IDIBAPS)
T. 93 227 54 00 (Ext.: 4180)
ramon.gomis@idibaps.org

Felicia A. Hanzu (HCB-IDIBAPS)
T. 93 227 54 00 (Ext.: 9846)
fhanzu@clinic.ub.es

Pere Santamaria (IDIBAPS)
T. 93 227 54 00 (Ext.: 4558)
pesantam@clinic.cat

Josep Vidal (HCB)
T. 93 227 57 39
jovidal@clinic.cat

RESEARCHERS
Ignasi Conget (HCB)
Enrique Esmatjes (HCB)
Margarita Gimenez (IDIBAPS)
Amanda Jiménez (IDIBAPS)
Emilio Ortega (HCB)
Rosa Maria Gasa (IDIBAPS)
Pau Serra (IDIBAPS)

POST-DOCTORAL RESEARCHERS
Montserrat Cofán (CIBER)
Rebeca Fernandez (CIBER)
Garyfallia Kapravelou (CIBER)
Violeta Moize (HCB)
Óscar Osorio (CIBER)
Marta Fontcuberta (IDIBAPS)
Maria Nahir Garabatos (IDIBAPS)
Irene Gracia (IDIBAPS)
Meritxell Tort (IDIBAPS)
Irene Halperin (HCB)
Mireia Mora (HCB)
Alicia Garcia (IDIBAPS)
Roberta Haddad-Tóvolli (IDIBAPS)
Arnaud Obri (IDIBAPS)
Macarena Pozo (IDIBAPS)
Sara Ramirez (IDIBAPS)

PRE-DOCTORAL RESEARCHERS
Hugo Alves (FCRB)
Diana Alicia Diaz (FCRB)
Berta Serra (IDIBAPS)
Gloria Beatriz Aranda (IDIBAPS)
Antonio Jesús Blanco (IDIBAPS)
Josep Garnica (IDIBAPS)
Javier Jose Montaño (IDIBAPS)
Daniel Parras (IDIBAPS)
Patricia Solé (IDIBAPS)
Guillermo Garcia (IDIBAPS)
Iñigo Chivite (IDIBAPS)

TECHNICIANS
Ainhoa García (CIBER)
Juan Antonio Arranz (IDIBAPS)
Luis Miguel Carrasco (IDIBAPS)
Immaculada Creus (IDIBAPS)
Melek Denizli (IDIBAPS)
César Fandos (IDIBAPS)
Oriol Giro (FCRB)
Maria Milà (IDIBAPS)

ADMINISTRATIVE STAFF
Kimberly Katte (CIBER)
Mireia Ortega (IDIBAPS)

NURSING STAFF
Alberto Fernández (IDIBAPS)

COLLABORATORS
Mattia Squarcia (HCB)

STRATEGIC OBJECTIVES

1. To evaluate the molecular, genetic, and environmental contribution to the determinants of different endocrinological diseases.
2. To understand the contribution and interaction of central and peripheral factors in the regulation of glucose homeostasis and energy balance.
3. To translate new concepts in immunobiology into clinical studies.

MAIN LINES OF RESEARCH

1. Investigation of the mechanisms involved in the destruction, survival and proliferation of pancreatic beta-cells.

2. Manipulation of defined populations of neurons in the central nervous system in order to correlate the function of a particular protein with specific physiological and behavioural outputs.
3. Bariatric surgery and the resolution of comorbidites associated with obesity.
4. Mediterranean dietary patterns and other nutritional strategies for the prevention of type 2 diabetes and cardiovascular disease.
5. Study of the molecular and epigenetic mechanisms of cardiometabolic memory in humans and animal models of hypercortisolism.
6. Depiction of nanomedicine-based strategies to efficiently suppress the progression of several different autoimmune disorders without compromising systemic immunity.
7. Translation of knowledge gained on immunobiology into clinical studies for chronic inflammatory disorders such as type 1 diabetes.
8. To improve algorithms of insulin delivery that may help reduce the burden of hyperglycemia in subjects with type 1 diabetes.

RESEARCH GROUP
NEURONAL CONTROL OF METABOLISM (NEUCOME)

GROUP LEADER
Marc Claret (IDIBAPS)

Our general research interests are focused on the study of the molecular mechanisms by which particular neurocircuits control food intake, body weight and glucose metabolism. To achieve this aim, our group uses a combination of neuroanatomy, molecular and genetic tools to manipulate defined populations of neurons in order to correlate the function of a particular protein with specific physiological and behavioural outputs. Understanding the physiological mechanisms controlling energy balance and the pathophysiological alterations leading to obesity and diabetes, are the first steps towards developing new and more effective therapeutic approaches for the treatment of these metabolic conditions.

RESEARCH GROUP
PANCREATIC ISLETS: BIOMARKERS AND FUNCTION

GROUP LEADER
Ramon Gomis (HCB-IDIBAPS)

Our team conducts two main research programs: the first one is aimed at investigating the mechanisms involved in the destruction, survival and proliferation of the pancreatic beta-cell, the molecules that participate in these processes, and how the activation or inhibition of these molecules may help recover beta-cell mass as therapeutic targets for treating diabetes; the second one seeks to obtain insulin-producing cells from human skin fibroblasts and to analyze their function, revascularization process and capacity for reversing diabetes when transplanted into experimental models of diabetes.
In addition, the group participates in research projects in collaboration with Alícia Foundation that focus on investigating different nutritional strategies for preventing diabetes.

GROUP Ramon Gomis

GROUP Marc Claret

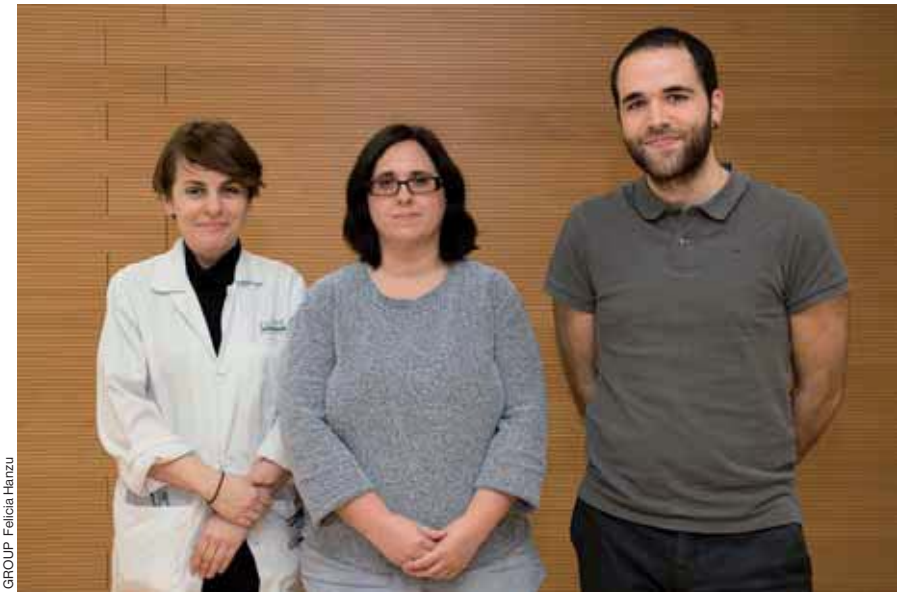
50/50 PROGRAM

ENDOCRINE DISORDERS: CROSSTALK BETWEEN MOLECULAR AND METABOLIC DETERMINANTS

GROUP LEADER

Felicia A. Hanzu (HCB-IDIBAPS)

Our group study the molecular, metabolic and therapeutic aspects of complex endocrine tumors and steroids-induced disorders having as the principal aim the translation of the knowledge from basic research to the clinical practice.
The steroids research focus on the cellular and epigenetic deleterious effects of the steroid hormones on target tissues.
The endocrine tumor research line focus on genetic, molecular biomarkers with diagnostic and therapeutic porpoise.



GROUP Felicia Hanzu

RESEARCH GROUP

PATHOGENESIS AND TREATMENT OF AUTOIMMUNITY

GROUP LEADER

Pere Santamaria (IDIBAPS)

Our group pursues translational studies on the immunobiology of a novel therapeutic approach for chronic inflammatory disorders based on nanomedicine.
This therapeutic approach triggers the formation of extensive antigen- and disease-specific networks of regulatory T and B-cells that efficiently suppress the progression of several different autoimmune disorders without compromising systemic immunity.

GROUP Josep Vidal

RESEARCH GROUP

TRANSLATIONAL RESEARCH IN DIABETES, LIPIDS AND OBESITY

GROUP LEADER

Josep Vidal (HCB)

The main aim of our research group is to gain a greater understanding of the mechanisms that associate excess weight and dietary patterns with the development of metabolic disorders. For this purpose, we develop clinical and basic lines of research that seek to analyze metabolic adaptation response to situations including weight gain, exposure to certain dietary patterns, and weight loss in human subjects and animal models. At present, our studies involving human subjects focus on the Mediterranean diet model, and also weight loss associated with bariatric surgery.

PUBLICATIONS

Originals / I.F.: 144.022

1. Singha S; Shao K; Ellestad KK; Yang Y; Santamaria P. **Nanoparticles for Immune Stimulation Against Infection, Cancer, and Autoimmunity.** *ACS NANO.* 12(11):10621-10635. I.F.: 13.709

2. Gimenez M, Tannen AJ, Reddy M, Moscardo V, Conget I, Oliver N. **Revisiting the Relationships Between Measures of Glycemic Control and Hypoglycemia in Continuous Glucose Monitoring Data Sets**. *DIABETES CARE*. 41(2):326-332. I.F.: 13.397

3. Quiñones M., Al-Massadi O., Folgueira C., Bremser S., Gallego R., Torres-Leal L., Haddad-Tóvolli R., García-Caceres C., Hernandez-Bautista R., Lam B., Beiroa D., Sanchez-Rebordelo E., Senra A., Malagon J., Valerio P., Fondevila M., Fernø J., Malagon M., Contreras R., Pfluger P., Brüning J., Yeo G., Tschöp M., Diéguez C., López M., Claret M., Kloppenburg P., Sabio G., Nogueiras R. **p53 in AgRP neurons is required for protection against diet-induced obesity via JNK1.** *NATURE COMMUNICATIONS.* 9(1):3432. I.F.: 12.353

4. Martínez-González MA, Buil-Cosiales P, Corella D, Bulló M, Fitó M, Vioque J, Romaguera D, Martínez JA, Wärnberg J, López-Miranda J, Estruch R, Bueno-Cavanillas A, Arós F, Tur JA, Tinahones F, Serra-Majem L, Martín V, Lapetra J, Vázquez C, Pintó X, Vidal J, Daimiel L, Delgado-Rodríguez M, Matía P, Ros E, Fernández-Aranda F, Botella C, Portillo MP, Lamuela-Raventós RM, Marcos A, Sáez G, Gómez-Gracia E, Ruiz-Canela M, Toledo E, Alvarez-Alvarez I, Díez-Espino J, Sorlí JV, Basora J, Castañer O, Schröder H, Navarrete-Muñoz EM, Zulet MA, García-Rios A, Salas-Salvadó J, PREDIMED-Plus Investigators. **Cohort Profile: Design and methods of the PREDIMED-Plus randomized trial.** *INTERNATIONAL JOURNAL OF EPIDEMIOLOGY.* 48(2):387-388o. I.F.: 8.360

5. Rosenstock J, Handelsman Y, Vidal J, Vidal J, Ampudia Blasco FJ, Giorgino F, Liu M, Perfetti R, Meier JJ. **Propensity-score-matched comparative analyses of simultaneously administered fixed-ratio insulin glargine 100 U and lixisenatide (iGlarLixi) vs sequential administration of insulin glargine and lixisenatide in uncontrolled type 2 diabetes.** *DIABETES, OBESITY AND METABOLISM.* 20(12):2821-2829. I.F.: 5.980

6. Schröder H, Cárdenas-Fuentes G, Martínez-González MA, Corella D, Vioque J, Romaguera D, Alfredo Martínez J, Tinahones FJ, Miranda JL, Estruch R, Bueno-Cavanillas A, Arós F, Marcos A, Tur JA, Warnberg J, Serra-Majem L, Martín V, Vázquez C, Lapetra J, Pintó X, Vidal J, Daimiel L, Gaforio JJ, Matía-Martín P, Ros E, Castañer O, Lassale C, Ruiz-Canela M, Asensio EM, Basora J, Torres-Collado L, Garcia-Rios A, Abete I, Toledo E, Buil-Cosiales P, Bullo M, Goday A, Fitó M, Salas-Salvadó J, PREDIMED-Plus investigators. **Effectiveness of the physical activity intervention program in the PREDIMED-Plus study: a randomized controlled trial.** *INTERNATIONAL JOURNAL OF BEHAVIORAL NUTRITION AND PHYSICAL ACTIVITY.* 15(1):110. I.F.: 5.548

7. Rosique-Esteban N, Babio N, Díaz-López A, Romaguera D, Alfredo Martínez J, Sanchez VM, Schröder H, Estruch R, Vidal J, Buil-Cosiales P, Konieczna J, Abete I, Salas-Salvadó J. **Leisure-time physical activity at moderate and high intensity is associated with parameters of body composition, muscle strength and sarcopenia in aged adults with obesity and metabolic syndrome from the PREDIMED-Plus study.** *CLINICAL NUTRITION.* 38(3):1324-1331. I.F.: 5.496

8. Konieczna J, Abete I, Galmés AM, Babio N, Colom A, Zulet MA, Estruch R, Vidal J, Toledo E, Díaz-López A, Fiol M, Casas R, Vera J, Buil-Cosiales P, Martín V, Goday A, Salas-Salvadó J, Martínez JA, Romaguera D, PREDIMED-Plus Investigators. **Body adiposity indicators and cardiometabolic risk: Cross-sectional analysis in participants from the PREDIMED-Plus trial.** *CLINICAL NUTRITION.* 38(4):1883-1891. I.F.: 5.496

9. Fontcuberta-PiSunyer M., Cervantes S., Miquel E., Mora-Castilla S., Laurent L., Raya A., Gomis R., Gasa R. **Modulation of the endocrine transcriptional program by targeting histone modifiers of the H3K27me3 mark.** *BIOCHIMICA ET BIOPHYSICA ACTA - GENE REGULATORY MECHANISMS.* 1861(5):473-480. I.F.: 5.179

10. Álvarez-Álvarez I, Martínez-González MÁ, Sánchez-Tainta A, Corella D, Díaz-López A, Fitó M, Vioque J, Romaguera D, Martínez JA, Wärnberg J, López-Miranda J, Estruch R, Bueno-Cavanillas A, Arós F, Tur JA, Tinahones FJ, Serra-Majem L, Martín V, Lapetra J, Más Fontao S, Pintó X, Vidal J, Daimiel L, Gaforio JJ, Matía P, Ros E, Ruiz-Canela M, Sorlí JV, Becerra-Tomás N, Castañer O, Schröder H, Navarrete-Muñoz EM, Zulet MÁ, García-Ríos A, Salas-Salvadó J, Díez-Espino J, Toledo E. **Adherence to an Energy-restricted Mediterranean Diet Score and Prevalence of Cardiovascular Risk Factors in the PREDIMED-Plus: A Cross-sectional Study.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* . I.F.: 5.166

11. Boswell L., Jiménez A, Ortega E, Pané A, Hollanda A, Moizé V, Andreu A, Ibarzabal A, Flores L, Vidal J. **Genetic background influences weight-loss trajectories on the mid-term after bariatric surgery.** *INTERNATIONAL JOURNAL OF OBESITY.* I.F.: 5.159

12. Rosique-Esteban N, Papandreou C, Romaguera D, Warnberg J, Corella D, Martínez-González MÁ, Díaz-López A, Estruch R, Vioque J, Arós F, Garcia-Rios A, Bueno-Cavanillas A, Vidal J, Serra-Majem L, Sibai AA, Tinahones FJ, Martínez JA, Ordovás JM, Tur JA, Ellacuría MT, Sanllorente A, Pintó X, Buil-Cosiales P, Fernández-Carrion R, Castañer O, Bulló M, Ruiz-Canela M, Garcia-de la Hera M, Pérez-Farinós N, Barón-López FJ, Colom A, Abete I, Ros E, Salas-Salvadó J . **Cross-sectional associations of objectively-measured sleep characteristics with obesity and type 2 diabetes in the PREDIMED-Plus trial.** *SLEEP.* 41(12). I.F.: 5.135

13. Amor AJ, Cofán M, Mateo-Gallego R, Cenarro A, Civeira F, Ortega E, Ros E, Sala-Vila A. **Dietary polyunsaturated fatty acids mediate the inverse association of stearoyl-CoA desaturase activity with the risk of fatty liver in dyslipidaemic individuals.** *EUROPEAN JOURNAL OF NUTRITION.* 58(4):1561-1568. I.F.: 4.423

14. Sánchez-Villegas A., Álvarez-Pérez J., Toledo E., Salas-Salvadó J., Ortega-Azorín C., Zomeño M., Vioque J., Martínez J., Romaguera D., Pérez-López J., López-Miranda J., Estruch R., Bueno-Cavanillas A., Arós F., Tur J., Tinahones F., Lecea O., Martín V., Ortega-Calvo M., Vázquez C., Pintó X., Vidal J., Daimiel L., Delgado-Rodríguez M., Matía P., Corella D., Díaz-López A., Babio N., Muñoz M., Fitó M., de la Hera M., Abete I., García-Rios A., Ros E., Ruíz-Canela M., Martínez-González M.,

Izquierdo M., Serra-Majem L. **Seafood consumption, omega-3 fatty acids intake, and life-time prevalence of depression in the PREDIMED-plus trial.** *NUTRIENTS.* 10(12). I.F.: 4.196

15. Cano-Ibáñez N, Bueno-Cavanillas A, Martínez-González MA, Corella D, Salas-Salvadó J, Zomeño MD, García-de-la-Hera M, Romaguera D, Martínez JA, Barón-López FJ, García-Ríos A, Estruch R, García-Molina L, Alonso Gómez Á, Tur JA, Tinahones F, Serra-Majem L, Cubelos-Fernández N, Lapetra J, Vázquez C, Pintó X, Vidal J, Daimiel L, Gaforio JJ, Matía P, Ros E, Diez-Espino J, Fernández-Carrión R, Basora J, Fitó M, Zazo JM, Colom A, Toledo E, Díaz-López A, Muñoz MÁ, Ruiz-Canela M, Gea A . **Dietary Intake in Population with Metabolic Syndrome: Is the Prevalence of Inadequate Intake Influenced by Geographical Area? Cross-Sectional Analysis from PREDIMED-Plus Study.** *NUTRIENTS.* 10(11). I.F.: 4.196

16. Haydar S., Paillot T., Fagot C., Cogne Y., Fountas A., Tutuncu Y., Vintila M., Tsatsoulis A., Chi P., Garandeau P., Chetea D., Badiu C., Gheorghiu M., Ylli D., Lautier C., Jarec M., Monnier L., Normand C., Šarac J., Barakat A., Missoni S., Pugeat M., Poucheret P., Hanzu F., Gomis R., Macias J., Litvinov S., Khusnutdinova E., Poiana C., Pasquali R., Lauro D., Sesti G., Trischitta V., Abdelhak S., Zenati A., Ylli A., Satman I., Kanninen T., Rinato Y., Grigorescu F. **Branched-Chain Amino Acid Database Integrated in MEDIPAD Software as a Tool for Nutritional Investigation of Mediterranean Populations.** *NUTRIENTS.* 10(10):1392. I.F.: 4.196

17. Mallorquí-Bagué N., Lozano-Madrid M., Toledo E., Corella D., Salas-Salvadó J., Cuenca-Royo A., Vioque J., Romaguera D., Martínez J., Wärnberg J., López-Miranda J., Estruch R., Bueno-Cavanillas A., Alonso-Gómez Á., Tur J., Tinahones F., Serra-Majem L., Martín V., Lapetra J., Vázquez C., Pintó X., Vidal J., Daimiel L., Gaforio J., Matía P., Ros E., Granero R., Buil-Cosiales P., Barragán R., Bulló M., Castañer O., García-de-la-Hera M., Yáñez A., Abete I., García-Ríos A., Ruiz-Canela M., Díaz-López A., Jiménez-Murcia S., Martínez-González M., De la Torre R. **Type 2 diabetes and cognitive impairment in an older population with overweight or obesity and metabolic syndrome: baseline cross-sectional analysis of the PREDIMED-plus study.** *SCIENTIFIC REPORTS.* 8(1):16128. I.F.: 4.122

18. Konugolu Venkata Sekar S., Farina A., Dalla Mora A., Lindner C., Pagliazzi M., Mora M., Aranda G., Dehghani H., Durduran T., Taroni P., Pifferi A. **Broadband (550-1350 nm) diffuse optical characterization of thyroid chromophores.** *SCIENTIFIC REPORTS.* 8(1):10015. I.F.: 4.122

19. Maldonado-Araque C; Valdés S; Lago-Sampedro A; Lillo-Muñoz JA; García-Fuentes E; Perez-Valero V; Gutiérrez-Repiso C; Goday A; Urrutia I; Peláez L; Calle-Pascual A; Castaño L; Castell C; Delgado E; Menéndez E; Franch-Nadal J; Gaztambide S; Girbés J; Ortega E; Vendrell J; Chacón MR; Chaves FJ; Soriguer F. **Iron deficiency is associated with Hypothyroxinemia and Hypotriiodothyroninemia in the Spanish general adult population: Di@bet.es study.** *SCIENTIFIC REPORTS.* 8(1):6571. I.F.: 4.122

20. Pané A, Ruiz S, Orois A, Martínez D, Squarcia M, Sastre L, Ruiz P, Caballería J, Hanzu FA, Halperin I. **Primary adrenal insufficiency due to hereditary apolipoprotein AI amyloidosis: endocrine involvement beyond hypogonadism.** *AMYLOID : THE INTERNATIONAL JOURNAL OF EXPERIMENTAL AND CLINICAL INVESTIGATION : THE OFFICIAL JOURNAL OF THE INTERNATIONAL SOCIETY OF AMYLOIDOSIS.* 25(2):75-78. I.F.: 4.048

21. Mena-Sánchez G, Babio N, Martínez-González MÁ, Corella D, Schröder H, Vioque J, Romaguera D, Martínez JA, Lopez-Miranda J, Estruch R, Wärnberg J, Bueno-Cavanillas A, Serra-Majem L, Tur JA, Arós F, Tinahones FJ, Sánchez VM, Lapetra J, Pintó X, Vidal J, Vázquez C, Ordovás JM, Delgado-Rodriguez M, Matía-Martín P, Basora J, Buil-Cosiales P, Fernandez-Carrion R, Fitó M, Salas-Salvadó J, PREDIMED-PLUS investigators. **Fermented dairy products, diet quality, and cardio–metabolic profile of a Mediterranean cohort at high cardiovascular risk.** *NUTRITION, METABOLISM AND CARDIOVASCULAR DISEASES.* 28(10):1002-1011. I.F.: 3.318

22. Aranda G., Fernandez-Ruiz R., Palomo M., Romo M., Mora M., Halperin I., Casals G., Enseñat J., Vidal O., Diaz-Ricart M., Hanzu F. **Translational evidence of prothrombotic and inflammatory endothelial damage in Cushing syndrome after remission.** *CLINICAL ENDOCRINOLOGY.* 88(3):415-424. I.F.: 3.077

23. Beato-Víbora PI, Quirós-López C, Lázaro-Martín L, Martín-Frías M, Barrio-Castellanos R, Gil-Poch E, Arroyo-Díez FJ, Giménez-Álvarez M. **Impact of Sensor-Augmented Pump Therapy with Predictive Low-Glucose Suspend Function on Glycemic Control and Patient Satisfaction in Adults and Children with Type 1 Diabetes.** *DIABETES TECHNOLOGY AND THERAPEUTICS.* 20(11):738-743. I.F.: 2.921

24. Bertinat, Romina; Westermeier, Francisco; Silva, Pamela; Gatica, Rodrigo; Moitinho Oliveira, Joana; Nualart, Francisco; Gomis, Ramon; Yanez, Alejandro J. **The Antidiabetic Agent Sodium Tungstate Induces Abnormal Glycogen Accumulation in Renal Proximal Tubules from Diabetic IRS2-Knockout Mice.** *JOURNAL OF DIABETES RESEARCH.* 2018(5697970). I.F.: 2.885

25. Galilea-Zabalza I, Buil-Cosiales P, Salas-Salvadó J, Toledo E, Ortega-Azorín C, Díez-Espino J, Vázquez-Ruiz Z, Zomeño MD, Vioque J, Martínez JA, Romaguera D, Perez-Farinos N, López-Miranda J, Estruch R, Bueno-Cavanillas A, Arós F, Tur JA, Tinahones F, Serra-Majem L, Marcos-Delgado A, Ortega-Calvo M, Vázquez C, Pintó X, Vidal J, Daimiel L, Delgado-Rodríguez M, Matía P, Corella D, Diaz-López A, Babio N, Muñoz MA, Fitó M, González-Palacios S, Abete I, García-Rios A, Ros E, Martínez-González MÁ, PREDIMED-PLUS Study Investigators. **Mediterranean diet and quality of life: Baseline cross-sectional analysis of the PREDIMED-PLUS trial.** *PLOS ONE.* 13(6):e0198974. I.F.: 2.766

26. Delgado-Oliver E, Vidal-Sicart S, Martínez D, Squarcia M, Mora M, Hanzu FA, Halperin I, Fuster D, Fondevila C, Vidal-Perez Ó. **Applicability of sentinel lymph node biopsy in papillary thyroid cancer.** *THE QUARTERLY JOURNAL OF NUCLEAR MEDICINE AND MOLECULAR IMAGING : OFFICIAL PUBLICATION OF THE ITALIAN ASSOCIATION OF NUCLEAR MEDICINE (AIMN) [AND] THE INTERNATIONAL ASSOCIATION OF RADIOPHARMACOLOGY (IAR), [AND] SECTION OF THE SOCIETY OF RADIOPHARMACEUTICAL CHEMISTRY AND BIOLOGY.* I.F.: 2.368

27. Biagi L, Bertachi A, Giménez M, Conget I, Bondia J, Martín-Fernández JA, Vehí J. **Individual categorisation of glucose profiles using compositional data analysis.**

STATISTICAL METHODS IN MEDICAL RESEARCH. 31:962280218808819. I.F.: 2.284

Review / I.F.: 25.786

1. Pozo M, Claret M. **Hypothalamic Control of Systemic Glucose Homeostasis: The Pancreas Connection.** *TRENDS IN ENDOCRINOLOGY AND METABOLISM.* 29(8):581-594. I.F.: 10.769

2. Graupera M., Claret M. **Endothelial Cells: New Players in Obesity and Related Metabolic Disorders.** *TRENDS IN ENDOCRINOLOGY AND METABOLISM.* 29(11):781-794. I.F.: 10.769

3. Serra P, Santamaria P. **Nanoparticle-based approaches to immune tolerance for the treatment of autoimmune diseases.** *EUROPEAN JOURNAL OF IMMUNOLOGY.* 48(5):751-756. I.F.: 4.248

Consortium Publications / I.F.: 7.41

1. Valassi E., Franz H., Brue T., Feelders R., Netea-Maier R., Tsagarakis S., Webb S., Yaneva M., Reincke M., Droste M., Komerdus I., Maiter D., Kastelan D., Chanson P., Pfeifer M., Strasburger C., Tóth M., Chabre O., Krsek M., Fajardo C., Bolanowski M., Santos A., Trainer P., Wass J., Tabarin A., Ambrogio A., Aranda G., Arosio M., Balomenaki M., Beck-Peccoz P., Berr-Kirmair C., Bollerslev J., Carvalho D., Cavagnini F., Christ E., Denes J., Dimopoulou C., Dreval A., Dusek T., Erdinc E., Valassi E., Franz H., Brue T., Feelders R., Netea-Maier R., Tsagarakis S., Webb S., Yaneva M., Reincke M., Droste M., Komerdus I., Maiter D., Kastelan D., Chanson P., Pfeifer M., Strasburger C., Tóth M., Chabre O., Krsek M., Fajardo C., Bolanowski M., Santos A., Trainer P., Wass J., Tabarin A., Ambrogio A., Aranda G., Arosio M., Balomenaki M., Beck-Peccoz P., Berr-Kirmair C., Bollerslev J., Carvalho D., Cavagnini F., Christ E., Denes J., Dimopoulou C., Dreval A., Dusek T., Erdinc E., Valassi E., Franz H., Brue T., Feelders R., Netea-Maier R., Tsagarakis S., Webb S., Yaneva M., Reincke M., Droste M., Komerdus I. **Preoperative medical treatment in Cushing's syndrome: Frequency of use and its impact on postoperative assessment: Data from ERCUSYN.** *EUROPEAN JOURNAL OF ENDOCRINOLOGY.* 178(4):399-409. I.F.: 4.333

2. Valassi E, Feelders R, Maiter D, Chanson P, Yaneva M, Reincke M, Krsek M, Tóth M, Webb S, Santos A, Paiva I, Komerdus I, Droste M, Tabarin A, Strasburger C, Franz H, Trainer P, Newell-Price J, Wass J, Papakokkinou E, Ragnarsson O, Ambrogio A, Aranda G, Arosio M, Balomenaki M, Beck-Peccoz P, Berr-Kirmair C, Bolanowski M, Bollerslev J, Thierry B, Carvalho D, Cavagnini F, Christ E, Demtröder F, Denes J, Dimopoulou C, Dreval A, Dusek T, Erdinc E, Evang J. **Worse Health-Related Quality of Life at long-term follow-up in patients with Cushing's disease than patients with cortisol producing adenoma. Data from the ERCUSYN.** *CLINICAL ENDOCRINOLOGY.* 88(6):787-798. I.F.: 3.077

GRANTS FOR RESEARCH IN PROGRESS

Claret M. **Investigando el papel de los neuroesteroides derivados de las neuronas POMC hipotalámicas como reguladores críticos del balance energético y el metabolismo.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00963
Duration: 01/01/2017-31/12/2019

Claret M. **Neuronas POMC: ¿en la interfaz entre la detección de energía y el comportamiento altruista?**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). BFU2015-72486-EXP
Duration: 01/05/2017-30/04/2020

Claret M. **MITOSENSING: Decoding mitochondrial nutrient-sensing programs in POMC neurons as key determinants of metabolic health.**
Sponsored by: European Commission. H2020_ERC_2016_CoG (725004)
Duration: 01/04/2017-31/03/2022

Claret M. **Mitochondrial fusion in endothelial cells: impact on systemic energy and glucose homeostasis.**
Sponsored by: European Foundation for the Study of Diabetes, EFSD/Lilly_2017
Duration: 15/02/2018-14/02/2020

Gasa R, Gomis R. **Proliferación de la célula β pancreática: impacto de nuevos reguladores.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00774
Duration: 01/01/2017-31/12/2019

Gasa R. **Direct reprogramming of human fibroblasts towards insulin-producing cells.**
Sponsored by: European Foundation for the Study of Diabetes, EFSD/Lilly_2017
Duration: 01/01/2018-31/12/2019

Gomis R. **Efectes beneficiosos de la quinoa (Chenopodium quinoa Willd) en la prevenció de la Diabetes Mellitus tipus 2.**
Sponsored by: Fundació Acadèmia de les Ciències Mèdiques (ACD_GLloveras)
Duration: 01/03/2017-28/02/2019

Hanzu F. **Cambios epigenéticos inducidos por el síndrome cushing en la plasticidad y el kinoma del tejido adipso. Modelo animal y estudio en humanos.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00859
Duration: 01/01/2016-31/07/2019

Jiménez A. **Inflamación hipotalámica en obesidad. Papel de la dieta y efectos de la cirugía bariátrica.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00279
Duration: 01/01/2018-31/12/2020

Jiménez A. **Malaltia d'Alzheimer preclínica, diabetis mellitus tipus 2 i obesitat. Efectes de la cirurgia bariàtrica: un estudi multimodal.**
Sponsored by: Fundació La Marató TV3 (201614.30)
Duration: 10/03/2017-09/03/2020

Mora M, Gomis R. **LUCA: Laser and Ultrasound Co-Analyzer for thyroid nodules.**
Sponsored by: European Commission. H2020_ICT_2015 (688303)
Duration: 01/02/2016-31/01/2020

Ortega E. **Cambios en la microcirculación retiniana y carotidea tras restauración de normoglicemia en pacientes con diabetes tipo 2: angiografia retiniana mediante tomografía de coherencia óptica y ultrasonido carotideo con contraste.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/01479
Duration: 01/01/2018-31/12/2020

Santamaria P. **Grup de Recerca en autoimmunitat.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_00338
Duration: 01/01/2017-31/12/2020

Santamaria P. **El papel de la autofagia celular en la tolerancia central y activación periférica de células TCD4+ diabetogénicas.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). SAF2015-68187-R
Duration: 01/01/2016-31/12/2019

Santamaria P**. Advancing human antigen-specific T-regulatory cell expanding nanomedicines for autoimmune disease: Translational studies in humanized mice.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PIE14/00027
Duration: 01/01/2015-30/06/2019

Santamaria P. **Red Temática de Investigación Cooperativa en Salud - Esclerosis múltiple.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). RD16/0015/0020
Duration: 01/01/2017-31/12/2021

Santamaria P. **Advancing an antigen-specific nanomedicine for the treatment of central nervous system autoimmunity.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). ERA-NET Neuron.
Duration: 01/01/2015-31/122019

Serra P. **Nanomedicines to expand type 1 diabetes specific T-regulatory-1 type cells: mechanistic and translational studies.**
Sponsored by: Juvenile Diabetes Research Foundation. JDRF-CDA-2014-214-A-N
Duration: 01/06/2014-31/05/2019

Vidal J. **Diabetis: xarxes metabòliques i moleculars.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_01166
Duration: 01/01/2017-31/12/2020

Vidal J. **PREDIMED+DM Efecto de una dieta mediterránea hipocalórica y promoción de la actividad física en prevenciones de diabetes tipo 2 en personas con síndrome metabólico.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00728
Duration: 01/01/2015-30/06/2018

Vidal J. **PREDIMED+DM: Efecto de una pérdida de peso con dieta mediterránea hipocalórica y promoción de la actividad física en la prevención de diabetes tipo 2 en personas con síndrome metabólico.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00215
Duration: 01/01/2018-31/12/2020

DOCTORAL THESES

Conget I, Giménez M. **Eficacia del uso de la tecnología en el tratamiento de la diabetes tipo I en nuestro entorno. De las Bombas de insulina al páncreas artificial.**
PhD student: Carmen Quirós López

Gasa R, Gomis R. **Desenvolupament de noves estratègies per generar cèl·lules productores d'insulina.**
PhD student: Marta Fontcuberta Pi-Sunyer

Gomis R, Gasa R. **Regulation of pancreatic beta cell mass and function: the role of glycogen metabolism and other intrinsic factors.**
PhD student: Joan Ignasi Mir Coll

Gomis R, Gasa R. **Implicació de la senyalització dependent de Gsa en l'establiment de la massa cel·lular ß.**
PhD student: Berta Serra Navarro

Gomis R. **Improving islet-graft revascularization.**
PhD student: Hugo Jorge Alves Figuereido

Hanzu F, Halperin I. **Mecanismos moleculares del riesgo metabólico y cardiovascular en el Síndrome de Cushing antes y después de la curación: Enfoque traslacional.**
PhD student: Gloria Beatriz Aranda Velazquez

Ortega E. **Predicción de eventos cardiovasculares: De las escalas de riesgo al uso de biomarcadores.**
PhD student: Antonio Jesus Amor Fernandez

3.15 Pathogenesis and prevention of diabetes

LOCATION
CEK building, floor 5

KEYWORDS
1. **Islet amyloid polypeptide (IAPP)/amylin**
2. **Beta-cell dysfunction**
3. **Circulating microRNAs**
4. **Endothelial dysfunction**
5. **Exercise and nutrition**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	76.92	19	9	9
2017	87.38	17	12	3
2018	62.28	15	8	5

TEAM INVOLVED IN
CIBERDEM
AGAUR_SGR17: 01390

TEAM LEADER
Anna Novials (IDIBAPS)
T. 93 227 54 00 (Ext.: 4153)
anovials@clinic.cat

RESEARCHERS
Antonio Ceriello (IDIBAPS)
Marcelina Párrizas (CIBER)
Joan Marc Servitja (IDIBAPS)

POST-DOCTORAL RESEARCHERS
Gema Alcarraz-Vizán (IDIBAPS)
Laura Brugnara (CIBER)
Valeria de Nigris (IDIBAPS)

PRE-DOCTORAL RESEARCHERS
Carlos Castaño (CIBER)
Sara de Pablo (IDIBAPS)
Daniela J. Díaz-Catalán (UB)
Serafín Murillo (CIBER)
Júlia Rodríguez-Comas (IDIBAPS)

TECHNICIANS
Juan Moreno-Vedia (FCRB)

COLLABORATORS
Ana Isabel García-Díez (HCB)

STRATEGIC OBJECTIVES

1. Impact of lifestyle on diabetes: exercise and nutrition.
2. Circulating microRNAs as potential biomarkers and therapeutic targets in type 2 diabetes.
3. New therapeutic targets for the treatment of pancreatic islet dysfunction, type 2 diabetes and obesity.
4. Mechanisms and treatment of endothelial dysfunction in type 2 diabetes.

MAIN LINES OF RESEARCH

1. Impact of lifestyle on diabetes: metabolic and molecular responses to exercise and nutrition in diabetic patients and animal models.
2. Role of circulating exosomal microRNAs in the pathogenesis of type 2 diabetes and the control of lipid metabolism: impact of exercise intervention.
3. Circulating microRNAs as potential biomarkers of micro- and macrovascular complications in diabetes.
4. Mechanisms of pancreatic islet dysfunction in type 2 diabetes mellitus: potential protective effects of endoplasmic reticulum stress inhibitors and anti-inflammatory

TEAM Anna Novials

molecules against amyloid-induced beta-cell dysfunction.
5. New therapeutic targets for the treatment of type 2 diabetes and obesity: role of the protease Bace2 in the control of glucose homeostasis and body weight.
6. Modulation of signalling and transcriptional networks in pancreatic islets in response to metabolic stress and proinflammatory cytokines.
7. Impact of glucose oscillations on cardiovascular complications of diabetes: mechanisms of endothelial dysfunction.
8. Potential beneficial effects of GLP-1 and DPP-4 inhibitors in endothelial cells exposed to hyperglycemic conditions.

PUBLICATIONS

Originals / I.F.: 62.288

1. Castaño C, Kalko S, Novials A, Párrizas M. **Obesity-associated exosomal miRNAs modulate glucose and lipid metabolism in mice.** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA.* 115(48):12158-12163. I.F.: 9.504

2. Prattichizzo F., De Nigris V., Mancuso E., Spiga R., Giuliani A., Matacchione G., Lazzarini R., Marcheselli F., Recchioni R., Testa R., La Sala L., Rippo M., Procopio A., Olivieri F., Ceriello A. **Short-term sustained hyperglycaemia fosters an archetypal senescence-associated secretory phenotype in endothelial cells and macrophages.** *REDOX BIOLOGY.* 15:170-181. I.F.: 7.126

3. Mellado-Gil JM, Fuente-Martín E, Lorenzo PI, Cobo-Vuilleumier N, López-Noriega L, Martín-Montalvo A, Gómez IGH, Ceballos-Chávez M, Gómez-Jaramillo L, Campos-Caro A, Romero-Zerbo SY, Rodríguez-Comas J, Servitja JM, Servitja JM, Rojo-Martinez G, Rojo-Martinez G, Hmadcha A, Hmadcha A, Soria B, Soria B, Bugliani M, Marchetti P, Bérmudez-Silva FJ, Bérmudez-Silva FJ, Reyes JC, Aguilar-Diosdado M, Aguilar-Diosdado M, Gauthier BR. **The type 2 diabetes-associated HMG20A gene is mandatory for islet beta cell functional maturity.** *CELL DEATH DIS.* 9(3):279. I.F.: 5.638

4. Hernández M., Aguilar A., Burillo J., Oca R., Manca M., Novials A., Alcarraz-Vizan G., Guillén C., Benito M. **Pancreatic β cells overexpressing hIAPP impaired mitophagy and unbalanced mitochondrial dynamics.** *CELL DEATH DIS.* 9(5):481. I.F.: 5.638

5. La Sala L., Mrakic-Sposta S., Micheloni S., Prattichizzo F., Ceriello A. **Glucose-sensing microRNA-21 disrupts ROS homeostasis and impairs antioxidant responses in cellular glucose variability.** *CARDIOVASCULAR DIABETOLOGY.* 17(1):105. I.F.: 5.235

6. Viazzi F; Ceriello A; Fioretto P; Giorda C; Guida P; Russo G; Greco E; de Cosmo S; Pontremoli R; AMD-Annals Study Group. **Changes in albuminuria and renal outcome in patients with type 2 diabetes and hypertension: a real-life observational study.** *JOURNAL OF HYPERTENSION.* 36(8):1719-1728. I.F.: 4.099

7. Davison, Gareth; Vinaixa, Maria; McGovern, Rose; Beltran, Antoni; Novials, Anna; Correig, Xavier; McClean, Conor. **Metabolomic Response to Acute Hypoxic Exercise and Recovery in Adult Males.** *FRONTIERS IN PHYSIOLOGY.* 9(1682):1682. I.F.: 3.394

8. Scavini M., Rossi M., Scardapane M., Nicolucci A., Manicardi V., Russo G., Di Bartolo P., Giorda C., Musacchio N., Ceriello A., Genovese S., Molinari C., Dozio N. **Portrait of women with type 1 or type 2 diabetes of childbearing age attending diabetes clinics in Italy: the AMD-Annals initiative.** *ACTA DIABETOLOGICA.* 55(2):193-199. I.F.: 3.126

9. Rossi M., Lucisano G., Ceriello A., Mazzucchelli C., Musacchio N., Ozzello A., Nicolucci A., Di Bartolo P., Annamaria N., Mario V., Francesca S., Andrea D., Graziano S., Giampaolo M., Gabriella G., Daniela A., Mario L., Giovanni S., Mauro S., Francesco D., Roberto A., Paolo D., Emilio R., Sergio L., Giuseppe F., Carlo L., Laura T. **Real-world use of self-monitoring of blood glucose in people with type 2 diabetes: an urgent need for improvement.** *ACTA DIABETOLOGICA.* 55(10):1059-1066. I.F.: 3.126

10. Viazzi F; Greco E; Ceriello A; Fioretto P; Giorda C; Guida P; Russo G; de Cosmo S; Pontremoli R; AMD-Annals Study Group. **Apparent Treatment Resistant Hypertension, Blood Pressure Control and the Progression of Chronic Kidney Disease in Patients with Type 2 Diabetes.** *KIDNEY AND BLOOD PRESSURE RESEARCH.* 43(2):422-438. I.F.: 3.000

11. Gentile S, Strollo F, Viazzi F, Russo G, Piscitelli P, Ceriello A, Giorda C, Guida P, Fioretto P, Pontremoli R, De Cosmo S, The AMD-Annals Study Group. **Five-Year Predictors of Insulin Initiation in People with Type 2 Diabetes under Real-Life Conditions.** *JOURNAL OF DIABETES RESEARCH.* 2018:7153087. I.F.: 2.885

12. Russo GT; de Cosmo S; Viazzi F; Mirijello A; Ceriello A; Guida P; Giorda C; Cucinotta D; Pontremoli R; Fioretto P; AMD-Annals Study Group. **Diabetic kidney disease in the elderly: prevalence and clinical correlates.** *BMC GERIATRICS.* 18(1):38. I.F.: 2.866

13. Lamacchia O., Viazzi F., Fioretto P., Mirijello A., Giorda C., Ceriello A., Russo G., Guida P., Pontremoli R., De Cosmo S. **Normoalbuminuric kidney impairment in patients with T1DM: Insights from annals initiative.** *DIABETOLOGY AND METABOLIC SYNDROME.* 10(1):60. I.F.: 2.413

14. Mirijello A; Viazzi F; Fioretto P; Giorda C; Ceriello A; Russo GT; Guida P; Pontremoli R; de Cosmo S; AMD ANNALS Study Group. **Association of kidney disease measures with risk of renal function worsening in patients with type 1 diabetes.** *BMC NEPHROLOGY.* 19(1):347. I.F.: 2.395

15. Barberan-Garcia A., Gimeno-Santos E., Blanco I., Cano I., Martínez-Pallí G., Burgos F., Miralles F., Coca M., Murillo S., Sanz M., Steblin A., Ubré M., Benavent J., Vidal J., Sitges M., Roca J. **Protocol for regional implementation of collaborative self-management services to promote physical activity.** *BMC HEALTH SERVICES RESEARCH.* 18(1):560. I.F.: 1.843

Review / I.F.: 63.903

1. Cosentino F, Ceriello A, Baeres FMM, Fioretto P, Garber A, Stough WG, George JT, Grant PJ, Khunti K, Langkilde AM, Plutzky J, Rydén L, Scheen A, Standl E, Tuomilehto J, Zannad F. **Addressing cardiovascular risk in type 2 diabetes mellitus: a report from the European Society of Cardiology Cardiovascular Roundtable.** *EUROPEAN HEART JOURNAL.* I.F.: 23.425

2. Prattichizzo F., Giuliani A., Mensà E., Sabbatinelli J., De Nigris V., Rippo M., La Sala

L., Procopio A., Olivieri F., Ceriello A. **Pleiotropic effects of metformin: Shaping the microbiome to manage type 2 diabetes and postpone ageing.** *AGEING RESEARCH REVIEWS.* 48:87-98. I.F.: 8.973

3. Prattichizzo F., De Nigris V., Spiga R., Mancuso E., La Sala L., Antonicelli R., Testa R., Procopio A., Olivieri F., Ceriello A. **Inflammageing and metaflammation: The yin and yang of type 2 diabetes.** *AGEING RESEARCH REVIEWS.* 41:1-17. I.F.: 8.973

4. Prattichizzo F, De Nigris V, Micheloni S, La Sala L, Ceriello A. **Increases in circulating levels of ketone bodies and cardiovascular protection with SGLT2 inhibitors: is low-grade inflammation the neglected component?** *DIABETES, OBESITY AND METABOLISM.* 20(11):2515-2522. I.F.: 5.980

5. Brunerova L., Rahelic D., Ceriello A., Broz J. **Use of oral antidiabetic drugs in the treatment of maturity-onset diabetes of the young: A mini review.** *DIABETES/METABOLISM RESEARCH AND REVIEWS.* 34(1):467. I.F.: 3.904

6. La Sala L, Micheloni S, De Nigris V, Prattichizzo F, Ceriello A,. **Novel insights into the regulation of miRNA transcriptional control: implications for T2D and related complications.** *ACTA DIABETOLOGICA.* 55(10):989-998. I.F.: 3.126

7. Viazzi F, Russo GT, Ceriello A, Fioretto P, Giorda C, De Cosmo S, Pontremoli R. **Natural history and risk factors for diabetic kidney disease in patients with T2D: lessons from the AMD-annals.** *JOURNAL OF NEPHROLOGY.* I.F.: 2.724

8. Khunti K., Ceriello A., Cos X., De Block C. **Achievement of guideline targets for blood pressure, lipid, and glycaemic control in type 2 diabetes: A meta-analysis.** *DIABETES RESEARCH AND CLINICAL PRACTICE.* 137:137-148. I.F.: 2.548

9. Bergman M, Manco M, Sesti G, Dankner R, Pareek M, Jagannathan R, Chetrit A, Abdul-Ghani M, Buysschaert M, Olsen MH, Nilsson PM, Medina JL, Roth J, Groop L, Del Prato S, Raz I, Ceriello A. **Petition to replace current OGTT criteria for diagnosing prediabetes with the 1-hour post-load plasma glucose ≥ 155 mg/dl (8.6 mmol/l).** *DIABETES RESEARCH AND CLINICAL PRACTICE.* 146:18-33. I.F.: 2.548

10. Khunti K; Gavin JR; Boulton AJM; Blickstead R; McGill M; Ceriello A; Raz I; Sadikot S; Wood DA; Cos X; Kalra S; Das AK; Espinosa López C; Berlin Declaration Steering Group. **The Berlin Declaration: A call to improve early actions related to type 2 diabetes. Why is primary care important?** *PRIMARY CARE DIABETES.* 12(5):383-392. I.F.: 1.702

Letters / I.F.: 5.235

1. Schnell O, Standl E, Catrinoiu D, Genovese S, Lalic N, Lalic K, Skrha J, Valensi P, Ceriello A. **Report from the 3rd Cardiovascular Outcome Trial (CVOT) Summit of the Diabetes & Cardiovascular Disease (D&CVD) EASD Study Group.** *CARDIOVASCULAR DIABETOLOGY.* 17(1):30. I.F.: 5.235

Clinical Guidelines / I.F.: 6.594

1. Sanz M., Ceriello A., Buysschaert M., Chapple I., Demmer R., Graziani F., Herrera D., Jepsen S., Lione L., Madianos P., Mathur M., Montanya E., Shapira L., Tonetti M., Vegh D. **Scientific evidence on the links between periodontal diseases and diabetes: Consensus report and guidelines of the joint workshop on periodontal diseases and diabetes by the International Diabetes Federation and the European Federation of Periodontology.** *JOURNAL OF CLINICAL PERIODONTOLOGY.* 45(2):138-149. I.F.: 4.046

2. Ceriello A., Gavin J., Boulton A., Blickstead R., McGill M., Raz I., Sadikot S., Wood D., Cos X., Khunti K., Kalra S., Das A., López C. Berlin Declaration Steering Group. **A call to action to improve early actions related to type 2 diabetes. How can specialist care help?** *DIABETES RESEARCH AND CLINICAL PRACTICE.* 139:392-399. I.F.: 2.548

GRANTS FOR RESEARCH IN PROGRESS

Ceriello A. **Role of released and exosomial microRNAs, inflammatory and diabetes associated (REx-MIDAs), in endothelial metabolic memory.**
Sponsored by: Fundació La Marató de TV3. 201606.10
Duration: 10/03/2017-09/03/2020

Novials A, Servitja JM. **BACE2, una nueva diana terapéutica para el tratamiento de la diabetes tipo 2 y la obesidad.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00879
Duration: 01/01/2018-31/12/2020

Novials A. **Els microRNAs exosomals induïts per l'exercici com a reguladors del metabolisme en humans i ratolins.**
Sponsored by: Fundació Acadèmica de les Ciències Mèdiques (Beca Acadèmia 2018)
Duration: 24/05/2018

ANNUAL
SCIENTIFIC
REPORT
2018

AREA 4

CLINICAL AND EXPERIMENTAL NEUROSCIENCE

4

© Martí Ortega

AREA 4

CLINICAL AND EXPERIMENTAL NEUROSCIENCE

4.1 **Neuropharmacology and experimental neuropathology** 220
Guadalupe Mengod

4.2 **Brain ischemia: Clinical and experimental studies** 225
Ángel Chamorro

4.3 **Parkinson's disease and other neurodegenerative movement disorders: clinical and experimental research** 228
M. Josep Martí Domenech

4.4 **Neurophysiology and functional studies of the nervous system** 232
Alejandro Iranzo

4.5 **Muscle research and mitochondrial function** 236
Josep Maria Grau

4.6 **Pathophysiology and treatment of neurodegenerative disorders** 240
Jordi Alberch

4.7 **Translational psychiatry and psychology** 243
Eduard Vieta

4.8 **Neuropsychology** 257
Carme Junqué

4.9 **Systems neuroscience** 260
Maria Victoria Sánchez Vives

4.10 **Clinical and experimental neuroimmunology** 264
Josep Dalmau

4.11 **Neurobiology Unit** 270
Ramon Trullàs

4.12 **Alzheimer's disease and other cognitive disorders** 272
Raquel Sánchez del Valle

4.1 Neuropharmacology and experimental neuropathology

LOCATION
IIBB-CSIC labs
UB School of Medicine

WEB
www.iibb.csic.es
www.ciberisciii.es
www.cibersam.es
www.ciberesp.es
www.ciberned.es
www.ub.edu/portal/web/dp-biomedicalsciences/neuroinflamacio.-ip-josep-saura-marti

KEYWORDS
1. **Neuropsychopharmacology**
2. **Brain aging and neurotoxicity**
3. **Neurodegeneration**
4. **Neuroinflammation**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	115.44	21	18	2
2017	110.30	24	19	4
2018	96.15	19	14	4

TEAM INVOLVED IN
CIBERNED
CIBERSAM
CIBERESP
AGAUR_SGR17: 00106, 00717

TEAM LEADER
Guadalupe Mengod (IIBB-CSIC)
T. 93 363 83 23
guadalupe.mengod@iibb.csic.es

GROUP LEADERS
Francesc Artigas (IIBB-CSIC)
T. 93 363 83 15
francesc.artigas @iibb.csic.es

Guadalupe Mengod (IIBB-CSIC)
T. 93 363 83 23
guadalupe.mengod@iibb.csic.es

Josep Saura (UB)
T. 93 402 19 20
josepsaura@ub.edu

Coral Sanfeliu (IIBB-CSIC)
T. 93 363 83 38
coral.sanfeliu@iibb.csic.es

RESEARCHERS
Roser Cortés (IIBB-CSIC)
Mª Teresa Vilaró (IIBB-CSIC)
Analía Bortolozzi (IDIBAPS)
Anna Castañé (IIBB-CSIC)
Maria Paz Celada (IDIBAPS)
Eduardo Rodríguez (IIBB-CSIC)
Cristina Suñol (IIBB-CSIC)
Joan Serratosa (IIBB-CSIC)
Carme Solà (IIBB-CSIC)

POST-DOCTORAL RESEARCHERS
Maurizio Riga (IDIBAPS)
Noemí Santana (CIBER)
Ruben Corpas (IIBB-CSIC)

PRE-DOCTORAL RESEARCHERS
Diana Alarcón (IDIBAPS)
María Neus Fullana (IIBB-CSIC)
Elena López (IIBB-CSIC)
Rubén Pavía (IDIBAPS)
Mireia Tarrés (IIBB-CSIC)
Elisa García (IIBB-CSIC)
Neus Rabaneda (IIBB-CSIC)

TECHNICIANS
Felipe Jiménez (IIBB-CSIC)
Rocio Martin (CIBER)
Silvia Serrano (CIBER)
Leticia Campa (IIBB-CSIC)
Lluis Miquel (IIBB-CSIC)
Ruth Montes (IIBB-CSIC)
Verónica Paz (CIBER)
Esther Ruiz (IDIBAPS)
Albert Parull (IIBB-CSIC)
Rosario Ruiz (UB)

ADMINISTRATIVE STAFF
María Jaramillo (CIBER)

COLLABORATORS
Tony Valente (UB)
Jose Manuel Vidal (UB)

VISITING SCIENTISTS
Sharon Manashirov
(Weizmann Institute of Scienceen, Israel)

STRATEGIC OBJECTIVES

Furthering of knowledge of the physiopathological mechanisms of neurological and psychiatric diseases and neurotoxic and aging processes of the central nervous system, with a view to identifying new cellular and functional targets and proposing new treatments.

MAIN LINES OF RESEARCH

- The Systems Neuropharmacology Group studies the brain circuits and neural elements involved in the physiopathology and treatment of depression, schizophrenia and Parkinson's disease.

- The Molecular Neuropharmacology group studies the involvement of the cAMP cascade in the polarization of microglia and macrophage toward anti- or pro-inflammatory phenotypes both in cell culture with cell lines and primary cultures and in the CNS of EAE (experimental autoimmune encephalomyelitis) mice, a multiple sclerosis animal model.

- The aim of the Cellular Neurobiology group is the study of novel targets to modulate neuroinflammation. The group is focused on the role of transcription factors and neuronal-microglial communication

molecules in microglial activation and in microglial-induced neurotoxicity.

- The Neurotoxicity and Neurodegeneration Mechanisms group carries out studies on nerve cell death and stress response, synaptic and cognitive functions, genomics and proteomics, for the determination of targets in toxicity and pathological aging. The goal is finding neuroprotective treatments.

GROUP Francesc Artigas

RESEARCH GROUP
SYSTEMS NEUROPHARMACOLOGY

GROUP LEADER
Francesc Artigas (IIBB-CSIC)

The group research is focused on the characterization of the brain circuits and neural elements involved in the physiopathology and treatment of mental (major depression, schizophrenia) and neurodegenerative disorders (Parkinson's disease). Using a variety of experimental models, we identify new therapeutic targets in order to improve treatments. Key findings are the characterization of the rodent infralimbic cortex as a key are to evoke depressive-like or antidepressant-like phenotypes based on modulating astrocyte-neuron interactions in glutamatergic synapses.. Moreover, therapeutic strategies based on RNAi have been developed for the treatment of major depression and Parkinson disease.

GROUP Guadalupe Mengod

RESEARCH GROUP
MOLECULAR NEUROPHARMACOLOGY

GROUP LEADER
Guadalupe Mengod (IIBB-CSIC)

We study cAMP in relation to the cellular and molecular aspects of neurodegenerative diseases with an inflammatory component.

We analyze the effect of phosphodiesterase PDE4, PDE7 inhibitors and other drugs, acting on different targets, on the course of EAE, a mouse model of multiple sclerosis and on the expression of inflammatory cytokines and PDEs and neuropathological changes in cellular populations of the CNS.

We study the role of components of the cAMP signaling cascade on in vitro cell polarization toward pro-inflammatory (M1) or anti-inflammatory (M2) phenotype. We have performed a comparative study of the expression of components of the cholinergic system in the CNS of EAE mice in the acute and remitting phases of the disease.

RESEARCH GROUP
CELLULAR NEUROBIOLOGY

GROUP LEADER
Josep Saura (UB)

The aim of the Cellular Neurobiology group is the study of novel targets to modulate neuroinflammation. We are focused on the role of transcription factors of the C/EBP family and of neuronal-microglial communication molecules (CD200, CD200R, TREM2) in microglial activation and in microglial-induced neurotoxicity. We use primary cell cultures (murine mixed glial, astroglial and microglial-enriched, neuronal, mixed neuron-glial; human monocyte-derived microglia-like cultures), cell lines, in vivo models of neuroinflammation and neurodegeneration, and human samples.

GROUP Josep Saura

RESEARCH GROUP
NEUROTOXICITY AND NEURODEGENERATION MECHANISMS

GROUP LEADER
Coral Sanfeliu (IIBB-CSIC)

The group studies molecular targets in neurotoxicity and pathological brain aging by using in vivo and in vitro experimental models and human tissues.
Mechanisms of neurotoxicity are focused in environmental contaminants as ubiquitous exposures, whereas age-relatedneurodegeneration is centred in Alzheimer's disease as the main cause of dementia.
Neuroprotective mechanisms analysed include those activated by lifestyles of physical exercise and dietary components. This basic research will contribute to the design of new strategies and pharmacological treatments for increasing brain resilience against nerve cell injury and age-related neurodegeneration, specifically Alzheimer's disease.

GROUP Coral Sanfeliu

PUBLICATIONS

Originals / I.F.: 96.15

1. Corpas R., Griñán-Ferré C., Palomera-Ávalos V., Porquet D., García de Frutos P., Franciscato Cozzolino S., Rodríguez-Farré E., Pallàs M., Sanfeliu C., Cardoso B. **Melatonin induces mechanisms of brain resilience against neurodegeneration.** *JOURNAL OF PINEAL RESEARCH.* 65(4):e12515. I.F.: 11.613

2. Alarcon-Aris, Diana; Recasens, Ariadna; Galofre, Mireia; Carballo-Carbajal, Iria; Zacchi, Nicolas; Ruiz-Bronchal, Esther; Pavia-Collado, Ruben; Chica, Rosario; Ferres-Coy, Albert; Santos, Marina; Revilla, Raquel; Montefeltro, Andres; Farinas, Isabel; Artigas, Francesc; Vila, Miguel; Bortolozzi, Analia. **Selective α-Synuclein Knockdown in Monoamine Neurons by Intranasal Oligonucleotide Delivery: Potential Therapy for Parkinson's Disease**. *MOLECULAR THERAPY.* 26(2):550-567. I.F.: 7.008

3. Torra, Albert; Parent, Annabelle; Cuadros, Thais; Rodriguez-Galvan, Beatriz; Ruiz-Bronchal, Esther; Ballabio, Andrea; Bortolozzi, Analia; Vila, Miquel; Bove, Jordi. **Overexpression of TFEB Drives a Pleiotropic Neurotrophic Effect and Prevents Parkinson's Disease-Related Neurodegeneration.** *MOLECULAR THERAPY.* 26(6):1552-1567. I.F.: 7.008

4. Navarro G, Borroto-Escuela D, Angelats E, Etayo Í, Reyes-Resina I, Pulido-Salgado M, Rodríguez-Pérez AI, Canela EI, Saura J, Lanciego JL, Labandeira-García JL, Saura CA, Fuxe K, Franco R. **Receptor-heteromer mediated regulation of endocannabinoid signaling in activated microglia. Role of CB1 and CB2 receptors and relevance for Alzheimer's disease and levodopa-induced dyskinesia.** *BRAIN, BEHAVIOR, AND IMMUNITY.* 67:139-151. I.F.: 6.306

5. Torres-Sanchez S, Perez-Caballero L, Mico JA, Celada P, Berrocoso E. **Effect of Deep Brain Stimulation of the ventromedial prefrontal cortex on the noradrenergic system in rats.** *BRAIN STIMULATION.* 11(1):222-230. I.F.: 6.120

6. Perez-Villalba A., Sirerol-Piquer M., Belenguer G., Soriano-Cantón R., Muñoz-Manchado A., Villadiego J., Alarcón-Arís D., Soria F., Dehay B., Bezard E., Vila M., Bortolozzi A., Toledo-Aral J., Pérez-Sánchez F., Fariñas I. **Synaptic regulator α-synuclein in dopaminergic fibers is essentially required for the maintenance of subependymal neural stem cells.** *JOURNAL OF NEUROSCIENCE.* 38(4):814-825. I.F.: 5.971

7. Mir JF, Zagmutt S, Lichtenstein MP, García-Villoria J, Weber M, Gracia A, Fabriàs G, Casas J, López M, Casals N, Ribes A, Suñol C, Herrero L, Serra D . **Ghrelin Causes a Decline in GABA Release by Reducing Fatty Acid Oxidation in Cortex.** *MOLECULAR NEUROBIOLOGY.* 55(9):7216-7228. I.F.: 5.076

8. Arrifano, Gabriela P. F.; Lichtenstein, Mathieu P.; Souza-Monteiro, Jose Rogerio; Farina, Marcelo; Rogez, Herve; Tavares Carvalho, Jose Carlos; Sunol, Cristina; Crespo-Lopez, Maria Elena. **Clarified Acai (Euterpe oleracea) Juice as an Anticonvulsant Agent: In Vitro Mechanistic Study of GABAergic Targets.** *OXIDATIVE MEDICINE AND CELLULAR LONGEVITY.* 2678089. I.F.: 4.936

9. Millares L, Barreiro E, Cortes R, Martinez-Romero A, Balcells C, Cascante M, Enguita AB, Alvarez C, Rami-Porta R, Sánchez de Cos J, Seijo L, Monsó E, Grupo Colaborativo en Cáncer de Pulmón CIBERES-CIBERONC- SEPAR - Plataforma Biobanco Pulmonar. **Tumor-associated metabolic and inflammatory responses in early stage non-small cell lung cancer: Local patterns and prognostic significance.** *LUNG CANCER.* 122:124-130. I.F.: 4.486

10. Griñán-Ferré C, Izquierdo V, Otero E, Puigoriol-Illamola D, Corpas R, Sanfeliu C, Ortuño-Sahagún D, Pallàs M. **Environmental Enrichment Improves Cognitive Deficits, AD Hallmarks and Epigenetic Alterations Presented in 5xFAD Mouse Model.** *FRONTIERS IN CELLULAR NEUROSCIENCE.* 12:224. I.F.: 4.300

11. Riga M; Lladó-Pelfort L; Artigas F; Celada P. **The serotonin hallucinogen 5-MeO-DMT alters cortico-thalamic activity in freely moving mice: Regionally-selective involvement of 5-HT_{1A} and 5-HT_{2A} receptors.** *NEUROPHARMACOLOGY.* 142:219-230. I.F.: 4.249

12. Mora, Santiago; Merchan, Ana; Vilchez, Olga; Aznar, Susana; Klein, Anders Bue; Ultved, Lene; Campa, Leticia; Sunol, Cristina; Flores, Pilar; Moreno, Margarita. **Reduced cortical serotonin 5-HT2A receptor binding and glutamate activity in high compulsive drinker rats.** *NEUROPHARMACOLOGY.* 143:10-19. I.F.: 4.249

13. Amat-Foraster M, Jensen AA, Plath N, Herrik KF, Celada P, Artigas F. **Temporally dissociable effects of ketamine on neuronal discharge and gamma oscillations in rat thalamo-cortical networks.** *NEUROPHARMACOLOGY.* 137:13-23. I.F.: 4.249

14. Gasull-Camós J, Martínez-Torres S, Tarrés-Gatius M, Ozaita A, Artigas F, Castañé A. **Serotonergic mechanisms involved in antidepressant-like responses evoked by GLT-1 blockade in rat infralimbic cortex.** *NEUROPHARMACOLOGY.* 139:41-51. I.F.: 4.249

15. Pulido-Salgado, Marta; Vidal-Taboada, Jose M.; Garcia-Diaz Barriga, Gerardo; Sola, Carme; Saura, Josep. **RNA-Seq transcriptomic profiling of primary murine microglia treated with LPS or LPS + IFNγ.** *SCIENTIFIC REPORTS.* 8(1):16096. I.F.: 4.122

16. Palomera-Ávalos V., Griñán-Ferré C., Izquierdo V., Camins A., Sanfeliu C., Canudas A., Pallàs M. **Resveratrol modulates response against acute inflammatory stimuli in aged mouse brain.** *EXPERIMENTAL GERONTOLOGY.* 102:3-11. I.F.: 3.224

17. Olguin, Nair; Mueller, Marie-Lena; Rodriguez-Farre, Eduard; Sunol, Cristina. **Neurotransmitter amines and antioxidant agents in neuronal protection against methylmercury-induced cytotoxicity in primary cultures of mice cortical neurons.** *NEUROTOXICOLOGY.* 69:278-287. I.F.: 3.076

18. Lichtenstein MP, Carretero NM, Pérez E, Pulido-Salgado M, Moral-Vico J, Solà C, Casañ-Pastor N, Suñol C. **Biosafety assessment of conducting nanostructured materials by using co-cultures of neurons and astrocytes.** *NEUROTOXICOLOGY.* 68:115-125. I.F.: 3.076

19. Di Pinto G., Di Bari M., Martin-Alvarez R., Sperduti S., Serrano-Acedo S., Gatta V., Tata A., Mengod G. **Comparative study of the expression of cholinergic system components in the CNS of experimental autoimmune encephalomyelitis mice: Acute vs remitting phase**. *EUROPEAN JOURNAL OF NEUROSCIENCE.* 48(5):2165-2181. I.F.: 2.832

Review / I.F.: 13.896

1. Artigas, Francesc; Bortolozzi, Analia; Celada, Pau. **Can we increase speed and efficacy of antidepressant treatments? Part I: General aspects and monoamine-based strategies.** *EUROPEAN NEUROPSYCHOPHARMACOLOGY.* 28(4):445-456. I.F.: 4.129

2. Artigas, F.; Celada, P.; Bortolozzi, A. **Can we increase the speed and efficacy of antidepressant treatments? Part II. Glutamatergic and RNA interference strategies.** *EUROPEAN NEUROPSYCHOPHARMACOLOGY.* 28(4):457-482. I.F.: 4.129

3. Grinan-Ferre, Christian; Corpas, Ruben; Puigoriol-Illamola, Dolors; Palomera-Avalos,

Veronica; Sanfeliu, Coral; Pallas, Merce. **Understanding Epigenetics in the Neurodegeneration of Alzheimer's Disease: SAMP8 Mouse Model.** *JOURNAL OF ALZHEIMER'S DISEASE*. 62(3):943-963. I.F.: 3.476

4. Palacios JM, Mengod G . Receptor visualization and the atomic bomb. **A historical account of the development of the chemical neuroanatomy of receptors for neurotransmitters and drugs during the Cold War.** *JOURNAL OF CHEMICAL NEUROANATOMY*. 88:76-112. I.F.: 2.162

GRANTS FOR RESEARCH IN PROGRESS

Artigas F. **Alteraciones de la corteza infralímbica en depresión: mecanismo de acción de nuevas estrategias antidepresivas.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2015-68346-P
Duration: 01/01/2016-31/12/2019

Bortolozzi A. **Nuevas estrategias terapéuticas para el tratamiento de sinucleinopatías.**
Sponsoredby: Ministerio de Economía y Competitividad (MINECO). RTC-2014-2812-1
Duration: 04/02/2014-30/06/2018

Bortolozzi A. **Sinucleinopatías y oligonucleótidos inhibitorios: rol de alfa y gama sinucleínas en la regulación de la función cognitiva.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2016_75797_R
Duration: 30/12/2016-29/12/2019

Celada MP. **Modulación de circuitos cortico-mesencefálicos y cortico-límbicos por nuevas terapias antidepresivas.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00287
Duration: 01/01/2017-31/12/2019

Mengod G. **¿Están implicados los cambios fenotípicos de las microglía/macrófagos en los efectos beneficiosos de los inhibidores de PDEs del AMPc en la EAE crónica?**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00148
Duration: 01/01/2016-30/06/2019

Sanfeliu C. **Unveiling Soluble Epoxide Hydrolase as a new pharmacological target in Alzheimers disease: focus on inflammation and proteolysis.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF-2016-77703-C2-2-R
Duration: 30/12/2016-29/12/2019

Saura J. **Nanoparticle delivery system for neurodegenerative disorders.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). AC14/00016
Duration: 01/01/2015-30/06/2019

Saura J. **C/EBPs microgliales como potencial diana terapéutica en la enfermedad de Parkinson.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00302
Duration: 01/01/2015-30/06/2019

Solà C. **El sistema CD200-CD200R1 como diana terapéutica y biomarcador en enfermedades neurológicas: la enfermedad de Parkinson.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00033
Duration: 01/01/2016-30/09/2019

Solà C. **Búsqueda de nuevas indicaciones terapéuticas en el ámbito de enfermedades neurodegenerativas y mitocondriales para el compuesto PPAR gamma agonista MIN-102.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). RTC-2017-5867-1
Duration: 01/01/2018-31/12/2019

DOCTORAL THESES

Artigas F (External supervisor). **Modulating NMDA receptors in the thalamo-cortical system. A novel approach to treat major depression.**
PhD student: María Amat Foraster

4.2 Brain ischemia: Clinical and experimental studies

LOCATION
HCB building
IIBB-CSIC labs

KEYWORDS
1. **Brain**
2. **Stroke**
3. **Cerebrovascular diseases**
4. **Neuroinflammation**
5. **Oxidative stress**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	97.32	12	11	1
2017	121.22	21	15	5
2018	165.34	20	17	2

TEAM INVOLVED IN
RED INVICTUSPLUS
AGAUR_SGR17: 00645

TEAM LEADER
Ángel Chamorro (HCB)
T. 93 227 54 00 (Ext.: 2118)
achamorro@clinic.cat

RESEARCHERS
Sergio Amaro (HCB-IDIBAPS)
Carles Justicia (IIBB-CSIC)
Valerie Petegnief (IIBB-CSIC)
Anna Planas (IIBB-CSIC)
Xabier Urra (HCB-IDIBAPS)
Ramon Torné (HCB)

POST-DOCTORAL RESEARCHERS
Francesc Antoni Miró (FCRB)

PRE-DOCTORAL RESEARCHERS
Laura Díaz (IDIBAPS)
Mattia Gallizioli (IIBB-CSIC)
Carlos Laredo (IDIBAPS)
Amaia Ochoa (IIBB-CSIC)
Jordi Pedragosa (IIBB-CSIC)
Salvatore Rudilosso (FCRB)
Yashu Zhao (IDIBAPS-UB)

TECHNICIANS
Francisca Ruiz (IDIBAPS)

ADMINISTRATIVE STAFF
Martha Elena Vargas (HCB-FCRB)

NURSING STAFF
Elisabet Gonzalez (HCB)

COLLABORATORS
Angelica Maria Salas (FCRB)
Laura Llull (FCRB)
Víctor Obach (FCRB)
Arturo Renu (FCRB)

STRATEGIC OBJECTIVES

Study of cerebrovascular pathology from the clinical and basic perspective, with special emphasis on inflammation, immune response, and oxidative stress, as well as on the use of neuroimaging techniques. Translational research integrating experimental models and clinical studies. The ultimate aim is to develop therapeutic strategies in application to stroke.

MAIN LINES OF RESEARCH

Inflammation and immunity in stroke
- Immunological mechanisms in the progression of stroke and infectious complications.
- Cerebral infiltration of myeloid cells and lymphocytes after ischemic stroke: role in brain damage and repair.
- Innate immunity in stroke: the lectin pathway of complement activation.

TEAM Ángel Chamorro

- Inflammatory and immune responses as targets for stroke treatment.
- Gut-brain interaction after stroke.

Vascular damage
- Endothelial damage and blood-brain barrier disruption, after recanalization therapies.
- Hemorrhagic transformation after acute ischemic stroke.
- Brain hemorrhage.
- Vascular dementia.

Brain protection and repair
- Antioxidant treatments in stroke (Uric acid).
- Functional recovery by rehabilitation therapies.

Multimodal neuroimaging in Stroke
- Magnetic resonance imaging (MRI), CT/perfusion, optical imaging techniques.

PUBLICATIONS

Originals / I.F.: 165.345

1. Del Fresno C, Saz-Leal P, Enamorado M, Wculek SK, Martínez-Cano S, Blanco-Menéndez N, Schulz O, Gallizioli M, Miró-Mur F, Cano E, Planas A, Sancho D . **DNGR-1 in dendritic cells limits tissue damage by dampening neutrophil recruitment.** *SCIENCE.* 362(6412):351-356. I.F.: 41.058

2. Campbell, Bruce C. V.; van Zwam, Wim H.; Goyal, Mayank; Menon, Bijoy K.; Dippel, Diederik W. J.; Demchuk, Andrew M.; Bracard, Serge; White, Philip; Davalos, Antoni; Majoie, Charles B. L. M.; van der Lugt, Aad; Ford, Gary A.; Perez de la Ossa, Natalia; Kelly, Michael; Bourcier, Romain; Donnan, Geoffrey A.; Roos, Yvo B. W. E. M.; Bang, Oh Young; Nogueira, Raul G.; Devlin, Thomas G.; van den Berg, Lucie A.; Clarencon, Frederic; Burns, Paul; Carpenter, Jeffrey; Berkhemer, Olvert A.; Yavagal, Dileep R.; Pereira, Vitor Mendes; Ducrocq, Xavier; Dixit, Anand; Quesada, Helena; Epstein, Jonathan; Davis, Stephen M.; Jansen, Olav; Rubiera, Marta; Urra, Xabier; Micard, Emilien; Lingsma, Hester F.; Naggara, Olivier; Brown, Scott; Guillemin, Francis; Muir, Keith W.; van Oostenbrugge, Robert J.; Saver, Jeffrey L.; Jovin, Tudor G.; Hill, Michael D.; Mitchell, Peter J.;HERMES Collaborators. **Effect of general anaesthesia on functional outcome in patients with anterior circulation ischaemic stroke having endovascular thrombectomy versus standard care: a meta-analysis of individual patient data.** *LANCET NEUROLOGY, THE.* 17(1):47-53. I.F.: 27.144

3. Ambrosioni J, Urra X, Hernández-Meneses M, Almela M, Falces C, Tellez A, Quintana E, Fuster D, Sandoval E, Vidal B, Tolosana JM, Moreno A, Chamorro A, Miró JM, Hospital Clínic Infective Endocarditis Study Group . **Mechanical thrombectomy for acute ischemic stroke secondary to infective endocarditis.** *CLINICAL INFECTIOUS DISEASES.* 66(8):1286-1289. I.F.: 9.117

4. Villa A., Klein B., Janssen B., Pedragosa J., Pepe G., Zinnhardt B., Vugts D., Gelosa P., Sironi L., Beaino W., Damont A., Dollé F., Jego B., Winkeler A., Ory D., Solin O., Vercouillie J., Funke U., Laner-Plamberger S., Blomster L., Christophersen P., Vegeto E., Aigner L., Jacobs A., Planas A., Maggi A., Windhorst A. **Identification of new molecular targets for PET imaging of the microglial anti-inflammatory activation state.** *THERANOSTICS.* 8(19):5400-5418. I.F.: 8.537

5. Jiménez-Xarrié E, Pérez B, Dantas AP, Puertas-Umbert L, Martí-Fabregas J, Chamorro Á, Planas AM, Vila E, Jiménez-Altayó F. **Uric Acid Treatment After Stroke Prevents Long-Term Middle Cerebral Artery Remodelling and Attenuates Brain Damage in Spontaneously Hypertensive Rats.** *TRANSLATIONAL STROKE RESEARCH.* :1-16. I.F.: 8.266

6. Miró-Mur F., Laredo C., Renú A., Rudilosso S., Zhao Y., Amaro S., Llull L., Urra X., Planas A., Chamorro Á. **Adrenal hormones and circulating leukocyte subtypes in stroke patients treated with reperfusion therapy.** *BRAIN, BEHAVIOR, AND IMMUNITY.* 70:346-353. I.F.: 6.306

7. Kishore AK, Vail A, Jeans AR, Chamorro A, Di Napoli M, Kalra L, Langhorne P, Roffe C, Westendorp W, Nederkoorn PJ, Garau J, Van de Beek D, Montaner J, Woodhead M, Meisel A, Smith CJ, Pneumonia in Stroke Consensus (PISCES) Group. **Microbiological Etiologies of Pneumonia Complicating Stroke: A Systematic Review.** *STROKE A JOURNAL OF CEREBRAL CIRCULATION.* 49(7):1602-1609. I.F.: 6.239

8. Requena, Manuel; Perez de la Ossa, Natalia; Abilleira, Sonia; Cardona, Pere; Urra, Xabier; Marti-Fabregas, Joan; Rodriguez-Campello, Anna; Boned, Sandra; Rubiera, Marta; Tomasello, Alejandro; Molina, Carlos A.; Ribo, Marc;Catalan Stroke Code Reperfusion. **Predictors of Endovascular Treatment Among Stroke Codes Activated Within 6 Hours From Symptom Onset.** *STROKE: A JOURNAL OF CEREBRAL CIRCULATION.* 49(9):2116-2121. I.F.: 6.239

9. Gelderblom M., Gallizioli M., Ludewig P., Thom V., Arunachalam P., Rissiek B., Bernreuther C., Glatzel M., Korn T., Arumugam T., Sedlacik J., Gerloff C., Tolosa E., Planas A., Magnus T. **IL-23 (Interleukin-23)-producing conventional dendritic cells control the detrimental IL-17 (Interleukin-17) response in stroke.** *STROKE A JOURNAL OF CEREBRAL CIRCULATION.* 49(1):155-164. I.F.: 6.239

10. Salas-Perdomo A, Miró-Mur F, Urra X, Justicia C, Gallizioli M, Zhao Y, Brait VH, Laredo C, Tudela R, Hidalgo A, Chamorro Á, Planas AM . **T Cells Prevent Hemorrhagic Transformation in Ischemic Stroke by P-Selectin Binding.** *ARTERIOSCLEROSIS, THROMBOSIS, AND VASCULAR BIOLOGY.* 38(8):1761-1771. I.F.: 6.086

11. Rudilosso S, Laredo C, Mancosu M, Moya-Planas N, Zhao Y, Chirife O, Chamorro Á, Urra X . **Cerebral perfusion and compensatory blood supply in patients with recent small subcortical infarcts.** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM.* 13:271678X18758548. I.F.: 6.045

12. Pedragosa, Jordi; Salas-Perdomo, Angelica; Gallizioli, Mattia; Cugota, Roger; Miro-Mur, Francesc; Brianso, Ferran; Justicia, Carles; Perez-Asensio, Fernando; Marquez-Kisinousky, Leonardo; Urra, Xabier; Gieryng, Anna; Kaminska, Bozena; Chamorro, Angel; Planas, Anna M. **CNS-border associated macrophages respond to acute ischemic stroke attracting granulocytes and promoting vascular leakage.** *ACTA NEUROPATHOLOGICA COMMUNICATIONS.* 6(76):76. I.F.: 5.414

13. Thammisetty SS, Thammisetty SS, Pedragosa J, Weng YC, Calon F, Calon F, Planas A, Kriz J, Kriz J. **Age-related deregulation of TDP-43 after stroke enhances NF-κB-mediated inflammation and neuronal damage.** *JOURNAL OF NEUROINFLAMMATION.* 15(1):312. I.F.: 5.193

14. García S, Torné R, Hoyos JA, Rodríguez-Hernández A, Amaro S, Llull L, López-Rueda A, Enseñat J. **Quantitative versus qualitative blood amount assessment as a predictor for shunt-dependent hydrocephalus following aneurysmal subarachnoid hemorrhage.**

JOURNAL OF NEUROSURGERY. 21:1-8. I.F.: 4.319

15. Laredo C, Zhao Y, Rudilosso S, Renú A, Pariente JC, Chamorro Á, Urra X . **Prognostic Significance of Infarct Size and Location: The Case of Insular Stroke.** *SCIENTIFIC REPORTS.* 8(1):9498. I.F.: 4.122

16. Romeo-Guitart D, Forés J, Herrando-Grabulosa M, Valls R, Leiva-Rodríguez T, Galea E, González-Pérez F, Navarro X, Petegnief V, Bosch A, Coma M, Mas JM, Casas C. **Neuroprotective Drug for Nerve Trauma Revealed Using Artificial Intelligence.** *SCIENTIFIC REPORTS.* 8(1):1879. I.F.: 4.122

17. Carrera D, Gorchs M, Querol M, Abilleira S, Ribó M, Millán M, Ramos A, Cardona P, Urra X, Rodríguez-Campello A, Prats-Sánchez L, Purroy F, Serena J, Cánovas D, Zaragoza-Brunet J, Krupinski JA, Ustrell X, Saura J, García S, Mora MÀ, Jiménez X, Dávalos A, Pérez de la Ossa N, Catalan Stroke Code and Reperfusion Consortium (Cat-SCR). **Revalidation of the RACE scale after its regional implementation in Catalonia: a triage tool for large vessel occlusion.** *JOURNAL OF NEUROINTERVENTIONAL SURGERY.* 014519. I.F.: 3.526

18. Aliena-Valero, Alicia; Lopez-Morales, Mikahela A.; Burguete, Maria C.; Castello-Ruiz, Maria; Jover-Mengual, Teresa; Hervas, David; Torregrosa, German; Leira, Enrique C.; Chamorro, Angel; Salom, Juan B. **Emergent Uric Acid Treatment is Synergistic with Mechanical Recanalization in Improving Stroke Outcomes in Male and Female Rats.** *NEUROSCIENCE.* 388:263-273. I.F.: 3.382

19. Hong JM, Choi MH, Sohn SI, Hwang YH, Ahn SH, Lee YB, Shin DI, Chamorro Á, Choi DW, on the behalf of the SONIC investigators. **Safety and Optimal Neuroprotection of neu2000 in acute Ischemic stroke with reCanalization: study protocol for a randomized, double-blinded, placebo-controlled, phase-II trial.** *TRIALS.* 19(1):375. I.F.: 2.067

20. Torné R., Reyes L., Rodríguez-Hernández A., Urra X., Sanroman L., Enseñat J. Anatomical **Variations of Brain Venous Sinuses in Patients with Arteriovenous Malformations: Incidental Finding or Causative Factor?** *WORLD NEUROSURGERY.* 113:E465-E470. I.F.: 1.924

Review / I.F.: 12.478

1. Planas, Anna M. **Role of Immune Cells Migrating to the Ischemic Brain.** *STROKE A JOURNAL OF CEREBRAL CIRCULATION.* 49(9):2261-2267. I.F.: 6.239

2. Bernhardt J, Zorowitz RD, Becker KJ, Keller E, Saposnik G, Strbian D, Dichgans M, Dichgans M, Woo D, Reeves M, Thrift A, Kidwell CS, Olivot JM, Goyal M, Pierot L, Bennett DA, Howard G, Ford GA, Goldstein LB, Planas AM, Yenari MA, Yenari MA, Greenberg SM, Pantoni L, Amin-Hanjani S, Tymianski M, Tymianski M, Tymianski M. **Advances in Stroke 2017.** *STROKE A JOURNAL OF CEREBRAL CIRCULATION.* 49(5):e174-e199. I.F.: 6.239

Letters / I.F.: 9.117

1. Ambrosioni J, Urra X, Llopis J, Moreno A, Chamorro A, Miró JM, Hospital Clinic Infective **Endocarditis Investigators. Reply to author.** *CLINICAL INFECTIOUS DISEASES.* 67(7):1146-1147. I.F.: 9.117

Consortium Publications / I.F.: 54.288

1. Bonati, Leo H.; Gregson, John; Dobson, Joanna; McCabe, Dominick J. H.; Nederkoorn, Paul J.; van der Worp, H. Bart; de Borst, Gert J.; Richards, Toby; Cleveland, Trevor; Mueller, Mandy D.; Wolff, Thomas; Engelter, Stefan T.; Lyrer, Philippe A.; Brown, Martin M.;Int Carotid Stenting Study Investi. **Restenosis and risk of stroke after stenting or endarterectomy for symptomatic carotid stenosis in the International Carotid Stenting Study (ICSS): secondary analysis of a randomised trial.** *LANCET NEUROLOGY, THE.* 17(7):587-596. I.F.: 27.144

2. Kasner, Scott E.; Swaminathan, Balakumar; Lavados, Pablo; Sharma, Mukul; Muir, Keith; Veltkamp, Roland; Ameriso, Sebastian F.; Endres, Matthias; Lutsep, Helmi; Messe, Steven R.; Spence, J. David; Nedeltechev, Krassen; Perera, Kanjana; Santo, Gustavo; Olavarria, Veronica; Lindgren, Arne; Shoamanesh, Ashkan; Berkowit, Scott D.; Mundt, Nardi; Connolly, Stuart; Hart, Robert G.;NAVIGATE ESUS Investigators. **Rivaroxaban or aspirin for patent foramen ovale and embolic stroke of undetermined source: a prespecified subgroup analysis from the NAVIGATE ESUS trial.** *LANCET NEUROLOGY, THE.* 17(12):1053-1060. I.F.: 27.144

GRANTS FOR RESEARCH IN PROGRESS

Amaro S, Justicia C. **Blood brain barrier disruption after subarachnoid hemorrhage: clinical relevance, role of hyperglycemia and effect of potentiating endogenous antioxidant mechanisms. A translational study.**
Sponsored by: Fundació la Marató de TV3.
17/C/2017
Duration: 10/07/2018-09/07/2021

Amaro S. **Daño de la pared arterial en el ictus isquémico agudo: detección con RM avanzada, mecanismos subyacentes y valor pronóstico.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00711
Duration: 01/01/2017-31/12/2019

Chamorro A. **The Chemical Optimization of Cerebral Embolectomy (CHOICE) Trial.**
Sponsored by: Fundació la Marató de TV3.
TV3_Ictus_17
Duration: 11/04/2018-10/0/2021

Chamorro A. **Respuesta inmune y estrés oxidativa en la hemorragia cerebral.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00430
Duration: 01/01/2016-18/03/2019

Chamorro A. **Redes Temáticas de Investigación Cooperativa en Salud (RETICS) del Instituto de Salud Carlos III. Red de Enfermedades Vasculares Cerebrales: Red INVICTUSplus.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). RD16/0019/0014
Duration: 01/01/2017-31/12/2021

Chamorro A. CREST2. **Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Trial.**
Sponsored by: National Institutes of Health (NIH). 5U01NS080168-05
Duration: 01/03/2018-28/02/2021

Planas AM. **Grup d'Investigació Cerebrovascular (GICV).**
Sponsored by: Generalitat de Catalunya.
AGAUR_SGR17_00645
Duration: 01/01/2017-31/12/2020

Planas A, Urra X. **Brain-gut cross-talk in stroke: targeting gut barrier dysfunction and immune responses to improve stroke outcome.**
Sponsored by: Fundació la Marató de TV3.
TV3_Ictus_17
Duration: 10/07/2018-09/07/2021

4.3 Parkinson disease and other neurodegenerative movement disorders: clinical and experimental research

LOCATION
HCB building
CELLEX building, floor 3

KEYWORDS
1. **Parkinson disease**
2. **Movement disorders**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	125.66	22	17	1
2017	172.56	29	21	3
2018	137.65	26	18	5

TEAM INVOLVED IN
CIBERNED
AGAUR_SGR17: 01502

TEAM LEADER
M. Josep Martí Domenech (HCB)
T. 93 227 57 85
mjmarti@clinic.cat

EMERITUS
Eduard Tolosa (UB)

RESEARCHERS
Yaroslau Compta (HCB)
Mario Antonio Ezquerra (IDIBAPS)
Rubén Fernández (IDIBAPS)
José Esteban Muñoz (HCB)
Francesc Valldeoriola (HCB)

PRE-DOCTORAL RESEARCHERS
Alicia Garrido (FCRB)
Cèlia Painous (FCRB)
Alejandra Pérez (IDIBAPS)
Lluis Planellas (FCRB)
Almudena Sánchez (HCB-FCRB)
Cristina Simonet (FCRB)

TECHNICIANS
Manel Fernández (IDIBAPS)

ADMINISTRATIVE STAFF
Laura Maragall (CIBER-FCRB)

NURSING STAFF
Ana Cámara (HCB)

STRATEGIC OBJECTIVES

1. Development of research projects with results aimed at impacting in a better diagnosis and treatment of Parkinson Disease (PD) and related neurodegenerative movement disorders.
2. Identification of clinical, molecular and imaging biomarkers specific for the preclinical and prodromal phase of PD, as well as for the motor phase of disease.
3. Recruitment of cohorts of PD patients and subjects at-risk of PD and establishment of biorepositories useful for state-of-the-art research in movement disorders.
4. Identification of clinical, molecular and imaging biomarkers of atypical parkinsonism.

MAIN LINES OF RESEARCH

In 2018 we continued our research on clinical and biological aspects of LRRK2-associated Parkinson's disease (LRRK2-PD) which include results on microRNA alterations in iPSC-derived dopaminergic neurons from LRRK2-PD and sporadic PD, characterization of mitochondrial function in a cell model of LRRK2-PD, a study of candidate genetic modifiers of age at onset in LRRK2-PD. We have described the lack of central and peripheral nervous system synuclein pathology in R1441G LRRK2-PD, unlike the case of G2019S LRRK2 mutations and studies on the traits associated to healthy carriers of LRRK2 mutations. We are currently working towards deepening our knowledge of existing models of PD epigenetic alterations by using iPSC-DAn models and patient blood samples, work on miRNA/RNA prognostic and diagnostic biomarkers in blood, serum and cultured primary fibroblast of parkinsonisms (MSA, idiopathic PD, LRRK2-PD, healthy controls) . We've described increased levels of differentt cytokines in multisystem atrophy (MSA) and observed differences in cerebellum connectivity in MSA compare to parkinson patients. Experiments with the protein cyclic amplification method RTQuIC for synuclein have been initiated in our lab using both CSF and brain tissue. We've also contributed to the International DLB consortium and, in the field of experimental therapeutics described the effects of subthalamic and substantia nigra pars reticulata deep brain stimulation upon the gait of patients with PD.

PUBLICATIONS

Originals / I.F.: 137.65

1. Guerreiro R., Ross O., Kun-Rodrigues C., Hernandez D., Orme T., Eicher J., Shepherd C., Parkkinen L., Darwent L., Heckman M., Scholz S., Troncoso J., Pletnikova O., Ansorge O., Clarimon J., Lleo A., Morenas-Rodriguez E., Clark L., Honig L., Marder K., Lemstra A., Rogaeva E., St George-Hyslop P., Londos E., Zetterberg H., Barber I., Braae A., Brown K., Morgan K., Troakes C., Al-Sarraj S., Lashley T., Holton J., Compta Y., Van Deerlin V., Serrano

G., Beach T., Lesage S., Galasko D., Masliah E., Guerreiro R., Ross O., Kun-Rodrigues C., Hernandez D., Orme T., Eicher J., Shepherd C., Parkkinen L., Darwent L., Heckman M., Scholz S., Troncoso J., Pletnikova O., Ansorge O., Clarimon J., Lleo A., Morenas-Rodriguez E., Clark L., Honig L., Marder K., Lemstra A., Rogaeva E., St George-Hyslop P., Londos E., Zetterberg H. **Investigating the genetic architecture of dementia with Lewy bodies: a two-stage genome-wide association study.** *LANCET NEUROLOGY, THE.* 17(1):64-74. I.F.: 27.144

2. Fernández-Santiago R, Garrido A, Infante J, González-Aramburu I, Sierra M, Fernández M, Valldeoriola F, Muñoz E, Compta Y, Martí MJ, Ríos J, Tolosa E, Ezquerra M, Barcelona LRRK2 Study Group†. **a-synuclein (SNCA) but not dynamin 3 (DNM3) influences age at onset of leucine-rich repeat kinase 2 (LRRK2) Parkinson's disease in Spain.** *MOVEMENT DISORDERS.* 33(4):637-641. I.F.: 8.324

3. Mestre TA, Pont-Sunyer C, Kausar F, Visanji NP, Ghate T, Connolly BS, Gasca-Salas C, Kern DS, Jain J, Slow EJ, Faust-Socher A, Kasten M, Wadia PM, Zadikoff C, Kumar P, de Bie RM, Thomsen T, Lang AE, Schüle B, Klein C, Tolosa E, Marras C . **Clustering of motor and nonmotor traits in leucine-rich repeat kinase 2 G2019S Parkinson's disease nonparkinsonian relatives: A multicenter family study.** *MOVEMENT DISORDERS.* 33(6):960-965. I.F.: 8.324

4. Recasens A, Carballo-Carbajal I, Parent A, Bové J, Gelpi E, Tolosa E, Vila M. **Lack of pathogenic potential of peripheral α-synuclein aggregates from Parkinson's disease patients.** *ACTA NEUROPATHOLOGICA COMMUNICATIONS.* 6(1):8. I.F.: 5.414

5. Stokholm MG, Iranzo A, Østergaard K, Serradell M, Otto M, Bacher Svendsen K, Garrido A, Vilas D, Parbo P, Borghammer P, Santamaria J, Møller A, Gaig C, Brooks DJ, Tolosa E, Pavese N. **Extrastriatal monoaminergic dysfunction and enhanced microglial activation in idiopathic rapid eye movement sleep behaviour disorder.** *NEUROBIOLOGY OF DISEASE.* 115:9-16. I.F.: 5.227

6. Iranzo A, Borrego S, Vilaseca I, Martí C, Serradell M, Sánchez-Valle R, Kovacs GG, Valldeoriola F, Gaig C, Santamaria J, Tolosa E, Gelpi E. **Alpha-synuclein Aggregates in Labial Salivary Glands of Idiopathic Rapid Eye Movement Sleep Behavior Disorder.** SLEEP. 41(8). I.F.: 5.135

7. Kim H, Calatayud C, Guha S, Fernández-Carasa I, Berkowitz L, Carballo-Carbajal I, Ezquerra M, Fernández-Santiago R, Kapahi P, Raya Á, Miranda-Vizuete A, Lizcano JM, Vila M, Caldwell KA, Caldwell GA, Consiglio A, Dalfo E. **The Small GTPase RAC1/CED-10 Is Essential in Maintaining Dopaminergic Neuron Function and Survival Against α-Synuclein-Induced Toxicity.** *MOLECULAR NEUROBIOLOGY.* 55(9):7533-7552. I.F.: 5.076

8. Fernandez Santiago, Ruben y Mario Ezquerra. **MTOR Pathway-Based Discovery of Genetic Susceptibility to L-DOPA-Induced Dyskinesia in Parkinson's Disease Patients.** *MOLECULAR NEUROBIOLOGY.* 56(3):2092-2100. I.F.: 5.076

9. Baggio HC, Abos A, Segura B, Campabadal A, Garcia-Diaz A, Uribe C, Compta Y, Marti MJ, Valldeoriola F, Junque C . **Statistical inference in brain graphs using threshold-free network-based statistics.** *HUMAN BRAIN MAPPING.* 39(6):2289-2302. I.F.: 4.927

10. Compta Y, Giraldo DM, Muñoz E, Antonelli F, Fernández M, Bravo P, Soto M, Cámara A, Torres F, Martí MJ, Catalan MSA Registry (CMSAR). **Cerebrospinal fluid levels of coenzyme Q10 are reduced in multiple system atrophy.** *PARKINSONISM AND RELATED DISORDERS.* 46:16-23. I.F.: 4.721

11. Garcia-Diaz, A. I.; Segura, B.; Baggio, H. C.; Uribe, C.; Campabadal, A.; Abos, A.; Marti, M. J.; Valldeoriola, F.; Compta, Y.; Bargallo, N.; Junque, C. **Cortical thinning correlates of changes in visuospatial and visuoperceptual performance in Parkinson's disease: A 4-year follow-up.** *PARKINSONISM AND RELATED DISORDERS.* 46:62-68. I.F.: 4.721

12. Uribe C., Segura B., Baggio H., Abos A., Garcia-Diaz A., Campabadal A., Marti M., Valldeoriola F., Compta Y., Tolosa E., Junque C. **Cortical atrophy patterns in early Parkinson's disease patients using hierarchical cluster analysis.** *PARKINSONISM AND RELATED DISORDERS.* 50:3-9. I.F.: 4.721

13. Gamez-Valero, Ana; Iranzo, Alex; Serradell, Monica; Vilas, Dolores; Santamaria, Joan; Gaig, Caries; Alvarez, Ramiro; Ariza, Aurelio; Tolosa, Eduardo; Beyer, Katrin. **Glucocerebrosidase gene variants are accumulated in idiopathic REM sleep behavior disorder.** *PARKINSONISM AND RELATED DISORDERS.* 50:94-98. I.F.: 4.721

14. Borm CDJM, Krismer F, Wenning GK, Seppi K, Poewe W, Pellecchia MT, Barone P, Johnsen EL, Østergaard K, Gurevich T, Djaldetti R, Sambati L, Cortelli P, Petrovi? I, Kosti? VS, Brožová H, R?ži?ka E, Marti MJ, Tolosa E, Canesi M, Post B, Nonnekes J, Bloem BR, European MSA Study Group (EMSA-SG). **Axial motor clues to identify atypical parkinsonism: A multicentre European cohort study.** *PARKINSONISM AND RELATED DISORDERS.* 56:33-40. I.F.: 4.721

15. González-Casacuberta I, Morén C, Juárez-Flores DL, Esteve-Codina A, Sierra C, Catalán-García M, Guitart-Mampel M, Tobías E, Milisenda JC, Pont-Sunyer C, Martí MJ, Cardellach F, Tolosa E, Artuch R, Ezquerra M, Fernández-Santiago R, Garrabou G. **Transcriptional alterations in skin fibroblasts from Parkinson's disease patients with parkin mutations.** *NEUROBIOLOGY OF AGING.* 65:206-216. I.F.: 4.454

16. Tolosa E, Botta-Orfila T, Morató X, Calatayud C, Ferrer-Lorente R, Martí MJ, Fernández M, Gaig C, Raya Á, Consiglio A, Ezquerra M, Fernández-Santiago R. **MicroRNA alterations in iPSC-derived dopaminergic neurons from Parkinson disease patients.** *NEUROBIOLOGY OF AGING.* 69:283-291. I.F.: 4.454

17. Razquin C., Ortega-Cubero S., Rojo-Bustamante E., Diez-Fairen M., Lorenzo E., Alonso E., Ezquerra M., Ross O., Carcel M., Lorenzo-Betancor O., Soto A., Burgess J., Ertekin-Taner N., Dickson D., Pastor M., Tolosa E., Pastor P. **Target-enriched sequencing of chromosome 17q21.31 in sporadic tauopathies reveals no candidate variants.** *NEUROBIOLOGY OF AGING.* 66(177):e7-e10. I.F.: 4.454

18. Juárez-Flores DL, González-Casacuberta I, Ezquerra M, Bañó M, Carmona-Pontaque F, Catalán-García M, Guitart-Mampel M, Rivero JJ, Tobias E, Milisenda JC, Tolosa E, Marti MJ, Fernández-Santiago R, Cardellach F, Morén C, Garrabou G. **Exhaustion of mitochondrial and autophagic reserve may contribute to the development of LRRK2 G2019S**

-Parkinson's disease. *JOURNAL OF TRANSLATIONAL MEDICINE*. 16(1):160-160. I.F.: 4.197

19. Uribe C., Segura B., Baggio H., Abos A., Garcia-Diaz A., Campabadal A., Marti M., Valldeoriola F., Compta Y., Bargallo N., Junque C. **Gray/White matter contrast in Parkinson's disease.** *FRONTIERS IN AGING NEUROSCIENCE*. 10(3):89. I.F.: 3.582

20. Uribe, Carme; Segura, Barbara; Baggio, Hugo C.; Campabadal, Anna; Abos, Alexandra; Compta, Yaroslau; Jose Marti, Maria; Valldeoriola, Francesc; Bargallo, Nuria; Junque, Carme. **Differential Progression of Regional Hippocampal Atrophy in Aging and Parkinson's Disease.** *FRONTIERS IN AGING NEUROSCIENCE*. 10(10):325. I.F.: 3.582

21. Fernández-Arcos A., Vilaseca I., Aldecoa I., Serradell M., Tolosa E., Santamaría J., Gelpi E., Iranzo A. **Alpha-synuclein aggregates in the parotid gland of idiopathic REM sleep behavior disorder.** *SLEEP MEDICINE*. 52:14-17. I.F.: 3.395

22. Müller T, Tolosa E, Badea L, Asgharnejad M, Grieger F, Markowitz M, Nondonfaz X, Bauer L, Timmermann L. **An observational study of rotigotine transdermal patch and other currently prescribed therapies in patients with Parkinson's disease.** *JOURNAL OF NEURAL TRANSMISSION*. 125(6):953-963. I.F.: 2.779

23. Garcia-Diaz AI, Segura B, Baggio HC, Marti MJ, Valldeoriola F, Compta Y, Bargallo N, Uribe C, Campabadal A, Abos A, Junque C . **Structural Brain Correlations of Visuospatial and Visuoperceptual Tests in Parkinson's Disease.** *JOURNAL OF THE INTERNATIONAL NEUROPSYCHOLOGICAL SOCIETY : JINS*. 24(1):33-44. I.F.: 2.777

24. Santos-García D, Catalán MJ, Puente V, Valldeoriola F, Regidor I, Mir P, Matías-Arbelo J, Parra JC, Grandas F. **Continuous intestinal infusion of levodopa-carbidopa in patients with advanced Parkinson's disease in Spain: Subanalysis by autonomous community**. *NEUROLOGIA*. S0213-4853(17):30374-2. I.F.: 1.938

25. Valldeoriola F., Grandas F., Arbelo J., Blázquez Estrada M., Calopa Garriga M., Campos-Arillo V., Garcia Ruiz P., Gómez Esteban J., Leiva Santana C., Martínez Castrillo J., Mir P., Salvador Aliaga A., Vivancos Matellano F., Yáñez Baña R. **Spanish expert consensus on the use of safinamide in Parkinson's disease.** *NEUROLOGIA*. S0213-4853(18):30172-5. I.F.: 1.938

26. Valldeoriola F; Salvador A; Gómez-Arguelles J; Marey J; Moya M; Ayuga Á; Ramirez F. **The effects of transdermal rotigotine on non-motor symptoms of Parkinson's disease: a multicentre, observational, retrospective, post-marketing study.** *INTERNATIONAL JOURNAL OF NEUROSCIENCE*. 128(4):369-375. I.F.: 1.848

Review / I.F.: 11.476

1. Fabbri M, Ferreira JJ, Lees A, Stocchi F, Poewe W, Tolosa E, Rascol O . **Opicapone for the treatment of Parkinson's disease: A review of a new licensed medicine.** *MOVEMENT DISORDERS*. 33(10):1528-1539. I.F.: 8.324

2. Lopez-Gonzalez Del Rey, Natalia; Quiroga-Varela, Ana; Garbayo, Elisa; Carballo-Carbajal, Iria; Fernandez-Santiago, Ruben; Monje, Mariana H. G.; Trigo-Damas, Ines; Blanco-Prieto, Maria J.; Blesa, Javier. **Advances in Parkinson's disease: 200 years later.** *FRONTIERS IN NEUROANATOMY*. 12:113. I.F.: 3.152

Letters / I.F.: 24.711

1. Vilas D, Gelpi E, Aldecoa I, Grau O, Rodriguez-Diehl R, Jaumà S, Martí MJ, Tolosa E. **Lack of central and peripheral nervous system synuclein pathology in R1441G LRRK2-associated Parkinson's disease.** *JOURNAL OF NEUROLOGY NEUROSURGERY AND PSYCHIATRY*. 318473(7):832-+. I.F.: 7.144

2. Borrego-Ecija, Sergi; Grau-Rivera, Oriol; Colom-Cadena, Marti; Luis Molinuevo, Jose; Tolosa, Eduard; Sanchez-Valle, Raquel; Gelpi, Ellen. **Tauopathy with Hippocampal 4-Repeat Tau Immunoreactive Spherical Inclusions in a Patient with PSP.** *BRAIN PATHOLOGY*. 28(2):284-286. I.F.: 6.187

3. Valldeoriola F. **Simultaneous low-frequency deep brain stimulation of the substantia nigra pars reticulata and high-frequency stimulation of the subthalamic nucleus to treat levodopa unresponsive freezing of gait in Parkinson's disease: A pilot study.** *PARKINSONISM & RELATED DISORDERS*. S1353-8020(18):30537-6. I.F.: 4.721

4. Compta Y., Muñoz E., Martí M.. Ubiquinone, ubiquinol, 4-hydroxybenzoic acid... **What 'coenzyme Q10' should we care about in multiple system atrophy?** *PARKINSONISM AND RELATED DISORDERS*. 50:117-118. I.F.: 4.721

5. Rodríguez-Vázquez A, Vicente-Pascual M, Mayà-Casalprim G, Valldeoriola F. **Neuroimaging in hypoglycaemic encephalopathy diagnosis and prognosis: A case report.** *NEUROLOGIA*. S0213-4853(17):30363-8. I.F.: 1.938

Editorial / I.F.: 4.721

1. Markopoulou K., Compta Y. **Cerebrospinal fluid levels of alpha-synuclein in PARKINSON'S disease: Another long and winding road**. *PARKINSONISM AND RELATED DISORDERS*. 49:1-3. I.F.: 4.721

Consortium Publications / I.F.: 74.851

1. Kia DA, Sabir MS, Ahmed S, Trinh J, Bandres-Ciga S; International Parkinson's Disease Genomics Consortium. **LRP10 in alpha-synucleinopathies**. *LANCET NEUROLOGY, THE*. 17(12):1032-1032. I.F.: 27.144

2. Guerreiro R, Orme T, Neto JL, Bras J; International DLB Genetics Consortium. **LRP10 in α-synucleinopathies.** *LANCET NEUROLOGY, THE*. 17(12):1033-1034. I.F.: 27.144

3. Blauwendraat, Cornelis; Reed, Xylena; Kia, Demis A.; Gan-Or, Ziv; Lesage, Suzanne; Pihistrom, Lasse; Guerreiro, Rita; Gibbs, J. Raphael; Sabir, Marya; Ahmed, Sarah; Ding, Jinhui; Alcalay, Roy N.; Hassin-Baer, Sharon; Pittman, Alan M.; Brooks, Janet; Edsall, Connor; Hernandez, Dena G.; Chung, Sun Ju; Goldwurm, Stefano; Toft, Mathias; Schulte, Claudia; Bras, Jose; Wood, Nicholas W.; Brice, Alexis; Morris, Huw R.; Scholz, Sonja W.; Nalls, Mike A.; Singleton, Andrew B.; Cookson, Mark R.;COURAGE-PD Comprehensive Unbiased; French Parkinsons Dis Consortium; IPDGC. **Frequency of Loss of Function Variants in LRRK2 in Parkinson Disease.** *JAMA NEUROLOGY*. 75(11):1416-1422. I.F.: 11.460

4. Marek K, Chowdhury S, Siderowf A, Lasch S, Coffey CS, Caspell-Garcia C, Simuni T, Jennings D, Tanner CM, Trojanowski JQ, Shaw LM, Seibyl J, Schuff N, Singleton A, Kieburtz K, Toga AW, Mollenhauer B, Galasko D, Chahine LM, Weintraub D, Foroud T, Tosun-Turgut D, Poston K, Arnedo V, Frasier M, Sherer T, Parkinson's Progression Markers Initiative. **The Parkinson's progression markers initiative (PPMI) - establishing a PD biomarker cohort.** *ANNALS OF CLINICAL AND TRANSLATIONAL NEUROLOGY*. 5(12):1460-1477. I.F.: 4.649

5. Blauwendraat C, Kia DA, Pihlstrøm L, Gan-Or Z, Lesage S, Gibbs JR, Ding J, Alcalay RN, Hassin-Baer S, Pittman AM, Brooks J, Edsall C, Chung SJ, Goldwurm S, Toft M, Schulte C; International Parkinson's Disease Genomics Consortium (IPDGC), COURAGE-PD Consortium, Hernandez D, Singleton AB, Nalls MA, Brice A, Scholz SW, Wood NW. **Insufficient evidence for pathogenicity of SNCA His50Gln (H50Q) in Parkinson's disease.** *NEUROBIOLOGY OF AGING*. 64:159.e5-159.e8. I.F.: 4.454

GRANTS FOR RESEARCH IN PROGRESS

Compta Y, Marti MJ. **Amplificación de autoagregación de alfa-sinucleina y 4R-tau en tejido cerebral y liquido cerebroespinal mediante RTQuIC como biomarcador diferencial de parkinsonismos degenerativos.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00096
Duration: 01/01/2018-31/12/2020

Compta Y. **FAIR-PARK-II: Conservative iron chelation as a disease-modifying strategy in Parkinsons disease: a multicentric parallel-group,placebo-controlled, randomized clinical trial of deferiprone.**
Sponsored by: European commission. H2020-PHC-2014-2s (633190)
Duration: 01/05/2015-30/04/2020

Ezquerra M. **MicroRNAs as biomarker of conversion of REM behaviour disorder to Parkinson's disease.**
Sponsored by: Fundación Tatiana Pérez de Guzmán el Bueno. 16_PROY03
Duration: 23/11/2016-22/11/2019

Ezquerra M. **Epigenetic analysis of iPSC-derived dopaminergic neurons and blood cells in Parkinson disease.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00426
Duration: 01/01/2015-31/12/2018

Fernández Santiago R. **The beginnings of Parkinson Disease: a study of early disease mechanisms in a humanized in-vitro model.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). SAF2015_73508_JIN
Duration: 01/01/2017-31/12/2019

Fernández Santiago R. **MicroRNAs AS biomarkers of the prodromal stage of parkinson disease. Expansion of microrna findings to ashkenazi jew pd cohorts.**
Sponsored by: Michael J. Fox Foundation for Parkinson (MJFF). 11159.01
Duration: 01/01/2017-31/12/2019

Martí MJ. **Catalan Network of Multiple System Atrophy: Biomarkers and Pathophysiology.**
Sponsored by: Fundació Marató TV3. Neuro_14
Duration: 03/06/2015-31/12/2018

Martí MJ. **Parkinson and other Neurodegenerative Movement Disorders: Clinical and Experimental Research.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_01502
Duration: 01/01/2017-31/12/2020

Martí MJ. **Identification of pathophysiological pathways and candidate biomarkers in the prediagnostic phase of Parkinson's disease.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). CIBERNED
Period: 02/03/2016-01/03/2018

Martí MJ. **The Parkinson's Progression Markers Initiative (PPMI).**
Sponsored by: Michael J. Fox Foundation for Parkinson (MJFF). 041396
Duration: 06/11/2013-31/12/2023

Martí MJ. **LRRK2 peripheral blood mononuclear cells and urine bisample collection.**
Sponsored by: Michael J. Fox Foundation for Parkinson (MJFF). 11849
Duration: 08/03/2016-31/12/2018

Martí MJ. **FTF SPAIN 18: Fox Trial Finder Spain.**
Sponsored by: Michael J. Fox Foundation for Parkinson (MJFF). 11937.02
Duration: 01/01/2018-31/12/2018

Martí MJ. **Design of novel therapeutic agents against pathogenic α-synuclein aggregation in Parkinson's disease.**
Sponsored by: Centre for Networked Biomedical Research on Bioengineering, Biomaterials and Nanomedicine (CIBER-BBN)
Duration: 15/03/2017-30/10/2019

4.4 Neurophysiology and functional studies of the nervous system

LOCATION
HCB building
UB Medical School

WEB
www.ub.edu/neurofisiologia

KEYWORDS
1. **Neurophysiology**
2. **Sleep**
3. **Neuropathic pain**
4. **Motor control and sensorimotor integration**
5. **Epilepsy**
6. **Glutamate receptors**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	129.87	28	15	8
2017	123.29	20	15	2
2018	125.84	24	17	7

TEAM INVOLVED IN
OFTARED
CIBERNED

TEAM LEADER
Alejandro Iranzo (HCB)
T. 93 227 54 13
airanzo@clinic.cat

GROUP LEADER
Xavier Gasull (UB)
T. 93 402 45 19
xgasull@ub.edu

EMERITUS
Josep Valls (HCB)

RESEARCHERS
Maria del Mar Carreño (HCB)
Jordi Casanova (HCB)
Antonio Jesús Donaire (HCB)
Carles Gaig (HCB)
Joan Santamaria (HCB)
Arcadi Gual (UB)
David Soto (UB)

POST-DOCTORAL RESEARCHERS
Aida Castellanos (IDIBAPS)
Núria Comes (UB)
Esther Gratacós-Batlle (UB)

PRE-DOCTORAL RESEARCHERS
Estefanía Conde (FCRB)
Lilia Correa (UB)
Francisco Gil (HCB)
Lenin Alejandro Reyes (UB)
Alba Andrés-Bilbé (UB)
Federico Miguez-Cabello (UB)
Anna Pujol (IDIBAPS)
Nuria Sánchez-Fernández (UB)
Andreea Larisa Turcu (UB)

TECHNICIANS
Sara Abelló (UB)

ADMINISTRATIVE STAFF
Mònica Serradell (FCRB)

NURSING STAFF
Isabel Manzanares (HCB)

COLLABORATORS
Judith Navarro (HCB)
Ana Tercero (HCB)
Jordi Palés (UB)

STRATEGIC OBJECTIVES

Our goal is to expand on scientific knowledge of functional aspects of the nervous system, with maximum integration of basic and clinical aspects, fundamentally using neurophysiological techniques. Key words of our research include motor control, sensory perception, pain, sleep, epilepsy, neuronal excitability, ion channels, dry eye and glaucoma.

TEAM Josep Valls Solé

MAIN LINES OF RESEARCH

Sleep and sleep disorders.
A clinical and electrophysiological assessment of normal sleep in humans and of sleep disorders including the anti-IgLON5 disease, REM sleep behavior disorder, parasomnias, narcolepsy, sleep apnea, insomnia, and restless legs syndrome.

Neuropathic pain.
Electrophysiological evaluation of the neuropathic pain using nociceptive evoked potentials and other tools including the startle reaction. Characterization of ion channels involved in neuronal excitability. Study of sensory transduction and the generation of inflammatory and neuropathic pain.

Motor control.
Assessment of the motor control in healthy subjects and in patients with neurological diseases using acoustic and somatosensorial stimuli and prepulse.

Epilepsy.
Characterization of the epileptogenic activity and the surgical and medical therapy of the refractory epilepsy using functional MRI, video-EEG and epidural assessment.

Ocular pathophysiology.
Physiology of aqueous humour drainage and physiopathology of glaucoma. Ocular pathology in aging. Physiology of the ocular trabecular meshwork. Physiopathology of dry eye.

Glutamatergic neurotransmission.
Role of glutamate receptors and new accessory proteins. Role of mutations in these proteins producing neurological diseases.

RESEARCH GROUP NEUROPHYSIOLOGY

GROUP LEADER
Xavier Gasull (UB)

Within the field of neurophysiology, the group is interested in establishing the role of different ion channels implicated in shaping the excitability of sensory neurons of the dorsal root and trigeminal ganglia, and determining which alterations occur during inflammatory and neuropathic pain states. We are especially interested on ocular pain after inflammation, injury or dry eye disease. On the other hand, in trabecular cells that regulate aqueous humor flow in the eye and intraocular pressure, we are exploring the role of ion channels that regulate contraction, shape and cell volume and how this is related to the physiopathology of glaucoma. Another research area of the group is glutamatergic signaling, studying the functional interaction between AMPARs, auxiliary subunits and other interacting proteins, which determine this glutamate receptor function at the synapse. Also, the role of mutations in NMDA receptors that produce neurological diseases is studied.

PUBLICATIONS

Originals / I.F.: 125.841

1. Haselmann H, Mannara F, Werner C, Planagumà J, Miguez-Cabello F, Schmidl L, Grünewald B, Petit-Pedrol M, Kirmse K, Classen J, Demir F, Klöcker N, Soto D, Doose S, Dalmau J, Hallermann S, Geis C. **Human Autoantibodies against the AMPA Receptor Subunit GluA2 Induce Receptor Reorganization and Memory Dysfunction.** *NEURON.* 100(1):91-105. I.F.: 14.319

2. Petit-Pedrol M., Sell J., Planagumà J., Mannara F., Radosevic M., Haselmann H., Ceanga M., Sabater L., Spatola M., Soto D., Gasull X., Dalmau J., Geis C. **LGI1 antibodies alter Kv1.1 and AMPA receptors changing synaptic excitability, plasticity and memory.** *BRAIN; A JOURNAL OF NEUROLOGY.* 141(11):3144-3159. I.F.: 10.848

3. Perissinotti A., Niñerola-Baizán A., Rubí S., Carreño M., Marti-Fuster B., Aparicio J., Mayoral M., Donaire A., Sanchez-Izquierdo N., Bargalló N., Rumiá J., Boget T., Pons F., Lomeña F., Ros D., Pavía J., Setoain X. **PISCOM: a new procedure for epilepsy combining ictal SPECT and interictal PET.** *EUROPEAN JOURNAL OF NUCLEAR MEDICINE AND MOLECULAR IMAGING.* 45(13):2358-2367. I.F.: 7.704

4. Ramos-Vicente, David; Ji, Jie; Gratacos-Batlle, Esther; Gou, Gemma; Reig-Viader, Rita; Luis, Javier; Burguera, Demian; Navas-Perez, Enrique; Garcia-Fernandez, Jordi; Fuentes-Prior, Pablo; Escriva, Hector; Roher, Nerea; Soto, David; Bayes, Alex. **Metazoan evolution of glutamate receptors reveals unreported phylogenetic groups and divergent lineage-specific events.** *ELIFE.* 7:e35774. I.F.: 7.616

5. Ramos-Perdigués S., Baillés E., Mané A., Carreño M., Donaire A., Rumià J., Bargalló N., Boget T., Setoain X., Valdés M., Pintor L. **Psychiatric Symptoms in Refractory Epilepsy During the First Year After Surgery.** *NEUROTHERAPEUTICS.* 15(4):1082-1092. I.F.: 5.719

6. Castellanos A, Andres A, Bernal L, Callejo G, Comes N, Gual A, Giblin JP, Roza C, Gasull. **Pyrethroids inhibit K2P channels and activate sensory neurons: basis of insecticide-induced paraesthesias.** *PAIN.* 159(1):92-105. I.F.: 5.559

7. Stokholm MG, Iranzo A, Østergaard K, Serradell M, Otto M, Bacher Svendsen K, Garrido A, Vilas D, Parbo P, Borghammer P, Santamaria J, Møller A, Gaig C, Brooks DJ, Tolosa E, Pavese N. **Extrastriatal monoaminergic dysfunction and enhanced microglial activation in idiopathic rapid eye movement sleep behaviour disorder.** *NEUROBIOLOGY OF DISEASE.* 115:9-16. I.F.: 5.227

8. Elorza-Vidal X, Sirisi S, Gaitán-Peñas H, Pérez-Rius C, Alonso-Gardón M, Armand-Ugón M, Lanciotti A, Brignone MS, Prat E, Nunes V, Ambrosini E, Gasull X, Estévez R . **GlialCAM/MLC1 modulates LRRC8/VRAC currents in an indirect manner: Implications for megalencephalic leukoencephalopathy.** *NEUROBIOLOGY OF DISEASE.* 119:88-99. I.F.: 5.227

9. Iranzo A, Borrego S, Vilaseca I, Martí C, Serradell M, Sánchez-Valle R, Kovacs GG, Valldeoriola F, Gaig C, Santamaria J, Tolosa E, Gelpi E. **Alpha-synuclein Aggregates in Labial Salivary Glands of Idiopathic Rapid Eye Movement Sleep Behavior Disorder.** *SLEEP.* 41(8). I.F.: 5.135

10. Pizza F, Antelmi E, Vandi S, Meletti S, Erro R, Baumann CR, Bhatia KP, Dauvilliers Y, Edwards MJ, Iranzo A, Overeem S, Tinazzi M, Liguori R, Plazzi G . **The Distinguishing Motor Features of Cataplexy: A Study from Video Recorded Attacks.** *SLEEP.* 41(5). I.F.: 5.135

11. Stefani A, Heidbreder A, Brandauer E, Guaita M, Neier LM, Mitterling T, Santamaria J,

Iranzo A, Videnovic A, Trenkwalder C, Sixel-Döring F, Wenning GK, Chade A, Poewe W, Gershanik OS, Högl B . **Screening for idiopathic REM sleep behavior disorder: usefulness of actigraphy.** *SLEEP*. 41(6). I.F.: 5.135

12. Villanueva V, Montoya J, Castillo A, Mauri-Llerda JÁ, Giner P, López-González FJ, Piera A, Villanueva-Hernández P, Bertol V, Garcia-Escrivá A, Garcia-Peñas JJ, Garamendi I, Esteve-Belloch P, Baiges-Octavio JJ, Miró J, Falip M, Garcés M, Gómez A, Gil-López FJ, Carreño M, Rodriguez-Uranga JJ, Campos D, Bonet M, Querol R, Molins A, Tortosa D, Salas-Puig J . **Perampanel in routine clinical use in idiopathic generalized epilepsy: The 12-month GENERAL study.** *EPILEPSIA*. 59(9):1740-1752. I.F.: 5.067

13. Gamez-Valero, Ana; Iranzo, Alex; Serradell, Monica; Vilas, Dolores; Santamaria, Joan; Gaig, Caries; Alvarez, Ramiro; Ariza, Aurelio; Tolosa, Eduardo; Beyer, Katrin. **Glucocerebrosidase gene variants are accumulated in idiopathic REM sleep behavior disorder.** *PARKINSONISM AND RELATED DISORDERS*. 50:94-98. I.F.: 4.721

14. Martin-Trias P., Lanteaume L., Solana E., Cassé-Perrot C., Fernández-Cabello S., Babiloni C., Marzano N., Junqué C., Rossini P., Micallef J., Truillet R., Charles E., Jouve E., Bordet R., Santamaria J., Jovicich J., Rossi S., Pascual-Leone A., Blin O., Richardson J., Bartrés-Faz D. **Adaptability and reproducibility of a memory disruption rTMS protocol in the PharmaCog IMI European project.** *SCIENTIFIC REPORTS*. 8(1):9371. I.F.: 4.122

15. Zhang Z, Mayer G, Dauvilliers Y, Plazzi G, Pizza F, Fronczek R, Santamaria J, Partinen M, Overeem S, Peraita-Adrados R, da Silva AM, Sonka K, Rio-Villegas RD, Heinzer R, Wierzbicka A, Young P, Högl B, Bassetti CL, Manconi M, Feketeova E, Mathis J, Paiva T, Canellas F, Lecendreux M, Baumann CR, Barateau L, Pesenti C, Antelmi E, Gaig C, Iranzo A, Lillo-Triguero L, Medrano-Martínez P, Haba-Rubio J, Gorban C, Luca G, Lammers GJ, Khatami R. **Exploring the clinical features of narcolepsy type 1 versus narcolepsy type 2 from European Narcolepsy Network database with machine learning.** *SCIENTIFIC REPORTS*. 8(1):10628. I.F.: 4.122

16. Gratacos-Batlle, Esther; Olivella, Mireia; Sanchez-Fernandez, Nuria; Yefimenko, Natalia; Miguez-Cabello, Federico; Fado, Rut; Casals, Nuria; Gasull, Xavier; Ambrosio, Santiago; Soto, David. **Mechanisms of CPT1C-Dependent AMPAR Trafficking Enhancement.** *FRONTIERS IN MOLECULAR NEUROSCIENCE*. 11:275. I.F.: 3.902

17. Cano-López I, Calvo A, Boget T, Carreño M, Donaire A, Setoain X, Pintor L, Rumià J, González-Bono E, Junqué C, Bargalló N. **Typical asymmetry in the hemispheric activation during an fMRI verbal comprehension paradigm is related to better performance in verbal and non-verbal tasks in patients with epilepsy.** *NEUROIMAGE: CLINICAL*. 20:742-752. I.F.: 3.869

18. Yagüe S., Veciana M., Casasnovas C., Ruiz M., Pedro J., Valls-Solé J., Pujol A. **Evaluation of afferent pain pathways in adrenomyeloneuropathic patients.** *CLINICAL NEUROPHYSIOLOGY*. 129(3):507-515. I.F.: 3.614

19. Tió E, Gaig C, Giner-Soriano M, Romero O, Jurado MJ, Sansa G, Pujol M, Sans O, Álvarez-Guerrico I, Caballol N, Jimenez M, Becerra JL, Escartin A, Monasterio C, Molins A, Bove A, Viña J, Iranzo A, Cambrodi R, Calvo G, Morros R, Santamaria J. **The prevalence of narcolepsy in Catalunya (Spain).** *JOURNAL OF SLEEP RESEARCH*. 27(5):e12640. I.F.: 3.433

20. Fernandez-Arcos, Ana; Vilaseca, Isabel; Aldecoa, Iban; Serradell, Monica; Tolosa, Eduard; Santamaria, Joan; Gelpi, Ellen; Iranzo, Alex. **Alpha-synuclein aggregates in the parotid gland of idiopathic REM sleep behavior disorder.** *SLEEP MEDICINE*. 52:14-17. I.F.: 3.395

21. Iranzo A, Stefani A, Högl B, Santamaria J, SINBAR. **The insomnia of Franz Kafka.** *SLEEP MEDICINE*. 50:24-28. I.F.: 3.395

22. Gil-López FJ, Montoya J, Falip M, Aparicio J, López-González FJ, Toledano R, Gil-Nagel A, Molins A, García I, Serrano P, Domenech G, Torres F, Donaire A, Carreño M . **Retrospective study of perampanel efficacy and tolerability in myoclonic seizures.** *ACTA NEUROLOGICA SCANDINAVICA*. 138(2):122-129. I.F.: 3.126

23. Leote J, Castellote JM, Casanova-Molla J, Navarro-Otano J, Nunes RG, Ferreira HA, Valls-Sole J. **Motor preparation in picture naming tasks**. *BRAIN AND LANGUAGE*. 180-182:24-30. I.F.: 2.851

24. Rocamora R., Ley M., Molins A., Toledo M., Sansa G., Bertol V., Becerra J., Carreño M., Mauri J. **Effect of lacosamide on depression and anxiety symptoms in patients with focal refractory epilepsy: A prospective multicenter study.** *EPILEPSY AND BEHAVIOR*. 79:87-92. I.F.: 2.600

Review / I.F.: 22.592

1. Dauvilliers, Yves; Schenck, Carlos H.; Postuma, Ronald B.; Iranzo, Alex; Luppi, Pierre-Herve; Plazzi, Giuseppe; Montplaisir, Jacques; Boeve, Bradley. **REM sleep behaviour disorder.** *NATURE REVIEWS DISEASE PRIMERS*. 4(1):19. I.F.: 16.071

2. Gaig, Carles; Iranzo, Alex; Santamaria, Joan; Graus, Francesc. **The Sleep Disorder in Anti-IgLON5 Disease.** *CURRENT NEUROLOGY AND NEUROSCIENCE REPORTS*. 18(7):41. I.F.: 3.478

3. Iranzo, Alex. **The REM sleep circuit and how its impairment leads to REM sleep behavior disorder.** *CELL AND TISSUE RESEARCH*. 373(1):245-266. I.F.: 3.043

Letters / I.F.: 3.395

1. Iranzo A, Stefani A, Högl B, Santamaria J, SINBAR. **Kafkas' insomnia and narrative works.** *SLEEP MEDICINE*. 52:233-233. I.F.: 3.395

Editorial / I.F.: 1.015

1. Valls-Solé J. **Challenges in the diagnosis and treatment of small fiber neuropathies.** *ARQUIVOS DE NEURO-PSIQUIATRIA*. 76(3):129-130. I.F.: 1.015

GRANTS FOR RESEARCH IN PROGRESS

Carreño MM. **Validación de la resonancia funcional en reposo y tractografía para la lateralización del lenguaje en pacientes epilépticos.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/01211
Duration: 01/01/2018-31/12/2020

Carreño MM. **Eficacia y seguridad de la estimulación trigeminal externa como tratamiento de la epilepsia resistente a fármacos.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI13/00509
Duration: 01/01/2014-30/06/2018

Casanova-Molla J. **Caracterización del daño axonal en la neuropatía por quimioterapia: perfil temporal de la degeneración y regeneración axonal y su repercusión en los diferentes sistemas funcionales.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI 16/00984
Duration: 01/01/2017-31/12/2019

Gasull X. **Bases neurofisiológicas del picor y dolor crónico: canales iónicos en neuronas sensoriales implicados en enfermedades inflamatorias y oculares.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00296
Duration: 01/01/2018-31/12/2020

Gasull X. **RETIC Oftared: Prevencion, deteccion precoz, tratamiento y rehabilitacion de las patologias oculares.**
Sponsored by: Instituto de Salud Carlos III. RD16/0008/0014
Duration: 01/01/2017-31/12/2021

Iranzo A. **Detección in-vivo de alfa-sinucleina en biopsia de glándulas salivares menores en pacientes con trastorno de conducta del sueño REM, como modelo premotor de la enfermedad de Parkinson.**
Sponsored by: Instituto De Salud Carlos III (ISCIII). PI16/01050
Duration: 01/01/2017-31/12/2019

Soto D. **Estudio funcional del proteoma de los receptores AMPA .**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). BFU2017-83317-P
Duration: 01/01/2018-31/12/2020

DOCTORAL THESES

Iranzo A. **Caracterización clínica, polisomnografica y evolutiva del trastorno de conducta de sueño Rem Idiopático.**
PhD student: Ana Fernandez Arcos

4.5 Muscle research and mitochondrial function

LOCATION
CELLEX building, floor 4B Faculty of Medicine and Health Sciences University of Barcelona

KEYWORDS
1. **Muscle**
2. **Mitochondria**
3. **Cardiomyopathy**
4. **Chronic fatigue syndrome**
5. **Septic shock**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	62.86	15	9	6
2017	60.31	16	9	4
2018	98.63	12	9	3

TEAM INVOLVED IN
CIBERER
CIBEROBN
AGAUR_SGR17: 00893

TEAM LEADER
Josep M. Grau Junyent (HCB)
T. 93 227 55 39
jmgrau@clinic.cat

RESEARCHERS
Francesc Cardellach (HCB)
Pedro Castro (HCB)
Joaquim Fernández (HCB)
Glòria Garrabou (CIBER)
Josep M Nicolas (HCB)

POST-DOCTORAL RESEARCHERS
Laura Garcia (HCB)
Mariona Guitart (IDIBAPS)
Anna Sandra Hernández (HCB)
Constanza Isabel Moren (CIBER)

PRE-DOCTORAL RESEARCHERS
Cecilia Cuzco (HCB)
Sara Fernandez (HCB)
Ingrid Gonzalez (FCRB)
Diana Luz Juarez (UB)
Jose César Milisenda (HCB)
Pedro Juan Moreno (HCB)
Anna Peguero (HCB)

TECHNICIANS
Esther Tobias (UB)

COLLABORATORS
Xavier Bosch (HCB)

STRATEGIC OBJECTIVES

1. Management of patients with rare diseases (metabolic, mitochondrial and neuromuscular).
2. Mitochondrial, inflammatory, autoimmune and toxic muscle disease.
3. Mitotoxicity.
4. Mitochondrial involvement in neurodegeneration and psychiatrics.
5. Mitochondrial basis of obstetric outcome.
6. Cardiomyopathy in alcoholism and hypertension.
7. Chronic fatigue syndrome (CFS).
8. Septic shock and organ failure.
9. Journalology.

TEAM Josep M. Grau Junyent

MAIN LINES OF RESEARCH

1. Diagnosis and management of patients with rare diseases, inborn errors of metabolism or neuromuscular disorders (coordinating 42 groups). Research, training, register and biobanking.

2. Etiology, biomarkers and therapeutics in muscle pathology; special focus in inclusion body myositis, myopathy secondary to statins and mtDNA mantainance-syndromes.

3. Mitochondrial toxicity induced by drugs (antiretrovirals, antibiotics, antipsychotics) or toxic agents (HIV, CO, tobacco).

4. Etiology, biomarkers and therapeutics in neurodegeneration and psychiatrics: Parkinson disease (familial Parkin and LRRK2 or idiopathic forms), X-Fragile syndrome, schizophrenia and autism.

5. Etiology, biomarkers and therapeutics in preeclampsia.and intrauterine growth restriction with associated cardiovascular fetal remodeling.

6. Pathological mechanisms of alcohol and hypertension at cardiocirculatory level: (i) Prognosis of myocardiopathy and management options; (ii) Muscle and myocardial apoptosis; (iii) Myocardial regeneration and fibrosis; (iv) and Myocyte hyperthrophy (myostatin, IGF-1, Titin, FGF-21).

7. Clinical and functional repercussions of CFS. (i) Long-term multidisciplinar therapy, (ii) Role of co-morbidity, (iii) Influence of chemicals and environment.

8. Clinical and translational research on septic shock and multiorgan failure. Research on antibiotic policies in critically-ill patients. Critical care issues of special populations: elderly patients, hemato-oncological patients, patients with autoimmune diseases, patients with Human Immunodeficiency infection, patients with imported tropical diseases and others.

9. Journalology of biomedical journals: research of editorial and ethical policies of biomedical journals.

PUBLICATIONS

Originals / I.F.: 98.626

1. Wittekamp BH, Plantinga NL, Cooper BS, Lopez-Contreras J, Coll P, Mancebo J, Wise MP, Morgan MPG, Depuydt P, Boelens J, Dugernier T, Verbelen V, Jorens PG, Verbrugghe W, Malhotra-Kumar S, Damas P, Meex C, Leleu K, van den Abeele AM, Gomes Pimenta de Matos AF, Fernández Méndez S, Vergara Gomez A, Tomic V, Sifrer F, Villarreal Tello E, Ruiz Ramos J, Aragao I, Santos C, Sperning RHM, Coppadoro P, Nardi G, Brun-Buisson C, Bonten MJM. **Decontamination Strategies and Bloodstream Infections With Antibiotic-Resistant Microorganisms in Ventilated Patients: A Randomized Clinical Trial.** *JAMA-JOURNAL OF THE AMERICAN MEDICAL* ASSOCIATION. 320(20):2087-2098. I.F.: 47.661

2. Brito-Zerón P, Kostov B, Moral-Moral P, Martínez-Zapico A, Díaz-Pedroche C, Fraile G, Pérez-Guerrero P, Fonseca E, Robles A, Vaquero-Herrero MP, Calvo MA, Forner MJ, Morcillo C, Larrañaga J, Rodriguez-Carballeira M, Ruiz-Muñoz M, Hurtado-García R, Prieto-González S, Aguilar AA, Caminal-Montero L, Hernández-Jiménez P, Fernández-Viagas CR, Castro P, Massó VM, Flores-Chavez A, Ramos-Casals M, REGHEM-GEAS-SEMI Study Group. **Prognostic Factors of Death in 151 Adults With Hemophagocytic Syndrome: Etiopathogenically Driven Analysis.** *MAYO CLIN PROC INNOV QUAL OUTCOMES.* 2(3):267-276. I.F.: 7.199

3. Pozdniakova S, Guitart-Mampel M, Garrabou G, Di Benedetto G, Ladilov Y, Regitz-Zagrosek V . **17β-estradiol reduces mitochondrial cAMP content and cytochrome oxidase activity in a phosphodiesterase 2-dependent manner.** *BRITISH JOURNAL OF PHARMACOLOGY.* 175(20):3876-3890. I.F.: 6.810

4. Valenzuela-Alcaraz B, Cruz-Lemini M, Rodríguez-López M, Goncé A, García-Otero L, Ayuso H, Sitges M, Bijnens B, Balasch J, Gratacós E, Crispi F. **Fetal cardiac remodeling in twin pregnancies conceived by assisted reproductive technologies.** *ULTRASOUND IN OBSTETRICS AND GYNECOLOGY.* 51(1):94-100. I.F.: 5.654

5. Espígol-Frigolé G., Planas-Rigol E., Lozano E., Corbera-Bellalta M., Terrades-García N., Prieto-González S., García-Martínez A., Hernández-Rodríguez J., Grau J., Cid M. **Expression and function of IL12/23 related cytokine subunits (p35, p40, and p19) in giant-cell arteritis lesions: Contribution of p40 to Th1-and Th17-mediated inflammatory pathways.** *FRONTIERS IN IMMUNOLOGY.* 9(809):809. I.F.: 5.511

6. Pinal-Fernandez I, Pinal-Fernandez I, Pinal-Fernandez I, Ferrer-Fabregas B, Trallero-Araguas E, Balada E, Martínez MA, Milisenda JC, Aparicio-Español G, Labrador-Horrillo M, Garcia-Patos V, Garcia-Patos V, Grau-Junyent JM, Selva-O'Callaghan A, Selva-O'Callaghan A. **Tumour TIF1 mutations and loss of heterozygosity related to cancer-associated myositis.** *RHEUMATOLOGY.* 57(2):388-396. I.F.: 5.245

7. Guitart-Mampel M, Gonzalez-Tendero A, Niñerola S, Morén C, Catalán-Garcia M, González-Casacuberta I, Juárez-Flores DL, Ugarteburu O, Matalonga L, Cascajo MV, Tort F, Cortés A, Tobias E, Milisenda JC, Grau JM, Crispi F, Gratacós E, Garrabou G, Cardellach F. **Cardiac and placental mitochondrial characterization in a rabbit model of intrauterine growth restriction.** *BBA BIOCHIMICA ET BIOPHYSICA ACTA.* 1862(5):1157-1167. I.F.: 5.108

8. González-Casacuberta I, Morén C, Juárez-Flores DL, Esteve-Codina A, Sierra C, Catalán-García M, Guitart-Mampel M, Tobías E, Milisenda JC, Pont-Sunyer C, Martí MJ, Cardellach F, Tolosa E, Artuch R, Ezquerra M, Fernández-Santiago R, Garrabou G. **Transcriptional alterations in skin fibroblasts from Parkinson's disease patients with parkin mutations.** *NEUROBIOLOGY OF AGING.* 65:206-216. I.F.: 4.454

9. Juárez-Flores DL, González-Casacuberta I, Ezquerra M, Bañó M, Carmona-Pontaque F, Catalán-García M, Guitart-Mampel M, Rivero JJ, Tobias E, Milisenda JC, Tolosa E, Marti MJ, Fernández-Santiago R, Cardellach F, Morén C, Garrabou G. **Exhaustion of mitochondrial and autophagic reserve may contribute to the development of LRRK2 G2019S -Parkinson's disease.** *JOURNAL OF TRANSLATIONAL MEDICINE.* 16(1):160-160. I.F.: 4.197

10. Milisenda JC, Collado MV, Pinal-Fernandez I, Hormaza Jaramillo A, Faruch Bilfeld M, Cano MD, García AI, Tomás

X, Grau JM. **Correlation between quantitative and semiquantitative magnetic resonance imaging and histopathology findings in dermatomyositis.** *CLINICAL AND EXPERIMENTAL RHEUMATOLOGY* I.F.: 3.201

11. Mazarico E, Peguero A, Camprubí M, Rovira C, Gomez Roig MD, Oros D, Ibáñez-Burillo P, Schoorlemmer J, Masoller N, Tàssies MD, Figueras F. **Study protocol for a randomised controlled trial: treatment of early intrauterine growth restriction with low molecular weight heparin (TRACIP).** *BMJ OPEN.* 8(10):e020501-e020501. I.F.: 2.413

12. Carvalho E., Castro P., León E., Del Río A., Crespo F., Trigo L., Fernández S., Trilla A., Varela P., Nicolás J. **Multi-professional simulation and risk perception of health care workers caring for Ebola-infected patients.** *NURSING IN CRITICAL CARE.* 12396. I.F.: 1.173

Review / I.F.: 37.48

1. Selva-O'Callaghan, Albert; Pinal-Fernandez, Iago; Trallero-Araguas, Ernesto; Cesar Milisenda, Jose; Maria Grau-Junyent, Josep; Mammen, Andrew L. **Classification and management of adult inflammatory myopathies.** *LANCET NEUROLOGY.* 17(9):816-828. I.F.: 27.144

2. Figueras F., Caradeux J., Crispi F., Eixarch E., Peguero A., Gratacos E. **Diagnosis and surveillance of late-onset fetal growth restriction.** *AMERICAN JOURNAL OF OBSTETRICS AND GYNECOLOGY.* 218(2):S790-S802. I.F.: 5.732

3. Selva-O'Callaghan A, Alvarado-Cardenas M, Pinal-Fernández I, Trallero-Araguás E, Milisenda J, Martínez M, Marín A, Labrador-Horrillo M, Juárez C, Grau-Junyent J. **Statin-induced myalgia and myositis: an update on pathogenesis and clinical recommendations.** *EXPERT REVIEW OF CLINICAL IMMUNOLOGY.* 14(3):215-224. I.F.: 3.436

4. Fernández Solà J. **Central sensitization syndrome: towards the structuring of a multidisciplinary concept.** *MEDICINA CLINICA.* 151(2):68-70. I.F.: 1.168

Editorial / I.F.: 19.646

1. Ugarte, Ainoa; Grau, Josep M.; Milisenda, Jose C. **Amyloid polyneuropathy in 2 patients after liver transplantation.** *NEUROLOGY.* 90(1):38-38. I.F.: 8.055

2. Vincent, Jean-Louis; Castro, Pedro; Hunt, Beverley J.; Jorres, Achim; Praga, Manuel; Rojas-Suarez, Jose; Watanabe, Eizo;. **Thrombocytopenia in the ICU: disseminated intravascular coagulation and thrombotic microangiopathies-what intensivists need to know.** *CRITICAL CARE.* 22(1):158. I.F.: 6.425

3. Fernández Solà J. **Reversibility of Alcohol Dilated Cardiomyopathy.** *REVISTA ESPAÑOLA DE CARDIOLOGIA.* 71(8):603-605. I.F.: 5.166

Case Reports / I.F.: 6.25

1. Marco-Hernández J, Camprubí D, Aylagas C, Gupta H, Castro P. **Failure of intravenous artesunate treatment for Plasmodium falciparum malaria in a splenectomized traveller: A diagnostic challenge.** *TRAVEL MEDICINE AND INFECTIOUS DISEASE.* S1477-8939(18):30300-4. I.F.: 4.450

2. Rodriguez-Valero, N.; Castro, P.; Martinez, G.; Hernandez, J. Marco; Fernandez, S.; Gascon, J.; Nicolas, J. M. **Blackwater fever in a non-immune patient with Plasmodium falciparum malaria after intravenous artesunate.** *JOURNAL OF TRAVEL MEDICINE.* 25(1). I.F.: 1.800

Consortium Publications / I.F.: 26.367

1. Ambrosioni J, Urra X, Hernández-Meneses M, Almela M, Falces C, Tellez A, Quintana E, Fuster D, Sandoval E, Vidal B, Tolosana JM, Moreno A, Chamorro A, Miró JM, Hospital Clínic Infective Endocarditis Study Group . **Mechanical thrombectomy for acute ischemic stroke secondary to infective endocarditis.** *CLINICAL INFECTIOUS DISEASES.* 66(8):1286-1289. I.F.: 9.117

2. Téllez A, Ambrosioni J, Llopis J, Pericàs JM, Falces C, Almela M, Garcia de la Mària C, Hernandez-Meneses M, Vidal B, Sandoval E, Quintana E, Fuster D, Tolosana JM, Marco F, Moreno A, Miro JM, Hospital Clínic Infective Endocarditis Investigators . **Epidemiology, clinical features and outcome of infective endocarditis due to Abiotrophia spp. and Granulicatella spp.: Report of 76 cases (2000-2015).** *CLINICAL INFECTIOUS DISEASES.* 66(1):104-111. I.F.: 9.117

3. Figueroa-Bonaparte S., Llauger J., Segovia S., Belmonte I., Pedrosa I., Montiel E., Montesinos P., Sánchez-González J., Alonso-Jiménez A., Gallardo E., Illa I., Barba-Romero M., Barcena J., Carbonell P., Carzorla M., Creus C., Coll-Cantí J., Díaz M., Domínguez C., Fernández-Torrón R., García-Antelo M., Grau J., De Munáin A., Martínez-García F., Morgado Y., Moreno A., Morís G., Muñoz-Blanco M., Nascimento A., Parajua J., Robledo-Strauss A., Rojas-Marcos Í., Salazar J., Usón M., Díaz-Manera J. **Quantitative muscle MRI to follow up late onset Pompe patients: A prospective study.** *SCIENTIFIC REPORTS.* 8(1):10898. I.F.: 4.122

4. Bowles H, Ambrosioni J, Mestres G, Hernández-Meneses M, Sánchez N, Llopis J, Yugueros X, Almela M, Moreno A, Riambau V, Fuster D, Miró JM, Hospital Clinic Endocarditis Study Group. **Diagnostic yield of 18F-FDG PET/CT in suspected diagnosis of vascular graft infection: A prospective cohort study.** *JOURNAL OF NUCLEAR CARDIOLOGY.* 1-9. I.F.: 4.011

GRANTS FOR RESEARCH IN PROGRESS

Cardellach F. **Influencia de la dieta en la modulación mitocondrial y de cardiomiocinas del remodelado cardiovascular fetal asociado al crecimiento intrauterino restringido.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00817
Duration: 01/01/2016-31/12/2019

Fernàndez-Solà J. **Paper de les noves cardiomiocines FGF21 i Metrnl en el dany cardíac induït per l'alcoholisme i la hipertensió arterial.**
Sponsored by: Fundació la Marató de TV3. TV3_Cor_15
Duration: 29/06/2016-28/06/2019

Morén C, Cardellach F. **Elaboración de un modelo in vitro de neuronas dopaminérgicas derivadas de pacientes con enfermedad de Parkinson: plataforma para estudios moleculares y terapéuticos.**
Sponsored by: Fundación Privada Cellex.
Duration: 01/06/2017-31/12/2019

DOCTORAL THESES

Nicolas JM. **Bayesian Statistical Modeling for Clinical Decision Making in Emergency Medicine.**
PhD student: Laila Rosalie Cochon Coen

Cardellach F, Garrabou G. **Mitochondrial implication in intrauterine growth restriction and cardiovascular remodeling.**
PhD student: Mariona Guitart-Mampel

4.6 Pathophysiology and treatment of neurodegenerative disorders

LOCATION
CELLEX building, floor 3B
UB School of Medicine

KEYWORDS
1. **Huntington's disease**
2. **Motor and cognitive function**
3. **Psychiatric disturbances**
4. **Neuroprotection**
5. **Trophic factors**
6. **Stem cells**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	73.96	15	11	4
2017	91.75	14	13	1
2018	59.43	13	9	3

TEAM INVOLVED IN
CIBERNED
HD-iPSCs Consortium
AGAUR_SGR17: 01408

TEAM LEADER
Jordi Alberch (UB)
T. 93 403 52 85
alberch@ub.edu

RESEARCHERS
Josep M Canals (UB)
Silvia Ginés (UB)
Esther Pérez (UB)

POST-DOCTORAL RESEARCHERS
Veronica Brito (UB)
Albert Giralt (UB)
Merce Massana (IDIBAPS)
Andres Miguez (IDIBAPS)
Ana Saavedra (CIBER)
Philip Gordon Thomas Sanders (IDIBAPS)

PRE-DOCTORAL RESEARCHERS
Andrea Comella (UB)
Jordi Creus (UB)
Sara Fernandez (UB)
Gerardo Garcia (UB)
Marta Garcia (UB)
Ened Rodriguez (UB)
Cristina Salado (UB)
Nuria Suelves (UB)

TECHNICIANS
Mireia Galofre (IDIBAPS)
Cristina Herranz (UB)
Ana Maria López (CIBER)
M. Teresa Muñoz (UB)
Unai Perpiña (UB)

STRATEGIC OBJECTIVES

1. Study of the cellular and molecular bases involved in neuronal dysfunction and death associated to motor, psychiatric and cognitive alterations in basal ganglia neurodegenerative disorders.
2. Use of stem cell technology to differentiate neurons for using in regenerative medicine for neurodegenerative disorders.

MAIN LINES OF RESEARCH

1. **Group of neuroprotection and neuronal plasticity in Huntington's disease.** PI: Jordi Alberch: To study the mechanisms that modulate cortico-striatal connectivity for understanding the intracellular mechanisms to develop molecules that modulate neuronal plasticity for the treatment of Huntington's disease.

TEAM Jordi Alberch

2. **Group of kinases and phosphatases in neuronal function and dysfunction.** PI: Esther Pérez-Navarro: The group is interested in studying the involvement of kinases and phosphatases in the control of motor and cognitive processes in Huntington's disease.

3. **Group of neurodegeneration and cognitive dysfunction in Huntington's Disease.** PI: Silvia Ginés: The research group is interested in defining the molecular mechanisms involved in depressive, cognitive and motor disorders in Huntington's disease.

4. **Group of stem cells and regenerative medicine.** PI: Josep M. Canals: To study the mechanisms underlying the differentiation of stem cells into neurons, for exploring the cellular mechanisms involved in Huntington's and Parkinson's disease. Another line of research is the characterization of extrinsic factors and new transcription factors of human and mouse brain development.

PUBLICATIONS

Originals / I.F.:59.43

1. Alarcon-Aris, Diana; Recasens, Ariadna; Galofre, Mireia; Carballo-Carbajal, Iria; Zacchi, Nicolas; Ruiz-Bronchal, Esther; Pavia-Collado, Ruben; Chica, Rosario; Ferres-Coy, Albert; Santos, Marina; Revilla, Raquel; Montefeltro, Andres; Farinas, Isabel; Artigas, Francesc; Vila, Miguel; Bortolozzi, Analia. **Selective α-Synuclein Knockdown in Monoamine Neurons by Intranasal Oligonucleotide Delivery: Potential Therapy for Parkinson's Disease.** *MOLECULAR THERAPY.* 26(2):550-567. I.F.: 7.008

2. Moreno E, Chiarlone A, Medrano M, Puigdellívol M, Bibic L, Howell LA, Resel E, Puente N, Casarejos MJ, Perucho J, Botta J, Suelves N, Ciruela F, Ginés S, Galve-Roperh I, Casadó V, Grandes P, Lutz B, Monory K, Canela EI, Lluís C, McCormick PJ, Guzmán M. **Singular Location and Signaling Profile of Adenosine A2A-Cannabinoid CB1 Receptor Heteromers in the Dorsal Striatum.** *NEUROPSYCHOPHARMACOLOGY.* 43(5):964-977. I.F.: 6.544

3. López-Benito S, Sánchez-Sánchez J, Brito V, Calvo L, Lisa S, Torres-Valle M, Palko ME, Vicente-García C, Fernández-Fernández S, Bolaños JP, Ginés S, Tessarollo L, Arévalo JC. **Regulation of BDNF release by ARMS/Kidins220 through modulation of Synaptotagmin-IV levels.** *JOURNAL OF NEUROSCIENCE.* 38(23):5415-5428. I.F.: 5.971

4. García-Forn M, Martínez-Torres S, García-Díaz Barriga G, Alberch J, Milà M, Azkona G, Pérez-Navarro E. **Pharmacogenetic modulation of STEP improves motor and cognitive function in a mouse model of Huntington's disease.** *NEUROBIOLOGY OF DISEASE.* 120:88-97. I.F.: 5.227

5. Alvarez-Periel E., Puigdellívol M., Brito V., Plattner F., Bibb J., Alberch J., Ginés S. **Cdk5 Contributes to Huntington's Disease Learning and Memory Deficits via Modulation of Brain Region-Specific Substrates.** *MOLECULAR NEUROBIOLOGY.* 55(8):6250-6268. I.F.: 5.076

6. Creus-Muncunill J, Rué L, Alcalá-Vida R, Badillos-Rodríguez R, Romaní-Aumedes J, Marco S, Alberch J, Perez-Otaño I, Malagelada C, Pérez-Navarro E. **Increased Levels of Rictor Prevent Mutant Huntingtin-Induced Neuronal Degeneration.** *MOLECULAR NEUROBIOLOGY.* 55(10):7728-7742. I.F.: 5.076

7. Cabezas-Llobet N., Vidal-Sancho L., Masana M., Fournier A., Alberch J., Vaudry D., Xifró X. **Pituitary Adenylate Cyclase-Activating Polypeptide (PACAP) Enhances Hippocampal Synaptic Plasticity and Improves Memory Performance in Huntington's Disease.** *MOLECULAR NEUROBIOLOGY.* 55(11):8263-8277. I.F.: 5.076

8. Giralt A, de Pins B, Cifuentes-Díaz C, López-Molina L, Farah AT, Tible M, Deramecourt V, Arold ST, Ginés S, Hugon J, Girault JA. **PTK2B/Pyk2 overexpression improves a mouse model of Alzheimer's disease.** *EXPERIMENTAL NEUROLOGY.* 307:62-73. I.F.: 4.483

9. Cabezas-Llobet N., Camprubí S., García B., Alberch J., Xifró X. **Human alpha 1-antitrypsin protects neurons and glial cells against oxygen and glucose deprivation through inhibition of interleukins expression.** *BIOCHIMICA ET BIOPHYSICA ACTA - GENERAL SUBJECTS.* 1862(9):1852-1861. I.F.: 3.679

10. Fernández-Flores F., García-Verdugo J., Martín-Ibáñez R., Herranz C., Fondevila D., Canals J., Arús C., Pumarola M. **Characterization of the canine rostral ventricular-subventricular zone: Morphological, immunohistochemical, ultrastructural, and neurosphere assay studies.** *JOURNAL OF COMPARATIVE NEUROLOGY.* 526(4):721-741. I.F.: 3.400

11. Cases S, Saavedra A, Tyebji S, Giralt A, Alberch J, Pérez-Navarro E. **Age-related changes in STriatal-Enriched protein tyrosine Phosphatase levels: Regulation by BDNF.** *MOLECULAR AND CELLULAR NEUROSCIENCES.* 86:41-49. I.F.: 3.312

12. Telezhkin V, Straccia M, Yarova P, Pardo M, Yung S, Vinh NN, Hancock JM, Barriga GG, Brown DA, Rosser AE, Brown JT, Canals JM, Randall AD, Allen ND, Kemp PJ. **Kv7 channels are upregulated during striatal neuron development and promote maturation of human iPSC-derived neurons.** *PFLUGERS ARCHIV EUROPEAN JOURNAL OF PHYSIOLOGY.* 470(9):1359-1376. I.F.: 2.765

13. Illa M., Brito V., Pla L., Eixarch E., Arbat-Plana A., Batallé D., Muñoz-Moreno E., Crispi F., Udina E., Figueras F., Ginés S., Gratacós E. **Early Environmental Enrichment Enhances Abnormal Brain Connectivity in a Rabbit Model of Intrauterine Growth Restriction.** *FETAL DIAGNOSIS AND THERAPY.* 44(3):184-193. I.F.: 1.813

Review / I.F.: 4.598

1. Saavedra A, García-Díaz Barriga G, Pérez-Navarro E, Alberch J. **Huntington's disease: novel therapeutic perspectives hanging in the balance.** *EXPERT OPINION ON THERAPEUTIC TARGETS.* 22(5):385-399. I.F.: 4.598

GRANTS FOR RESEARCH IN PROGRESS

Alberch J. **Enfermedades neurodegenerativas "Modulación del déficit de la plasticidad sináptica como estrategia terapéutica en la enfermedad de Hunttington".**
Sponsored by: Fundació la Marató de TV3.
Duration: 04/03/2015-28/02/2018

Alberch J. **Enfermedades neurodegenerativas: enfermedad de Huntington.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). CIBERNED
Duration : 01/01/2006-31/12/2019

Alberch J. **Neuronal network dynamics modulation as therapeutic strategy to recover basal ganglia dysfunction in movement disorders.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2017-88076-R
Duration : 01/01/2018-31/12/2020

Alberch J, Canals JM. **European Training Network for Cell-Based Regenerative Medicine (Training4CRM).**
Sponsored by: European commission. H2020
Duration : 01/01/2016-31/12/2020

Canals JM. **Ajuts destinats a incentivar els plans d'actuació en transferència tecnològica dels desenvolupadors de tecnologia catalans. Centre per a la producció i validació de teràpies avançades - ub (cat-ub).**
Sponsored by: Agència per a la Competitivitat de l'Empresa (ACCIÓ). TECDTP15-1-0022
Duration: 01/01/2016-31/12/2017

Canals JM. **ADVANCECAT: acceleradora pel desenvolupament de teràpies avançades a Catalunya (ADVANCECAT: accelerating development for advanced therapies in Catalonia).**
Sponsored by: Agència per a la Competitivitat de l'Empresa (ACCIÓ). COMRDI15-1-0013
Duration: 01/01/2016-31/12/2019

Canals JM. **Red de Terapia Celular.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). RD16/0011/0012
Duration: 01/01/2017-31/12/2021

Canals JM. **Plan Nacional de biomedicina Desarrollo, diferenciación y maduración neuronal en la enfermedad de Huntington.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2015-66505-R
Duration: 01/01/2016-31/12/2019

Canals JM, Alberch J. **European Training Network for Cell-based Regenerative Medicine.**
Sponsored by: European commission. H2020
Duration: 01/11/2016-31/10/2020

Canals JM. **ASCTN-Training: Training on Advanced Stem Cell Technologies in Neurology.**
Sponsored by: European commission. H2020
Duration: 01/10/2018-30/09/2022

Gines S. **Cdk5 como nueva diana terapéutica y biomarcador del trastorno depresivo en la enfermedad de Huntington.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
Duration: 01/01/2016-31/12/2018.

Pérez-Navarro E. **Alteraciones de la lámina nuclear y de la traducción proteica como nuevos mecanismos patogénicos en la enfermedad de Huntington.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). SAF2016-0873R
Duration: 31/12/2016-29/12/2019

DOCTORAL THESIS

Alberch J. **Therapautic strategies based on neuroprotective mechanisms of neurotrophic factors in Huntington's Disease models.**
PhD student: Alfonso Gerardo García Díaz-Barriga

Canals JM. **Neuronal differentiation and maturation of human pluripotent stem cells for modeling Huntington's disease.**
PhD student: Andrea Comella Bolla

Ginés S. **Dual role of Cdk5 on cognitive deficits and striatal vulnerability in Huntington's disease.**
PhD student: Elena Alvarez Periel

Ginés S**. Evaluation of therapeutic targets for the treatment of behavioral alterations and neuropathology in Huntington's disease.**
PhD student: Núria Suelves Caballol

Pérez E. **Dual role of mTOR in Huntington's disease: contribution to striatal neuronal survival and dysfunction.**
PhD student: Jordi Creus Muncunill

4.7 Translational psychiatry and psychology

LOCATION
HCB building

KEYWORDS
1. **Schizophrenia**
2. **Bipolar disorders**
3. **Psychiatry**
4. **Addiction**
5. **Child and adolescent psychiatry and psychology**
6. **Depression**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	424.43	89	62	14
2017	301.37	84	51	28
2018	381.07	90	57	20

TEAM INVOLVED IN
CIBERSAM
Red de Trastornos Adictivos (RTA-RETICS)
AGAUR_SGR17: 01355, 00881, 01460, 01562, 01798, 01365

AWARDS
Premi Extraordinari de Doctorat en Medicina
Institution: Universitat de Barcelona
Awardee/s: Diego Hidalgo Mazzei

Premi Extraordinari de Doctorat en Medicina
Institution: : Universitat de Barcelona
Awardee/s: Gisela Mezquida

TEAM LEADER
Eduard Vieta (HCB)
T. 93 227 54 00 (Ext.: 3130)
evieta@clinic.cat

GROUP LEADERS
Miquel Bernardo (HCB)
T. 93 227 54 00 (Ext.: 3142)
bernardo@clinic.cat

Josefina Castro (HCB)
T. 93 227 54 00 (Ext.: 2070)
jcastro@clinic.cat

Antoni Gual (HCB)
T. 93 227 54 00 (Ext.: 3167)
tgual@clinic.cat

Gisela Sugranyes (HCB-IDIBAPS)
T. 93 227 54 00 (Ext.: 4187)
gernest@clinic.cat

Eduard Vieta (HCB)
T. 93 227 54 00 (Ext.: 3130)
evieta@clinic.cat

RESEARCHERS
Miquel Bioque (HCB-UB)
Rosa Catalán (HCB-UB)
Luisa Garcia (HCB)
Clemente García-Rizo (HCB-UB)
Amalia Lafuente (UB)
Sergi Mas (UB)
Guillem Masana (HCB)
Eduard Parellada (HCB-UB)
Rafael Penadés (HCB-UB)
Mercè Torra (HCB-UB)
Manuel Valdés (HCB)
Antonio Benabarre (HCB)
José Manuel Goikolea (HCB)
Iria Grande (HCB)
Fernando Gutiérrez (HCB)
Ana Isabel Martínez-Aran (HCB)
Rocío Martín-Santos (HCB)
Luis Pintor (HCB-UB)
Joaquim Radua (IDIBAPS)
Carla Torrent (IDIBAPS)
Susana Andrés (HCB)
Inmaculada Baeza (HCB)
Luisa Lázaro (HCB)
Astrid Morer (HCB)

POST-DOCTORAL RESEARCHERS
Bibiana Cabrera (CIBER)
Myriam Cavero (HCB)
Gisela Mezquida (UB-FCRB)
Natalia Rodríguez (FCRB)
Caterina del Mar Bonnín (FCRB)
Silvia Cañizares (HCB)
Miquel Àngel Fullana (HCB)
Ester Jiménez (IDIBAPS)
Andrea Murru (HCB)
Isabella Pacchiarotti (HCB)
María Reinares (CIBER)

TEAM Eduard Vieta

Brissa Solé (IDIBAPS)
Anna Torres (HCB)
Imma Torres (CIBER)
Marc Valentí (HCB)
Ana Blázquez (HCB)
Elena de (CIBER)
Itziar Flamarique (HCB)
Ana Encarnación Ortiz (HCB)
Olga Puig (HCB)
Soledad Romero (HCB)
Mireia Rosa (IDIBAPS)
Mercè Balcells-Oliveró (HCB)
Pablo Barrio (HCB)
Hugo López-Pelayo (IDIBAPS)
Laia Miquel (HCB)
Miquel Monràs (HCB)

PRE-DOCTORAL RESEARCHERS
Silvia Amoretti (CIBER)
Daniel Boloc (IDIBAPS)
Marina Garriga (IDIBAPS)
Laura Motejo (CIBER)
Giovanni Oriolo (HCB)
Estela Salagre (CIBER)
José Sánchez-Moreno (CIBER)
Eva Solé (HCB)
Èlia Valls (CIBER)
Patricia Camprodon (FCRB)
Blanca García (HCB)
Daniel Ilzarbe (IDIBAPS)
Iria Méndez (HCB)
Ana Pérez (FCRB)
Maria Teresa Plana (HCB-FCRB)
Adriana Fortea (HCB)
Mireia Masias (IDIBAPS)
Eugènia Campeny (IDIBAPS)
Chrysanthi Blithikioti (IDIBAPS)
Pol Bruguera (HCB)
Elsa Caballeria (FCRB)
Mireia Graell (HCB)
Laura Nuño (HCB)
Clara Oliveras (HCB)

TECHNICIANS
Maria Alicia Durán (FCRB)
Rosa Maria Palaus (FCRB)
Francina Badia (FCRB)
Fleur Marie Booth (FCRB)
Álvaro Castañón (FCRB)
Silvia Matrai (FCRB)
Nina Potapova (FCRB)

NURSING STAFF
Ana Meseguer (CIBER)
Lídia Teixidó (HCB)

COLLABORATORS
Emilio Fernández-Egea (CIBER)
Patricia Gassó (UB)
Joana Guarch (HCB)
María Luisa Imaz (HCB)
Victor Navarro (HCB)
Neus Freixa (HCB)
Anna Lligoña (HCB)
Cristina López (HCB)
Ana Isabel López (HCB)
Cristal Martínez (HCB)
Silvia Mondon (HCB)
Lluisa Ortega (HCB)
Soraya Sabater (HCB)

STRATEGIC OBJECTIVES

Our group study severe psychiatric disorders from the differents perspectives: neurobiological, anatomofunctional mechanisms involved in the development of the disease (genetics, neuromodulators, hormone factors, molecular psychiatry and neuroimaging), as well as psychological and therapeutical approaches.

MAIN LINES OF RESEARCH

- The bipolar disorders group investigates the neurobiological mechanisms and the efficacy of treatments for the early detection and prevention of recurrences.
- The Schizophrenia and related disorders unit focuses on first and second psychotic episodes, resistant and comorbid schizophrenia.
- The child and adolescent psychiatry and psychology focuses on: psychotic disorders, eating disorders, obsessive-compulsive disorder, neurodevelopmental disorders, and the study of the neural mechanisms underlying the development of psychotic disorders in children and adolescents.
- The depression group studies the neurobiological bases and clinical indicators associated with treatment response and the course of the illness.
- The addiction group focuses on early detection and brief inteventions in alcohol use disorders, as well as on developing novel therapeutic approaches and biomarkers of brain impairment in cannabis use disorders. The liaison psychiatry focuses on psychiatric and psychological aspects in the main neurological diseases.
- Other main research lines focuses on personality disorders (diagnostic systems, their relationship to environmental adjustment and validation of new instruments), perinatal and gender related psychiatric disorders.

GROUP Miquel Bernardo

RESEARCH GROUP **SCHIZOPHRENIA**

GROUP LEADER
Miquel Bernardo (HCB)

This interdisciplinary group focuses on schizophrenia and related disorders in clinical care, research and teaching.
The research is centered on the study of first episodes, childhood and adolescent-onset,

resistant and comorbid schizophrenia. We have active collaboration (multicenter studies in translational and innovative investigation) with other IDIBAPS, CIBERSAM, and international research groups.
We collaborate with a European network of research in schizophrenia and maintain close relationship to American research networks.

RESEARCH GROUP
CHILD AND ADOLESCENT PSYCHIATRY AND PSYCHOLOGY

GROUP LEADER
Josefina Castro-Fornieles (HCB)

This research group is integrated in the Department of Child and Adolescent Psychiatry of the Neuroscience Institute of the Hospital Clinic of Barcelona.
The aim is to facilitate clinical research and to collaborate with groups specialized in genetics, neuroimaging and neurobiology.

GROUP Josefina Castro-Fornieles

The group has established important collaborations with other neuroscience departments in the same center as well as with other centers within the CIBERSAM.
At the international level the group collaborates with the European College of Neuopsychopharmacology, the University of Pittsburgh (United States), and the Child and Adolescent Psychiatry Center of Yale.

GROUP Antoni Gual

RESEARCH GROUP
ADDICTIONS GROUP

GROUP LEADER
Antoni Gual (HCB)

Our group focuses mainly on alcohol use and cannabis use disorders (AUD and CUD respectively). More specifically, we work on early detection and brief interventions in AUD, as well as on novel therapeutic methods for treating cognitive impairments commonly found in alcoholic patients.
In CUD, we aim to define the concept of "risky use" that might lead to physical, mental and social health problems, together with identifying biomarkers of chronic cannabis misuse for treatment monitorization and rehabilitation of cannabis dependent individuals.

50/50 PROGRAM
MULTIMODAL NEUROIMAGING IN HIGH RISK AND EARLY PSYCHOSIS

GROUP LEADER
Gisela Sugranyes (HCB-IDIBAPS)

Dr. Sugranyes' group aims to understand the neural mechanisms underlying the development of psychotic disorders in youth. We have described age-related changes in brain function in healthy participants, and group-related changes in function and structure in children and adolescents in the early stages of psychosis in brain areas related to higher cognitive functions.
We have now set out to explore the neurochemical underpinnings of these findings, and to explore the relationship between neuroimaging measures and clinical and cognitive phenotypes. On a translational level, priority is given to the identification of factors predicting transition to psychosis and functional outcomes.

RESEARCH GROUP
BIPOLAR DISORDERS

GROUP LEADER
Eduard Vieta (HCB)

The bipolar disorders program mainly investigates the neurobiological and anatomofunctional mechanisms involved in the development of the disease (genetics, neuromodulators, hormone factors and neuroimaging) and its relapses, the clinical course and neuropsychological consequences, the efficacy of drug treatments and novel therapies, and psychological interventions for the early detection and prevention of recurrences.

GROUP Gisela Sugranyes

PUBLICATIONS

Originals / I.F.: 381.07

1. International Consortium on Lithium Genetics (ConLi+Gen); Amare AT; Schubert KO; Hou L; Clark SR; Papiol S; Heilbronner U; Degenhardt F; Tekola-Ayele F; Hsu YH; Shekhtman T; Adli M; Akula N; Akiyama K; Ardau R; Arias B; Aubry JM; Backlund L; Bhattacharjee AK; Bellivier F; Benabarre A; Bengesser S; Biernacka JM; Birner A; Brichant-Petitjean C; Cervantes P; Chen HC; Chillotti C; Cichon S; Cruceanu C; Czerski PM; Dalkner N; Dayer A; Del Zompo M; DePaulo JR; Etain B; Falkai P; Forstner AJ; Frisén L; Frye MA. **Association of Polygenic Score for Schizophrenia and HLA Antigen and Inflammation Genes With Response to Lithium in Bipolar Affective Disorder: A Genome-Wide Association Study.** *JAMA PSYCHIATRY.* 75(1):65-74. I.F.: 16.642

2. Lähteenvuo M, Tanskanen A, Taipale H, Hoti F, Vattulainen P, Vieta E, Tiihonen J. **Real-World Effectiveness of Pharmacologic Treatments for the Prevention of Rehospitalization in a Finnish Nationwide Cohort of Patients With Bipolar Disorder.** *JAMA PSYCHIATRY.* 75(4):347-355. I.F.: 16.642

3. Perez-Vigil, Ana; Fernandez de la Cruz, Lorena; Brander, Gustaf; Isomura, Kayoko; Jangmo, Andreas; Feldman, Inna; Hesselmark, Eva; Serlachius, Eva; Lazaro, Luisa; Ruck, Christian; Kuja-Halkola, Ralf; D'Onofrio, Brian M.; Larsson, Henrik; Mataix-Cols, David. **Association of Obsessive-Compulsive Disorder With Objective Indicators of Educational Attainment A Nationwide Register-Based Sibling Control Study.** *JAMA PSYCHIATRY.* 75(1):47-55. I.F.: 16.642

4. Jongsma H., Gayer-Anderson C., Lasalvia A., Quattrone D., Mulè A., Szöke A., Selten J., Turner C., Arango C., Tarricone I., Berardi D., Tortelli A., Llorca P., De Haan L., Bobes J., Bernardo M., Sanjuán J., Santos J., Arrojo M., Del-Ben C., Menezes P., Murray R., Rutten B., Jones P., Van Os J., Morgan C., Kirkbride J., Reininghaus U., Di Forti M., Hubbard K., Beards S., Stilo S., Tripoli G., Parellada M., Cuadrado P., Solano J., Carracedo A., Bernardo E., Roldán L., López G., Jongsma H., Gayer-Anderson C., Lasalvia A., Quattrone D., Mulè A., Szöke A., Selten J., Turner C., Arango C., Tarricone I., Berardi D., Tortelli A., Llorca P., De Haan L., Bobes J., Bernardo M., Sanjuán J., Santos J., Arrojo M., Del-Ben C., Menezes P., Murray R., Rutten B., Jones P., Van Os J., Morgan C., Kirkbride J., Reininghaus U., Di Forti M., Hubbard K., Beards S., Stilo S., Tripoli G. **Treated incidence of psychotic disorders in the multinational EU-GEI study.** *JAMA PSYCHIATRY.* 75(1):36-46. I.F.: 16.642

5. Boedhoe PSW, Schmaal L, Abe Y, Alonso P, Ameis SH, Anticevic A, Arnold PD, Batistuzzo MC, Benedetti F, Beucke JC, Bollettini I, Bose A, Brem S, Calvo A, Calvo R, Cheng Y, Cho KIK, Ciullo V, Dallaspezia S, Denys D, Feusner

JD, Fitzgerald KD, Fouche JP, Fridgeirsson EA, Gruner P, Hanna GL, Hibar DP, Hoexter MQ, Hu H, Huyser C, Jahanshad N, James A, Kathmann N, Kaufmann C, Koch K, Kwon JS, Lazaro L, Lochner C, Marsh R, Martínez-Zalacaín I, Mataix-Cols D, Menchón JM, Minuzzi L, Morer A, Nakamae T, Nakao T, Narayanaswamy JC, Nishida S, Nurmi E, O'Neill J, Piacentini J, Piras F, Reddy YCJ, Reess TJ, Sakai Y, Sato JR, Simpson HB, Soreni N, Soriano-Mas C, Spalletta G, Stevens MC, Szeszko PR, Tolin DF, van Wingen GA, Venkatasubramanian G, Walitza S, Wang Z, Yun JY,, Thompson PM, Stein DJ, van den Heuvel OA ENIGMA-OCD Working Group, ENIGMA OCD Working Group. **Cortical Abnormalities Associated With Pediatric and Adult Obsessive-Compulsive Disorder: Findings From the ENIGMA Obsessive-Compulsive Disorder Working Group.** *AMERICAN JOURNAL OF PSYCHIATRY.* 175(5):453-462. I.F.: 13.396

6. Hibar DP, Westlye LT, Doan NT, Jahanshad N, Cheung JW, Ching CRK, Versace A, Bilderbeck AC, Uhlmann A, Mwangi B, Krämer B, Overs B, Hartberg CB, Abé C, Dima D, Grotegerd D, Sprooten E, Bøen E, Jimenez E, Howells FM, Delvecchio G, Temmingh H, Starke J, Almeida JRC, Goikolea JM, Houenou J, Beard LM, Rauer L, Abramovic L, Bonnin M, Ponteduro MF, Keil M, Rive MM, Yao N, Yalin N, Najt P, Rosa PG, Redlich R, Trost S, Hagenaars S, Fears SC, Alonso-Lana S, van Erp TGM, Nickson T, Chaim-Avancini TM, Meier TB, Elvsåshagen T, Haukvik UK, Lee WH, Schene AH, Lloyd AJ, Young AH, Nugent A, Dale AM, Pfennig A, McIntosh AM, Lafer B, Baune BT, Ekman CJ, Zarate CA, Bearden CE, Henry C, Simhandl C, McDonald C, Bourne C, Stein DJ, Wolf DH, Cannon DM, Glahn DC, Veltman DJ, Pomarol-Clotet E, Vieta E, Canales-Rodriguez EJ, Nery FG, Duran FLS, Busatto GF, Roberts G, Pearlson GD, Goodwin GM, Kugel H, Whalley HC, Ruhe HG, Soares JC, Fullerton JM, Rybakowski JK, Savitz J, Chaim KT, Fatjó-Vilas M, Soeiro-de-Souza MG, Boks MP, Zanetti MV, Otaduy MCG, Schaufelberger MS, Alda M, Ingvar M, Phillips ML, Kempton MJ, Bauer M, Landén M, Lawrence NS, van Haren NEM, Horn NR, Freimer NB, Gruber O, Schofield PR, Mitchell PB, Kahn RS, Lenroot R, Machado-Vieira R, Ophoff RA, Sarró S, Frangou S, Satterthwaite TD, Hajek T, Dannlowski U, Malt UF, Arolt V, Gattaz WF, Drevets WC, Caseras X, Agartz I, Thompson PM, Andreassen OA . **Cortical abnormalities in bipolar disorder: an MRI analysis of 6503 individuals from the ENIGMA Bipolar Disorder Working Group.** *MOLECULAR PSYCHIATRY.* 23(4):932-942. I.F.: 11.640

7. Oriolo G, Egmond E, Mariño Z, Cavero M, Navines R, Zamarrenho L, Solà R, Pujol J, Bargallo N, Forns X, Martin-Santos R . **Systematic review with meta-analysis: neuroimaging in hepatitis C chronic infection.** *ALIMENTARY PHARMACOLOGY AND THERAPEUTICS.* 47(9):1238-1252. I.F.: 7.357

8. Núñez C, Stephan-Otto C, Usall J, Bioque M, Lobo A, González-Pinto A, Pina-Camacho L, Vieta E, Castro-Fornieles J, Rodriguez-Jimenez R, Butjosa A, Janssen J, Cabrera B, Parellada M, Bernardo M, PEPs group . **Neutrophil Count Is Associated With Reduced Gray Matter and Enlarged Ventricles in First-Episode Psychosis.** *SCHIZOPHRENIA BULLETIN.* 45(4):846-858. I.F.: 6.944

9. Ramos-Perdigués S., Baillés E., Mané A., Carreño M., Donaire A., Rumià J., Bargalló N., Boget T., Setoain X., Valdés M., Pintor L. **Psychiatric Symptoms in Refractory Epilepsy During the First Year After Surgery.** *NEUROTHERAPEUTICS.* 15(4):1082-1092. I.F.: 5.719

10. Chye Y, Lorenzetti V, Suo C, Batalla A, Cousijn J, Goudriaan AE, Jenkinson M, Martin-Santos R, Whittle S, Yücel M, Solowij N. **Alteration to hippocampal volume and shape confined to cannabis dependence: a multi-site study.** ADDICTION BIOLOGY. 12652. I.F.: 5.578

11. Castellanos A, Andres A, Bernal L, Callejo G, Comes N, Gual A, Giblin JP, Roza C, Gasull X . **Pyrethroids inhibit K2P channels and activate sensory neurons: basis of insecticide-induced paraesthesias.** *PAIN.* 159(1):92-105. I.F.: 5.559

12. Boloc D, Rodríguez N, Gassó P, Abril JF, Bernardo M, Lafuente A, Mas S. **SiNoPsis: Single Nucleotide Polymorphisms selection and promoter profiling.** *BIOINFORMATICS.* 34(2):303-305. I.F.: 5.481

13. Ballesteros, Alejandro; Sanchez-Torres, Ana M.; Lopez-Ilundain, Jose M.; Cabrera, Bibiana; Lobo, Antonio; Gonzalez-Pinto, Ana M.; Diaz-Caneja, Covadonga; Corripio, Iluminada; Vieta, Eduard; de la Serna, Elena; Bobes, Julio; Usall, Judith; Contreras, Fernando; Lorente-Omenaca, Ruth; Mezquida, Gisela; Bernardo, Miguel; Cuesta, Manuel J.;PEPs Group. **Is cognitive impairment associated with antipsychotic dose and anticholinergic equivalent loads in first-episode psychosis?** *PSYCHOLOGICAL MEDICINE.* 48(13):2247-2256. I.F.: 5.475

14. Fernandez-Egea E., Worbe Y., Bernardo M., Robbins T. **Distinct risk factors for obsessive and compulsive symptoms in chronic schizophrenia.** *PSYCHOLOGICAL MEDICINE.* 48(16):1-8. I.F.: 5.475

15. Parker, Gordon; Tavella, Gabriela; Macqueen, Glenda; Berk, Michael; Grunze, Heinz; Deckersbach, Thilo; Dunner, David L.; Sajatovic, Martha; Amsterdam, Jay D.; Ketter, Terence A.; Yatham, Lakshmi N.; Kessing, Lars Vedel; Bassett, Darryl; Zimmerman, Mark; Fountoulakis, Kostas N.; Duffy, Anne; Alda, Martin; Calkin, Cynthia; Sharma, Verinder; Anand, Amit; Singh, Manpreet K.; Hajek, Tomas; Boyce, Philip; Frey, Benicio N.; Castle, David J.; Young, Allan H.; Vieta, Eduard; Rybakowski, Janusz K.; Swartz, Holly A.; Schaffer, Ayal; Murray, Greg; Bayes, Adam; Lam, Raymond W.; Bora, Emre; Post, Robert M.; Ostacher, Michael J.; Lafer, Beny; Cleare, Anthony J.; Burdick, Katherine E.; O'Donovan, Claire; Ortiz, Abigail; Henry, Chantal; Kanba, Shigenobu; Rosenblat, Joshua D.; Parikh, Sagar V.; Bond, David J.; Grunebaum, Michael F.; Frangou, Sophia; Goldberg, Joseph F.; Orum, Margo; Osser, David N.; Frye, Mark A.; McIntyre, Roger S.; Fagiolini, Andrea; Manicavasagar, Vijaya; Carlson, Gabrielle A.; Malhi, Gin S. **Revising Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, criteria for the bipolar disorders: Phase I of the AREDOC project.** *AUSTRALIAN AND NEW ZEALAND JOURNAL OF PSYCHIATRY.* 52(12):1173-1182. I.F.: 5.084

16. Amoretti S, Cabrera B, Torrent C, Mezquida G, Lobo A, González-Pinto A, Parellada M, Corripio I, Vieta E, de la Serna E, Butjosa A, Contreras F, Sarró S, Penadés R, Sánchez-Torres AM, Cuesta M, Bernardo M, PEPsGroup. **Cognitive reserve as an outcome predictor: first-episode affective versus non-affective psychosis.** *ACTA PSYCHIATRICA SCANDINAVICA.* 138(5):441-455. I.F.: 4.984

17. Belbasis L., Köhler C., Stefanis N., Stubbs B., van Os J., Vieta E., Seeman M., Arango C., Carvalho A., Evangelou E. **Risk factors and peripheral biomarkers for schizophrenia spectrum disorders: An umbrella review of**

meta-analyses. *ACTA PSYCHIATRICA SCANDINAVICA.* 137(2):88-97. I.F.: 4.984

18. Solé B, Bonnin CM, Jiménez E, Torrent C, Torres I, Varo C, Valls E, Montejo L, Gómez-Ocaña C, Tomioka Y, Vieta E, Martinez-Aran A, Reinares M. **Heterogeneity of functional outcomes in patients with bipolar disorder: a cluster-analytic approach.** *ACTA PSYCHIATRICA SCANDINAVICA.* 137(6):516-527. I.F.: 4.984

19. Sanchez-Moreno J, Bonnin CM, González-Pinto A, Amann BL, Solé B, Balanzá-Martinez V, Arango C, Jiménez E, Tabarés-Seisdedos R, Garcia-Portilla MP, Ibáñez A, Crespo JM, Ayuso-Mateos JL, Martinez-Aran A, Torrent C, Vieta E, CIBERSAM Functional Remediation Group. **Factors associated with poor functional outcome in bipolar disorder: sociodemographic, clinical, and neurocognitive variables.** *ACTA PSYCHIATRICA SCANDINAVICA.* 138(2):145-154. I.F.: 4.984

20. Gasso, Patricia; Mas, Sergi; Bioque, Miquel; Cabrera, Bibiana; Lobo, Antonio; Gonzalez-Pinto, Ana; Diaz-Caneja, Covadonga M.; Corripio, Iluminada; Vieta, Eduard; Castro-Fornieles, Josefina; Sarro, Salvador; Mane, Anna; Sanjuan, Julio; Llerena, Adrian; Lafuente, Amalia; Saiz-Ruiz, Jeronimo; Bernardo, Miguel; PEPs Group. **Impact of NTRK2, DRD2 and ACE polymorphisms on prolactin levels in antipsychotic-treated patients with first-episode psychosis.** *JOURNAL OF PSYCHOPHARMACOLOGY.* 32(6):702-710. I.F.: 4.738

21. Boloc D, Gortat A, Cheng-Zhang JQ, García-Cerro S, Rodríguez N, Parellada M, Saiz-Ruiz J, Cuesta MJ, Gassó P, Lafuente A, Bernardo M, Mas S. **Improving pharmacogenetic prediction of extrapyramidal symptoms induced by antipsychotics.** *TRANSLATIONAL PSYCHIATRY.* 8(1):276. I.F.: 4.691

22. Miskowiak KW, Burdick KE, Martinez-Aran A, Bonnin CM, Bowie CR, Carvalho AF, Gallagher P, Lafer B, López-Jaramillo C, Sumiyoshi T, McIntyre RS, Schaffer A, Porter RJ, Purdon S, Torres IJ, Yatham LN, Young AH, Kessing LV, Vieta E. **Assessing and addressing cognitive impairment in bipolar disorder: the International Society for Bipolar Disorders Targeting Cognition Task Force recommendations for clinicians.** *BIPOLAR DISORDERS.* 20(3):184-194. I.F.: 4.490

23. Hegerl U., Mergl R., Sander C., Dietzel J., Bitter I., Demyttenaere K., Gusmão R., Arrillaga A., Zorrilla I., Alocén A., Sola V., Vieta E., Juckel G., Zimmermann U., Bauer M., Sienaert P., Quintão S., Edel M., Bolyos C., Ayuso-Mateos J., López-García P., Kluge M. **A multi-centre, randomised, double-blind, placebo-controlled clinical trial of methylphenidate in the initial treatment of acute mania (MEMAP study).** *EUROPEAN NEUROPSYCHOPHARMACOLOGY.* 28(1):185-194. I.F.: 4.129

24. San L, Estrada G, Oudovenko N, Montañés F, Dobrovolskaya N, Bukhanovskaya O, Popov M, Vieta E . **PLACID study: A randomized trial comparing the efficacy and safety of inhaled loxapine versus intramuscular aripiprazole in acutely agitated patients with schizophrenia or bipolar disorder.** *EUROPEAN NEUROPSYCHOPHARMACOLOGY.* 28(6):710-718. I.F.: 4.129

25. Jimenez, E.; Sole, B.; Arias, B.; Mitjans, M.; Varo, C.; Reinares, M.; Bonnin, C. M.; Salagre, E.; Ruiz, V.; Torres, I.; Tomioka, Y.; Saiz, P. A.; Garcia-Portilla, M. P.; Buron, P.; Bobes, J.; Martinez-Aran, A.; Torrent, C.; Vieta, E.; Benabarre, A. **Characterizing decision-making and reward processing in bipolar disorder: A cluster analysis.** *EUROPEAN NEUROPSYCHOPHARMACOLOGY.* 28(7):863-874. I.F.: 4.129

26. Beraldi G., Prado K., Amann B., Radua J., Friedman L., Elkis H. **Meta-analyses of cavum septum pellucidum in mood disorders in comparison with healthy controls or schizophrenia.** *EUROPEAN NEUROPSYCHOPHARMACOLOGY.* 28(12):1325-1338. I.F.: 4.129

27. González-Pinto A, López-Peña P, Bermúdez-Ampudia C, Vieta E, Martinez-Cengotitabengoa M. **Can lithium salts prevent depressive episodes in the real world?** *EUROPEAN NEUROPSYCHOPHARMACOLOGY.* 28(12):1351-1359. I.F.: 4.129

28. Nunes-Neto PR, Köhler CA, Schuch FB, Solmi M, Quevedo J, Maes M, Murru A, Vieta E, McIntyre RS, McElroy SL, Gearhardt AN, Stubbs B, Carvalho AF . **Food addiction: Prevalence, psychopathological correlates and associations with quality of life in a large sample.** *JOURNAL OF PSYCHIATRIC RESEARCH.* 96:145-152. I.F.: 4.000

29. Barcones MF, MacDowell KS, García-Bueno B, Bioque M, Gutiérrez-Galve L, González-Pinto A, Parellada MJ, Bobes J, Bernardo M, Lobo A, Leza JC. **Cardiovascular risk in early psychosis. Relationship with inflammation and clinical features 6 months after diagnosis.** *INTERNATIONAL JOURNAL OF NEUROPSYCHOPHARMACOLOGY.* 21(5):410-422. I.F.: 3.981

30. Bioque M, García-Portilla MAP, García-Rizo C, Cabrera B, Lobo A, González-Pinto A, Díaz-Caneja CM, Corripio I, Vieta E, Castro-Fornieles J, Bobes J, Gutiérrez-Fraile M, Rodriguez-Jimenez R, Mezquida G, Llerena A, Saiz-Ruiz J, Bernardo M, PEPs GROUP. **Evolution of metabolic risk factors over a two-year period in a cohort of first episodes of psychosis.** *SCHIZOPHRENIA RESEARCH.* 193:188-196. I.F.: 3.958

31. Sánchez-Gutiérrez T, García-Portilla MP, Parellada M, Bobes J, Calvo A, Moreno-Izco L, González-Pinto A, Lobo A, de la Serna E, Cabrera B, Torrent C, Roldán L, Sanjuan J, Ibáñez Á, Sánchez-Torres AM, Corripio I, Bernardo M, Cuesta MJ, PEPs group. **Smoking does not impact social and non-social cognition in patients with first episode psychosis.** *SCHIZOPHRENIA RESEARCH.* 199:64-74. I.F.: 3.958

32. Noguera A., Castro-Fornieles J., Romero S., de la Serna E., Sugranyes G., Sánchez-Gistau V., Moreno D., Díaz-Caneja C., Merchán-Naranjo J., Llorente C., Baeza I. **Attenuated psychotic symptoms in children and adolescent offspring of patients with schizophrenia.** *SCHIZOPHRENIA RESEARCH.* 193:354-358. I.F.: 3.958

33. Mezquida G., Savulich G., Garcia-Rizo C., Garcia-Portilla M., Toll A., Garcia-Alvarez L., Bobes J., Mané A., Bernardo M., Fernandez-Egea E. **Inverse association between negative symptoms and body mass index in chronic schizophrenia.** *SCHIZOPHRENIA RESEARCH.* 192:69-74. I.F.: 3.958

34. Penadés R., López-Vílchez I., Catalán R.,

Arias B., González-Rodríguez A., García-Rizo C., Masana G., Ruíz V., Mezquida G., Bernardo M. **BDNF as a marker of response to cognitive remediation in patients with schizophrenia: A randomized and controlled trial.** *SCHIZOPHRENIA RESEARCH.* 197:458-464. I.F.: 3.958

35. Cano-López I, Calvo A, Boget T, Carreño M, Donaire A, Setoain X, Pintor L, Rumià J, González-Bono E, Junqué C, Bargalló N. **Typical asymmetry in the hemispheric activation during an fMRI verbal comprehension paradigm is related to better performance in verbal and non-verbal tasks in patients with epilepsy.** *NEUROIMAGE: CLINICAL*. 20:742-752. I.F.: 3.869

36. Tomioka Y., Jiménez E., Salagre E., Arias B., Mitjans M., Ruiz V., Sáiz P., García-Portilla M., de la Fuente L., Gomes-da-Costa S., Bobes J., Vieta E., Benabarre A., Grande I. **Association between genetic variation in the myo-inositol monophosphatase 2 (IMPA2) gene and age at onset of bipolar disorder.** *JOURNAL OF AFFECTIVE DISORDERS.* 232:229-236. I.F.: 3.786

37. Torrent C, Reinares M, Martinez-Arán A, Cabrera B, Amoretti S, Corripio I, Contreras F, Sarró S, González-Pinto A, Lobo A, Cuesta MJ, Sánchez-Torres A, Bergé D, Castro-Fornieles J, Moreno C, Bernardo M, Vieta E, PEPS group. **Affective versus first-episode non-affective first-episode psychoses: A longitudinal study.** *JOURNAL OF AFFECTIVE DISORDERS*. 238:297-304. I.F.: 3.786

38. Vidal-Rubio S., Balanzá-Martínez V., Cuenca M., Vila-Francés J., Vieta E., Romeu J. **Duration of euthymia and predominant polarity in bipolar disorder.** *JOURNAL OF AFFECTIVE DISORDERS.* 241:356-359. I.F.: 3.786

39. Aedo A., Murru A., Sanchez R., Grande I., Vieta E., Undurraga J. **Clinical characterization of rapid cycling bipolar disorder: Association with attention deficit hyperactivity disorder.** *JOURNAL OF AFFECTIVE DISORDERS.* 240:187-192. I.F.: 3.786

40. Mazzarini L, Kotzalidis GD, Piacentino D, Rizzato S, Angst J, Azorin JM, Bowden CL, Mosolov S, Young AH, Vieta E, Girardi P, Perugi G, BRIDGE-II-Mix Study Group. **Is recurrence in major depressive disorder related to bipolarity and mixed features?** Results from the *BRIDGE-II-Mix study. JOURNAL OF AFFECTIVE DISORDERS.* 229:164-170. I.F.: 3.786

41. Jiménez-López E., Sánchez-Morla E., Aparicio A., López-Villarreal A., Martínez-Vizcaíno V., Rodriguez-Jimenez R., Vieta E., Santos J. **Psychosocial functioning in patients with psychotic and non-psychotic bipolar I disorder. A comparative study with individuals with schizophrenia.** *JOURNAL OF AFFECTIVE DISORDERS.* 229:177-185. I.F.: 3.786

42. Torres I, Garriga M, Sole B, Bonnín CM, Corrales M, Jiménez E, Sole E, Ramos-Quiroga JA, Vieta E, Goikolea JM, Martínez-Aran A. **Functional impairment in adult bipolar disorder with ADHD.** *JOURNAL OF AFFECTIVE DISORDERS.* 227:117-125. I.F.: 3.786

43. Vieta E., Sluth L., Olsen C. **The effects of vortioxetine on cognitive dysfunction in patients with inadequate response to current antidepressants in major depressive disorder: A short-term, randomized, double-blind, exploratory study versus escitalopram.** *JOURNAL OF AFFECTIVE DISORDERS.* 227:803-809. I.F.: 3.786

44. Bonnín C., Yatham L., Michalak E., Martínez-Arán A., Dhanoa T., Torres I., Santos-Pascual C., Valls E., Carvalho A., Sánchez-Moreno J., Valentí M., Grande I., Hidalgo-Mazzei D., Vieta E., Reinares M. **Psychometric properties of the well-being index (WHO-5) spanish version in a sample of euthymic patients with bipolar disorder.** *JOURNAL OF AFFECTIVE DISORDERS.* 228:153-159. I.F.: 3.786

45. Zhang Y, Long X, Ma X, He Q, Luo X, Bian Y, Xi Y, Sun X, Ng CH, Vieta E, Xiang YT . **Psychometric properties of the Chinese version of the Functioning Assessment Short Test (FAST) in bipolar disorder.** *JOURNAL OF AFFECTIVE DISORDERS.* 238:156-160. I.F.: 3.786

46. Bonnín CM, Martínez-Arán A, Reinares M, Valentí M, Solé B, Jiménez E, Montejo L, Vieta E, Rosa AR . **Thresholds for severity, remission and recovery using the functioning assessment short test (FAST) in bipolar disorder.** *JOURNAL OF AFFECTIVE DISORDERS.* 240:57-62. I.F.: 3.786

47. Hidalgo-Mazzei D, Reinares M, Mateu A, Nikolova VL, Bonnín CDM, Samalin L, García-Estela A, Pérez-Solá V, Young AH, Strejilevich S, Vieta E, Colom F . **OpenSIMPLe: A real-world implementation feasibility study of a smartphone-based psychoeducation programme for bipolar disorder.** *JOURNAL OF AFFECTIVE DISORDERS.* 241:436-445. I.F.: 3.786

48. Sánchez-Torres AM, Moreno-Izco L, Lorente-Omeñaca R, Cabrera B, Lobo A, González-Pinto AM, Merchán-Naranjo J, Corripio I, Vieta E, de la Serna E, Butjosa A, Contreras F, Sarró S, Mezquida G, Ribeiro M, Bernardo M, Cuesta MJ, PEPs group. **Individual trajectories of cognitive performance in first episode psychosis: a 2-year follow-up study.** *EUROPEAN ARCHIVES OF PSYCHIATRY AND CLINICAL NEUROSCIENCE.* 268(7):1-13. I.F.: 3.617

49. Murru A, Pacchiarotti I, Verdolini N, Reinares M, Torrent C, Geoffroy PA, Bellivier F, Llorca PM, Vieta E, Samalin L. **Modifiable and non-modifiable factors associated with functional impairment during the inter-episodic periods of bipolar disorder.** *EUROPEAN ARCHIVES OF PSYCHIATRY AND CLINICAL NEUROSCIENCE.* 268(8):749-755. I.F.: 3.617

50. Abdulkadir M, Londono D, Gordon D, Fernandez TV, Brown LW, Cheon KA, Coffey BJ, Elzerman L, Fremer C, Fründt O, Garcia-Delgar B, Gilbert DL, Grice DE, Hedderly T, Heyman I, Hong HJ, Huyser C, Ibanez-Gomez L, Jakubovski E, Kim YK, Kim YS, Koh YJ, Kook S, Kuperman S, Leventhal B, Ludolph AG, Madruga-Garrido M, Maras A, Mir P, Morer A, Müller-Vahl K, Münchau A, Murphy TL, Plessen KJ, Roessner V, Shin EY, Song DH, Song J, Tübing J, van den Ban E, Visscher F, Wanderer S, Woods M, Zinner SH, King RA, Tischfield JA, Heiman GA, Hoekstra PJ, Dietrich A. **Investigation of previously implicated genetic variants in chronic tic disorders: a transmission disequilibrium test approach.** *EUROPEAN ARCHIVES OF PSYCHIATRY AND CLINICAL NEUROSCIENCE.* 268(3):301-316. I.F.: 3.617

51. Castro-Fornieles J, Bargalló N, Calvo A, Arango C, Baeza I, Gonzalez-Pinto A, Parellada M, Graell M, Moreno C, Otero S, Janssen J, Rapado-Castro M, de la Serna E. **Gray matter changes and cognitive predictors of 2-year follow-up abnormalities in early-onset first-episode**

psychosis. EUROPEAN CHILD AND ADOLESCENT PSYCHIATRY. 27(1):113-126. I.F.: 3.553

52. Díaz-Caneja CM, Morón-Nozaleda MG, Vicente-Moreno RP, Rodríguez-Toscano E, Pina-Camacho L, de la Serna E, Sugranyes G, Baeza I, Romero S, Sánchez-Gistau V, Castro-Fornieles J, Moreno D. **Temperament in child and adolescent offspring of patients with schizophrenia and bipolar disorder.** *EUROPEAN CHILD AND ADOLESCENT PSYCHIATRY.* 27(11):1459-1471. I.F.: 3.553

53. Barrio P., Teixidor L., Ortega L., Lligoña A., Rico N., Bedini J., Vieta E., Gual A. **Filling the gap between lab and clinical impact: An open randomized diagnostic trial comparing urinary ethylglucuronide and ethanol in alcohol dependent outpatients.** *DRUG AND ALCOHOL DEPENDENCE.* 183:225-230. I.F.: 3.322

54. Garcia-Delgar B., Morer A., Varela E., Romero S., García M., Coffey B., Lázaro L. **Activation in children and adolescents treated with selective serotonin reuptake inhibitors.** *JOURNAL OF CLINICAL PSYCHOPHARMACOLOGY.* 38(5):475-480. I.F.: 3.134

55. Dolz M, Tor J, De la Serna E, Pardo M, Muñoz-Samons D, Rodríguez-Pascual M, Puig O, Sugranyes G, Usall J, Sánchez-Gistau V, Baeza I. **Characterization of children and adolescents with psychosis risk syndrome: The Children and Adolescents Psychosis Risk Syndrome (CAPRIS) study.** *EARLY INTERVENTION IN PSYCHIATRY.* I.F.: 2.923

56. Gasso, Patricia; Blazquez, Ana; Rodriguez, Natalia; Boloc, Daniel; Torres, Teresa; Mas, Sergi; Lafuente, Amalia; Lazaro, Luisa. **Further Support for the Involvement of Genetic Variants Related to the Serotonergic Pathway in the Antidepressant Response in Children and Adolescents After a 12-Month Follow-Up: Impact of the HTR2A rs7997012 Polymorphism.** *JOURNAL OF CHILD AND ADOLESCENT PSYCHOPHARMACOLOGY.* 28(10):711-718. I.F.: 2.901

57. Fortea A, Ilzarbe D, Espinosa L, Solerdelcoll M, de Castro C, Oriolo G, Sugranyes G, Baeza I. **Long-Acting Injectable Atypical Antipsychotic Use in Adolescents: An Observational Study.** *JOURNAL OF CHILD AND ADOLESCENT PSYCHOPHARMACOLOGY.* 28(4):252-257. I.F.: 2.901

58. Baeza I, de la Serna E, Calvo-Escalona R, Merchán-Naranjo J, Rodríguez-Latorre P, Martínez-Cantarero MC, Andrés P, Alda JA, Muñoz-Samons D, Ilzarbe D, Arango C, Castro-Fornieles J. **One-Year Prospective Study of Liver Function Tests in Children and Adolescents on Second-Generation Antipsychotics: Is There a Link with Metabolic Syndrome?** *JOURNAL OF CHILD AND ADOLESCENT PSYCHOPHARMACOLOGY.* 28(7):463-473. I.F.: 2.901

59. Reinbold, Celine S.; Forstner, Andreas J.; Hecker, Julian; Fullerton, Janice M.; Hoffmann, Per; Hou, Liping; Heilbronner, Urs; Degenhardt, Franziska; Adli, Mazda; Akiyama, Kazufumi; Akula, Nirmala; Ardau, Raffaella; Arias, Barbara; Backlund, Lena; Benabarre, Antonio; Bengesser, Susanne; Bhattacharjee, Abesh K.; Biernacka, Joanna M.; Birner, Armin; Marie-Claire, Cynthia; Cervantes, Pablo; Chen, Guo-Bo; Chen, Hsi-Chung; Chillotti, Caterina; Clark, Scott R.; Colom, Francesc; Cousins, David A.; Cruceanu, Cristiana; Czerski, Piotr M.; Dayer, Alexandre; Etain, Bruno; Falkai, Peter; Frisen, Louise; Gard, Sebastien; Garnham, Julie S.; Goes, Fernando S.; Grof, Paul; Gruber, Oliver; Hashimoto, Ryota; Hauser, Joanna; Herms, Stefan; Jamain, Stephane; Jimenez, Esther; Kahn, Jean-Pierre; Kassem, Layla; Kittel-Schneider, Sarah; Kliwicki, Sebastian; Koenig, Barbara; Kusumi, Ichiro; Lackner, Nina; Laje, Gonzalo; Landen, Mikael; Lavebratt, Catharina; Leboyer, Marion; Leckband, Susan G.; Lopez Jaramillo, Carlos A.; MacQueen, Glenda; Manchia, Mirko; Martinsson, Lina; Mattheisen, Manuel; McCarthy, Michael J.; McElroy, Susan L.; Mitjans, Marina; Mondimore, Francis M.; Monteleone, Palmiero; Nievergelt, Caroline M.; Osby, Urban; Ozaki, Norio; Perlis, Roy H.; Pfennig, Andrea; Reich-Erkelenz, Daniela; Rouleau, Guy A.; Schofield, Peter R.; Schubert, K. Oliver; Schweizer, Barbara W.; Seemueller, Florian; Severino, Giovanni; Shekhtman, Tatyana; Shilling, Paul D.; Shimoda, Kazutaka; Simhandl, Christian; Slaney, Claire M.; Smoller, Jordan W.; Squassina, Alessio; Stamm, Thomas J.; Stopkova, Pavla; Tighe, Sarah K.; Tortorella, Alfonso; Turecki, Gustavo; Volkert, Julia; Witt, Stephanie H.; Wright, Adam J.; Young, L. Trevor; Zandi, Peter P.; Potash, James B.; DePaulo, J. Raymond; Bauer, Michael; Reininghaus, Eva; Novak, Tomas; Aubry, Jean-Michel; Maj, Mario; Baune, Bernhard T.; Mitchell, Philip B.; Vieta, Eduard; Frye, Mark A.; Rybakowski, Janusz K.; Kuo, Po-Hsiu; Kato, Tadafumi; Grigoroiu-Serbanescu, Maria; Reif, Andreas; Del Zompo, Maria; Bellivier, Frank; Schalling, Martin; Wray, Naomi R.; Kelsoe, John R.; Alda, Martin; McMahon, Francis J.; Schulze, Thomas G.; Rietschel, Marcella; Nothen, Markus M.; Cichon, Sven. **Analysis of the Influence of microRNAs in Lithium Response in Bipolar Disorder.** *FRONTIERS IN PSYCHIATRY.* 9(207):207. I.F.: 2.857

60. Miquel, Laia; Rehm, Juergen; Shield, Kevin D.; Vela, Emili; Bustins, Montserrat; Segura, Lidia; Colom, Joan; Anderson, Peter; Gual, Antoni. **Alcohol, tobacco and health care costs: a population-wide cohort study (n=606 947 patients) of current drinkers based on medical and administrative health records from Catalonia.** *EUROPEAN JOURNAL OF PUBLIC HEALTH.* 28(4):674-680. I.F.: 2.782

61. García S, Alberich S, Martínez-Cengotitabengoa M, Arango C, Castro-Fornieles J, Parellada M, Baeza I, Moreno C, Micó JA, Berrocoso E, Graell M, Otero S, Simal T, González-Pinto A. **The complex association between the antioxidant defense system and clinical status in early psychosis.** *PLOS ONE.* 13(4):e0194685. I.F.: 2.766

62. Bramness J; Dom G; Gual A; Mann K; Wurst F. **A Survey on the Medical Use of Cannabis in Europe: A Position Paper.** *EUROPEAN ADDICTION RESEARCH.* 24(4):201-205. I.F.: 2.653

63. Miquel L., Manthey J., Rehm J., Vela E., Bustins M., Segura L., Vieta E., Colom J., Anderson P., Gual A. **Risky Alcohol Use: The Impact on Health Service Use.** *EUROPEAN ADDICTION RESEARCH.* 24(5):234-244. I.F.: 2.653

64. Casajuana C., López-Pelayo H., Miquel L., Balcells-Oliveró M., Colom J., Gual A. **Quantitative Criteria to Screen for Cannabis Use Disorder**. *EUROPEAN ADDICTION RESEARCH.* 24(3):109-117. I.F.: 2.653

65. Bruguera P, Barrio P, Oliveras C, Braddick F, Gavotti C, Bruguera C, López-Pelayo H, Miquel L, Segura L, Colom J, Ortega L, Vieta E, Gual A. **Effectiveness of a specialized brief intervention for at-risk drinkers in an Emergency Department. Short term results of a randomized controlled trial.**

ACADEMIC EMERGENCY MEDICINE. 25(5):517-525. I.F.: 2.612

66. Farré-Sender B, Farré-Sender B, Torres A, Torres A, Torres A, Torres A, Gelabert E, Andrés S, Roca A, Lasheras G, Valdés M, Valdés M, Garcia-Esteve L, Garcia-Esteve L, Garcia-Esteve L. **Mother-infant bonding in the postpartum period: assessment of the impact of pre-delivery factors in a clinical sample.** *ARCHIVES OF WOMEN'S MENTAL HEALTH.* 21(3):287-297. I.F.: 2.565

67. Peri JM, Muñoz-Champel A, Torrubia R, Gutiérrez F. **The General Criteria for Personality Disorders Assessed by Interview: Do They Still Have a Role to Play?** *JOURNAL OF PERSONALITY DISORDERS.* 11:1-27. I.F.: 2.529

68. Muñoz-Champel A, Gutiérrez F, Peri JM, Torrubia R. **Personality Disorders Are Not as We Thought: Hierarchical Factor Structure at the Criterion Level.** *JOURNAL OF PERSONALITY ASSESSMENT.* 100(1):16-29. I.F.: 2.339

69. Albajes-Eizagirre A, Solanes A, Radua J. **Meta-analysis of non-statistically significant unreported effects.** *STATISTICAL METHODS IN MEDICAL RESEARCH.* 962280218811349:962280218811349. I.F.: 2.284

70. Fernández-Candil J, Castelltort Mascó L, Fàbregas Julià N, Urretavizcaya Sarachaga M, Bernardo Arroyo M, Valero Castell R. **Anaesthesia in electroconvulsive therapy. Special conditions.** *REVISTA DE PSIQUIATRIA Y SALUD MENTAL.* S1888-9891(18):30061-2. I.F.: 2.233

71. Bernardo M., de Dios C., Pérez V., Ignacio E., Serrano M., Vieta E., Mira J., Guilabert M., Roca M. **Quality indicators in the treatment of patients with depression, bipolar disorder or schizophrenia. Consensus study.** *REVISTA DE PSIQUIATRIA Y SALUD MENTAL.* 11(2):66-75. I.F.: 2.233

72. Vieta E, Montes JM, Iborra P, Mozos A, Sáez C, Benabarre A. **Management of asenapine treatment in clinical practice: Recommendations from a panel of experts.** *REVISTA DE PSIQUIATRIA Y SALUD MENTAL.* S1888-9891(18):30042-9. I.F.: 2.233

73. Mezquida G., Cabrera B., Martínez-Arán A., Vieta E., Bernardo M. **Detection of early psychotic symptoms: Validation of the Spanish version of the "Symptom Onset in Schizophrenia (SOS) inventory".** *PSYCHIATRY RESEARCH.* 261:68-72. I.F.: 2.223

74. Ballesteros-Urpí A, Pardo-Hernández H, Ferrero-Gregori A, Torralbas-Ortega J, Puntí-Vidal J, Tàpies Olivet P, Izaguirre Eguren J, Vergés Balasch P, Lara Lloveras A, Bertomeu S, Peramiquel M, Herreros V, Vidal À, Font E, Romero S, Garcia M, Lázaro L, Morer À. **Validation of the Spanish and Catalan versions of the Health of the Nation Outcome Scale for Children and Adolescents (HoNOSCA).** *PSYCHIATRY RESEARCH.* 261:554-559. I.F.: 2.223

75. Nunes-Neto PR, Köhler CA, Schuch FB, Quevedo J, Solmi M, Murru A, Vieta E, Maes M, Stubbs B, Carvalho AF. **Psychometric properties of the modified Yale Food Addiction Scale 2.0 in a large Brazilian sample.** *REVISTA BRASILEIRA DE PSIQUIATRIA.* 40(4):444-448. I.F.: 2.093

76. Sanvisens A, Zuluaga P, Rivas I, Rubio G, Gual A, Torrens M, Short A, Álvarez FJ, Tor J, Farré M, Rodríguez de Fonseca F, Muga R. **Patients with alcohol use disorder: initial results from a prospective multicenter registry in the Spanish Network on Addiction Disorders. CohRTA Study.** *ADICCIONES.* 30(4):292-300. I.F.: 2.021

77. Sanchez-Autet, Monica; Garriga, Marina; Javier Zamora, Francisco; Gonzalez, Idilio; Usall, Judith; Tolosa, Leticia; Benitez, Concepcion; Puertas, Raquel; Arranz, Belen. **Screening of alcohol use disorders in psychiatric outpatients: influence of gender, age, and psychiatric diagnosis.** *ADICCIONES.* 30(4):251-263. I.F.: 2.021

78. Barrio Giménez P, Ortega L, Guardia J, Roncero C, Yuguero L, Gual A. **A comparison between phase-III trials and a phase-IV study of nalmefene in alcohol use disorder patients. Is there a difference?** *ADICCIONES.* 0(0):1046. I.F.: 2.021

79. Gómez-Gil E, Simulionyte E, Balcells-Oliveró M, Valdés M, Salamero M, Guillamón A, Esteva I. **Patterns of alcohol, tobacco, and illicit drug use among transsexuals.** 0(0):945. I.F.: 2.021

80. Frias-Torres, Cindy; Moreno-Espana, Jose; Ortega, Lluisa; Barrio, Pablo; Gual, Antoni; Teixidor, Lidia. **Remediation therapy in patients with alcohol use disorders and neurocognitive disorders: A Pilot Study.** *ADICCIONES.* 30(2):93-100. I.F.: 2.021

81. Jürgen Rehm; Gerrit Gmel; Cristina Sierra Benito; Antoni Gual Solé. **Reducción de la mortalidad mediante una mejor detección de la hipertensión y los problemas con el alcohol en atención primaria de salud en España.** *ADICCIONES.* 30(1):9-18. I.F.: 2.021

82. López Pelayo H, Altamirano J, López E, Barrio P, López A, Gual A, Lligoña A. **Role of Alcohol and Drug Detection by Regular Urine Sample Testing in pre-transplant evaluation for Alcohol Liver Disease.** *ADICCIONES.* 0(0):1121. I.F.: 2.021

83. Mezquida, Gisela; Fernandez-Egea, Emilio; Treen, Devi; Mane, Anna; Berge, Daniel; Savulich, George; Garcia-Alvarez, Leticia; Garcia-Portilla, Paz; Bobes, Julio; Bernardo, Miguel; Garcia-Rizo, Clemente. **Obstetric Phenotypes in the Heterogeneity of Schizophrenia.** *JOURNAL OF NERVOUS AND MENTAL DISEASE.* 206(11):882-886. I.F.: 1.940

84. Barrio P, Ortega L, Guardia J, Roncero C, Yuguero L, Gual A. **Who Receives Nalmefene and How Does It Work in the Real World? A Single-Arm, Phase IV Study of Nalmefene in Alcohol Dependent Outpatients: Baseline and 1-Month Results.** *CLINICAL DRUG INVESTIGATION.* 38(2):147-155. I.F.: 1.918

85. Rubio E, Martínez MJ, Gonzalo V, Barrachina J, Torner N, Martínez AI, Jané M, Vilella A, Del Rio A, Rodriguez-Valero N, Pinazo MJ, Muñoz J, Soriano A, Trilla A, Vila J, Marcos MÁ. **Definitive diagnosis in suspected Middle East Respiratory Syndrome Coronavirus cases.** *JOURNAL OF TRAVEL MEDICINE.* 25(1). I.F.: 1.800

86. Berrocal-Izquierdo N, Bioque M, Bernardo M. **Relationship Between Antipsychotic Medications and Cerebrovascular Disease in Patients With Serious Mental Illness.** *JOURNAL OF PSYCHIATRIC PRACTICE.* 24(2):72-78. I.F.: 1.722

87. Miquel L, López-Pelayo H, Nuño L, Arbesú JÁ, Zarco J, Manthey J, Rehm J, Gual A. **Barriers to implement screening for alcohol consumption in Spanish hypertensive patients.** *FAMILY PRACTICE.* 35(3):295-301. I.F.: 1.675

88. Palacio-Vieira J., Segura L., Anderson P., Wolstenholme A., Drummond C., Bendtsen P., Wojnar M., Kaner E., Keurhorst M., van Steenkiste B., K?oda K., Mierzecki A., Parkinson K., Newbury-Birch D., Okulicz-Kozaryn K., Deluca P., Colom J., Gual A. **Improving screening and brief intervention activities in primary health care: Secondary analysis of professional accuracy based on the AUDIT-C.** *JOURNAL OF EVALUATION IN CLINICAL PRACTICE.* 24(2):369-374. I.F.: 1.483

89. Parellada E., Bioque M., Serrano M., Herrera B., García Dorado M. **An open-treatment six-week study of the clinical effectiveness of Paliperidone Palmitate in schizophrenia: data from acute units in Spain (SHADOW study).** *INTERNATIONAL JOURNAL OF PSYCHIATRY IN CLINICAL PRACTICE.* 22(3):191-199. I.F.: 1.337

90. Garcia-Delgar B., de la Serna E., Lera S., Varela E., Andrés-Perpiñá S., Lázaro L. **Neuropsychological functioning in pediatric obsessive-compulsive disorder: One size does not fit all.** *JOURNAL OF OBSESSIVE-COMPULSIVE AND RELATED DISORDERS.* 16:36-42. I.F.: 1.230

Review / I.F.: 150.923

1. Vieta E, Berk M, Schulze TG, Carvalho AF, Suppes T, Calabrese JR, Gao K, Miskowiak KW, Grande I . **Bipolar disorders.** *NATURE REVIEWS DISEASE PRIMERS.* 4:18008. I.F.: 16.071

2. Seitz H., Bataller R., Cortez-Pinto H., Gao B., Gual A., Lackner C., Mathurin P., Mueller S., Szabo G., Tsukamoto H. **Alcoholic liver disease.** *NATURE REVIEWS DISEASE PRIMERS.* 4(1):16. I.F.: 16.071

3. Bauer M, Andreassen OA, Geddes JR, Vedel Kessing L, Lewitzka U, Schulze TG, Vieta E. **Areas of uncertainties and unmet needs in bipolar disorders: clinical and research perspectives.** *LANCET PSYCHIAT.* 5(11):930-939. I.F.: 15.233

4. Vieta E, Salagre E, Grande I, Carvalho AF, Fernandes BS, Berk M, Birmaher B, Tohen M, Suppes T. **Early Intervention in Bipolar Disorder.** *AMERICAN JOURNAL OF PSYCHIATRY.* 175(5):411-426. I.F.: 13.396

5. Van den Brink W, Addolorato G, Aubin HJ, Benyamina A, Caputo F, Dematteis M, Gual A, Lesch OM, Mann K, Maremmani I, Nutt D, Paille F, Perney P, Rehm J, Reynaud M, Simon N, Söderpalm B, Sommer WH, Walter H, Spanagel R. **Efficacy and safety of sodium oxybate in alcohol-dependent patients with a very high drinking risk level.** *ADDICTION BIOLOGY.* 23(4):969-986. I.F.: 5.578

6. Morris G, Reiche EMV, Murru A, Carvalho AF, Maes M, Berk M, Puri BK. **Multiple Immune-Inflammatory and Oxidative and Nitrosative Stress Pathways Explain the Frequent Presence of Depression in Multiple Sclerosis.** *MOLECULAR NEUROBIOLOGY.* 55(8):6282-6306. I.F.: 5.076

7. Verdolini N, Hidalgo-Mazzei D, Murru A, Pacchiarotti I, Samalin L, Young AH, Vieta E, Carvalho AF. **Mixed states in bipolar and major depressive disorders: systematic review and quality appraisal of guidelines.** *ACTA PSYCHIATRICA SCANDINAVICA.* 138(3):196-222. I.F.: 4.984

8. Soria V, González-Rodríguez A, Huerta-Ramos E, Usall J, Cobo J, Bioque M, Barbero JD, García-Rizo C, Tost M, Monreal JA,, Labad J PNECAT Group. **Targeting hypothalamic-pituitary-adrenal axis hormones and sex steroids for improving cognition in major mood disorders and schizophrenia: a systematic review and narrative synthesis.** *PSYCHONEUROENDOCRINOLOGY.* 93:8-19. I.F.: 4.731

9. Anderson P, Gual A, Rehm J. **Reducing the health risks derived from exposure to addictive substances.** *CURRENT OPINION IN PSYCHIATRY.* 31(4):333-341. I.F.: 4.266

10. Segura, Lidia; Anderson, Peter; Gual, Antoni. **Optimizing the delivery of interventions for harmful alcohol use in primary healthcare: an update.** *CURRENT OPINION IN PSYCHIATRY.* 31(4):324-332. I.F.: 4.266

11. Soo S., Zhang Z., Khong S., Low J., Vamadevan, Alhabsyi S., Chew Q., Sum M., Sengupta S., Vieta E., McIntyre R., Sim K. **Randomized controlled trials of psychoeducation modalities in the management of bipolar disorder: A systematic review.** *JOURNAL OF CLINICAL PSYCHIATRY.* 79(3):3. I.F.: 4.247

12. Molero P, Ramos-Quiroga JA, Martin-Santos R, Calvo-Sánchez E, Gutiérrez-Rojas L, Meana JJ . **Antidepressant Efficacy and Tolerability of Ketamine and Esketamine: A Critical Review.** *CNS DRUGS.* 32(5):411-420. I.F.: 4.206

13. Arranz B, Garriga M, García-Rizo C, San L. **Clozapine use in patients with schizophrenia and a comorbid substance use disorder: A systematic review.** *EUROPEAN NEUROPSYCHOPHARMACOLOGY.* 28(2):227-242. I.F.: 4.129

14. Donadon, Mariana Fortunata; Martin-Santos, Rocio; Osorio, Flavia de Lima. **The Associations Between Oxytocin and Trauma in Humans: A Systematic Review.** *FRONTIERS IN PHARMACOLOGY.* 9:154. I.F.: 3.831

15. Menculini G., Verdolini N., Murru A., Pacchiarotti I., Volpe U., Cervino A., Steardo L., Moretti P., Vieta E., Tortorella A. **Depressive mood and circadian rhythms disturbances as outcomes of seasonal affective disorder treatment: A systematic review.** *JOURNAL OF AFFECTIVE DISORDERS.* 241:608-626. I.F.: 3.786

16. Chu CS, Stubbs B, Chen TY, Tang CH, Li DJ, Yang WC, Wu CK, Carvalho AF, Vieta E, Miklowitz DJ, Tseng PT, Lin PY . **The effectiveness of adjunct mindfulness-based intervention in treatment of bipolar disorder: A systematic review and meta-analysis.** *JOURNAL OF AFFECTIVE DISORDERS.* 225:234-245. I.F.: 3.786

17. Verdolini N., Pacchiarotti I., Köhler C., Reinares M., Samalin L., Colom F., Tortorella A., Stubbs B., Carvalho A., Vieta E., Murru A. **Violent criminal behavior in the context of bipolar disorder: Systematic review and meta-analysis.** *JOURNAL OF AFFECTIVE DISORDERS.* 239:161-170. I.F.: 3.786

18. Grunze H, Vieta E, Goodwin GM, Bowden C, Licht RW, Azorin JM, Yatham L, Mosolov S, Möller HJ, Kasper S, Members of the WFSBP Task Force on Bipolar Affective Disorders Working on this topic. **The World Federation of Societies of Biological Psychiatry (WFSBP) Guidelines for the Biological Treatment of Bipolar Disorders: Acute and long-term treatment of mixed states in bipolar disorder.** *WORLD JOURNAL OF*

BIOLOGICAL PSYCHIATRY. 19(1):2-58. I.F.: 3.713

19. Tor J., Dolz M., Sintes A., Muñoz D., Pardo M., de la Serna E., Puig O., Sugranyes G., Baeza I. **Clinical high risk for psychosis in children and adolescents: a systematic review.** *EUROPEAN CHILD AND ADOLESCENT PSYCHIATRY.* 27(6):683-700. I.F.: 3.553

20. Vigo L., Ilzarbe D., Baeza I., Banerjea P., Kyriakopoulos M. **Shared psychotic disorder in children and young people: a systematic review.** *EUROPEAN CHILD AND ADOLESCENT PSYCHIATRY.* s00787-018-1236-7. I.F.: 3.553

21. Bioque M., Bernardo M. **The current data on the 3-month paliperidone palmitate formulation for the treatment of schizophrenia.** *EXPERT OPINION ON PHARMACOTHERAPY.* 19(14):1623-1629. I.F.: 3.475

22. Salagre, Estela; Dodd, Seetal; Aedo, Alberto; Rosa, Adriane; Amoretti, Silvia; Pinzon, Justo; Reinares, Maria; Berk, Michael; Pereira Kapczinski, Flavio; Vieta, Eduard; Grande, Iria. **Toward Precision Psychiatry in Bipolar Disorder: Staging 2.0.** *FRONTIERS IN PSYCHIATRY.* 9(641):641. I.F.: 2.857

23. Lopez-Fernandez, Ester; Sole, Brisa; Jimenez, Esther; Salagre, Estela; Gimenez, Anna; Murru, Andrea; del Mar Bonnin, Caterina; Lorenz Amann, Benedikt; Grande, Iria; Vieta, Eduard; Martinez-Aran, Anabel. **Cognitive Remediation Interventions in Schizoaffective Disorder: A Systematic Review.** *FRONTIERS IN PSYCHIATRY.* 9(470):470. I.F.: 2.857

24. Das T., Dey A., Sabesan P., Javadzadeh A., Théberge J., Radua J., Palaniyappan L. **Putative astroglial dysfunction in schizophrenia: A meta-analysis of H-MRS studies of medial prefrontal myo-inositol.** *FRONTIERS IN PSYCHIATRY.* 9(SEP):438. I.F.: 2.857

25. Emsley R, Parellada E, Bioque M, Herrera B, Hernando T, García-Dorado M. **Real-world data on paliperidone palmitate for the treatment of schizophrenia and other psychotic disorders: a systematic review of randomized and nonrandomized studies.** *INTERNATIONAL CLINICAL PSYCHOPHARMACOLOGY.* 33(1):15-33. I.F.: 2.284

26. Salagre E., Grande I., Solé B., Sanchez-Moreno J., Vieta E. **Vortioxetine: A new alternative for the treatment of major depressive disorder.** *REVISTA DE PSIQUIATRIA Y SALUD MENTAL.* 11(1):48-59. I.F.: 2.233

27. Murru, A; Carpiniello, B. **Duration of untreated illness as a key to early intervention in schizophrenia: A review.** *NEUROSCIENCE LETTERS.* 669:59-67. I.F.: 2.159

28. Casajuana Köguel C, López-Pelayo H, Balcells-Olivero MM, Colom J, Gual A. **Psychoactive constituents of cannabis and their clinical implications: a systematic review.** *ADICCIONES.* 30(2):140-151. I.F.: 2.021

29. Vieta E, Montes JM. **A Review of Asenapine in the Treatment of Bipolar Disorder.** *CLINICAL DRUG INVESTIGATION.* 38(2):87-99. I.F.: 1.918

Letters / I.F.: 26.127

1. Alba Palé L., Cercós A., Samsó B., Sugranyes G. **Childhood Visual Hallucinations: A Case Report of Idiopathic Occipital Epilepsy.** *JOURNAL OF THE AMERICAN ACADEMY OF CHILD AND ADOLESCENT PSYCHIATRY.* 57(6):436-438. I.F.: 6.250

2. Albajes-Eizagirre A., Radua J. **What do results from coordinate-based meta-analyses tell us?** *NEUROIMAGE.* 176:550-553. I.F.: 5.426

3. Savulich G, Mezquida G, Atkinson S, Bernardo M, Fernandez-Egea E. **A Case Study of Clozapine and Cognition: Friend or Foe?** *JOURNAL OF CLINICAL PSYCHOPHARMACOLOGY.* 38(2):152-153. I.F.: 3.134

4. Sánchez-González R, Rodríguez-Urrutia A, Monteagudo-Gimeno E, Vieta E, Pérez-Solá V, Herranz-Villanueva S, Pintor-Pérez L . **Clinical features of a sample of inpatients with adjustment disorder referred to a consultation-liaison psychiatry service over 10 years.** *GENERAL HOSPITAL PSYCHIATRY.* 55:98-99. I.F.: 2.989

5. Barrio P, Wurst FM, Gual A. **New Alcohol Biomarkers. New challenges.** *ALCOHOL AND ALCOHOLISM.* 53(6):762-763. I.F.: 2.368

6. López-Pelayo H, Oliveras C, Segura L, Colom J, Díaz E, Wallace P, Gual A. **Quality of life role in risky alcohol use research: should it be a more relevant outcome in any study?** *ADICCIONES.* 30(4):301-303. I.F.: 2.021

7. Oliveras C, Fortea A, Espinosa L, Barrio P, Lligoña A, Balcells-Olivero M. "**Diazepam loading": ¿Can a strategy for preventing alcohol withdrawal be used to treat benzodiazepine use disorder?** *ADICCIONES.* 30(2):155-157. I.F.: 2.021

8. Barrio, Pablo; Ortega, Lluisa; Guardia, Josep; Roncero, Carlos; Yuguero, Lara; Gual, Antoni. **Reply to Braillon et al.: Nalmefene Phase IV Study: A Seeding Flying in the Face of Evidence?** *CLINICAL DRUG INVESTIGATION.* 38(4):387-388. I.F.: 1.918

Editorial / I.F.: 19.546

1. Freedman R., Brown A., Cannon T., Druss B., Earls F., Escobar J., Hurd Y., Lewis D., López-Jaramillo C., Luby J., Mayberg H., Moffitt T., Oquendo M., Perlis R., Pine D., Rush A., Tamminga C., Tohen M., Vieta E., Wisner K., Xin Y. **Can a framework be established for the safe use of ketamine?** *AMERICAN JOURNAL OF PSYCHIATRY.* 175(7):587-589. I.F.: 13.396

2. Vieta E, Arango C, Rush AJ . **The need for paediatric registries to assess long-term brain effects of psychotropic medications: The case of bipolar disorder.** *EUROPEAN NEUROPSYCHOPHARMACOLOGY.* 28(11):1181-1184. I.F.: 4.129

3. López-Pelayo H., De Montagut L., Kögel C., Oliveró M. **Posverdad del consumo de cannabis: de regreso a la medicina basada en la evidencia.** *ADICCIONES.* 30(4):237-242. I.F.: 2.021

Case Reports / I.F.: 3.831

1. Luisa Imaz M., Oriolo G., Torra M., Soy D., García-Esteve L., Martin-Santos R. **Clozapine use during pregnancy and lactation: A case-series report.** *FRONTIERS IN PHARMACOLOGY.* 9:264. I.F.: 3.831

Clinical Guidelines / I.F.: 37.39

1. European Association for the Study of the Liver. Electronic address: easloffice@easloffice.eu, European Association for the Study of the Liver. **EASL Clinical Practice Guidelines: Management of alcohol-related liver disease.** *JOURNAL OF HEPATOLOGY, SUPPLEMENT.* 69(1):154-181. I.F.: 15.040

2. Guidi J, Brakemeier EL, Bockting CLH, Cosci F, Cuijpers P, Jarrett RB, Linden M, Marks I, Peretti CS, Rafanelli C, Rief W, Schneider S, Schnyder U, Sensky T, Tomba E, Vazquez C, Vieta E, Zipfel S, Wright JH, Fava GA. **Methodological Recommendations for Trials of Psychological Interventions.** *PSYCHOTHERAPY AND PSYCHOSOMATICS.* 87(5):276-284. I.F.: 13.122

3. Patel, Maxine X.; Sethi, Faisil N.; Barnes, Thomas R. E.; Dix, Roland; Dratcu, Luiz; Fox, Bernard; Garriga, Marina; Haste, Julie C.; Kahl, Kai G.; Lingford-Hughes, Anne; McAllister-Williams, Hamish; O'Brien, Aileen; Parker, Caroline; Paterson, Brodie; Paton, Carol; Posporelis, Sotiris; Taylor, David M.; Vieta, Eduard; Voellm, Birgit; Wilson-Jones, Charlotte; Woods, Laura. **Joint BAP NAPICU evidence-based consensus guidelines for the clinical management of acute disturbance: De-escalation and rapid tranquillisation.** *JOURNAL OF PSYCHOPHARMACOLOGY.* 32(6):601-640. I.F.: 4.738

4. Yatham LN, Kennedy SH, Parikh SV, Schaffer A, Bond DJ, Frey BN, Sharma V, Goldstein BI, Rej S, Beaulieu S, Alda M, MacQueen G, Milev RV, Ravindran A, O'Donovan C, McIntosh D, Lam RW, Vazquez G, Kapczinski F, McIntyre RS, Kozicky J, Kanba S, Lafer B, Suppes T, Calabrese JR, Vieta E, Malhi G, Post RM, Berk M . **Canadian Network for Mood and Anxiety Treatments (CANMAT) and International Society for Bipolar Disorders (ISBD) 2018 guidelines for the management of patients with bipolar disorder.** *BIPOLAR DISORDERS.* 20(2):97-170. I.F.: 4.490

Consortium Publications / I.F.: 60.781

1. Bipolar Disorder and Schizophrenia Working Group of the Psychiatric Genomics Consortium. Electronic address: douglas.ruderfer@vanderbilt.edu, Bipolar Disorder and Schizophrenia Working Group of the Psychiatric Genomics Consortium. **Genomic Dissection of Bipolar Disorder and Schizophrenia, Including 28 Subphenotypes.** *CELL.* 173(7):1705-1715.e16. I.F.: 31.398

2. Kahn R, Winter van Rossum I, Leucht S, McGuire P, Lewis S, Leboyer M, Arango C, Dazzan P, Drake R, Heres S, Díaz-Caneja C, Rujescu D, Weiser M, Galderisi S, Glenthøj B, Eijkemans M, Fleischhacker W, Kapur S, Sommer I, Kahn R, Somers M, Ywema P, Kapur S, Meyer-Lindenberg A, Lewis S, Fleischhacker W, Meijering A, Petter J, Van de Brug R, Schotsman J, Zwerver J, Peuskens J, De Hert M, Thys E. **Amisulpride and olanzapine followed by open-label treatment with clozapine in first-episode schizophrenia and schizophreniform disorder (OPTiMiSE): a three-phase switching study.** *LANCET PSYCHIATRY.* 5(10):797-807. I.F.: 15.233

3. Kong XZ, Mathias SR, Guadalupe T,, Glahn DC, Franke B, Crivello F, Tzourio-Mazoyer N, Fisher SE, Thompson PM, Francks C ENIGMA Laterality Working Group. **Mapping cortical brain asymmetry in 17,141 healthy individuals worldwide via the ENIGMA Consortium.** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA.* 115(22):E5154-E5163. I.F.: 9.504

4. Gil, Emilio; Garcia-Alonso, Fernando; Boldeanu, Anca; Teixeira, Thais Baleeiro; Tordera, Vicente; Palmer Viciedo, Ramon; Salgado, Purificacion; Domingo Ribas, Jordi; Corripio Collado, Iluminada; Manuel Montes, Jose; Correas Lauffer, Javier; Ruiz Murugarrem, Salvador; Ovejero Garcia, Santiago; Mora, Fernando; Lopez, Ataz; Fontalba Navas, Andres; Gonzalez Pinto, Ana Ma; Martinez, Ricardo; Garcia Castrillo, Cesar; Toledo, Francisco; Vieta, Eduard; Gonzalez, Emilio; Franco, Manuel; Virgil Drasovean, Nicolae; Havard Dahl, Nils; Skagen, Bo; Zilles, David; Zwanzger, Peter; Juckel, Georg; Kahl, Kai G.; Messer, Thomas; Kasper, Siegfried; Loxapine Inhaled Home Use Study In. **Safety and efficacy of self-administered inhaled loxapine (ADASUVE) in agitated patients outside the hospital setting: protocol for a phase IV, single-arm, open-label trial.** *BMJ OPEN.* 8(10):e020242. I.F.: 2.413

5. Sanz-Fuentenebro FJ, Uriarte JJU, Bonet Dalmau P, Molina Rodriguez V, Bernardo Arroyo M. **Pattern of use of clozapine in Spain. Variability and under-prescription.** *REVISTA DE PSIQUIATRIA Y SALUD MENTAL.* S1888-9891(18):30015-6. I.F.: 2.233

GRANTS FOR RESEARCH IN PROGRESS

Baeza I. **Estudio multicéntrico longitudinal sobre marcadores neurobiológicos de estrés en niños y adolescentes con síndrome de riesgo de psicosis y la transición a psicosis.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00444
Duration: 01/01/2016-30/06/2020

Benabarre A. **Identificación de variables biológicas asociadas a la conducta suicida en el trastorno bipolar.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/01122
Duration: 01/01/2018-31/12/2020

Bernardo M. **Identificación y caracterización del valor predictivo de la reserva cognitiva en el curso evolutivo y respuesta en terapéutica en personas con un primer episodio psicótico.**
Sponsoredby: Generalitat de Catalunya. PERIS_Salut Mental (SLT006/17/00345)
Duration: 17/02/2018-31/12/2020

Bernardo M. **Study of new noninvasive strategies for the analysis of antipsychotic drugs: achieving better clinical practices.**
Sponsoredby: Fundacio Clinic per a la Recerca Biomedica (FCRB). PonsBalmes16
Duration: 02/05/2016-31/12/2018

Bernardo M. **Estudio de aplicabilidad clínica de un modelo predictivo en recaídas en primeros episodios de esquizofrenia.**
Sponsoredby: Instituto de Salud Carlos III (ISCIII). PI14/00612
Duration: 01/01/2015-30/06/2019

Castro J. **Grup de recerca en Psiquiatria i Psicologia Infantil Clínic (GRUPPIC).**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_00881
Duration: 01/01/2017-31/12/2020

Castro J. **Detecció del risc per esquizofrènia mitjançant PGRS en nens i adolescents fills de pacients amb esquizofrènia o trastorn bipolar.**
Sponsoredby: Generalitat de Catalunya. PERIS_Salut Mental (SLT006/17/00346)
Duration: 17/02/2018-31/12/2020

Castro J. **Estudio de seguimiento a 8 años de la primera evaluación de niños y adolescents hijos de pacientes con esquizofrenia o trastorno bipolar.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00467
Duration: 01/01/2016-30/06/2020

Castro J. **MATRICS: Multidisciplinary Approaches to Translational Research In Conduct Syndromes.**
Sponsored by: European Commission FP7_HEALTH_13 (603016-2)
Duration: 01/03/2014-28/03/2019

Catalán R. **Diferencias de género en la respuesta a antipsicóticos: analizando el rol de la menopausia, los cambios epigenéticos en los receptores de estrógenos y los niveles de hormones sexuales.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/01029
Duration: 01/01/2017-31/12/2019

Goikolea JM. **Effectiveness of brief intervention on substance use in bipolar disorders patients.**
Sponsored by: Fundació Clínic per a la Recerca Biomedica (FCRB). PonsBartran16
Duration: 02/05/2016-31/12/2018

García-Rizo C. **Evolución metabólica e immune del tratamiento con clozapina: implicaciones terapéuticas.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00753
Duration: 01/01/2015-30/06/2019

Goikolea JM. **Bases cerebrales de dos intervenciones psicoterapéuticas eficaces en el trastorno bipolar: la psicoeducación grupal y la rehabilitación funcional. Un estudio de neuroimagen multimodal.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00723
Duration: 01/01/2015-30/06/2019

Grande I. **Disbiosis en el trastorno bipolar: MicrObiota Bipolar study (MOB study).**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00187
Duration: 01/01/2017-31/12/2019

Gual A. **Definición del patrón de consumo de riesgo de cannabis: implicaciones para la detección y la intervención precoz.**
Sponsored by: Ministerio de Sanidad, Politica Social e Igualdad. MSSSI_PNSD17
Duration: 01/01/2018-31/12/2020

Gual A. **RTA - Red de Trastornos Adictivos 2017.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). RD16/0017/0009
Duration: 01/01/2017-31/12/2021

Gual A. **La TRV como biomarcador de alteraciones cerebrales en el consumo crónico de cánnabis (TRV-CAN).**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00874
Duration: 01/01/2018-31/12/2020

Gual A. **SCALA: Scale-up of Prevention and Management of Alcohol Use Disorders and Comorbid Depression in Latin America.**
Sponsored by: European commission. H2020-SC1_17_1
Duration: 01/12/2017-30/11/2021

Gual A. **FUTURIZE: A step ahead to tackle future trends in addictions.**
Sponsored by: European commission. JUST-2017-AG-DRU
Duration: 01/10/2018-31/03/2020

Gutiérrez F. **Un modelo integrado para la patología de la personalidad: estructura jerárquica, significación e impacto biográfico.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00536
Duration: 01/01/2016-30/06/2020

Lafuente A. **Mecanismos moleculares implicados en la Farmacogenética del síndrome metabólico inducido por antipsicóticos.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/01222
Duration: 01/01/2017-31/12/2019

Lázaro ML. **Caracterització mitjançant neuroimatge de predictors i mecanismes de resposta a la teràpia cognitiu-conductual en el trastorn obsessivocompulsiu.**
Sponsored by: Generalitat de Catalunya. PERIS_Salut Mental (SLT006/17/00249)
Duration: 01/01/2017- 31/12/2019

Lázaro ML. **Microbiota i Factors (Epi)genètics en els trastorns del Neurodesenvolupament: TDAH i Autisme al Llarg de la vida a Catalunya (MENTAL-Cat).**
Sponsored by: Generalitat de Catalunya. PERIS_Salut Mental (SLT006/17/00287)
Duration: 17/02/2018-31/12/2020

Lázaro ML. **Influencia de la genética y la epigenética en la eficacia del tratamiento del trastorno obsesivo-Compulsivo con terapia cognitivo-conductual o tratamiento farmacológico.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/01086
Duration: 01/01/2017- 31/12/2019

Martínez-Arán A. **Marcadors transdiagnòstics dels símptomes cognitius en els trastorns afectius.**
Sponsored by: Generalitat de Catalunya. PERIS_Salut Mental (SLT006/17/00177)
Duration: 17/02/2018-31/12/2020

Martínez-Arán A. **Eficacia de un módulo e-neurocognitivo como coadyudante a la rehabilitación funcional para pacientes con trastorno bipolar.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00330
Duration: 01/01/2016-30/06/2020

Martin-Santos R. **Estado de ánimo, cognición, inflamación y daño cerebral en pacientes con hepatitis C tratados con los "agentes antivirales directos" estudio de neuroimagen multimodal-Estudio PSICO-AAD.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/02297
Duration: 01/01/2018- 31/12/2020

Martin-Santos R. **Estudio de la actividad y conectividad cerebral en el Trastorno de ansiedad social: búsqueda de nuevos endofenotipos a través de la comparación con el S. Williams-Beuren". Estudio TASWI.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/01411
Duration: 01/01/2015- 30/06/2019

Morer A. **European Multicentre Tics in Children Studies.**
Sponsored by: European commission. FP7-HEALTH-11 (278367)
Duration: 01/12/2011-31/05/2018

Parellada E. **Cellular, molecular, genetic and cognitive-behavioural characterization of the antiapoptotic effect of clozapine and glutamate inhibitors in a postnatal ketamine animal model of schizophrenia.**
Sponsored by: Fundacio Clinic per a la Recerca Biomedica (FCRB). PonsBalmes18
Duration: 25/04/2018-31/12/2020

Penades R. **Rehabilitación cognitiva en la esquizofrenia: variación genética en los genes BDNF (Val66Met) y COMT (Val158Met) como posible modulador de la respuesta al tratamiento.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00872
Duration: 01/01/2018-31/12/2020

Penades R. **Epigenetic regulation of bdnf expression according to response to cognitive remediation in schizophrenia.**
Sponsored by: NARSAD 16_IIG _002
Duration: 15/09/2016-14/09/2019

Radua J. **Predicción anatómico-clínica del riesgo de evolución desfavorable en el primer episodio psicótico: hacia la medicina personalizada en psiquiatría.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). CP14/00041
Duration: 01/01/2015-31/06/2019

Romero S. **Estudio multicéntrico del maltrato infantil en niños y adolescentes con trastornos psiquiátricos: Modificaciones epigenéticas y correlatos con marcadores periféricos de inmunidad innata.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00685
Duration: 01/01/2016-30/06/2020

Sugranyes G. **Estudio del procesamiento perceptual temprano en adolescentes con esquizofrenia de debut reciente y pacientes con encefalitis anti-NMDAR para evaluar la hipótesis glutamatérgica de la esquizofrenia.**
Sponsored by: Generalitat de Catalunya. PERIS_Salut Mental (SLT006/17/00362)
Duration: 17/02/2018-31/12/2020

Sugranyes G. **Construction of a multimodal model with diagnostic and prognostic potential in youth at high risk for psychosis: integration of genetic, environmental and neuroimaging factors.**
Sponsored by: Fundacio Clinic per a la Recerca Biomedica (FCRB). PonsBartran18
Duration: 25/04/2018-31/12/2018

Sugranyes G. **From the synapse to brain structure and function: a comparative study between youth with early stage psychosis and patients with NMDA Receptro Encephalitis.**
Sponsored by: NARSAD17_YIG _02B
Duration: 15/02/2018-14/02/2020

Sugranyes G. **Estudio longitudinal de primeros episodios psicóticos en la infancia y adolescencia. Seguimiento a 10 años.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI13/00614
Duration: 01/01/2014-30/06/2018

Torrent C. **Estudi sobre l'eficàcia d'un programa de potenciació de reserva cognitiva en població d'alt risc genètic a desenvolupar un trastorn bipolar.**
Sponsored by: Genderalitat de Catalunya. PERIS_Salut Mental (SLT006/17/00352)
Duration: 17/02/2018-31/12/2020

Torrent C. **Estudio sobre la eficacia de la potenciación de la reserva cognitiva en niños, adolescentes y adultos jóvenes de alto riesgo genético para esquizofrenia o trastorno bipolar.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/01066
Duration: 01/01/2018-31/12/2020

Vieta E. **INNOBRAIN: Noves tecnologies per a la innovació en rehabilitació i estimulació cognitiva.**
Sponsored by: Fundació Institut Guttmann. COMRDI15-1-0017-07
Duration: 02/01/2017-02/01/2020

Vieta E. **Trastorn Bipolar.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_ 01365
Duration: 01/01/2017-31/12/2020

Vieta E. **Caracterització dels pròdroms i detecció de factors predictors pronòstics en una mostra de pacients bipolars amb un primer episodi maniac.**
Sponsored by: Genderalitat de Catalunya. PERIS_Salut Mental (SLT006/17/00357)
Duration: 17/02/2018-31/12/2020

Vieta E. **Implicación de variantes del gen DDR1 en la integridad de la mielina y en la velocidad de procesamiento cognitivo en pacientes con trastorno bipolar en fase eutímica.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00283
Duration: 01/01/2015-31/12/2019

Vieta E. **R-LiNK: Optimizing response to Li treatment through personalized evaluation of individuals with bipolar I disorder: the R-LiNK initiative.**
Sponsored by: European commission. H2020-SC1_17 (754907-1)
Duration: 01/01/2018-31/12/2022

DOCTORAL THESES

Morer A, Gassó P. **Bases biológicas de la fisiopatología y la farmacología del trastorno obsesivo-compulsivo de inicio en la infancia y la adolescencia. Influencia de la genética y la desregulación inmunológica.**
PhD student: Natalia Rodríguez Ferret

Vieta E, Pacchiarotti I. **Self and Hetero-Aggression: Clinical Implications in Bipolar Disorder and Mixed States.**
PhD student: Norma Verdolini

Bernardo M. Catalan R. **Biomarcadors de resposta farmacològica en dones postmenopàusiques amb esquizofrènia.**
PhD student: Alexandre González Rodríguez

Gual A. **La unitat estandarditzada de cànnabis: un instrument per a la valoració del consum de cànnabis i dels seus riscs.**
PhD student: Cristina Casajuana Kögel

Gual A. **Beure o viure: el dilema davant la malatia mèdica relacionada amb el consum d'alcohol.**
PhD student: Hugo López Pelayo

Gual A. **Impacte del consum d'alcohol en l'ús de recursos i costos sanitaris.**
PhD student: Laia Miquel De Montagut

Pintor L, Baillès E. **Evaluación de los síntomas psiquiátricos en pacientes con epilepsia refractaria intervenidos quirúrgicamente a través de un estudio prospectivo controlado durante 12 meses.**
PhD student: Sònia Ramos Perdigués

Grande I, Trilla A. **Evaluación de satisfacción de los pacientes que acuden a una Unidad de Trastornos Bipolares.**
PhD student: Juan Miguel Garrido Ocaña

Valdés M, Garcia-Esteve LL. **El vínculo materno-infantil: Evaluación y detección de los factores de riesgo prenatales en madres diagnosticadas de un trastorno mental.**
PhD student: Borja Farré Sender

4.8 Neuropsychology

LOCATION
UB School of Medicine

WEB
www.ub.edu/neuropsychology/html/portada.html

KEYWORDS
1. **Magnetic resonance imaging**
2. **Structural and functional connectivity**
3. **Aging and degenerative illness**
4. **Non-invasive brain stimulation**
5. **Brain plasticity**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	125.59	29	24	3
2017	94.34	22	14	6
2018	106.19	22	18	4

TEAM LEADER
Carme Junqué (UB)
T. 93 403 92 98
cjunque@ub.edu

RESEARCHERS
Nuria Bargalló (HCB)
David Bartrés-Faz (UB)
Teresa Boget (HCB)

POST-DOCTORAL RESEARCHERS
Hugo Cesar Baggio (UB)
Gabriele Cattaneo (IDIBAPS)
Dídac Macià (UB)
Cristina Sanchez (UB)
Bàrbara Segura (UB)
Cristina Solé-Padulles (UB)

PRE-DOCTORAL RESEARCHERS
Kilian Abellaneda-Pérez (UB)
Alexandra Abós (UB)
Anna Campabadal (UB)
Anna Inguanzo (UB)
Juan Pablo Martín (UB)
Carme Uribe (UB)
Lídia Vaqué-Alcázar (UB)

STRATEGIC OBJECTIVES

1. To study the consequences of cerebral lesions and dysfunctions in behavior and cognition.
2. We are involved in the Barcelona Brain Health Initiative project which is framed within the strategic research line towards a better understanding of the risk and protective factors, as well as the brain mechanisms, related to preserved cognitive function and mental health in late life.

MAIN LINES OF RESEARCH

1. **Neuropsychology and neuroimaging in Parkinson's disease:** This line of research makes use of combined structural and functional magnetic resonance imaging to detect early alterations in brain connectivity and its evolution during the degenerative process.
2. **Cerebral plasticity:** In the field we study changes in brain structure and function induced by transcranial electric and magnetic stimulation through magnetic resonance imaging.
3. **Development of imaging techniques to study the brain areas** implicated in higher cognitive function impairment in epileptic patients, based on functional magnetic resonance imaging.

TEAM. Carme Junqué

4. **Brain changes related to life style in normal aging.** The objective is to build a prospective study cohort of >3.000 volunteers aged 40 to 65 years to obtain information as regards lifestyles, and to follow up a group of 1.500 yearly (including measures of MRI, EEG,...) and undertake a non-pharmacological trial intervention to modify the brain health related habits.

PUBLICATIONS

Originals / I.F.: 106.191

1. Hoogland J, van Wanrooij LL, Boel JA, Goldman JG, Stebbins GT, Dalrymple-Alford JC, Marras C, Adler CH, Junque C, Pedersen KF, Mollenhauer B, Zabetian CP, Eslinger PJ, Lewis SJG, Wu RM, Klein M, Rodriguez-Oroz MC, Cammisuli DM, Barone P, Biundo R, de Bie RMA, Schmand BA, Tröster AI, Burn DJ, Litvan I, Filoteo JV, Geurtsen GJ, Weintraub D, IPMDS Study Group "Validation of Mild Cognitive Impairment in Parkinson Disease". **Detecting Mild Cognitive Deficits in Parkinson's Disease: Comparison of Neuropsychological Tests**. *MOVEMENT DISORDERS.* 33(11):1750-1759. I.F.: 8.324

2. Perissinotti A., Niñerola-Baizán A., Rubí S., Carreño M., Marti-Fuster B., Aparicio J., Mayoral M., Donaire A., Sanchez-Izquierdo N., Bargalló N., Rumiá J., Boget T., Pons F., Lomeña F., Ros D., Pavía J., Setoain X. **PISCOM: a new procedure for epilepsy combining ictal SPECT and interictal PET.** *EUROPEAN JOURNAL OF NUCLEAR MEDICINE AND MOLECULAR IMAGING.* 45(13):2358-2367. I.F.: 7.704

3. Oriolo G, Egmond E, Mariño Z, Cavero M, Navines R, Zamarrenho L, Solà R, Pujol J, Bargallo N, Forns X, Martin-Santos R . **Systematic review with meta-analysis: neuroimaging in hepatitis C chronic infection.** *ALIMENTARY PHARMACOLOGY AND THERAPEUTICS.* 47(9):1238-1252. I.F.: 7.357

4. Perez-Laso, Carmen; Cerdan, Sebastian; Junque, Carme; Gomez, Angel; Ortega, Esperanza; Mora, Mireia; Avendano, Carlos; Gomez-Gil, Esther; Cruz Rodriguez del Cerro, Maria; Guillamon, Antonio. **Effects of Adult Female Rat Androgenization on Brain Morphology and Metabolomic Profile.** *CEREBRAL CORTEX.* 28(8):2846-2853. I.F.: 6.308

5. Rojas S, Brugulat-Serrat A, Bargalló N, Minguillón C, Tucholka A, Falcon C, Carvalho A, Morán S, Esteller M, Gramunt N, Fauria K, Camí J, Molinuevo JL, Gispert JD . **Higher prevalence of cerebral white matter hyperintensities in homozygous APOE-ε4 allele carriers aged 45-75: Results from the ALFA study.** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM.* 38(2):250-261. I.F.: 6.045

6. Ramos-Perdigués S., Baillés E., Mané A., Carreño M., Donaire A., Rumià J., Bargalló N., Boget T., Setoain X., Valdés M., Pintor L. **Psychiatric Symptoms in Refractory Epilepsy During the First Year After Surgery.** *NEUROTHERAPEUTICS.* 15(4):1082-1092. I.F.: 5.719

7. Operto G, Cacciaglia R, Grau-Rivera O, Falcon C, Brugulat-Serrat A, Ródenas P, Ramos R, Morán S, Esteller M, Bargalló N, Molinuevo JL, Gispert JD, ALFA Study. **White matter microstructure is altered in cognitively normal middle-aged APOE-ε4 homozygotes.** *ALZHEIMER'S RESEARCH AND THERAPY.* 10(1):48. I.F.: 5.015

8. Bartres-Faz, David; Cattaneo, Gabriele; Solana, Javier; Tormos, Josep M.; Pascual-Leone, Alvaro. **Meaning in life: resilience beyond reserve.** *ALZHEIMER'S RESEARCH AND THERAPY.* 10(1):47. I.F.: 5.015

9. Baggio HC, Abos A, Segura B, Campabadal A, Garcia-Diaz A, Uribe C, Compta Y, Marti MJ, Valldeoriola F, Junque C. **Statistical inference in brain graphs using threshold-free network-based statistics.** *HUMAN BRAIN MAPPING.* 39(6):2289-2302. I.F.: 4.927

10. Garcia-Diaz, A. I.; Segura, B.; Baggio, H. C.; Uribe, C.; Campabadal, A.; Abos, A.; Marti, M. J.; Valldeoriola, F.; Compta, Y.; Bargallo, N.; Junque, C. **Cortical thinning correlates of changes in visuospatial and visuoperceptual performance in Parkinson's disease: A 4-year follow-up.** *PARKINSONISM AND RELATED DISORDERS.* 46:62-68. I.F.: 4.721

11. Uribe C., Segura B., Baggio H., Abos A., Garcia-Diaz A., Campabadal A., Marti M., Valldeoriola F., Compta Y., Tolosa E., Junque C. **Cortical atrophy patterns in early Parkinson's disease patients using hierarchical cluster analysis.** *PARKINSONISM AND RELATED DISORDERS.* 50:3-9. I.F.: 4.721

12. Palma-Gudiel H., Córdova-Palomera A., Tornador C., Falcón C., Bargalló N., Deco G., Fañanás L. **Increased methylation at an unexplored glucocorticoid responsive element within exon 1<inf>D</inf>of NR3C1 gene is related to anxious-depressive disorders and decreased hippocampal connectivity.** *EUROPEAN NEUROPSYCHOPHARMACOLOGY.* 28(5):579-588. I.F.: 4.129

13. Martin-Trias P., Lanteaume L., Solana E., Cassé-Perrot C., Fernández-Cabello S., Babiloni C., Marzano N., Junqué C., Rossini P., Micallef J., Truillet R., Charles E., Jouve E., Bordet R., Santamaria J., Jovicich J., Rossi S., Pascual-Leone A., Blin O., Richardson J., Bartrés-Faz D. **Adaptability and reproducibility of a memory disruption rTMS protocol in the PharmaCog IMI European project.** *SCIENTIFIC REPORTS.* 8(1):9371. I.F.: 4.122

14. Ottino-González J., Jurado M., García-García I., Segura B., Marqués-Iturria I., Sender-Palacios M., Tor E., Prats-Soteras X., Caldú X., Junqué C., Pasternak O., Garolera M. **Allostatic load and disordered white matter microstructure in overweight adults.** *SCIENTIFIC REPORTS.* 8(1):15898. I.F.: 4.122

15. Thust SC, Heiland S, Falini A, Jäger HR, Waldman AD, Sundgren PC, Godi C, Katsaros VK, Ramos A, Bargallo N, Vernooij MW, Yousry T, Bendszus M, Smits M. **Glioma imaging in Europe: A survey of 220 centres and recommendations for best clinical practice.** *EUROPEAN RADIOLOGY.* 28(8):3306-3317. I.F.: 4.027

16. Cano-López I, Calvo A, Boget T, Carreño M, Donaire A, Setoain X, Pintor L, Rumià J, González-Bono E, Junqué C, Bargalló N. **Typical asymmetry in the hemispheric activation during an fMRI verbal comprehension paradigm is related to better performance in verbal and non-verbal tasks in patients with epilepsy.** *NEUROIMAGE: CLINICAL.* 20:742-752. I.F.: 3.869

17. Solana E., Martinez-Heras E., Martinez-Lapiscina E., Sepulveda M., Sola-Valls N., Bargalló N., Berenguer J., Blanco Y., Andorra M., Pulido-Valdeolivas I., Zubizarreta I., Saiz A., Llufriu S. **Magnetic resonance markers of tissue damage related to connectivity disruption in**

multiple sclerosis. *NEUROIMAGE: CLINICAL.* 20:161-168. I.F.: 3.869

18. Uribe C., Segura B., Baggio H., Abos A., Garcia-Diaz A., Campabadal A., Marti M., Valldeoriola F., Compta Y., Bargallo N., Junque C. **Gray/White matter contrast in Parkinson's disease.** *FRONTIERS IN AGING NEUROSCIENCE.* 10(MAR):89. I.F.: 3.582

19. Uribe, Carme; Segura, Barbara; Baggio, Hugo C.; Campabadal, Anna; Abos, Alexandra; Compta, Yaroslau; Jose Marti, Maria; Valldeoriola, Francesc; Bargallo, Nuria; Junque, Carme. **Differential Progression of Regional Hippocampal Atrophy in Aging and Parkinson's Disease.** *FRONTIERS IN AGING NEUROSCIENCE.* 10(OCT):325. I.F.: 3.582

20. Castro-Fornieles J, Bargalló N, Calvo A, Arango C, Baeza I, Gonzalez-Pinto A, Parellada M, Graell M, Moreno C, Otero S, Janssen J, Rapado-Castro M, de la Serna E. **Gray matter changes and cognitive predictors of 2-year follow-up abnormalities in early-onset first-episode psychosis.** *EUROPEAN CHILD AND ADOLESCENT PSYCHIATRY.* 27(1):113-126. I.F.: 3.553

21. Garcia-Diaz AI, Segura B, Baggio HC, Marti MJ, Valldeoriola F, Compta Y, Bargallo N, Uribe C, Campabadal A, Abos A, Junque C . **Structural Brain Correlations of Visuospatial and Visuoperceptual Tests in Parkinson's Disease**. *JOURNAL OF THE INTERNATIONAL NEUROPSYCHOLOGICAL SOCIETY : JINS.* 24(1):33-44. I.F.: 2.777

22. Wirsich J., Rey M., Guye M., Bénar C., Lanteaume L., Ridley B., Confort-Gouny S., Cassé-Perrot C., Soulier E., Viout P., Rouby F., Lefebvre M., Audebert C., Truillet R., Jouve E., Payoux P., Bartrés-Faz D., Bordet R., Richardson J., Babiloni C., Rossini P., Micallef J., Blin O., Ranjeva J. **Brain Networks are Independently Modulated by Donepezil, Sleep, and Sleep Deprivation.** *BRAIN TOPOGRAPHY.* 31(3):380-391. I.F.: 2.703

Review / I.F.: 20.475

1. Stern Y, Arenaza-Urquijo E, Bartrés-Faz D, Belleville S, Cantilon M, Chetelat G, Ewers M, Franzmeier N, Kempermann G, Kremen W, Okonkwo O, Scarmeas N, Soldan A, Udeh-Momoh C, Valenzuela M, Vemuri P, Vuoksimaa E, Arenaza Urquiljo E, Bartrés-Faz D, Belleville S, Cantillon M, Chetelat G, Clouston S, Estanga A, Ewers M, Franzmeier N, Gold B, Habeck C, Jones R, Kempermann G, Kochhann R, Kremen W, Lim Y, Martínez-Lage P, Morbelli S, Okonkwo O, Ossenkoppele R, Pettigrew C, Rosen A, Scarmeas N. **Whitepaper: Defining and investigating cognitive reserve, brain reserve, and brain maintenance.** *ALZHEIMER'S AND DEMENTIA.* S1552-5260(18):33491-5. I.F.: 12.764

2. Walhovd, Kristine B.; Fjell, Anders M.; Westerhausen, Rene; Nyberg, Lars; Ebmeier, Klaus P.; Lindenberger, Ulman; Bartres-Faz, David; Baare, William F. C.; Siebner, Hartwig R.; Henson, Richard; Drevon, Christian A.; Knudsen, Gun Peggy Stromstad; Ljosne, Isabelle Budin; Penninx, Brenda W. J. H.; Ghisletta, Paolo; Rogeberg, Ole; Tyler, Lorraine; Bertram, Lars. **Healthy minds 0-100 years: Optimising the use of European brain imaging cohorts ("Lifebrain").** *EUROPEAN PSYCHIATRY.* 50:47-56. I.F.: 4.129

3. Cattaneo G., Bartrés-Faz D., Morris T., Sánchez J., Macià D., Tarrero C., Tormos J., Pascual-Leone A. **The Barcelona brain health initiative: A cohort study to define and promote determinants of brain health.** *FRONTIERS IN AGING NEUROSCIENCE.* 10:321. I.F.: 3.582

Consortium publication / I.F.: 79.260

1. Estruch R, Ros E, Salas-Salvadó J, Covas MI, Corella D, Arós F, Gómez-Gracia E, Ruiz-Gutiérrez V, Fiol M, Lapetra J, Lamuela-Raventos RM, Serra-Majem L, Pintó X, Basora J, Muñoz MA, Sorlí JV, Martínez JA, Fitó M, Gea A, Hernán MA, Martínez-González MA, PREDIMED Study Investigators. **Primary Prevention of Cardiovascular Disease with a Mediterranean Diet Supplemented with Extra-Virgin Olive Oil or Nuts.** *NEW ENGLAND JOURNAL OF MEDICINE.* 378(25):e34. I.F.: 79.260

GRANTS FOR RESEARCH IN PROGRESS

Bargalló N. **Validación de la Resonancia funcional de reposo y tractografía para la lateralización del lenguaje en pacientes epilépticos.**
Sponsored by: Instituto de Salud Carlos III (ISCIII).
Duration 01-01-2018-31-12-2020.

Bartres D. **Barcelona Brain Health Initiative.**
Sponsored by: Obra social La Caixa (Fundació Abertis).
Duration: 01/07/2016-01/07/2019

Bartres D. **Efectos del entrenamiento cognitivo combinado con estimulación cerebral no-invasiva guiada por información funcional cerebral en el deterioro cognitivo leve.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). PSI2015-64227-R
Duration: 01/01/2016-31/12/2018

Bartres D. **Healthy minds from 0-100 years: Optimising the use of European brain imaging cohorts (Lifebrain).**
Sponsored by: European commission.
Duration: 01/01/2017-31/12/2021

Bartres D. **Breaking new ground in lifespan cognitive neuroscience.**
Sponsored by: European commission. H2020
Duration: 01/01/2017-31/12/2018

Junqué C. **Brain connectivity changes during the degenerative process in Parkinson's disease.**
Sponsored by: Fundació la Marató de TV3. TV3_Neuro_14
Duration: 22/05/2015-31/12/2018

Junqué C. **Fenotipos cognitivos en la enfermedad de Parkinson mediante la identificación de patrones de neuroimagen multimodal.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). PSI2017-86930-P
Duration: 01/01/2018-31/12/2020

DOCTORAL THESES

Junqué C, Segura B. **Visuospatial and visuoperceptual impairment and its structural correlates as measures of cognitive decline in Parkinson's disease.**
PhD student: Anna Isabel Garcia Diaz

4.9 Systems neuroscience

LOCATION
CEK building, floor -1

WEB
www.sanchez-vives.org
www.braincircuitsbehavior.org/

KEYWORDS
1. **Cerebral cortex**
2. **Computational neuroscience**
3. **Oscillations**
4. **Virtual reality**
5. **Body representation**
6. **Working memory**
7. **Spatial memory**
8. **Decision-making**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	48.56	8	8	-
2017	68.79	11	10	1
2018	53.31	11	10	1

TEAM INVOLVED IN
AGAUR_SGR17: 01565, 01296

AWARDS
FENS Kavli Network of Excellence scholar
Awardee/s: Jame de la Rocha

TEAM LEADER
María Victoria Sánchez Vives
(ICREA-IDIBAPS)
T. 93 227 54 00 (Ext.: 4301)
msanche3@clinic.cat

GROUP LEADERS
Albert Compte (IDIBAPS)
T. 93 227 54 00 (Ext.: 4151)
acompte@clinic.cat

Jaime de la Rocha (IDIBAPS)
T. 93 227 54 00 (Ext.: 4307)
jrochav@clinic.cat

POST-DOCTORAL RESEARCHERS
Miquel Bosch (IDIBAPS)
Miguel Dasilva (IDIBAPS)
Vanessa Fernandez (IDIBAPS)
Cristina Gonzalez (IDIBAPS)
Birgit Nierula (IDIBAPS)
Beatriz Rebollo (IDIBAPS)
Belen Sancristobal (IDIBAPS)
Daniel Linares (FCRB)
Diego Lozano-Soldevilla (CIBER)
Manuel Molano-Mazón (IDIBAPS)
Daniel Duque (IDIBAPS)
Yerko Fuentealba (IDIBAPS)
Lluís Hernández (IDIBAPS)

PRE-DOCTORAL RESEARCHERS
Almudena Barbero (IDIBAPS)
Alessandra Camassa (IDIBAPS)
Leonardo Dalla (IDIBAPS)
Melodia Torao (IDIBAPS)
Joao Moura (IDIBAPS)
David Sánchez-Bestué (IDIBAPS)
Heike Stein (IDIBAPS)
Ainhoa Hermoso (IDIBAPS)
Tíffany Oña (IDIBAPS)
Genis Prat (IDIBAPS)
Simón Serka (IDIBAPS)

TECHNICIANS
Tony Donegan (IDIBAPS)
Alvaro Navarro-Guzman (IDIBAPS)
Carlos Prieto (IDIBAPS)
Adrià Galan (IDIBAPS)
Rafael Marín-Campos (IDIBAPS)
Rebecca Martinez (IDIBAPS)
Alba Morató (IDIBAPS)
Laia Prades (IDIBAPS)
Albert Font (IDIBAPS)
Anna Graell (IDIBAPS)
Lorena Jiménez (IDIBAPS)
Jordi Pastor (IDIBAPS)
Balma Serrano (IDIBAPS)

ADMINISTRATIVE STAFF
Lejla Bektic (IDIBAPS)
Arnau Llobet (IDIBAPS)

VISITING SCIENTISTS
Sara Caldas (IDIBAPS)

TEAM María Victoria Sánchez Vives

STRATEGIC OBJECTIVES

The growing knowledge of synaptic physiology and brain circuits, together with the development of new instruments with which to record, analyze and model the activity of a large number of neurons has made it possible to address one of the great pending challenges in neuroscience: to understand the relationship between the activity of the neuronal population and behavioral performance.
The general objective of the Systems Neuroscience group is to address this challenge by combining experimental studies in cerebral cortex networks with a combined experimental and theoretical approach.

MAIN LINES OF RESEARCH

1. **Cortical networks and EVENT Lab. Headed by Dr. Sánchez-Vives:**
   We study different aspects of spontaneous and evoked cortical activity: the mechanisms that regulate it, the information it encodes, its spatiotemporal properties and its consequences on the network. Moreover, we explore cortical activity in transgenic mouse models of neurological disease in the search for the underlying altered mechanisms and their possible reversion. In addition, we are interested in the integration of cortical information that gives rise to body representation and in the combination of brain-computer interfaces and virtual reality to understand these processes (EVENT lab, www.event-lab.org).

2. **Theoretical neurobiology of cortical circuits. Headed by Dr. Compte:**
   - Circuit mechanisms of spatial and feature working memory.
   - Network basis of cognitive and perceptual alterations in anti- NMDAr encephalitis patients.
   - Mechanisms of spatial working memory deficits in schizophrenia.

3. **Cortical circuit dynamics. Headed by Dr. de la Rocha:**
   - Neural circuit dynamics during perceptual decision making and Working Memory tasks.
   - Network mechanisms underlying spontaneous activity and brain state changes.
   - The role of hippocampal circuits during spatial long term memory acquisition and retrieval.

RESEARCH GROUP
THEORETICAL NEUROBIOLOGY OF CORTICAL CIRCUITS

GROUP LEADER
Albert Compte (IDIBAPS)

We investigate the circuit mechanisms that operate in the cerebral cortex during perceptual and cognitive processes.
We focus our efforts on cortical mechanisms for working memory, and their failure in anti-NMDAR encephalitis and schizophrenia patients.
Our methods include biologically plausible computational modelling, together with behavioral, electrophysiological and neuroimaging experiments in healthy human participants and in patients.
By building computational models of cognitive function and testing model-derived hypotheses experimentally, we aim at providing links between specific synaptic, cellular and circuit mechanisms and cognitive and perceptual functions and dysfunctions.

GROUP Albert Compte

RESEARCH GROUP
CORTICAL CIRCUIT DYNAMICS

GROUP LEADER
Jaime de la Rocha (IDIBAPS)

We study the neuronal circuit mechanisms underlying cognitive functions such as perception, decision making and memory.
For this, (1) we train rodents to perform perceptual discrimination and memory tasks, (2) we quantitatively characterize the variables that determine their behavior and (3) identify the brain areas where these variables are represented and the detailed circuit dynamics underlying their processing.
We investigate how expectation is formed from recent experiences and how it impacts the representation of sensory stimuli.
We use pharmacology, population neural recordings, quantitative analysis and computational modeling to address these questions.
We moreover apply these methods to understand neural disorders such as anti-NMDAR encephalitis.

GROUP Jaime de la Rocha

PUBLICATIONS

Originals / I.F.: 53.305

1. Hebert C, Masvidal-Codina E, Suarez-Perez A, Calia AB, Piret G, Garcia-Cortadella R, Illa X, Garcia ED, Sanchez JMD, Casals DV, Prats-Alfonso E, Bousquet J, Godignon P, Yvert B, Villa R, Sanchez-Vives MV, Guimera-Brunet A , Garrido JA. **Flexible Graphene Solution-Gated Field-Effect Transistors: Efficient Transducers for Micro-Electrocorticography.** *ADVANCED FUNCTIONAL MATERIALS.* 28(12):1703976. I.F.: 13.325

2. D'Andola M, Rebollo B, Casali AG, Weinert JF, Pigorini A, Villa R, Massimini M, Sanchez-Vives MV. **Bistability, Causality, and Complexity in Cortical Networks: An In Vitro Perturbational Study.** *CEREBRAL CORTEX.* 28(7):2233-2242. I.F.: 6.308

3. Ramirez-Mahaluf, Juan P.; Perramon, Joan; Otal, Begonya; Villoslada, Pablo; Compte, Albert. **Subgenual anterior cingulate cortex controls sadness-induced modulations of cognitive and emotional network hubs.** *SCIENTIFIC REPORTS.* 8(1):8566. I.F.: 4.122

4. Linares D., Marin-Campos R., Dalmau J., Compte A. **Validation of motion perception of briefly displayed images using a tablet.** *SCIENTIFIC REPORTS.* 8(1):16056. I.F.: 4.122

5. Pazzini L, Polese D, Weinert JF, Maiolo L, Maita F, Marrani M, Pecora A, Sanchez-Vives MV, Fortunato G. **An ultra-compact integrated system for brain activity recording and stimulation validated over cortical slow oscillations in vivo and in vitro.** *SCIENTIFIC REPORTS.* 8(1):16717. I.F.: 4.122

6. Mata, Agata; Gil, Vanessa; Perez-Clausell, Jeus; Dasilva, Miguel; Carmen Gonzalez-Calixto, Mari; Soriano, Eduardo; Manuel Garcia-Verdugo, Jose; Sanchez-Vives, Maria V.; Antonio del Rio, Jose. **New functions of Semaphorin 3E and its receptor PlexinD1 during developing and adult hippocampal formation.** *SCIENTIFIC REPORTS.* 8(1):1381. I.F.: 4.122

7. Seinfeld S, Arroyo-Palacios J, Iruretagoyena G, Hortensius R, Zapata LE, Borland D, de Gelder B, Slater M, Sanchez-Vives MV. **Offenders become the victim in virtual reality: impact of changing perspective in domestic violence.** *SCIENTIFIC REPORTS.* 8(1):2692-2692. I.F.: 4.122

8. Suarez-Perez A, Gabriel G, Rebollo B, Illa X, Guimerà-Brunet A, Hernández-Ferrer J, Martínez MT, Villa R, Sanchez-Vives MV. **Quantification of Signal-to-Noise Ratio in Cerebral Cortex Recordings Using Flexible MEAs With Co-localized Platinum Black, Carbon Nanotubes, and Gold Electrodes.** *FRONTIERS IN NEUROSCIENCE.* 12:862 . I.F.: 3.877

9. Perez-Marcos D., Martini M., Fuentes C., Bellido Rivas A., Haggard P., Sanchez-Vives M. **Selective distortion of body image by asynchronous visuotactile stimulation.** *BODY IMAGE.* 24:55-61. I.F.: 3.595

10. Rebollo B, Perez-Zabalza M, Ruiz-Mejias M, Perez-Mendez L, Sanchez-Vives MV. **Beta and gamma oscillations in prefrontal cortex during NMDA hypofunction: an in vitro model of schizophrenia features.** *NEUROSCIENCE.* 383:138-149. I.F.: 3.382

11. Morone G, Matamala-Gomez M, Sanchez-Vives MV, Paolucci S, Iosa M. **Watch your step! Who can recover stair climbing independence after stroke?** *EUROPEAN JOURNAL OF PHYSICAL AND REHABILITATION MEDICINE.* 54(6):811-818. I.F.: 2.208

Letters / I.F.: 9.251

1. Prat-Ortega G., Rocha J. **Selective Attention: A Plausible Mechanism Underlying Confirmation Bias.** *CURRENT BIOLOGY.* 28(19):R1151-R1154. I.F.: 9.251

GRANTS FOR RESEARCH IN PROGRESS

Compte A. **Dynamics in neuronal networks.**
Sponsored by: Generalitat de Catalunya.
AGAUR_SGR17_01565
Duration: 01/01/2017-31/12/2020

Compte A. **Alteraciones cognitivas en pacientes adolescentes con encefalitis anti-NMDAR: posible disfunción en la percepción de la continuidad temporal y sus mecanismos.**
Sponsored by: Fundación Alicia Koplowitz.
16_001
Duration: 28/10/2016-31/12/2018

Compte A. **Prefrontal network mechanisms of working memory dynamics: from dopamine neuromodulation to network dysfunction in anti-NMDAR encephalitis.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
BFU2015_65318_R
Duration: 01/01/2016-31/12/2018

De la Rocha J. **La dinámica de los circuitos neuronales durante la toma de decisiones perceptuales.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2015_70324_R
Duration: 01/01/2016-31/12/2018

De la Rocha J. **PRIORS: Neural circuit dynamics underlying expectation and their impact on the variability of perceptual choices.**
Sponsored by: European commission.
CE_H2020_ERC_15_CoG (683209)
Duration: 01/09/2016-31/08/2021

Sanchez-Vives MV. **Neurovirtual.**
Sponsored by: Generalitat de Catalunya.
AGAUR_SGR17_01296
Duration: 01/01/2017-31/12/2020

Sanchez-Vives MV. **Traslacortex: Desde el estudio de la fisiología cortical a la comprensión y tratamiento de las patologías que la afectan.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
BFU2017_85048_R
Duration: 01/01/2015-31/12/2020

Sanchez-Vives MV. **Dinámica de las oscilaciones lentas: experimentos, análisis, modelos e intervenciones terapéuticas (SloW-Dyn)**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
PCIN-2015_162_C02_01
Duration: 01/12/2015-31/05/2019

Sanchez-Vives MV. **HBP SGA2: Human Brain Project Specific Grant Agreement 2.**
Sponsored by: European commission.
H2020_FLAG_HBP_17 (785907)
Dutarion: 01/04/2018-31/03/2020

Sanchez-Vives MV. **Graphene Core 2: Graphene Flagship Core Project 2.**
Sponsored by: European commission.
H2020_FLAG_GRA_17 (785219)
Duration: 01/04/2018-31/03/2020

Sanchez-Vives MV. **SloW-Dyn: Slow Wave Dynamics: from experiments, analysis and models to rhythm restoration.**
Sponsored by: European commission.
H2020_FLAG_ERA_2015
Duration: 01/12/2015-31/05/2019

Sanchez-Vives MV. **Graphene-based disruptive technologies.**
Sponsored by: European commission.
H2020-Adhoc-14-20 (696656)
Dutarion: 01/04/2016-31/03/2018

Sanchez-Vives MV. **Human Brain Project Specific Grant Agreement 1.**
Sponsored by: European commission.
HBP_SCN15 (720270)
Duration: 01/04/2016-31/03/2019

DOCTORAL THESES

Sánchez Vives MV. **Interfacing the Cerebral Cortex: Two-dimensional recording techniques and electrical stimulation to explore and modulate spatio-temporal network dynamics in the cortex.**
PhD student: Julia Franziska Weinert

4.10 Clinical and experimental neuroimmunology

LOCATION
CELLEX building, floor 3A

WEB
www.neuroimmunologybcn.org

KEYWORDS
1. **Autoantibodies**
2. **Encephalitis**
3. **Multiple sclerosis**
4. **Paraneoplastic**
5. **Cancer**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	199.30	32	21	6
2017	127.24	23	18	2
2018	208.50	31	27	1

TEAM INVOLVED IN
REEM
CIBERER
AGAUR_SGR17: 00266
MAGNIMS

AWARDS
Sobek Award
Institution: Stuttgart, Germany
Awardee/s: Josep Dalmau

Zülch Prize for Basic Neurological Research
Institution: Max Planck Society, Cologne
Awardee/s: Josep Dalmau

TEAM LEADER
Josep Dalmau (ICREA-IDIBAPS)
T. 93 227 17 38
jdalmau@clinic.cat

TEAM LEADER
Josep Dalmau (ICREA-IDIBAPS)
T. 93 227 17 38
jdalmau@clinic.cat

GROUP LEADERS
Sara Llufriu (IDIBAPS)
T. 93 227 54 14
sllufriu@clinic.cat

Pablo Villoslada (IDIBAPS)
T. 93 227 54 00 (Ext.: 4802)
pvillosl@clinic.cat

EMERITUS
Francesc Graus (HCB)

RESEARCHERS
Thais Armangué (IDIBAPS)
Pedro Luis Gambús (HCB)
Eugenia Maria Martinez-Hernandez (HCB-IDIBAPS)
Lidia Sabater (FCRB)
Albert Saiz (HCB)
Elena Hernandez (HCB-IDIBAPS)
Yolanda Blanco (HCB)

POST-DOCTORAL RESEARCHERS
Helena Ariño (IDIBAPS)
Pablo Jercog (IDIBAPS)
Francesco Mannara (IDIBAPS)
Marta Pedreño (FCRB)
Maria del Mar Petit-Pedrol (IDIBAPS)
Jesus Planaguma (FCRB)
Marija Radosevic (IDIBAPS)
Irene Pulido (IDIBAPS)
Eloy Martinez (IDIBAPS)
Elisabeth Solana (FCRB)

PRE-DOCTORAL RESEARCHERS
Anna Garcia (IDIBAPS)
Estibaliz Maudes (IDIBAPS)
Lucia Morales (IDIBAPS)
Marta Muñoz (IDIBAPS)
Nuria Sola-Valls (IDIBAPS)
Marianna Spatola (IDIBAPS)
Magi Andorra (IDIBAPS)
Irati Zubizarreta (IDIBAPS)
Maria Sepulveda (FCRB)

TECHNICIANS
Esther Aguilar (IDIBAPS)
Mercedes Alba (FCRB)
Eva Maria Caballero (FCRB)
Victor Lopez (CIBER)
Rosa Rodriguez (IDIBAPS)
Salut Albà (IDIBAPS)
Begoña Fernandez (IDIBAPS)
Ana Isabel Guerrero (IDIBAPS)
Gemma Vila (IDIBAPS)

ADMINISTRATIVE STAFF
Gemma Castillo (FCRB)
Laura Planas (IDIBAPS)
Maria Rodés (IDIBAPS)

NURSING STAFF
Montserrat Artola (IDIBAPS)

COLLABORATORS
Domingo Escudero (HCB)
Myrna Rosenfeld (IDIBAPS)
Bernardo Sanchez Dalmau (HCB)

STRATEGIC OBJECTIVES

The principal objective of the Neuroimmunology Group is the study of autoimmune (inflammatory) diseases of the nervous system and the elucidation of the underlying immunopathogenic mechanisms involved in the inflammatory response. Diseases under study include multiple sclerosis, neuromyelitis optica, autoimmune encephalitis and paraneoplastic neurological disorders.

MAIN LINES OF RESEARCH

1. Identification of novel autoimmune diseases of the nervous system in adults and children and the development of diagnostic tests for these disorders.

2. Development of biomarkers and new therapies for multiple sclerosis, neuromyelitis optica and other demyelinating diseases.

3. Characterization of the immunopathogenic mechanisms that result in autoimmune encephalitis and paraneoplastic neurologic disorders.

4. To elucidate how autoimmunity affects synaptic function and brain networks using advanced neuroimaging, electrophysiology, behavioral and in-silico models.

5. The development of models of autoimmune diseases of the nervous system.

6. The use of systems biology and functional brain imaging to dissect the immunological mechanisms leading to brain damage in demyelinating diseases.

7. The development of advanced magnetic resonance imaging techniques to elucidate substrates of clinical dysfunction, biomarkers of treatment response and mechanisms of brain plasticity in demyelinating diseases.

TEAM Josep Dalmau

TEAM Sara Llufriu

RESEARCH GROUP
PATHOGENESIS OF AUTOIMMUNE NEURONAL DISORDERS

GROUP LEADER
Josep Dalmau (ICREA-IDIBAPS)

Our research focuses on immune-mediated diseases of the synapse and autoimmune brain diseases triggered by cancer. Studies include the description of novel syndromes and immune-mechanisms, isolation of the target antigens and development of diagnostic tests and new treatments.
We have shown that these diseases associate with antibodies that target neuronal proteins and synaptic receptors that play important roles in synaptic transmission, signaling and plasticity.
We are investigating the mechanisms that underlie the disorders by examining how the antibodies modify the levels and function of the target proteins and receptors, and by in vitro, in vivo, and in-silico modeling.

50/50 PROGRAM
ADVANCED IMAGING IN NEUROIMMUNOLOGICAL DISEASES (IMAGINEM)

GROUP LEADER
Sara Llufriu (IDIBAPS)

Our research is focused on the understanding of the basis of disease evolution in multiple sclerosis and other neuroimmunological diseases, through the use of advanced magnetic resonance techniques.
We aim to identify imaging biomarkers of physical and cognitive disability and of response to conventional and new therapies.
Our group is leading studies to understand the mechanisms of neural reorganization as a response of disease evolution and after cognitive rehabilitation.
We have developed technical improvements

with new sequences and novel image processing to use in the translation of the research to the patient. We are part of the European network MAGNIMS (Magnetic Resonance Imaging in Multiple Sclerosis).

RESEARCH GROUP
PATHOGENESIS AND NEW TREATMENTS IN MULTIPLE SCLEROSIS

GROUP LEADER
Pablo Villoslada (IDIBAPS)

Our team is pioneering the application of Systems Medicine to the study of Multiple Sclerosis (MS) and the development of new tools for personalized medicine. We are developing new therapies such as the trophic factor like drug BN201 as neuroprotective therapy or antigen-specific tolerization for stopping the disease. We have developed new diagnostic tools such as molecular imaging of the retina to monitor disease progression. We have combined omics, imaging and clinical information with machine learning tools in order to develop clinical decision support systems for personalized medicine. Lastly, the group has a commitment to innovation, both in terms of the generation of patents and as regards the creation of spin-off companies.

PUBLICATIONS

Originals / I.F.: 208.501

1. Armangue T, Spatola M, Vlagea A, Mattozzi S, Cárceles-Cordon M, Martinez-Heras E, Llufriu S, Muchart J, Erro ME, Abraira L, Moris G, Monros-Giménez L, Corral-Corral Í, Montejo C, Toledo M, Bataller L, Secondi G, Ariño H, Martínez-Hernández E, Juan M, Marcos MA, Alsina L, Saiz A, Rosenfeld MR, Graus F, Dalmau J, Spanish Herpes Simplex Encephalitis Study Group. **Frequency, symptoms, risk factors, and outcomes of autoimmune encephalitis after herpes simplex encephalitis: a prospective observational study and retrospective analysis.** *LANCET NEUROLOGY, THE.* 17(9):760-772. I.F.: 27.144

2. Haselmann H, Mannara F, Werner C, Planagumà J, Miguez-Cabello F, Schmidl L, Grünewald B, Petit-Pedrol M, Kirmse K, Classen J, Demir F, Klöcker N, Soto D, Doose S, Dalmau J, Hallermann S, Geis C. **Human Autoantibodies against the AMPA Receptor Subunit GluA2 Induce Receptor Reorganization and Memory Dysfunction.** *NEURON.* 100(1):91-105. I.F.: 14.319

3. Montal V, Vilaplana E, Alcolea D, Pegueroles J, Pasternak O, González-Ortiz S, Clarimón J, Carmona-Iragui M, Illán-Gala I, Morenas-Rodríguez E, Ribosa-Nogué R, Sala I, Sánchez-Saudinós MB, García-Sebastian M, Villanúa J, Izagirre A, Estanga A, Ecay-Torres M, Iriondo A, Clerigue M, Tainta M, Pozueta A, González A, Martínez-Heras E, Llufriu S, Blesa R, Sanchez-Juan P, Martínez-Lage P, Lleó A, Fortea J. **Cortical microstructural changes along the Alzheimer's disease continuum.** *ALZHEIMER'S AND DEMENTIA.* 14(3):340-351. I.F.: 12.764

4. Andorra M, Nakamura K, Lampert EJ, Pulido-Valdeolivas I, Zubizarreta I, Llufriu S, Martinez-Heras E, Sola-Valls N, Sepulveda M, Tercero-Uribe A, Blanco Y, Saiz A, Villoslada P, Martinez-Lapiscina EH . **Assessing Biological and Methodological Aspects of Brain Volume Loss in Multiple Sclerosis.** *JAMA NEUROLOGY.* 75(10):1246-1255.I.F.: 11.460

5. Petit-Pedrol M., Sell J., Planagumà J., Mannara F., Radosevic M., Haselmann H., Ceanga M., Sabater L., Spatola M., Soto D., Gasull X., Dalmau J., Geis C. **LGI1 antibodies alter Kv1.1 and AMPA receptors changing synaptic excitability, plasticity and memory.** *BRAIN; A JOURNAL OF NEUROLOGY.* 141(11):3144-3159. I.F.: 10.848

6. Matute-Blanch C, Villar LM, Álvarez-Cermeño JC, Rejdak K, Evdoshenko E, Makshakov G, Nazarov V, Lapin S, Midaglia L, Vidal-Jordana A, Drulovic J, García-Merino A, Sánchez-López AJ, Havrdova E, Saiz A, Llufriu S, Alvarez-Lafuente R, Schroeder I, Zettl UK, Galimberti D, Ramió-Torrentà L, Robles R, Quintana E, Hegen H, Deisenhammer F, Río J, Tintoré M, Sánchez A, Montalban X, Comabella M . **Neurofilament light chain and oligoclonal bands are prognostic biomarkers in radiologically isolated syndrome.** *BRAIN; A JOURNAL OF NEUROLOGY.* 141(4):1085-1093. I.F.: 10.848

7. Patterson K., Dalmau J., Lancaster E. **Mechanisms of Caspr2 antibodies in autoimmune encephalitis and neuromyotonia.** *ANNALS OF NEUROLOGY.* 83(1):40-51. I.F.: 10.250

8. Martínez-Ricarte F, Mayor R, Martínez-Sáez E, Rubio-Pérez C, Pineda E, Cordero E, Cicuéndez M, Poca MA, López-Bigas N, Ramon Y Cajal S, Vieito M, Carles J, Tabernero J, Vivancos A, Gallego S, Graus F, Sahuquillo J, Seoane J . **Molecular diagnosis of diffuse gliomas through sequencing of cell-free circulating tumour DNA from cerebrospinal fluid.** *CLINICAL CANCER RESEARCH.* 24(12):2812-2819. I.F.: 10.199

9. Hara M, Martinez-Hernandez E, Ariño H, Armangué T, Spatola M, Petit-Pedrol M, Saiz A, Rosenfeld MR, Graus F, Dalmau J. **Clinical and pathogenic significance of IgG, IgA, and IgM antibodies against the NMDA receptor.** *NEUROLOGY.* 90(16):e1386-e1394. I.F.: 8.055

10. Spatola M, Sabater L, Planagumà J, Martínez-Hernandez E, Armangué T, Prüss H, Iizuka T, Caparó Oblitas RL, Antoine JC, Li R, Heaney N, Tubridy N, Munteis Olivas E, Rosenfeld MR, Graus F, Dalmau J. **Encephalitis with mGluR5 antibodies: Symptoms and antibody effects.** *NEUROLOGY.* 90(22):e1964-e1972. I.F.: 8.055

11. Ladépêche L., Planagumà J., Thakur S., Suárez I., Hara M., Borbely J., Sandoval A., Laparra-Cuervo L., Dalmau J., Lakadamyali M. **NMDA Receptor Autoantibodies in Autoimmune Encephalitis Cause a Subunit-Specific Nanoscale Redistribution of NMDA Receptors.** *CELL REPORTS.* 23(13):3759-3768. I.F.: 8.032

12. Sepúlveda M, Sola-Valls N, Escudero D, Rojc B, Barón M, Hernández-Echebarría L, Gómez B, Dalmau J, Saiz A, Graus F. **Clinical profile of patients with paraneoplastic neuromyelitis optica spectrum disorder and aquaporin-4 antibodies.** *MULTIPLE SCLEROSIS.* 24(13):1753-1759. I.F.: 5.280

13. Sanchez-Dalmau B, Martinez-Lapiscina EH, Torres-Torres R, Ortiz-Perez S, Zubizarreta I, Pulido-Valdeolivas IV, Alba-Arbalat S, Guerrero-Zamora A, Calbet D, Villoslada P. **Early retinal atrophy predicts long-term visual impairment after acute optic neuritis.** *MULTIPLE SCLEROSIS.* 24(9):1196-1204. I.F.: 5.280

14. Gil-Varea E., Urcelay E., Vilariño-Güell C., Costa C., Midaglia L., Matesanz F., Rodríguez-Antigüedad A., Oksenberg J., Espino-Paisan L., Dessa Sadovnick A., Saiz A., Villar L., García-Merino J., Ramió-Torrentà L., Triviño J., Quintana E., Robles R.,

Sánchez-López A., Arroyo R., Alvarez-Cermeño J., Vidal-Jordana A., Malhotra S., Fissolo N., Montalban X., Comabella M. **Exome sequencing study in patients with multiple sclerosis reveals variants associated with disease course 06 Biological Sciences 0604 Genetics 11 Medical and Health Sciences 1109 Neurosciences.** *JOURNAL OF NEUROINFLAMMATION.* 15(1):265. I.F.: 5.193

15. Sola-Valls N, Blanco Y, Sepúlveda M, Llufriu S, Martínez-Lapiscina EH, Zubizarreta I, Pulido-Valdeolivas I, Montejo C, Villoslada P, Saiz A. **Combined walking outcome measures identify clinically meaningful response to prolonged-release fampridine.** *THERAPEUTIC ADVANCES IN NEUROLOGICAL DISORDERS.* 11:1756286418780007. I.F.: 4.750

16. Siles A., Martínez-Hernández E., Araque J., Diaz-Manera J., Rojas-Garcia R., Gallardo E., Illa I., Graus F., Querol L. **Antibodies against cell adhesion molecules and neural structures in paraneoplastic neuropathies.** *ANNALS OF CLINICAL AND TRANSLATIONAL NEUROLOGY.* 5(5):559-569. I.F.: 4.649

17. Graus F, Escudero D, Oleaga L, Bruna J, Villarejo-Galende A, Ballabriga J, Barceló MI, Gilo F, Popkirov S, Stourac P, Dalmau J . **Syndrome and outcome of antibody-negative limbic encephalitis.** *EUROPEAN JOURNAL OF NEUROLOGY.* 25(8):1011-1016. I.F.: 4.621

18. Cayuela N, Simó M, Majós C, Rifà-Ros X, Gállego Pérez-Larraya J, Ripollés P, Vidal N, Miró J, Gil F, Gil-Gil M, Plans G, Graus F, Bruna J . **Seizure-Susceptible brain regions in glioblastoma: identification of patients at risk.** *EUROPEAN JOURNAL OF NEUROLOGY.* 25(2):387-394. I.F.: 4.621

19. Wong YYM, Hacohen Y, Hacohen Y, Armangue T, Armangue T, Wassmer E, Verhelst H, Hemingway C, van Pelt ED, Catsman-Berrevoets CE, Hintzen RQ, Deiva K, Deiva K, Lim MJ, Lim MJ, Rostásy K, Neuteboom RF. **Paediatric ADEM followed by optic neuritis: disease course, treatment response and outcome.** *EUROPEAN JOURNAL OF NEUROLOGY.* 25(5):782-786. I.F.: 4.621

20. Ramirez-Mahaluf, Juan P.; Perramon, Joan; Otal, Begonya; Villoslada, Pablo; Compte, Albert. **Subgenual anterior cingulate cortex controls sadness-induced modulations of cognitive and emotional network hubs.** *SCIENTIFIC REPORTS.* 8(1):8566. I.F.: 4.122

21. Martin-Trias P., Lanteaume L., Solana E., Cassé-Perrot C., Fernández-Cabello S., Babiloni C., Marzano N., Junqué C., Rossini P., Micallef J., Truillet R., Charles E., Jouve E., Bordet R., Santamaria J., Jovicich J., Rossi S., Pascual-Leone A., Blin O., Richardson J., Bartrés-Faz D. **Adaptability and reproducibility of a memory disruption rTMS protocol in the PharmaCog IMI European project.** *SCIENTIFIC REPORTS.* 8(1):9371. I.F.: 4.122

22. Linares D., Marin-Campos R., Dalmau J., Compte A. **Validation of motion perception of briefly displayed images using a tablet.** *SCIENTIFIC REPORTS.* 8(1):16056. I.F.: 4.122

23. Rieger, Benedikt; Akcakaya, Mehmet; Pariente, Jose C.; Llufriu, Sara; Martinez-Heras, Eloy; Weingartner, Sebastian; Schad, Lothar R. **Time efficient whole-brain coverage with MR Fingerprinting using slice-interleaved echo-planar-imaging.** *SCIENTIFIC REPORTS.* 8(1):6667. I.F.: 4.122

24. Solana E., Martinez-Heras E., Martinez-Lapiscina E., Sepulveda M., Sola-Valls N., Bargalló N., Berenguer J., Blanco Y., Andorra M., Pulido-Valdeolivas I., Zubizarreta I., Saiz A., Llufriu S. **Magnetic resonance markers of tissue damage related to connectivity disruption in multiple sclerosis.** *NEUROIMAGE: CLINICAL.* 20:161-168. I.F.: 3.869

25. Aguilera-Albesa S, Crespo-Eguílaz N, Del Pozo JL, Villoslada P, Sánchez-Carpintero R. **Anti-Basal Ganglia Antibodies and Streptococcal Infection in ADHD.** *JOURNAL OF ATTENTION DISORDERS.* 22(9):864-871. I.F.: 3.668

26. Maurel J, Sánchez-Cabús S, Laquente B, Gaba L, Visa L, Fabregat J, Povés I, Roselló S, Díaz-Beveridge R, Martín-Richard M, Rodriguez J, Sabater L, Conill C, Cambray M, Reig A, Ayuso JR, Valls C, Ferrández A, Bombí JA, Ginés A, García-Albéniz X, Fernández-Cruz L . **Outcomes after neoadjuvant treatment with gemcitabine and erlotinib followed by gemcitabine-erlotinib and radiotherapy for resectable pancreatic cancer (GEMCAD 10-03 trial).** *CANCER CHEMOTHERAPY AND PHARMACOLOGY.* 82(6):935-943. I.F.: 2.808

27. González C, Jensen EW, Gambús PL, Vallverdú M. **Poincaré plot analysis of cerebral blood flow signals: Feature extraction and classification methods for apnea detection.** *PLOS ONE.* 13(12):e0208642. I.F.: 2.766

28. Sanchez-Dalmau B, Martinez-Lapiscina EH, Pulido-Valdeolivas I, Zubizarreta I, Llufriu S, Blanco Y, Sola-Valls N, Sepulveda M, Guerrero A, Alba S, Andorra M, Camos A, Sanchez-Vela L, Alfonso V, Saiz A, Villoslada P. **Predictors of vision impairment in Multiple Sclerosis.** *PLOS ONE.* 13(4):e0195856. I.F.: 2.766

29. Sobhanian M., Agarwal R., Meltzer E., Kildebeck E., Frohman B., Frohman A., Galetta S., Saidha S., White O., Villoslada P., Paul F., Petzold A., Rennaker R., Martinez-Lapiscina E., Balcer L., Kardon R., Frohman E., Frohman T. **Identification and treatment of the visual processing asymmetry in MS patients with optic neuritis: The Pulfrich phenomenon.** *JOURNAL OF THE NEUROLOGICAL SCIENCES.* 387:60-69. I.F.: 2.448

30. Muñoz JE, Gambús P, Jensen EW, Vallverdú M. **Time-frequency Features for Impedance Cardiography Signals During Anesthesia Using Different Distribution Kernels.** *METHODS OF INFORMATION IN MEDICINE.* 57(1):e1-e9. I.F.: 1.531

31. Mar Guasp; Josep Dalmau Obrador. **Encefalitis por anticuerpos contra el receptor de NMDA.** *MEDICINA CLINICA.* 151(2):71-79. I.F.: 1.168

Review / I.F.: 117.501

1. Dalmau, Josep; Graus, Francesc. **Antibody-Mediated Encephalitis.** *NEW ENGLAND JOURNAL OF MEDICINE.* 378(9):840-851. I.F.: 79.260

2. Wells E., Hacohen Y., Waldman A., Tillema J., Soldatos A., Ances B., Benseler S., Bielekova B., Dale R., Dalmau J., Gaillard W., Gorman M., Greenberg B., Hyslop A., Pardo C., Tasker R., Yeh E., Bar-Or A., Pittock S., Vanderver A., Banwell B. **Neuroimmune disorders of the central nervous system in children in the molecular era.** *NATURE REVIEWS NEUROLOGY.* 14(7):433-445. I.F.: 19.819

3. Florez-Grau, Georgina; Zubizarreta, Irati; Cabezon, Raquel; Villoslada, Pablo; Benitez-Ribas, Daniel. **Tolerogenic Dendritic Cells as a Promising Antigen-Specific**

Therapy in the Treatment of Multiple Sclerosis and Neuromyelitis Optica From Preclinical to Clinical Trials. *FRONTIERS IN IMMUNOLOGY*. 9:1169. I.F.: 5.511

4. Jarius S, Paul F, Paul F, Aktas O, Asgari N, Dale RC, de Seze J, Franciotta D, Fujihara K, Jacob A, Kim HJ, Kleiter I, Kümpfel T, Levy M, Palace J, Ruprecht K, Saiz A, Trebst C, Weinshenker BG, Wildemann B. **MOG encephalomyelitis: international recommendations on diagnosis and antibody testing.** *JOURNAL OF NEUROINFLAMMATION*. 15(1):134. I.F.: 5.193

5. Gaig, Carles; Iranzo, Alex; Santamaria, Joan; Graus, Francesc. **The Sleep Disorder in Anti-IgLON5 Disease.** *CURRENT NEUROLOGY AND NEUROSCIENCE REPORTS*. 18(7):41. I.F.: 3.478

6. Rosenfeld MR, Dalmau J. **Paraneoplastic Neurologic Syndromes.** *NEUROLOGIC CLINICS*. 36(3):675-685. I.F.: 3.072

7. Guasp M., Dalmau J. **Encephalitis associated with antibodies against the NMDA receptor.** *MEDICINA CLINICA*. 151(2):71-79. I.F.: 1.168

Editorial / I.F.: 6.523

1. Gambus P, Shafer SL. **Artificial Intelligence for Everyone.** *ANESTHESIOLOGY*. 128(3):431-433. I.F.: 6.523

Case Reports / I.F.: 2.655

1. Tijero B., del Pino R., Pérez-Concha T., Acera M., Gabilondo I., Berganzo K., Graus F., Martinez-Alday J., Barcena J., Gómez-Esteban J. **Seronegative and seropositive autoimmune autonomic ganglionopathy (AAG): Same clinical picture, same response to immunotherapy.** *JOURNAL OF NEUROIMMUNOLOGY*. 319:68-70. I.F.: 2.655

GRANTS FOR RESEARCH IN PROGRESS

Armangué T. **Autoinmunidad en encefalitis herpética en la infancia: coreoatetosis post-herpética, anticuerpos NMDAR e interferon.**
Sponsored by: Fundación de Investigación Médica Mutua Madrileña. AP162572016
Duration: 18/07/2016-28/02/2020

Blanco Y. **Antigen-specific therapy in patients with NMO treated with tolerated autologous dendritic cells (Phase 1b clinical trial).**
Sponsored by: The Guthy-Jackson Charitable Foundation. GJCF_NMO_18
Duration: 01/08/2018-31/12/2019

Dalmau J. **Clinical and Experimental Neuroimmunology Group.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_00266
Duration: 01/01/2017-31/12/2020

Dalmau J. **A Translational Model of Antibody-mediated Synaptic Disease: Symptoms, Neuronal Circuits, and the Mechanisms of Memory Loss and Recovery.**
Sponsored by: Fundació Bancària La Caixa. HR17_00149
Duration: 31/12/2018-30/12/2021

Dalmau J. **Encefalitis anti-NMDAR: Subclases de anticuerpos, y estudio de los efectos de la presencia crónica de anticuerpos en el cerebro de ratón adulto, desarrollo cerebral fetal y sinaptogénesis.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00234
Duration: 01/01/2018-31/12/2020

Dalmau J. **Inmune-mediated diseases of the synapse: symptoms, brain networks, and the link to human memory.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PIE16/00014
Duration: 01/01/2017-31/12/2019

Gambús PL. **PREDICTHEON: A project to develop predictive Monitoring Systems for clinical applications.**
Sponsored by: Fundació Bancària La Caixa. CI16-00053
Duration: 10/01/2017-30/04/2019

Martinez-Lapiscina E. **Molecular imaging of the retina in patients with Multiple Sclerosis by Raman Spectroscopy.**
Sponsored by: Fundació La Marató de TV3. Neuro_14
Duration: 03/06/2015-09/01/2019

Martinez-Lapiscina E. **Vía visual aferente: innovación para trastorno del Sueño REM y Parkinson.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/01228
Duration: 01/01/2018-31/12/2020

Martinez-Lapiscina E. **MultipleMS: Multiple manifestations of genetic and non-genetic factors in Multiple Sclerosis disentangled wi a multi-omics approach to accelerate personalised medicine.**
Sponsored by: MERCK KGaA Account Payable. MerckSer_GMSI_16_01
Duration: 01/11/2016-31/10/2019

Martinez-Lapiscina E. **MultipleMS: Multiple manifestations of genetic and non-genetic factors in Multiple Sclerosis disentangled wi a multi-omics approach to accelerate personalised medicine.**
Sponsored by: European Commission. H2020-SC1_16
Duration: 01/01/2017-31/12/2021

Llufriu S. **Rehabilitació cognitiva i plasticitat cerebral a l'Esclerosi Múltiple: avaluació a través d'un assaig clínic aleatoritzat i controlat.**
Sponsored by: Fundació Catalana de Neurologia. Neurol_17
Duration: 05/05/2017-31/12/2018

Llufriu S. **Rehabilitación cognitiva y plasticidad cerebral en la Esclerosis Múltiple: evaluación a través de un ensayo clínico aleatorizado y controlado.**
Sponsored by: Fundación Merck Salud. 17-EM-010
Duration: 01/06/2017-01/06/2020

Llufriu S. **Red Temática de Investigación Cooperativa en Salud - Esclerosis múltiple.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). RD16/0015/0003
Duration: 01/01/2017-31/12/2021

Sabater L. **Mecanismos patogénicos de los anticuerpos IgG4 contra antígenos de superficie neuronal en encefalitis autoinmunes.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00377
Duration: 01/01/2016-31/08/2019

Saiz A. **Diagnostic and prognostic biomarkers in pediatric multiple sclerosis and related demyelinating disorders.**
Sponsored by: Fundació la Marató de TV3. Neuro_14
Duration: 01/01/2017-31/12/2021

Saiz A, Llufriu S. **Biomarcadores de resonancia magnética avanzada en**

esclerosis múltiple: asociación con el perfil clínico evolutivo y sustrato genético.
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00587
Duration: 01/01/2016-30/06/2020

Saiz A. **REEM: Red española de esclerosis múltiple.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). RD16/0015/0002
Duration: 01/01/2017-31/12/2021

Villoslada P. **Estudio del daño axonal en esclerosis múltiple mediante esudios de neuroimagen de la vía óptica.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). AC15/00052
Duration: 01/01/2016-30/06/2019

VillosladaP. **Estudio del daño axonal en esclerosis múltiple mediante estudios de neuroimagen de la vía óptica.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00061
Duration: 01/01/2016-31/12/2019

Villoslada P. **Sys4MS: Personalizing health care in Multiple Sclerosis using systems medicine tolos.**
Sponsored by: European commission. ERACoSysMed_15
Duration: 01/05/2016-30/04/2019

DOCTORAL THESES

Martínez-Lapiscina EH, Villoslada P. **Retinal imaging in preclinical models of neuroinflammatory disease.**
PhD student: Andrés Cruz Herranz

Dalmau J. **Antigens and mechanisms of immune-mediated encephalitis.**
PhD student: María del Mar Petit Pedrol

Villoslada P, Adan A. **Biomarcadores de calidad visual percibida en pacientes con neuritis óptica aguda y esclerosis multiple.**
PhD student: Bernardo Francisco Sánchez Dalmau

Dalmau J. **Neuronal antibody-mediated encephalitis: Clinical characterization and pathological mechanisms.**
PhD student: Marianna Spatola

4.11 Neurobiology Unit

LOCATION
IIBB-CSIC labs
UB Biomedical Sciences

WEB
http://www.idibaps.org/research/903/neurobiology-unit

KEYWORDS
1. **Neurodegeneration**
2. **Alzheimer's disease**
3. **Mitochondrial DNA**
4. **Microglia**
5. **Neuronal pentraxin**
6. **Neuronal death**
7. **Mitochondrial dynamics**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	39.09	5	4	1
2017	7.37	2	1	1
2018	30.47	5	4	1

TEAM INVOLVED IN
CIBERNED
AGAUR_2017_SGR 177

TEAM LEADER
Ramon Trullàs (IIBB-CSIC)
T. 93 363 83 03
ramon.trullas@iibb.csic.es

RESEARCHERS
Anna Colell (IIBB-CSIC)
Petar Podlesniy (CIBER)
Manuel José Rodríguez (UB)

PRE-DOCTORAL RESEARCHERS
Cristina de Dios (IIBB-CSIC)
Margalida Puigròs (CIBER)
Vicente Roca (IIBB-CSIC)

TECHNICIANS
Carmen Andrade (UB)
Núria Serra (CIBER)

STRATEGIC OBJECTIVES

1. To determine the role of mitochondrial DNA, mitochondrial dynamics and mitophagy on synapse elimination and neuronal death in models of neurodegenerative dementias and Parkinson's disease.
2. To gain knowledge on the mechanisms regulating neuroinflammation in neurodegenerative disorders.
3. To characterize cell-free mitochondrial DNA as a biomarker for neurodegenerative diseases.

MAIN LINES OF RESEARCH

The Neurobiology Unit group investigates the molecular mechanisms of neurodegeneration to identify new targets for therapeutic intervention. Specific lines of research aim to:

1. Characterize cell-free mitochondrial DNA in cerebrospinal fluid as a biomarker for the early detection of Alzheimer's and Parkinson's diseases.
2. Investigate the function of Neuronal Pentraxin 1 in the neuronal death program, with the hypothesis that inhibition of this protein may constitute a new treatment for chronic neurodegenerative disorders.

TEAM Ramon Trullàs

3. Study the role of mitochondrial DNA and mitochondrial dynamics in fibroblasts from patients with Parkinson's disease and other cellular models of neurodegeneration.

4. Study the mechanism by which KATP channel participates in the control of microglial activity in different neurological disorders.

5. Investigate the mechanisms whereby CX3CR1 regulates microglial activation in amyotrophic lateral sclerosis.

6. Study the mechanisms that alter the main proteolytic systems, including autophagy, involved in the maintenance of intracellular proteostasis.

7. Study the role of mitochondrial function in neuroinflammation and amyloid beta-induced cell death.

PUBLICATIONS

Originals / I.F.: 30.475

1. Barbero-Camps E, Roca-Agujetas V, Bartolessis I, de Dios C, Fernández-Checa JC, Marí M, Morales A, Hartmann T, Colell A. **Cholesterol impairs autophagy-mediated clearance of amyloid beta while promoting its secretion.** *AUTOPHAGY*. 14(7):1129-1154. I.F.: 11.100

2. Pulido Á., de Gregorio E., Chandra S., Colell A., Morales A., Kronenberg M., Marí M. **Differential role of cathepsins S and B in hepatic APC-mediated NKT cell activation and cytokine secretion.** *FRONTIERS IN IMMUNOLOGY*. 9(391):391. I.F.: 5.511

3. Leurs CE, Podlesniy P, Trullas R, Balk L, Steenwijk MD, Malekzadeh A, Piehl F, Uitdehaag BM, Killestein J, van Horssen J, Teunissen CE . **Cerebrospinal fluid mtDNA concentration is elevated in multiple sclerosis disease and responds to treatment.** *MULTIPLE SCLEROSIS*. 24(4):472-480. I.F.: 5.280

4. Vidal-Taboada JM, Pugliese M, Salvadó M, Gámez J, Mahy N, Rodríguez MJ . **KATPChannel Expression and Genetic Polymorphisms Associated with Progression and Survival in Amyotrophic Lateral Sclerosis.** *MOLECULAR NEUROBIOLOGY*. 55(10):7962-7972. I.F.: 5.076

5. Menal, Maria Jose; Jorba, Ignasi; Torres, Marta; Montserrat, Josep M.; Gozal, David; Colell, Anna; Pinol-Ripoll, Gerard; Navajas, Daniel; Almendros, Isaac; Farre, Ramon. **Alzheimer's Disease Mutant Mice Exhibit Reduced Brain Tissue Stiffness Compared to Wild-type Mice in both Normoxia and following Intermittent Hypoxia Mimicking Sleep Apnea.** *FRONTIERS IN NEUROLOGY*. 9(JAN):1. I.F.: 3.508

GRANTS FOR RESEARCH IN PROGRESS

Colell A. **Cholesterol and Ab-induced mitochondrial oxidative stress as a causal factors and therapeutic targets in Alzheimer's Disease.**
Sponsored by: Fundació La Marató de TV3
Duration: 01/07/2015-31/12/2018

Trullas R, Podlesniy P. **Replication and transcription of mitochondrial DNA as a key mechanism of the pathological sequence leading to neurodegeneration.**
Sponsored bt: Ministerio de Economía y Competitividad (MINECO). SAF2017-89791-R
Duration: 01/01/2018- 31/12/2020

4.12 Alzheimer's disease and other cognitive disorders

LOCATION
HCB building
CELLEX building, floor 3B

KEYWORDS
1. **Alzheimer disease**
2. **Degenerative neurological deiseases**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	144.23	24	17	5
2017	140.93	25	17	8
2018	237.83	27	23	4

TEAM INVOLVED IN
AGAUR_SGR17: 01507

TEAM LEADER
Raquel Sánchez del Valle (HCB)
T. 93 227 57 85
rsanchez@clinic.cat

RESEARCHERS
Albert Lladó (HCB)
José Lluís Molinuevo (HCB)
Lorena Rami (IDIBAPS)

POST-DOCTORAL RESEARCHERS
Anna Antonell (IDIBAPS)
Mircea Balasa (HCB)
Beatriz Bosch (IDIBAPS)

PRE-DOCTORAL RESEARCHERS
Sergi Borrego (HCB)
Nina Coll (IDIBAPS)
Neus Falgas (FCRB)
Jaume Olives (FCRB)
Oscar Ramos (IDIBAPS)
Mariona Ruiz (FCRB)
Adria Tort (FCRB)

TECHNICIANS
Cristina Munoz (IDIBAPS)

NURSING STAFF
Clara Coquard (FCRB)
Guadalupe Fernández Villullas (FCRB)

COLLABORATORS
Magda Castellví (HCB)

STRATEGIC OBJECTIVES

- Investigation to improve diagnosis and treatment of neurodegenerative diseases.
- Investigations on clinical, molecular and imaging biomarkers that characterize the preclinical phase of Alzheimer disease.
- Investigation of biological pathways involved in the pathogenesis of Alzheimer's disease and detection of new cognitive, biochemical and neuroimaging markers in preclinical and prodromal patients.

MAIN LINES OF RESEARCH

The main research lines of the Alzheimer's Disease and other Cognitive Disorders Unit (ADCDU) team are:
- Healthy aging-Alzheimer's disease continuum (subjective cognitive decline, preclinical and prodromal Alzheimer's disease).
- Study of genetic dementias in preclinical and early clinical phases.
- Biomarkers for sporadic early onset Alzheimer's disease.
- Biomarkers for non-Alzheimer dementias (prion diseases, frontotemporal dementia, primary progressive aphasia, Lewy body dem.).
- Non-pharmacological interventions in neurodegenerative cognitive disorders.

PUBLICATIONS

Originals / I.F.: 237.83

1. Atri A., Frölich L., Ballard C., Tariot P., Molinuevo J., Boneva N., Windfeld K., Raket L., Cummings J. **Effect of idalopirdine as adjunct to cholinesterase inhibitors on change in cognition in patients with Alzheimer disease three randomized clinical trials.** *JAMA- JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.* 319(2):130-142. I.F.: 47.661

2. Pottier C, Zhou X, Perkerson RB, Baker M, Jenkins GD, Serie DJ, Ghidoni R, Benussi L, Binetti G, López de Munain A, Zulaica M, Moreno F, Le Ber I, Pasquier F, Hannequin D, Sánchez-Valle R, Antonell A, Lladó A, Parsons TM, Finch NA, Finger EC, Lippa CF, Huey ED, Neumann M, Heutink P, Synofzik M, Wilke C, Rissman RA, Slawek J, Sitek E, Johannsen P, Nielsen JE, Ren Y, van Blitterswijk M, DeJesus-Hernandez M, Christopher E, Murray ME, Bieniek KF, Evers BM, Ferrari C, Rollinson S, Richardson A, Scarpini E, Fumagalli GG, Padovani A, Hardy J, Momeni P, Ferrari R, Frangipane F, Maletta R, Anfossi M, Gallo M, Petrucelli L, Suh E, Lopez OL, Wong TH, van Rooij JGJ, Seelaar H, Mead S, Caselli RJ, Reiman EM, Noel Sabbagh M, Kjolby M, Nykjaer A, Karydas AM, Boxer AL, Grinberg LT, Grafman J, Spina S, Oblak A, Mesulam MM, Weintraub S, Geula C, Hodges JR, Piguet O, Brooks WS, Irwin DJ, Trojanowski JQ, Lee EB, Josephs KA, Parisi JE, Ertekin-Taner N, Knopman DS, Nacmias B, Piaceri I, Bagnoli S, Sorbi S, Gearing M, Glass J, Beah TG, Black SE, Masellis M, Rogaeva E, Vonsattel JP, Honig LS, Kofler J, Bruni AC, Snowden J, Mann D, Pickering-Brown S, Diehl-Schmid J, Winkelmann J, Galimberti D, Graff C, Öijerstedt L, Troakes C, Al-Sarraj S, Cruchaga C, Cairns NJ, Rohrer JD, Halliday GM, Kwok JB, van Swieten JC, White CL, Ghetti B, Murell JR, Mackenzie IRA, Hsiung GR, Borroni B, Rossi G, Tagliavini F, Wszolek ZK, Petersen RC,

Bigio EH, Grossman M, Van Deerlin VM, Seeley WW, Miller BL,Graff-Radford NR, Boeve BF, Dickson DW, Biernacka JM, Rademakers R. **Potential genetic modifiers of disease risk and age at onset in patients with frontotemporal lobar degeneration and GRN mutations: a genome-wide association study.** *LANCET NEUROLOGY, THE.* 17(6):548-558. I.F.: 27.144

3. Jansen; Willemijn J; Ossenkoppele; Rik; Ossenkoppele; Rik; Tijms; Betty M; Fagan; Anne M; Hansson; Oskar; Klunk; William E; van der Flier; Wiesje M; van der Flier; Wiesje M; Villemagne; Victor L; Frisoni; Giovanni B; Frisoni; Giovanni B; Fleisher; Adam S; Fleisher; Adam S; Lleó; Alberto; Mintun; Mark A; Wallin; Anders; Engelborghs; Sebastiaan; Na; Duk L; Chételat; Gäel; Molinuevo; José Luis; Landau; Susan M; Mattsson; Niklas; Kornhuber; Johannes; Sabri; Osama; Rowe; Christopher C; Rowe; Christopher C; Parnetti; Lucilla; Popp; Julius; Fladby; Tormod; Jagust; William J; Aalten; Pauline; Lee; Dong Young; Vandenberghe; Rik; Resende de Oliveira; Catarina; Kapaki; Elisabeth; Froelich. **Association of Cerebral Amyloid-β Aggregation With Cognitive Functioning in Persons Without Dementia**. *JAMA PSYCHIATRY.* 75(1):84-95. I.F.: 16.642

4. Zerr I, Schmitz M, Karch A, Villar-Piqué A, Kanata E, Golanska E, Díaz-Lucena D, Karsanidou A, Hermann P, Knipper T, Goebel S, Varges D, Sklaviadis T, Sikorska B, Liberski PP, Santana I, Ferrer I, Zetterberg H, Blennow K, Calero O, Calero M, Ladogana A, Sánchez-Valle R, Baldeiras I, Llorens F . **Cerebrospinal fluid neurofilament light levels in neurodegenerative dementia: Evaluation of diagnostic accuracy in the differential diagnosis of prion diseases.** *ALZHEIMER'S AND DEMENTIA.* 14(6):751-763. I.F.: 12.764

5. Cacciaglia R, Molinuevo JL, Falcón C, Brugulat-Serrat A, Sánchez-Benavides G, Gramunt N, Esteller M, Morán S, Minguillón C, Fauria K, Gispert JD, ALFA study. **Effects of APOE-?4 allele load on brain morphology in a cohort of middle-aged healthy individuals with enriched genetic risk for Alzheimer's disease.** *ALZHEIMER'S AND DEMENTIA.* 14(7):902-912. I.F.: 12.764

6. Mattsson N., Groot C., Jansen W., Landau S., Villemagne V., Engelborghs S., Mintun M., Lleo A., Molinuevo J., Jagust W., Frisoni G., Ivanoiu A., Chételat G., Resende de Oliveira C., Rodrigue K., Kornhuber J., Wallin A., Klimkowicz-Mrowiec A., Kandimalla R., Popp J., Aalten P., Aarsland D., Alcolea D., Almdahl I., Baldeiras I., van Buchem M., Cavedo E., Chen K., Cohen A., Förster S., Fortea J., Frederiksen K., Freund-Levi Y., Gill K., Gkatzima O., Grimmer T., Hampel H., Herukka S., Johannsen P., van Laere K., Mattsson N., Groot C., Jansen W., Landau S., Villemagne V., Engelborghs S., Mintun M., Lleo A., Molinuevo J., Jagust W., Frisoni G., Ivanoiu A., Chételat G., Resende de Oliveira C., Rodrigue K., Kornhuber J., Wallin A., Klimkowicz-Mrowiec A., Kandimalla R., Popp J., Aalten P., Aarsland D., Alcolea D., Almdahl I., Baldeiras I., van Buchem M., Cavedo E., Chen K., Cohen A., Förster S., Fortea J., Frederiksen K., Freund-Levi Y., Gill K., Gkatzima O., Grimmer T., Hampel H., Herukka S., Johannsen P., van Laere K., Mattsson N., Groot C., Jansen W., Landau S., Villemagne V., Engelborghs S., Mintun M., Lleo A., Molinuevo J. **Prevalence of the apolipoprotein E ε4 allele in amyloid β positive subjects across the spectrum of Alzheimer's disease.** *ALZHEIMER'S AND DEMENTIA.* 14(7):913-924. I.F.: 12.764

7. Vermunt L., Veal C., ter Meulen L., Chrysostomou C., van der Flier W., Frisoni G., Guessous I., Kivipelto M., Marizzoni M., Martinez-Lage P., Molinuevo J., Porteous D., Ritchie K., Scheltens P., Ousset P., Ritchie C., Luscan G., Brookes A., Visser P. **European Prevention of Alzheimer's Dementia Registry: Recruitment and prescreening approach for a longitudinal cohort and prevention trials.** *ALZHEIMER'S AND DEMENTIA.* 14(6):837-842. I.F.: 12.764

8. Bergeron D; Gorno-Tempini ML; Rabinovici GD; Santos-Santos MA; Seeley W; Miller BL; Pijnenburg Y; Keulen MA; Groot C; Van Berckel BNM; van der Flier WM; Scheltens P; Rohrer JD; Warren JD; Schott JM; Fox NC; Sanchez-Valle R; Grau-Rivera O; Gelpi E; Seelaar H; Papma JM; van Swieten JC; Hodges JR; Leyton CE; Piguet O; Rogalsky EJ; Mesulam MM; Koric L; Nora K; Pariente J; Dickerson B; Mackenzie IR; Hsiung GR; Belliard S; Irwin DJ; Wolk DA; Grossman M; Jones M; Harris J; Mann D. **Prevalence of amyloid-β pathology in distinct variants of primary progressive aphasia.** *ANNALS OF NEUROLOGY.* 84(5):729-740. I.F.: 10.250

9. Rojas S, Brugulat-Serrat A, Bargalló N, Minguillón C, Tucholka A, Falcon C, Carvalho A, Morán S, Esteller M, Gramunt N, Fauria K, Camí J, Molinuevo JL, Gispert JD . **Higher prevalence of cerebral white matter hyperintensities in homozygous APOE-ε4 allele carriers aged 45-75: Results from the ALFA study.** *JOURNAL OF CEREBRAL BLOOD FLOW AND METABOLISM.* 38(2):250-261. I.F.: 6.045

10. Iranzo A, Borrego S, Vilaseca I, Martí C, Serradell M, Sánchez-Valle R, Kovacs GG, Valldeoriola F, Gaig C, Santamaria J, Tolosa E, Gelpi E. **Alpha-synuclein Aggregates in Labial Salivary Glands of Idiopathic Rapid Eye Movement Sleep Behavior Disorder.** *SLEEP.* 41(8). I.F.: 5.135

11. Llorens F., Kruse N., Karch A., Schmitz M., Zafar S., Gotzmann N., Sun T., Köchy S., Knipper T., Cramm M., Golanska E., Sikorska B., Liberski P., Sánchez-Valle R., Fischer A., Mollenhauer B., Zerr I. **Validation of α-Synuclein as a CSF Biomarker for Sporadic Creutzfeldt-Jakob Disease.** *MOLECULAR NEUROBIOLOGY.* 55(3):2249-2257. I.F.: 5.076

12. Operto G, Cacciaglia R, Grau-Rivera O, Falcon C, Brugulat-Serrat A, Ródenas P, Ramos R, Morán S, Esteller M, Bargalló N, Molinuevo JL, Gispert JD, ALFA Study. **White matter microstructure is altered in cognitively normal middle-aged APOE-ε4 homozygotes.** *ALZHEIMER'S RESEARCH AND THERAPY.* 10(1):48. I.F.: 5.015

13. Cummings J., Atri A., Ballard C., Boneva N., Frölich L., Molinuevo J., Raket L., Tariot P. **Insights into globalization: comparison of patient characteristics and disease progression among geographic regions in a multinational Alzheimer's disease clinical program.** *ALZHEIMER'S RESEARCH AND THERAPY.* 10(1):116. I.F.: 5.015

14. Bos I, Vos S, Vandenberghe R, Scheltens P, Engelborghs S, Frisoni G, Molinuevo JL, Wallin A, Lleó A, Popp J, Martinez-Lage P, Baird A, Dobson R, Legido-Quigley C, Sleegers K, Van Broeckhoven C, Bertram L, Ten Kate M, Barkhof F, Zetterberg H, Lovestone S, Streffer J, Visser PJ. **The EMIF-AD Multimodal Biomarker Discovery study: design, methods and cohort characteristics**. *ALZHEIMER'S RESEARCH AND THERAPY.* 10(1):64. I.F.: 5.015

15. Sánchez-Valle R, Heslegrave A, Foiani MS, Bosch B, Antonell A, Balasa M, Lladó A, Zetterberg H, Fox NC . **Serum neurofilament light levels correlate with severity measures and neurodegeneration markers in autosomal dominant Alzheimer's disease.** *ALZHEIMER'S RESEARCH AND THERAPY.* 10(1):113. I.F.: 5.015

16. Cacciaglia R., Molinuevo J., Sánchez-Benavides G., Falcón C., Gramunt N., Brugulat-Serrat A., Grau O., Gispert J., Camí J.,

Fauria K., Suárez-Calvet M., Minguillón C., Salvadó G., Operto G., Crous-Bou M., Polo A., Mustata C., Tenas L., Marne P., Gotsens X., Menchón T., Soteras A., Hernandez L., Dominguez R., Prades S., Pascual M., Huesa G., Vilanova M., Segundo S., Huguet J. **Episodic memory and executive functions in cognitively healthy individuals display distinct neuroanatomical correlates which are differentially modulated by aging.** *HUMAN BRAIN MAPPING.* 39(11):4565-4579. I.F.: 4.927

17. Meeter LHH; Gendron TF; Sias AC; Jiskoot LC; Russo SP; Donker Kaat L; Papma JM; Panman JL; van der Ende EL; Dopper EG; Franzen S; Graff C; Boxer AL; Rosen HJ; Sanchez-Valle R; Galimberti D; Pijnenburg YAL; Benussi L; Ghidoni R; Borroni B; Laforce R; del Campo M; Teunissen CE; van Minkelen R; Rojas JC; Coppola G; Geschwind DH; Rademakers R; Karydas AM; Öijerstedt L; Scarpini E; Binetti G; Padovani A; Cash DM; Dick KM; Bocchetta M; Miller BL; Rohrer JD; Petrucelli L; van Swieten JC. **Poly(GP), neurofilament and grey matter deficits in C9orf72 expansion carriers.** *ANNALS OF CLINICAL AND TRANSLATIONAL NEUROLOGY.* 5(5):583-597. I.F.: 4.649

18. Verheijen J., van der Zee J., Gijselinck I., Van den Bossche T., Dillen L., Heeman B., Gómez-Tortosa E., Lladó A., Sanchez-Valle R., Graff C., Pastor P., Pastor M., Benussi L., Ghidoni R., Binetti G., Clarimon J., de Mendonça A., Gelpi E., Tsolaki M., Diehl-Schmid J., Nacmias B., Almeida M., Borroni B., Matej R., Ruiz A., Engelborghs S., Vandenberghe R., De Deyn P., Cruts M., Van Broeckhoven C., Sleegers K., Goeman J., Nuytten D., Vandenbulcke M., Santens P., De Bleecker J., Sieben A., Dermaut B., Versijpt J., Michotte A., Verheijen J., van der Zee J., Gijselinck I., Van den Bossche T., Dillen L., Heeman B., Gómez-Tortosa E., Lladó A., Sanchez-Valle R., Graff C., Pastor P., Pastor M., Benussi L., Ghidoni R., Binetti G., Clarimon J., de Mendonça A., Gelpi E., Tsolaki M., Diehl-Schmid J., Nacmias B., Almeida M., Borroni B., Matej R., Ruiz A., Engelborghs S., Vandenberghe R. **Common and rare TBK1 variants in early-onset Alzheimer disease in a European cohort.** *NEUROBIOLOGY OF AGING.* 62(245):e1-e7. I.F.: 4.454

19. Philtjens S., Van Mossevelde S., van der Zee J., Wauters E., Dillen L., Vandenbulcke M., Vandenberghe R., Ivanoiu A., Sieben A., Willems C., Benussi L., Ghidoni R., Binetti G., Borroni B., Padovani A., Pastor P., Diez-Fairen M., Aguilar M., de Mendonça A., Miltenberger-Miltényi G., Hernández I., Boada M., Ruiz A., Nacmias B., Sorbi S., Almeida M., Santana I., Clarimón J., Lleó A., Frisoni G., Sanchez-Valle R., Lladó A., Gómez-Tortosa E., Gelpi E., Van den Broeck M., Peeters K., Cras P., De Deyn P., Engelborghs S., Cruts M., Philtjens S. **Rare nonsynonymous variants in SORT1 are associated with increased risk for frontotemporal dementia.** *NEUROBIOLOGY OF AGING.* 66(181):e3-e10. I.F.: 4.454

20. Baradaran-Heravi Y; Dillen L; Nguyen HP; Van Mossevelde S; Baets J; De Jonghe P; Engelborghs S; de Deyn PP; Vandenbulcke M; Vandenberghe R; Van Damme P; Cras P; Salmon E; Synofzik M; Heutink P; Wilke C; Simón-Sánchez J; Rojas-Garcia R; Turon-Sans J; Lleo A; Illán-Gala I; Clarimon J; Borroni B; Padovani A; Pastor P; Díez-Fairen M; Aguilar M; Gelpi E; Sanchez-Valle R; Borrego-Écija S; Matej R; Parobkova E; Nacmias B; Sorbi S; Bagnoli S; de Mendonça A; Ferreira C; Fraidakis MJ; Diehl-Schmid J; Alexopoulos P. **No supportive evidence for TIA1 gene mutations in a European cohort of ALS-FTD spectrum patients.** *NEUROBIOLOGY OF AGING.* 69(293):e9-e11. I.F.: 4.454

21. Lladó A., Tort-Merino A., Sánchez-Valle R., Falgàs N., Balasa M., Bosch B., Castellví M., Olives J., Antonell A., Hornberger M. **The hippocampal longitudinal axis-relevance for underlying tau and TDP-43 pathology.** *NEUROBIOLOGY OF AGING.* 70:1-9. I.F.: 4.454

22. Falcon C., Tucholka A., Monté-Rubio G., Cacciaglia R., Operto G., Rami L., Gispert J., Molinuevo J. **Longitudinal structural cerebral changes related to core CSF biomarkers in preclinical Alzheimer's disease: A study of two independent datasets.** *NEUROIMAGE: CLINICAL.* 19:190-201. I.F.: 3.869

23. Bos, Isabelle; Vos, Stephanie J. B.; Jansen, Willemijn J.; Vandenberghe, Rik; Gabel, Silvy; Estanga, Ainara; Ecay-Torres, Mirian; Tomassen, Jori; den Braber, Anouk; Lleo, Alberto; Sala, Isabel; Wallin, Anders; Kettunen, Petronella; Molinuevo, Jose L.; Rami, Lorena; Chetelat, Gael; de la Sayette, Vincent; Tsolaki, Magda; Freund-Levi, Yvonne; Johannsen, Peter; Novak, Gerald P.; Ramakers, Inez; Verhey, Frans R.; Visser, Pieter Jelle; Alzheimers Dis Neuroimaging Initia. **Amyloid-beta, Tau, and Cognition in Cognitively Normal Older Individuals: Examining the Necessity to Adjust for Biomarker Status in Normative Data.** *FRONTIERS IN AGING NEUROSCIENCE.* 10(193):193. I.F.: 3.582

24. Ramos-Campoy O, Ávila-Polo R, Grau-Rivera O, Antonell A, Clarimón J, Rojas-García R, Charif S, Santiago-Valera V, Hernandez I, Aguilar M, Almenar C, Lopez-Villegas D, Bajo L, Pastor P, Van der Zee J, Lladó A, Sanchez-Valle R, Gelpi E . **Systematic Screening of Ubiquitin/p62 Aggregates in Cerebellar Cortex Expands the Neuropathological Phenotype of the C9orf72 Expansion Mutation.** *JOURNAL OF NEUROPATHOLOGY AND EXPERIMENTAL NEUROLOGY.* 77(8):703-709. I.F.: 3.490

25. Valech N., Tort-Merino A., Coll-Padrós N., Olives J., León M., Rami L., Molinuevo J. **Executive and Language Subjective Cognitive Decline Complaints Discriminate Preclinical Alzheimer's Disease from Normal Aging.** *JOURNAL OF ALZHEIMER'S DISEASE.* 61(2):689-703. I.F.: 3.476

26. Tucholka, Alan; Grau-Rivera, Oriol; Falcon, Carles; Rami, Lorena; Sanchez-Valle, Raquel; Llado, Albert; Domingo Gispert, Juan; Luis Molinuevo, Jose; Alzheimer's Dis Neuroimaging Initia. **Structural Connectivity Alterations Along the Alzheimer's Disease Continuum: Reproducibility Across Two Independent Samples and Correlation with Cerebrospinal Fluid Amyloid-beta and Tau.** *JOURNAL OF ALZHEIMER'S DISEASE.* 61(4):1575-1587. I.F.: 3.476

27. Casamitjana, Adria; Petrone, Paula; Tucholka, Alan; Falcon, Carles; Skouras, Stavros; Luis Molinuevo, Jose; Vilaplana, Veronica; Domingo Gispert, Juan; Alzheimers Dis Neuroimaging Initia. **MRI-Based Screening of Preclinical Alzheimer's Disease for Prevention Clinical Trials.** *JOURNAL OF ALZHEIMER'S DISEASE.* 64(4):1099-1112. I.F.: 3.476

Review / I.F.: 35.829

1. Molinuevo JL, Ayton S, Batrla R, Bednar MM, Bittner T, Cummings J, Fagan AM, Hampel H, Mielke MM, Mikulskis A, O'Bryant S, Scheltens P, Sevigny J, Shaw LM, Soares HD, Tong G, Trojanowski JQ, Zetterberg H, Blennow K. **Current state of Alzheimer's fluid biomarkers.** *ACTA NEUROPATHOLOGICA.* 136(6):821-853. I.F.: 15.876

2. Jack C., Bennett D., Blennow K., Carrillo M.,

Dunn B., Haeberlein S., Holtzman D., Jagust W., Jessen F., Karlawish J., Liu E., Molinuevo J., Montine T., Phelps C., Rankin K., Rowe C., Scheltens P., Siemers E., Snyder H., Sperling R., Elliott C., Masliah E., Ryan L., Silverberg N. **NIA-AA Research Framework: Toward a biological definition of Alzheimer's disease.** *ALZHEIMER'S AND DEMENTIA.* 14(4):535-562. I.F.: 12.764

3. Lewczuk P; Riederer P; O'Bryant SE; Verbeek MM; Dubois B; Visser PJ; Jellinger KA; Engelborghs S; Ramírez Á; Parnetti L; Jack CR; Teunissen CE; Hampel H; Lleo A; Jessen F; Glodzik L; de Leon MJ; Fagan AM; Molinuevo JL; Jansen WJ; Winblad B; Shaw LM; Andreasson U; Otto M; Mollenhauer B; Wiltfang J; Turner MR. **Cerebrospinal fluid and blood biomarkers for neurodegenerative dementias: An update of the Consensus of the Task Force on Biological Markers in Psychiatry of the World Federation of Societies of Biological Psychiatry.** *WORLD JOURNAL OF BIOLOGICAL PSYCHIATRY.* 19(4):244-328. I.F.: 3.713

4. Luis Molinuevo, Jose; Minguillon, Carolina; Rami, Lorena; Domingo Gispert, Juan. **The Rationale Behind the New Alzheimer's Disease Conceptualization: Lessons Learned During the Last Decades.** *JOURNAL OF ALZHEIMER'S DISEASE.* 62(3):1067-1077. I.F.: 3.476

Letters / I.F.: 11.601

1. Borrego-Ecija, Sergi; Grau-Rivera, Oriol; Colom-Cadena, Marti; Luis Molinuevo, Jose; Tolosa, Eduard; Sanchez-Valle, Raquel; Gelpi, Ellen. **Tauopathy with Hippocampal 4-Repeat Tau Immunoreactive Spherical Inclusions in a Patient with PSP.** *BRAIN PATHOLOGY.* 28(2):284-286. I.F.: 6.187

2. Fournier, Clemence; Anquetil, Vincent; Camuzat, Agnes; Stirati-Buron, Sandrine; Sazdovitch, Veronique; Molina-Porcel, Laura; Turbant, Sabrina; Rinaldi, Daisy; Sanchez-Valle, Raquel; Barbier, Mathieu; Latouche, Morwena; Stevanin, Giovanni; Seilhean, Danielle; Brice, Alexis; Duyckaerts, Charles; Le Ber, Isabelle; Neuro-CEB Neuropathology Network. **Interrupted CAG expansions in ATXN2 gene expand the genetic spectrum of frontotemporal dementias**. *ACTA NEUROPATHOLOGICA COMMUNICATIONS.* 6(1):41. I.F.: 5.414

Case Reports / I.F.: 4.649

1. Vicente-Pascual M., Rossi M., Gámez J., Lladó A., Valls J., Grau-Rivera O., Ávila Polo R., Llorens F., Zerr I., Ferrer I., Nos C., Parchi P., Sánchez-Valle R., Gelpí E. **Variably protease-sensitive prionopathy presenting within ALS/FTD spectrum.** *ANNALS OF CLINICAL AND TRANSLATIONAL NEUROLOGY.* 5(10):1297-1302. I.F.: 4.649

GRANTS FOR RESEARCHIN PROGRESS

Antonell A. **Comparative study between genetic Alzheimer's disease and genetic Frontotemporal dementia using lymphoblastoid cell lines and brain tissue from patients.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/00670
Duration:01/01/2018-31/12/2020

Balasa M. **Primary-specialized Care Partnership for an Earlier Diagnosis of Alzheimer´s Disease.**
Sponsored by: Alzheimer's Association & Global Brain Health Institute.
GBHI_ALZ-18-542110
Duration:01/01/2018-31/07/2019

Lladó A. **Clinical phenotypes and new physiopathological, diagnostic and prognostic biomarkers for early onset Alzheimer's disease and behavioural variant of frontotemporal dementia.**
Sponsoredby: Instituto de Salud Carlos III (ISCIII). PI14/00282
Duration:01/01/2015-31/12/2018

Molinuevo JL. **MEDIT-AGEING: Investigating the impact of meditation training on mental health and wellbeing in the ageing population.**
Sponsored by: European commission. H2020_PHC_15
Duration: 01/01/2016-31/12/2020

Rami L. **Subjective cognitive decline in preclinical Alzheimer's Disease: European initiative on harmonization and on a lifestyle-based prevention strategy.(EURO-SCD)**
Sponsoredby: Instituto de Salud Carlos III (ISCIII). AC14/00014
Duration: 01/01/2015-30/06/2019

Rami L. **Efectos de la pérdida de peso mediante dieta mediterránea hipocalórica y aumento de la actividad física sobre la cognición y la estructura y función cerebrales determinados por resonancia magnética funcional en individuos obesos con síndrome metabólico.**
Sponsoredby: Instituto de Salud Carlos III (ISCIII). PI14/00563
Duration: 01/01/2015-30/06/2018

Sánchez-Valle R. **Study of genetic frontotemporal dementia in preclinical and early stages of the disease: cognitive performance, structural and functional neuroimaging and biochemical markers (GENFI2-Barcelona site).**
Sponsoredby: Fundació La Marató de TV3. Neuro_14
Duration: 12/05/2015-11/05/2020

Sanchez-Valle R. **Estudio de biomarcadores y desarrollo de nuevas estrategias terapéuticas en una cohorte multicéntrica de Demencia Frontotemporal.**
Sponsored by: Generalitat de Catalunya. PERIS (SLT002/16/00408)
Duration: 27/03/2017-31/12/2019

Sánchez-Valle R. **Searching for therapeutic interventions in frontotemporal dementia with C9ORF72 repeat expansions in the presymptomatic stage (PreFrontALS).**
Sponsoredby: Instituto de Salud Carlos III (ISCIII). AC14/00013
Duration: 01/01/2015-30/06/2019

Sánchez-Valle R. **Genetic dementia (autosomal dominant Alzheimer's disease and genetic prion disease) in preclinical and early stages of the disease: cognitive performance, neuroimaging and biochemical markers.**
Sponsoredby: Instituto de Salud Carlos III (ISCIII). PI16/000235
Duration:01/01/2017-31/12/2019

Sanchez-Valle R. **AETIONOMY: Organising Knowledge about Neurodegenerative Disease Mechanisms for the Improvement of Drug Development and Therapy.**
Sponsored by: European commission. IMI_12 (115568)
Duration: 01/01/2014-12/02/2019

Sanchez-Valle R. **ADPS: Alzheimer's Disease Prediction Service (ADPS): digital biomarker for Real-World Evidence (RWE) in AD.**
Sponsored by: European commission. EITHealth_2018 (18066)
Duration: 01/01/2018-12/02/2019

ANNUAL
SCIENTIFIC REPORT
2018

AREA 5

ONCOLOGY AND HAEMATOLOGY

5

© Carlos Laredo

AREA 5

ONCOLOGY AND HAEMATOLOGY

5.1 **Oncological molecular pathology** 278
Elías Campo

5.2 **Diagnosis and therapy in oncology** 286
Francesca Pons

5.3 **Molecular biology of reproduction and development** 290
Rafael Oliva

5.4 **Genetics** 292
Montserrat Milà

5.5 **Melanoma: imaging, genetics and immunology** 295
Susana Puig

5.6 **Hematopoietic progenitor cell transplantation** 300
Álvaro Urbano-Ispizua

5.7 **Hematological oncology** 302
Francisco Cervantes

5.8 **Physiopathology and molecular bases in hematology** 310
Dolors Colomer

5.9 **Hemotherapy - hemostasis** 314
Ginés Escolar

5.10 **Molecular and translational oncology** 318
Pere Gascón

5.11 **Cell proliferation and signaling** 321
Oriol Bachs

5.12 **Cell compartments and signaling** 323
Carles Enrich

5.13 **Translational genomics and targeted therapeutics in solid tumors** 326
Aleix Prat

5.1 Oncological molecular pathology

LOCATION
CEK building, floor 2

KEYWORDS
1. **Lymphoid neoplasms**
2. **Epigenome**
3. **Transcriptional regulation**
4. **Molecular pathology**
5. **Solid tumors**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	333.82	45	36	5
2017	421.05	57	46	6
2018	489.84	39	34	5

TEAM INVOLVED IN
AGAUR_SGR17: 01482, 00709, 01142, 00736, 01174, 01107
CIBERONC
ICGC
LLMPP
European Mantle Cell Lymphoma network

TEAM LEADER
Elías Campo (HCB-UB)
T. 93 227 54 50
ecampo@clinic.cat

GROUP LEADERS
Elías Campo (HCB-UB)
T. 93 227 54 50
ecampo@clinic.cat

Miriam Cuatrecasas (HCB)
T. 93 227 54 50
mcuatrec@clinic.cat

José Ignacio Martín-Subero (IDIBAPS)
imartins@clinic.cat

Antonio Postigo (ICREA - IDIBAPS)
apostigo@clinic.cat

RESEARCHERS
Iban Aldecoa (HCB)
Llúcia Alós (HCB-UB)
Virginia Amador (IDIBAPS)
Sílvia Beà (IDIBAPS)
Renée Beekman (IDIBAPS)
Josep Antoni Bombi (HCB-UB)
Pedro Luis Fernández (HCB-UB)
Luis Hernández (IDIBAPS)
Pedro Jares (HCB-UB)
Carme Mallofré (HCB-UB)
Antonio Martínez (HCB-UB)
Alfons Nadal (HCB-UB)
José Francisco Ramírez (HCB-UB)
Teresa Ribalta (HCB-UB)
Itziar Salaverria (IDIBAPS)
Esther Sánchez (IDIBAPS)
Manel Solé (HCB-UB)

POST-DOCTORAL RESEARCHERS
Patricia Balsas (FCRB)
Guillem Clot (IDIBAPS)
Marlies Cortes (FCRB)
Oriol de Barrios (IDIBAPS)
Santiago Demajo (IDIBAPS)
Adriana García (HCB)
Blanca Gonzalez (HCB)
Marta Teresa Kulis (IDIBAPS)
Daniel Martínez (HCB)
Alba Navarro (CIBER)
Cecilia Rosales (IDIBAPS)
Laura Siles (FCRB)

PRE-DOCTORAL RESEARCHERS
Vicente Chapaprieta (UB)
Martí Duran (IDIBAPS)
Alvaro Eguileor (IDIBAPS)
David Martín (IDIBAPS)
M Carmen Martínez (IDIBAPS)
Ferran Nadeu (IDIBAPS)
Chiara Ninfali (IDIBAPS)
Joan Enric Ramis (FCRB)
Lidia Sanchez (IDIBAPS)
Marta Sureda-Gómez (IDIBAPS)
Roser Vilarrasa (IDIBAPS)

TECHNICIANS
Cristina Capdevila (IDIBAPS)
Noelia García (FCRB)
Silvia Martín (CIBER)
Miriam Prieto (FCRB)
Marta Leonor Rodríguez (IDIBAPS)
Nuria Russiñol (FCRB)
Núria Profitós (IDIBAPS)
Nuria Verdaguer (UB)

ADMINISTRATIVE STAFF
Mª Carmen Muro (FCRB)
Sílvia Ruiz (IDIBAPS)

COLLABORATORS
Raquel Bermudo (IDIBAPS)
Anna Enjuanes (IDIBAPS)
Magdalena Pinyol (IDIBAPS)

STRATEGIC OBJECTIVES

Identification of genetic and molecular mechanisms implicated in the development and progression of human neoplasms. Development of strategies to transfer to clinical practice the knowledge generated by basic research on human tumours. Identification of parameters allowing the improved diagnosis and prognosis of neoplastic disease, and the identification of possible therapeutic targets.

MAIN LINES OF RESEARCH

Molecular Pathology of Lymphoid Neoplasms

a) To understand the genetic and molecular mechanisms involved in the development and progression of lymphoid neoplasms

and to identify parameters that may improve the diagnosis of these disease, stratify patients according to biological risk, and define possible therapeutic targets.

b) To define the complete catalogue of somatic genomic alterations in several lymphoid neoplasm and their clinical and functional relevance.

Molecular Pathology of Solid neoplasms

a) To study the molecular mechanisms of invasion and metastasis, transcriptional expression profiles implicated in the development and progression of different human tumours in relation to biological aggressivity and therapeutic options. We focus mainly on breast and prostate tumours as neoplasms under hormone influence, and skin, digestive, urological and airway neoplasms.
b) Study of the possible criteria of treatment response and prognosis in neurological tumours.

Transcriptional Regulation of Gene Expression

a) Study the molecular mechanisms regulating gene expression during normal cell differentiation and in cancer.

b) Characterization of the transcription factors ZEB1 and ZEB2 as prognostic and predictive biomarkers in cancer (e.g., carcinomas, lymphomas) and other diseases (e.g. muscular dystrophies).

Biomedical Epigenomics

a) To understand the epigenetic mechanisms involved both in normal differentiation and neoplastic cell transformation. In particular, focusing on B cells as cellular model, we aim at characterizing and understanding gene regulation alterations in the initiation and evolution of lymphoid malignancies.

b) To identify novel biomarkers for a better classification and estimation of prognosis in lymphoid neoplasms as well as to reveal novel molecular targets for therapeutic interventions.

RESEARCH GROUP **MOLECULAR PATHOLOGY OF LYMPHOID NEOPLASMS**

GROUP LEADER
Elías Campo (HCB)

Lymphoid neoplasias are a very heterogeneous group of tumors with remarkable variability in their biological behaviour and clinical manifestations. Our group aims to understand the genetic, epigenetic, and molecular mechanisms underlying the biological diversity of these tumors and how they may influence the clinical evolution of the patients.
The use of new genomic technologies is providing new perspectives on the tumors we concentrate our research, particularly chronic lymphocytic leukemia, mantle cell lymphoma, follicular lymphoma and diffuse large B-cell lymphoma. In addition to better understand the pathogenesis of these tumors we are generating new approaches to translate this new information into the clinics.

RESEARCH GROUP **MOLECULAR PATHOLOGY OF SOLID TUMORS**

GROUP LEADER
Miriam Cuatrecasas (HCB)

Our study of solid neoplasms is mainly focused on breast, urological, digestive, skin, H&N and neurological cancers. We have started massive genomic analysis of breast carcinomas with NGS techniques with special interest in triple-negative tumours and we plan to correlate genomic abnormalities with clinicopathological parameters of the cases. This type of genomic studies is also being applied to bladder cancer in addition to FISH experiments in order to subclassify transitional carcinomas in advanced stages.

RESEARCH GROUP **TRANSCRIPTIONAL REGULATION OF GENE EXPRESSION**

GROUP LEADER
Antonio Postigo (ICREA-IDIBAPS)

Our group investigates the regulation of gene expression by the ZEB family of transcription factors (ZEB1 and ZEB2). We use cell lines, transgenic mice and human samples to study the role of ZEB factors in the regulation of cell stemness and differentiation and tumor progression using epithelial (colon, ovarian, breast, lung), skeletal muscle and

GROUP Elías Campo

hematopoietic systems as models. The group has received funding from the Spanish and Catalan governments and the EU as well as from national and international private foundations (e.g., AECC, La Marató de TV3, Leukemia Research Foundation, Avon SAU, Cosmetics, ACMCB, FOT).

GROUP Antonio Postigo

RESEARCH GROUP
BIOMEDICAL EPIGENOMICS

GROUP LEADER
José Ignacio Martín-Subero (IDIBAPS)

The biomedical epigenomics group is focused on the application of whole-genome technologies to characterize epigenomic dynamics during cell differentiation and neoplastic transformation, with particular emphasis on studying normal and neoplastic B cells. A major goal of the group is to understand the molecular determinants of gene deregulation in lymphoid tumors through the integration of different layers of information, i.e., genetic alterations, DNA methylation, histone modifications, chromatin accessibility and 3D chromatin structure. The ultimate goal is to translate the generated epigenomic knowledge into a benefit for patients, in terms of improved diagnosis, estimation of prognosis and treatment.

PUBLICATIONS

Originals / I.F.: 489.835

1. Schmitz R, Wright GW, Huang DW, Johnson CA, Phelan JD, Wang JQ, Roulland S, Kasbekar M, Young RM, Shaffer AL, Hodson DJ, Xiao W, Yu X, Yang Y, Zhao H, Xu W, Liu X, Zhou B, Du W, Chan WC, Jaffe ES, Gascoyne RD, Connors JM, Campo E, Lopez-Guillermo A, Rosenwald A, Ott G, Delabie J, Rimsza LM, Tay Kuang Wei K, Zelenetz AD, Leonard JP, Bartlett NL, Tran B, Shetty J, Zhao Y, Soppet DR, Pittaluga S, Wilson WH, Staudt LM . **Genetics and Pathogenesis of Diffuse Large B-Cell Lymphoma.** *NEW ENGLAND JOURNAL OF MEDICINE.* 378(15):1396-1407. I.F.: 79.260

2. Phelan JD, Young RM, Webster DE, Roulland S, Wright GW, Kasbekar M, Shaffer AL, Ceribelli M, Wang JQ, Schmitz R, Nakagawa M, Bachy E, Huang DW, Ji Y, Chen L, Yang Y, Zhao H, Yu X, Xu W, Palisoc MM, Valadez RR, Davies-Hill T, Wilson WH, Chan WC, Jaffe ES, Gascoyne RD, Campo E, Rosenwald A, Ott G, Delabie J, Rimsza LM, Rodriguez FJ, Estephan F, Holdhoff M, Kruhlak MJ, Hewitt SM, Thomas CJ, Pittaluga S, Oellerich T, Staudt LM. **A multiprotein supercomplex controlling oncogenic signalling in lymphoma.** *NATURE.* 560(7718):387-391. I.F.: 41.577

3. Huet S, Tesson B, Jais JP, Feldman AL, Magnano L, Thomas E, Traverse-Glehen A, Albaud B, Carrère M, Xerri L, Ansell SM, Baseggio L, Reyes C, Tarte K, Boyault S, Haioun C, Link BK, Feugier P, Lopez-Guillermo A, Tilly H, Brice P, Hayette S, Jardin F, Offner F, Sujobert P, Gentien D, Viari A, Campo E, Cerhan JR, Salles G . **A gene-expression profiling score for prediction of outcome in patients with follicular lymphoma: a retrospective training and validation analysis in three international cohorts.** *LANCET ONCOLOGY.* 19(4):549-561. I.F.: 36.421

4. Beekman R, Chapaprieta V, Russiñol N, Vilarrasa-Blasi R, Verdaguer-Dot N, Martens JHA, Duran-Ferrer M, Kulis M, Serra F, Javierre BM, Wingett SW, Clot G, Queirós AC, Castellano G, Blanc J, Gut M, Merkel A, Heath S, Vlasova A, Ullrich S, Palumbo E, Enjuanes A, Martín-García D, Beà S, Pinyol M, Aymerich M, Royo R, Puiggros M, Torrents D, Datta A, Lowy

GROUP José Ignacio Martín-Subero

E, Kostadima M, Roller M, Clarke L, Flicek P, Agirre X, Prosper F, Baumann T, Delgado J, López-Guillermo A, Fraser P, Yaspo ML, Guigó R, Siebert R, Martí-Renom MA, Puente XS, López-Otín C, Gut I, Stunnenberg HG, Campo E, Martin-Subero JI. **The reference epigenome and regulatory chromatin landscape of chronic lymphocytic leukemia.** *NATURE MEDICINE.* 24(6):868-880. I.F.: 32.621

5. Luna J, Boni J, Cuatrecasas M, Bofill-De Ros X, Núñez-Manchón E, Gironella M, Vaquero EC, Arbones ML, de la Luna S, Fillat C. **DYRK1A modulates c-MET in pancreatic ductal adenocarcinoma to drive tumour growth.** *GUT.* 316128(8):1465-1476. I.F.: 17.016

6. Clot G, Jares P, Giné E, Navarro A, Royo C, Pinyol M, Martín-Garcia D, Demajo S, Espinet B, Salar A, Ferrer A, Muntañola A, Aymerich M, Rauert-Wunderlich H, Jaffe ES, Connors JM, Gascoyne RD, Delabie J, López-Guillermo A, Ott G, Wright GW, Staudt LM, Rosenwald A, Scott DW, Rimsza LM, Beà S, Campo E . **A gene signature that distinguishes conventional and leukemic nonnodal mantle cell lymphoma helps predict outcome.** *BLOOD.* 132(4):413-422. I.F.: 15.132

7. Bretones G, Álvarez MG, Arango JR, Rodríguez D, Nadeu F, Prado MA, Valdés-Mas R, Puente DA, Paulo JA, Delgado J, Villamor N, López-Guillermo A, Finley DJ, Gygi SP, Campo E, Quesada V, López-Otín C . **Altered patterns of global protein synthesis and translational fidelity in RPS15-mutated chronic lymphocytic leukemia.** *BLOOD.* 132(22):2375-2388. I.F.: 15.132

8. Schmidt J, Ramis-Zaldivar J, Bonzheim I, Steinhilber J, Müller I, Haake A, Yu S, Raffeld M, Fend F, Salaverria I, Siebert R, Jaffe E, Quintanilla-Martinez L. **CREBBP gene mutations are frequently detected in in situ follicular neoplasia.** *BLOOD.* 132(25):2687-2690. I.F.: 15.132

9. Mottok A, Wright G, Rosenwald A, Ott G, Ramsower C, Campo E, Braziel RM, Delabie J, Weisenburger DD, Song JY, Chan WC, Cook JR, Fu K, Greiner T, Smeland E, Holte H, Savage KJ, Glinsmann-Gibson BJ, Gascoyne RD, Staudt LM, Jaffe ES, Connors JM, Scott DW, Steidl C, Rimsza LM. **Molecular classification of primary mediastinal large B-cell lymphoma using routinely available tissue specimens.** *BLOOD.* 132(22):2401-2405. I.F.: 15.132

10. Ciavarella S, Vegliante MC, Fabbri M, De Summa S, Melle F, Motta G, De Iuliis V, Opinto G, Enjuanes A, Rega S, Gulino A, Agostinelli C, Scattone A, Tommasi S, Mangia A, Mele F, Simone G, Zito AF, Ingravallo G, Vitolo U, Chiappella A, Tarella C, Gianni AM, Rambaldi A, Zinzani PL, Casadei B, Derenzini E, Loseto G, Pileri A, Tabanelli V, Fiori S, Rivas-Delgado A, López-Guillermo A, Venesio T, Sapino A, Campo E, Tripodo C, Guarini A, Pileri SA . **Dissection of DLBCL Microenvironment Provides a Gene Expression-Based Predictor of Survival Applicable to Formalin-Fixed Paraffin-Embedded Tissue.** *ANNALS OF ONCOLOGY.* 29(12):2363-2370. I.F.: 13.930

11. Paré L, Pascual T, Seguí E, Teixidó C, Gonzalez-Cao M, Galván P, Rodríguez A, González B, Cuatrecasas M, Pineda E, Torné A, Crespo G, Martin-Algarra S, Pérez-Ruiz E, Reig Ò, Viladot M, Font C, Adamo B, Vidal M, Gaba L, Muñoz M, Victoria I, Ruiz G, Viñolas N, Mellado B, Maurel J, Garcia-Corbacho J, Molina-Vila MÁ, Juan M, Llovet JM, Reguart N, Arance A, Prat A. **Association between PD1 mRNA and response to anti-PD1 monotherapy across multiple cancer-types.** *ANNALS OF ONCOLOGY.* 29(10):2121-2128. I.F.: 13.930

12. Albero R, Enjuanes A, Demajo S, Castellano G, Pinyol M, García N, Capdevila C, Clot G, Suárez-Cisneros H, Shimada M, Karube K, López-Guerra M, Colomer D, Beà S, Martin-Subero JI, Campo E, Jares P. **Cyclin D1 overexpression induces global transcriptional downregulation in lymphoid neosplasms.** *JOURNAL OF CLINICAL INVESTIGATION.* 128(9):4132-4147. I.F.: 13.251

13. Liu Y, Siles L, Lu X, Dean K, Cuatrecasas M, Postigo A, Dean D. **Mitotic polarization of transcription factors during asymmetric division establishes fate of forming cancer cells.** *NATURE COMMUNICATIONS.* 9(1):2424. I.F.: 12.353

14. Liu, Bing; Sureda-Gomez, Marta; Zhen, Yang; Amador, Virginia; Reverter, David. **A quaternary tetramer assembly inhibits the deubiquitinating activity of USP25**. *NATURE COMMUNICATIONS.* 9(4973):4973. I.F.: 12.353

15. Farinello D, Woziński M, Lenti E, Genovese L, Bianchessi S, Migliori E, Sacchetti N, di Lillo A, Bertilaccio MTS, de Lalla C, Valsecchi R, Gleave SB, Lligé D, Scielzo C, Mauri L, Ciampa MG, Scarfò L, Bernardi R, Lazarevic D, Gonzalez-Farre B, Bongiovanni L, Campo E, Cerutti A, Ponzoni M, Pattini L, Caligaris-Cappio F, Ghia P, Brendolan A. **A retinoic acid-dependent stroma-leukemia crosstalk promotes chronic lymphocytic leukemia progression.** *NATURE COMMUNICATIONS.* 9(1):1787. I.F.: 12.353

16. Ninfali C., Siles L., Darling D., Postigo A. **Regulation of muscle atrophy-related genes by the opposing transcriptional activities of ZEB1/CtBP and FOXO3.** *NUCLEIC ACIDS RESEARCH.* 46(20):10697-10708. I.F.: 11.561

17. Gómez S, Garrido-Garcia A, Garcia-Gerique L, Lemos I, Suñol M, de Torres C, Kulis M, Pérez-Jaume S, Carcaboso ÁM, Luu B, Kieran MW, Jabado N, Kozlenkov A, Dracheva S, Ramaswamy V, Hovestadt V, Johann P, Jones DTW, Pfister SM, Morales La Madrid A, Cruz O, Taylor MD, Martin-Subero JI, Mora J, Lavarino C. **A novel method for rapid molecular subgrouping of medulloblastoma.** *CLINICAL CANCER RESEARCH.* 24(6):1355-1363. I.F.: 10.199

18. Nadeu F, Clot G, Delgado J, Martín-García D, Baumann T, Salaverria I, Beà S, Pinyol M, Jares P, Navarro A, Suárez-Cisneros H, Aymerich M, Rozman M, Villamor N, Colomer D, González M, Alcoceba M, Terol MJ, Navarro B, Colado E, Payer ÁR, Puente XS, López-Otín C, López-Guillermo A, Enjuanes A, Campo E . **Clinical impact of the subclonal architecture and mutational complexity in chronic lymphocytic leukemia.** *LEUKEMIA.* 32(3):645-653. I.F.: 10.023

19. Karube K, Enjuanes A, Dlouhy I, Jares P, Martin-Garcia D, Nadeu F, Ordóñez GR, Rovira J, Clot G, Royo C, Navarro A, Gonzalez-Farre B, Vaghefi A, Castellano G, Rubio-Perez C, Tamborero D, Briones J, Salar A, Sancho JM, Mercadal S, Gonzalez-Barca E, Escoda L, Miyoshi H, Ohshima K, Miyawaki K, Kato K, Akashi K, Mozos A, Colomo L, Alcoceba M, Valera A, Carrió A, Costa D, Lopez-Bigas N, Schmitz R, Staudt LM, Salaverria I, López-Guillermo A, Campo E . **Integrating genomic alterations in diffuse large B-cell lymphoma identifies new relevant pathways and potential therapeutic targets.** *LEUKEMIA.* 32(3):675-684. I.F.: 10.023

20. Burns A, Alsolami R, Becq J, Stamatopoulos B, Timbs A, Bruce D, Robbe P, Vavoulis D, Clifford R, Cabes M, Dreau H, Taylor J, Knight SJL, Mansson R, Bentley D, Beekman R, Martín-Subero JI, Campo E, Houlston RS, Ridout KE, Schuh A. **Whole**

genome sequencing of chronic lymphocytic leukemia reveals distinct differences in the mutational landscape between IgHVmut and IgHVunmut subgroups. *LEUKEMIA*. 32(2):332-342. I.F.: 10.023

21. Solans M, Castelló A, Benavente Y, Marcos-Gragera R, Amiano P, Gracia-Lavedan E, Costas L, Robles C, Gonzalez-Barca E, de la Banda E, Alonso E, Aymerich M, Campo E, Dierssen-Sotos T, Fernández-Tardón G, Olmedo-Requena R, Gimeno E, Castaño-Vinyals G, Aragonés N, Kogevinas M, de Sanjose S, Pollán M, Casabonne D. **Adherence to the Western, Prudent, and Mediterranean dietary patterns and chronic lymphocytic leukemia in the MCC-Spain study.** *HAEMATOLOGICA*. 103(11):1881-1888. I.F.: 9.090

22. Companioni O, Bonet C, García N, Ramírez-Lázaro MJ, Lario S, Mendoza J, Adrados MM, Poves E, Espinosa L, Pozo-Kreilinger JJ, Ortega L, Bujanda L, Cosme A, Ferrández A, Muñoz G, Cuatrecasas M, Elizalde I, Andreu V, Paules MJ, Madrigal B, Barrio J, Berdasco M, Calvet X, Sanz-Anquela JM, Gisbert JP, González CA, Sala N, Study Group. **Genetic variation analysis in a follow-up study of gastric cancer precursor lesions confirms the association of MUC2 variants with the evolution of the lesions and identifies a significant association with NFKB1 and CD14.** *INTERNATIONAL JOURNAL OF CANCER*. 143(11):2777-2786. I.F.: 7.360

23. Esteve-Arenys A, Valero J, Chamorro-Jorganes A, Gonzalez D, Rodriguez V, Dlouhy I, Salaverria I, Campo E, Colomer D, Martinez A, Rymkiewicz G, Pérez-Galán P, Lopez-Guillermo A, Roué G. **The BET bromodomain inhibitor CPI203 overcomes resistance to ABT-199 (venetoclax) by downregulation of BFL-1/A1 in in vitro and in vivo models of MYC+/BCL2+ double hit lymphoma.** *ONCOGENE*. 37(14):1830-1844. I.F.: 6.854

24. Rymkiewicz G, Grygalewicz B, Chechlinska M, Blachnio K, Bystydzienski Z, Romejko-Jarosinska J, Woroniecka R, Zajdel M, Domanska-Czyz K, Martin-Garcia D, Nadeu F, Swoboda P, Rygier J, Pienkowska-Grela B, Siwicki JK, Prochorec-Sobieszek M, Salaverria I, Siebert R, Walewski J. **A comprehensive flow-cytometry-based immunophenotypic characterization of Burkitt-like lymphoma with 11q aberration.** *MODERN PATHOLOGY*. 31(5):732-743. I.F.: 6.655

25. Miyaoka M, Kikuti YY, Carreras J, Ikoma H, Hiraiwa S, Ichiki A, Kojima M, Ando K, Yokose T, Sakai R, Hoshikawa M, Tomita N, Miura I, Takata K, Yoshino T, Takizawa J, Bea S, Campo E, Nakamura N. **Clinicopathological and genomic analysis of double-hit follicular lymphoma: comparison with high-grade B-cell lymphoma with MYC and BCL2 and/or BCL6 rearrangements.** *MODERN PATHOLOGY*. 31(2):313-326. I.F.: 6.655

26. García-Barchino MJ, Sarasquete ME, Panizo C, Morscio J, Martinez A, Alcoceba M, Fresquet V, Gonzalez-Farre B, Paiva B, Young KH, Robles EF, Roa S, Celay J, Larrayoz M, Rossi D, Gaidano G, Montes-Moreno S, Piris MA, Balanzategui A, Jimenez C, Rodriguez I, Calasanz MJ, Larrayoz MJ, Segura V, Garcia-Muñoz R, Rabasa MP, Yi S, Li J, Zhang M, Xu-Monette ZY, Puig-Moron N, Orfao A, Böttcher S, Hernandez-Rivas JM, Miguel JS, Prosper F, Tousseyn T, Sagaert X, Gonzalez M, Martinez-Climent JA. **Richter transformation driven by Epstein-Barr virus reactivation during therapy-related immunosuppression in chronic lymphocytic leukemia.** *JOURNAL OF PATHOLOGY*. 245(1):61-73. I.F.: 6.253

27. Wangsa D, Quintanilla I, Torabi K, Vila-Casadesús M, Ercilla A, Klus G, Yuce Z, Galofré C, Cuatrecasas M, Lozano JJ, Agell N, Cimini D, Castells A, Ried T, Camps J . **Near-tetraploid cancer cells show chromosome instability triggered by replication stress and exhibit enhanced invasiveness.** *FASEB JOURNAL*. 32(7):3502-3517. I.F.: 5.595

28. Ortiz-Maldonado V, Villamor N, Baumann T, Aymerich M, Magnano L, Mozas P, Rivas-Delgado A, Martínez-Trillos A, Giné E, Campo E, López-Guillermo A, Delgado J. **Is there a role for minimal residual disease monitoring in the management of patients with hairy-cell leukaemia?** *BRITISH JOURNAL OF HAEMATOLOGY*. 183(1):127-129. I.F.: 5.128

29. Arcaini L, Lamy T, Walewski J, Belada D, Mayer J, Radford J, Jurczak W, Morschhauser F, Alexeeva J, Rule S, Cabeçadas J, Campo E, Pileri SA, Biyukov T, Patturajan M, Casadebaig Bravo ML, Trn?ný M, SPRINT Trial Investigators. **Prospective subgroup analyses of the randomized MCL-002 (SPRINT) study: lenalidomide versus investigator's choice in relapsed or refractory mantle cell lymphoma.** *BRITISH JOURNAL OF HAEMATOLOGY*. 180(2):224-235. I.F.: 5.128

30. Alonso V, Escudero P, Fernández-Martos C, Salud A, Méndez M, Gallego J, Rodriguez JR, Martín-Richard M, Fernández-Plana J, Manzano H, Méndez JC, Zanui M, Falcó E, Gil-Raga M, Rojo F, Cuatrecasas M, Feliu J, García-Albéniz X, Maurel J. **Coexpression of p-IGF-1R and MMP-7 Modulates Panitumumab and Cetuximab Efficacy in RAS Wild-Type Metastatic Colorectal Cancer Patients.** *NEOPLASIA*. 20(7):678-686. I.F.: 4.994

31. Franch-Expósito S, Esteban-Jurado C, Garre P, Quintanilla I, Duran-Sanchon S, Díaz-Gay M, Bonjoch L, Cuatrecasas M, Samper E, Muñoz J, Ocaña T, Carballal S, López-Cerón M, Castells A, Vila-Casadesús M, Derdak S, Laurie S, Beltran S, Carvajal J, Bujanda L, Ruiz-Ponte C, Camps J, Gironella M, Lozano J, Balaguer F, Cubiella J, Caldés T, Castellví-Bel S. **Rare germline copy number variants in colorectal cancer predisposition characterized by exome sequencing analysis.** *JOURNAL OF GENETICS AND GENOMICS*. 45(1):41-45. I.F.: 4.066

32. Fraile J, Campos-Iglesias D, Rodríguez F, Astudillo A, Vilarrasa-Blasi R, Verdaguer-Dot N, Prado M, Paulo J, Gygi S, Martín-Subero J, Freije J, López-Otín C. **Loss of the Deubiquitinase USP36 Destabilizes the RNA Helicase DHX33 and Causes Preimplantation Lethality in Mice.** *JOURNAL OF BIOLOGICAL CHEMISTRY*. 293(6):2183-2194. I.F.: 4.011

33. Castella M, Boronat A, Martín-Ibáñez R, Rodríguez V, Suñé G, Caballero M, Marzal B, Pérez-Amill L, Martín-Antonio B, Castaño J, Bueno C, Balagué O, González-Navarro EA, Serra-Pages C, Engel P, Vilella R, Benitez-Ribas D, Ortiz-Maldonado V, Cid J, Tabera J, Canals JM, Lozano M, Baumann T, Vilarrodona A, Trias E, Campo E, Menendez P, Urbano-Ispizua Á, Yagüe J, Pérez-Galán P, Rives S, Delgado J, Juan M. **Development of a Novel Anti-CD19 Chimeric Antigen Receptor: A Paradigm for an Affordable CAR T Cell Production at Academic Institutions.** *MOL THER METHODS CLIN DEV*. 12:134-144. I.F.: 3.681

34. De Lacy FB, van Laarhoven JJEM, Pena R, Arroyave MC, Bravo R, Cuatrecasas M, Lacy AM. **Transanal total mesorectal**

excision: pathological results of 186 patients with mid and low rectal cancer. *SURGICAL ENDOSCOPY AND OTHER INTERVENTIONAL TECHNIQUES.* 32(5):2442-2447. I.F.: 3.117

35. Benavente Y, Casabonne D, Costas L, Robles C, Alonso E, de la Banda E, Gonzalez-Barca E, Marcos-Gragera R, Llorca J, Tardón A, Monleon J, Aymerich M, Campo E, Gimeno-Vázquez E, Castaño-Vinyals G, Aragonés N, Pollán M, Kogevinas M, de Sanjosé S. **Established and suggested exposures on CLL/SLL etiology: Results from the CLL-MCC-Spain study.** *CANCER EPIDEMIOLOGY.* 52:106-111. I.F.: 2.888

36. Guardiola M, Buitrago S, Fernández-Esparrach G, O'Callaghan JM, Romeu J, Cuatrecasas M, Córdova H, González Ballester MÁ, Camara O. **Dielectric properties of colon polyps, cancer and normal mucosa: ex vivo measurements from 0.5 to 20 GHz.** *MEDICAL PHYSICS.* 45(8):3768-3782. I.F.: 2.884

37. Del Rey J, Vidal F, Ramírez L, Borràs N, Corrales I, Garcia I, Martinez-Pasarell O, Fernandez SF, Garcia-Cruz R, Pujol A, Plaja A, Salaverria I, Oliver-Bonet M, Benet J, Navarro J. **Novel Double Factor PGT strategy analyzing blastocyst stage embryos in a single NGS procedure.** *PLOS ONE.* 13(10):e0205692. I.F.: 2.766

38. Martínez-Trillos A, Pinyol M, Delgado J, Aymerich M, Rozman M, Baumann T, González-Díaz M, Hernández J, Alcoceba M, Muntañola A, Terol M, Navarro B, Giné E, Jares P, Beà S, Navarro A, Colomer D, Nadeu F, Colado E, Payer A, García-Cerecedo T, Puente X, López-Otin C, Campo E, López-Guillermo A, Villamor N. **The mutational landscape of small lymphocytic lymphoma compared to non-early stage chronic lymphocytic leukemia.** *LEUKEMIA AND LYMPHOMA.* 59(10):2318-2326. I.F.: 2.644

39. Solé C, Martínez D, Giné E, Gonzalez-Farre B, Pérez-Galán P, Roncador G, Campo E, Matutes E, López-Guillermo A, Roué G, Martínez A. **Expression of a truncated B lymphocyte-induced maturation protein-1 isoform is associated with an incomplete plasmacytic differentiation program in chronic lymphocytic leukemia.** *LEUKEMIA AND LYMPHOMA.* 59(2):482-485. I.F.: 2.644

Review / I.F.: 70.809

1. Oakes CC, Martin-Subero JI. **Insight into origins, mechanisms & utility of DNA methylation in B cell malignancies.** *BLOOD.* 132(10):999-1006. I.F.: 15.132

2. Puente XS, Jares P, Campo E . **Chronic lymphocytic leukemia and mantle cell lymphoma: Crossroads of genetic and microenvironment interactions.** *BLOOD.* 131(21):2283-2296. I.F.: 15.132

3. Ponzoni M, Campo E, Nakamura S . **Intravascular large b-cell lymphoma: a chameleon with multiple faces and many masks.** *BLOOD.* 132(15):1561-1567. I.F.: 15.132

4. Martin-Subero J., Oakes C. **Charting the dynamic epigenome during B-cell development**. *SEMINARS IN CANCER BIOLOGY.* 51:139-148. I.F.: 10.198

5. Campo E, Cymbalista F, Ghia P, Jäger U, Pospisilova S, Rosenquist R, Schuh A, Stilgenbauer S. **TP53 aberrations in chronic lymphocytic leukemia: an overview of the clinical implications of improved diagnostics.** *HAEMATOLOGICA.* 103(12):1956-1968. I.F.: 9.090

6. Liu Y, Siles L, Postigo A, Dean DC. **Epigenetically distinct sister chromatids and asymmetric generation of tumor initiating cells.** *CELL CYCLE.* 17(18):2221-2229. I.F.: 3.304

7. Beekman R, Amador V, Campo E . **SOX11, a key oncogenic factor in mantle cell lymphoma.** *CURRENT OPINION IN HEMATOLOGY.* 25(4):299-306. I.F.: 2.821

Editorial / I.F.: 32.621

1. Martin-Subero JI. **Predicting leukemia relapse.** *NATURE MEDICINE.* 24(4):385-387. I.F.: 32.621

Case Reports / I.F.: 3.127

1. Cortés C., Bielsa S., Fernández J., Vilardell F., Gonzalez-Farré B., Casanova J. **Extensive nasal plaque: An unusual presentation of IgG4-related disease.** *ACTA DERMATO-VENEREOLOGICA.* 98(6):606-607. I.F.: 3.127

Clinical Guidelines / I.F.: 20.773

1. Rutter MD, Beintaris I, Valori R, Chiu HM, Corley DA, Cuatrecasas M, Dekker E, Forsberg A, Gore-Booth J, Haug U, Kaminski MF, Matsuda T, Meijer GA, Morris E, Plumb AA, Rabeneck L, Robertson DJ, Schoen RE, Singh H, Tinmouth J, Young GP, Sanduleanu S. **World Endoscopy Organization Consensus Statements on Post-Colonoscopy and Post-Imaging Colorectal Cancer.** *GASTROENTEROLOGY.* 155(3):909-925.e3. I.F.: 20.773

GRANTS FOR RESEARCH IN PROGRESS

Amador V. **Descifrando las redes moleculares del microambiente protector y de las células madre en los linfomas de células del manto agresivos para innovar en estrategias terapéuticas.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
BFU2015-64879-R
Duration: 01/01/2016-31/12/2018

Amador V. **Identifying immune system evasion mechanisms in aggressive Mantle Cell lymphoma (MCL).**
Sponsored by: Asociación Española Contra el Cáncer. AECC_Investigador18
Duration: 01/11/2018-31/12/2022

Beà S. **Caracterización de la inestabilidad genómica y las mutaciones somáticas en linfoma de células del manto y su impacto.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/01061
Duration: 01/01/2018-31/12/2020

Beà S. **Mutational landscape of follicular lymphoma at late relapse, early failure and histological transformation.**
Sponsored by: Asociación Española Contra el Cáncer. AECC_Proyectos18
Duration: 01/11/2018-31/10/2021

Campo E. **Patologia Molecular Oncològica (Prèviament Oncomorfologia Funcional Humana i Experimental).**
Sponsored by: Generalitat de Catalunya.
AGAUR_SGR17_01142
Duration: 01/01/2017-31/12/2020

Campo E. **La Medicina Personalitzada a Catalunya-Càncer (MedPerCan). Estudi pilot sobre l'impacte de l'anàlisi genòmica en la presa de decisions en oncologia.**

Sponsored by: Generalitat de Catalunya. PERIS_Programes16 (SLT002/16/00374)
Duration: 27/03/2017-31/12/2019

Campo E. **Impacto Clínico de la Heterogeneidad Genómica y Evolución Clonal en Neoplasias Linfoides B. Definición de Nuevos Modelos Diagnósticos y Pronósticos.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). SAF2015-64885-R
Duration: 01/01/2016- 30/06/2019

Campo E. **Genomic and epigenomic drivers of disease evolution in chronic lymphocytic leukemia. Targets for clinical intervention.**
Sponsored by: Fundació La Caixa. La Caixa_HealthResearch17 (HR17-00221)
Duration: 31/12/2018-30/12/2021

Campo E. **Functional and Clinical Impact of Genomics Analysis in CLL.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). FIS_PMP15/00007
Duration: 01/01/2016-31/12/2019

Campo E. **GENOMLYMPH: Impacto clínico y biológico de las alteraciones genómicas en neoplasias linfoides.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). SAF2016-81860-REDT
Duration: 01/07/2017-30/06/2019

Campo E. **Genetic and cellular intratumor heterogeneity as predictor of chronic lymphocytic leukemia outcome and treatment.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). FIS_AC15/00028 - ERANET_TRANSC2_15 (TRS-2015-00000160)
Duration: 01/04/2016-31/03/2019

Campo E. **Molecular Diagnosis, Prognosis, and Therapeutic Targets in Mantle Cell Lymphoma.**
Sponsored by: National Institutes of Health, NIH_PAR-16-457_01
Duration: 19/09/2018-31/08/2023

Cuatrecasas M (and Camps J). **Nuevas estrategias para la estratificación del riesgo de recidiva en pacientes con cáncer de colon en estadio II: Integración de perfiles genómicos y carga tumoral ganglionar.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/01304
Duration: 01/01/2018-31/12/2020

Hernández L. **Búsqueda de lncRNAs relacionados con la polarización de macrófagos pro-tumorogénicos (M2-TAM) en linfomas foliculares/ difusos de células grandes y evaluación de su valor clínico.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00551
Duration: 01/01/2016-31/12/2018

Jares P. **Nuevos mecanismos oncogénicos de ciclina D1 en linfoma de células del manto (LCM): Implicación en la regulación transcripcional, la respuesta al daño en el ADN y el estrés eplicativo.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00355
Duration: 01/01/2015- 31/12/2018

Martín-Subero JI. **Biomedical Epigenomics.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_00736
Duration: 01/01/2017-31/12/2020

Martín-Subero JI. **ChromMCL: Análisis a escala genómica de la estructura de la cromatina en el linfoma de las células del manto: Impacto biológico y clínico.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). SAF2017-86126-R
Duration: 01/01/2018-31/12/2020

Martín-Subero JI. **Characterization of oncogenic (epi)genetically deregulated in chronic lymphocytic leukemia.**
Sponsored by: Asociación Española Contra el Cáncer. AECC_Contratos16
Duration: 01/10/2016-

Martín-Subero JI. **Functional and clinical impact of enhancer DNA methylation in mantle cell lymphoma.**
Sponsored by: Asociación Española Contra el Cáncer. AECC_Accelerator Award17
Duration: 01/12/2018-30/11/2023

Martinez A. **SLPC asociados a inmunodeficiencia: estudio de la transformación secretora y de la activación litica de los herpesvirus como nuevas dianas terapéuticas.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00333
Duration: 01/01/2015-30/06/2019

Postigo A. **Group of Regulation in Cell Differentiation and Cancer. Prognostic and predictive biomarkers and therapeutic targets in cáncer.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_01174
Duration: 01/01/2017-31/12/2020

Postigo A. **ZEB proteins and tumor progression. Role of ZEB1 and ZEB2 in oncogenic transformation benign-malignant transition and cancer cell proliferation and survival.**
Sponsored by: Fundació La Marató de TV3. 20133010
Duration: 15/04/2014-31/01/2018

Postigo A. **Papel de los factores ZEB en la especificación y activación hematopoyética y en la interacción célula maligna-microambiente en neoplasias hematológicas.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). SAF2014-52874-R
Duration: 01/01/2015-30/11/2018

Postigo A. **ZEBTME: Metabolismo e interacción tumor-microambiente: Papel de los factores ZEB en la reprogramación metabólica de las células tumorales y estromales y de su interacción mutua.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). SAF2017-84918-R
Duration: 01/01/2018-31/12/2020

Postigo A. **Validación del factor ZEB2 como biomarcador pronóstico predictivo y potencial objetivo terapéutico en la distrofia muscular de Duchenne.**
Sponsored by: Asociación Duchenne Parent Project España
Duration: 15/12/2018-14/12/2020

Salaverria I. **Caracterización molecular, genética e inmunofenotípica de los linfomas de centro germinal en pacientes pediátricos, adolescentes y jóvenes adultos.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00580
Duration: 01/01/2016-31/12/2018

Salaverria I. **Linfomas en niños y adultos jóvenes: Impacto de las alteraciones genéticas y moleculares en la clasificación y estratificación de los pacientes.**
Sponsored by: Asociación Española Contra el Cáncer. CICPF16025SALA
Duration: 01/12/2017-30/11/2020

DOCTORAL THESES

Amador V, Campo E. **Deciphering the transcriptome and additional roles of Sox11 in mantle cell lymphoma.**
PhD student: Alvaro Eguileor Giné

Beà S. **Caracterització genètica del Limfoma de Cèl.lules del Mantell i la Leucèmia Limfàtica Crònica mitjançant microarrays i tècniques de seqüenciació: noves eines pel diagnòstic i pronòstic.**
PhD student: David Martin García

5.2 Diagnosis and therapy in oncology

LOCATION
HCB building

KEYWORDS
1. **Oncology molecular studies**
2. **Radiotherapy**
3. **Breast cancer diagnosis**
4. **Sentinel lymph node**
5. **Positron emission tomography**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	70.70	17	13	2
2017	133.53	16	8	5
2018	89.75	20	11	6

TEAM INVOLVED IN
AGAUR_SGR17: 00682, 01150
CIBER-BNN

TEAM LEADER
Francesca Pons (HCB)
T. 93 227 57 73
fpons@clinic.cat

RESEARCHERS
Albert Biete (HCB-UB)
Carlos Conill (HCB-UB)
David Fuster (HCB-UB)
Fernando Gómez (HCB)
Marià Monzó (UB)
María Africa Muxí (HCB)
Laura Oleaga (HCB-UB)
Xavier Setoain (HCB-UB)
Sergi Vidal-Sicart (HCB)

COLLABORATORS
Xavier Bargalló (HCB-UB)
Francisco Campos (HCB)
Sebastián Capurro (HCB)
Francesc Casas (HCB)
Lluís Donoso (HCB-UB)
Meritxell Molla (HCB)
Alfons Navarro (UB)
Mario Pagés (HCB-UB)
Pilar Paredes (HCB-UB)
Javier Pavía (HCB-UB)
Andres Perissinotti (HCB)
Teresa Pujol (HCB)
Sonia Rodríguez (HCB)
Angels Rovirosa (HCB-UB)
Marcelo Sánchez (HCB-UB)
Izaskun Valduvieco (HCB)
Eugènia Verger (HCB)

STRATEGIC OBJECTIVES

Development of techniques for improving the diagnosis, prognostic evaluation and treatment response assessment in oncological patients.
Development and application of new therapies in oncology.

MAIN LINES OF RESEARCH

1. **Molecular studies in embryonic and tumor cells: applications to pharmacogenomics.** Comparison of microRNA patterns in embryonic and tumor tissues, with a view to selecting more specific treatments.
2. **Effects of synchrotron radiation upon the neoplastic cell.** Carried out jointly with UAB, comparison is made of the biological action of synchrotron radiation with conventional X-rays used in radiotherapy.
3. **Breast MRI.** Tumour uptake and diffusion to predict pathological response to primary systemic treatment in breast cancer.

TEAM Francesca Pons

4. **Functional mRI techniques.** Studies of perfusion, diffusion and spectroscopy applied to the staging and treatment monitoring of brain and head and neck tumours.

5. **Scintigraphic detection of the sentinel node and hybrid tracers in radioguided surgery,** applied in different tumours to avoid unnecessary lymphadenectomies. Radioguided surgery approaches with new tracers and methodologies.

6. **Positron Emission Tomography (PET/CT)** for the staging and control of treatment response in different types of tumors.

7. **Study of bacterial radiosensitivity** in E. coli, S. epidermidis and S. aureus.

PUBLICATIONS

Originals / I.F.: 89.751

1. Ambrosioni J, Urra X, Hernández-Meneses M, Almela M, Falces C, Tellez A, Quintana E, Fuster D, Sandoval E, Vidal B, Tolosana JM, Moreno A, Chamorro A, Miró JM, Hospital Clínic Infective Endocarditis Study Group. **Mechanical thrombectomy for acute ischemic stroke secondary to infective endocarditis.** *CLINICAL INFECTIOUS DISEASES.* 66(8):1286-1289. I.F.: 9.117

2. Téllez A, Ambrosioni J, Llopis J, Pericàs JM, Falces C, Almela M, Garcia de la Mària C, Hernandez-Meneses M, Vidal B, Sandoval E, Quintana E, Fuster D, Tolosana JM, Marco F, Moreno A, Miro JM, Hospital Clínic Infective Endocarditis Investigators. **Epidemiology, clinical features and outcome of infective endocarditis due to Abiotrophia spp. and Granulicatella spp.: Report of 76 cases (2000-2015).** *CLINICAL INFECTIOUS DISEASES.* 66(1):104-111. I.F.: 9.117

3. Perissinotti A., Niñerola-Baizán A., Rubí S., Carreño M., Marti-Fuster B., Aparicio J., Mayoral M., Donaire A., Sanchez-Izquierdo N., Bargalló N., Rumiá J., Boget T., Pons F., Lomeña F., Ros D., Pavía J., Setoain X. **PISCOM: a new procedure for epilepsy combining ictal SPECT and interictal PET.** *EUROPEAN JOURNAL OF NUCLEAR MEDICINE AND MOLECULAR IMAGING.* 45(13):2358-2367. I.F.: 7.704

4. Boada A, Tejera-Vaquerizo A, Ribero S, Puig S, Moreno-Ramírez D, Descalzo-Gallego MA, Fierro MT, Quaglino P, Carrera C, Malvehy J, Vidal-Sicart S, Bennássar A, Rull R, Alos L, Requena C, Bolumar I, Traves V, Pla Á, Fernández-Figueras MT, Ferrándiz C, Pascual I, Manzano JL, Sánchez-Lucas M, Giménez-Xavier P, Ferrandiz L, Nagore E. **Sentinel Lymph Node Biopsy vs Observation in Thick Melanoma: A Multicenter Propensity Score Matching Study.** *INTERNATIONAL JOURNAL OF CANCER.* 142(3):641-648. I.F.: 7.360

5. Perlaza P, Ortín J, Pagès M, Buxó E, Fernández-Esparrach G, Colletti PM, Rubello D, Mayoral M, Sánchez N, Ruiz C, Ginés A, Fuster D. **Should 18F-FDG PET/CT Be Routinely Performed in the Clinical Staging of Locally Advanced Gastric Adenocarcinoma?** *CLINICAL NUCLEAR MEDICINE.* 43(6):402-410. I.F.: 6.309

6. Ramos-Perdigués S., Baillés E., Mané A., Carreño M., Donaire A., Rumià J., Bargalló N., Boget T., Setoain X., Valdés M., Pintor L. **Psychiatric Symptoms in Refractory Epilepsy During the First Year After Surgery.** *NEUROTHERAPEUTICS.* 15(4):1082-1092. I.F.: 5.719

7. Graus F, Escudero D, Oleaga L, Bruna J, Villarejo-Galende A, Ballabriga J, Barceló MI, Gilo F, Popkirov S, Stourac P, Dalmau J. **Syndrome and outcome of antibody-negative limbic encephalitis.** *EUROPEAN JOURNAL OF NEUROLOGY.* 25(8):1011-1016. I.F.: 4.621

8. García de la Mària C, Gasch O, García-Gonzalez J, Soy D, Shaw E, Ambrosioni J, Almela M, Pericàs JM, Tellez A, Falces C, Hernandez-Meneses M, Sandoval E, Quintana E, Vidal B, Tolosana JM, Fuster D, Llopis J, Pujol M, Moreno A, Marco F, Miró JM . **The Combination of Daptomycin plus Fosfomycin has Synergistic, Potent and Rapid Bactericidal Activity against Methicillin-ResistantStaphylococcus aureus(MRSA) in a Rabbit Model of Experimental Endocarditis (EE).** *ANTIMICROBIAL AGENTS AND CHEMOTHERAPY.* 62(6):1-8. I.F.: 4.256

9. Cano López I, Calvo A, Boget T, Carreño M, Donaire A, Setoain X, Pintor L, Rumià J, González-Bono E, Junqué C, Bargalló N. **Typical asymmetry in the hemispheric activation during an fMRI verbal comprehension paradigm is related to better performance in verbal and non-verbal tasks in patients with epilepsy.** *NEUROIMAGE: CLINICAL.* 20:742-752. I.F.: 3.869

10. Gifre L, Humbert L, Muxi A, Del Rio L, Vidal J, Portell E, Monegal A, Guañabens N, Peris P. **Analysis of the evolution of cortical and trabecular bone compartments in the proximal femur after spinal cord injury by 3D-DXA.** *OSTEOPOROSIS INTERNATIONAL.* 29(1):201-209. I.F.: 3.857

11. Holub K, Biete A. **New pre-treatment eosinophil-related ratios as prognostic biomarkers for survival outcomes in endometrial cancer.** *BMC CANCER.* 18(1):1280. I.F.: 3.288

12. Ambrosioni J, Martinez-Garcia C, Llopis J, Garcia-de-la-Maria C, Hernández-Meneses M, Tellez A, Falces C, Almela M, Vidal B, Sandoval E, Fuster D, Quintana E, Tolosana JM, Marco F, Moreno A, Miró JM, Hospital Clinic Infective Endocarditis Investigators. **HACEKinfective endocarditis: epidemiology, clinical features outcome: A case-control study**. *INTERNATIONAL JOURNAL OF INFECTIOUS DISEASES.* 76:120-125. I.F.: 3.202

13. Santasusagna S., Moreno I., Navarro A., Castellano J., Martinez F., Hernández R., Muñoz C., Monzo M. **Proteomic Analysis of Liquid Biopsy from Tumor-Draining Vein Indicates that High Expression of Exosomal ECM1 Is Associated with Relapse in Stage I-III Colon Cancer.** *TRANSLATIONAL ONCOLOGY.* 11(3):715-721. I.F.: 3.071

14. Capellades J., Puig J., Domenech S., Pujol T., Oleaga L., Camins A., Majós C., Diaz R., de Quintana C., Teixidor P., Conesa G., Plans G., Gonzalez J., García-Balañà N., Velarde J., Balaña C. **Is a pretreatment radiological staging system feasible for suggesting the optimal extent of resection and predicting prognosis in glioblastoma? An observational study.** *JOURNAL OF NEURO-ONCOLOGY.* 137(2):367-377. I.F.: 3.060

15. Maurel J, Sánchez-Cabús S, Laquente B, Gaba L, Visa L, Fabregat J, Povés I, Roselló

S, Díaz-Beveridge R, Martín-Richard M, Rodriguez J, Sabater L, Conill C, Cambray M, Reig A, Ayuso JR, Valls C, Ferrández A, Bombí JA, Ginés A, García-Albéniz X, Fernández- Cruz L. **Outcomes after neoadjuvant treatment with gemcitabine and erlotinib followed by gemcitabine-erlotinib and radiotherapy for resectable pancreatic cancer (GEMCAD 10-03 trial).** *CANCER CHEMOTHERAPY AND PHARMACOLOGY.* 82(6):935-943. I.F.: 2.808

16. Pericàs JM, Cervera C, Moreno A, Garcia-de-la-Mària C, Almela M, Falces C, Quintana E, Vidal B, Llopis J, Fuster D, Mestres CA, Marco F, Miró JM, Hospital Clinic Endocarditis Study Group. **Outcome of Enterococcus faecalis infective endocarditis according to the length of antibiotic therapy: Preliminary data from a cohort of 78 patients.** *PLOS ONE.* 13(2):e0192387. I.F.: 2.766

17. Campayo M, Navarro A, Benítez JC, Santasusagna S, Ferrer C, Monzó M, Cirera L. **miR-21, miR-99b and miR-375 combination as predictive response signature for preoperative chemoradiotherapy in rectal cancer.** *PLOS ONE.* 13(11):e0206542. I.F.: 2.766

18. Santasusagna S, Moreno I, Navarro A, Muñoz C, Martinez F, Hernández R, Castellano JJ, Monzo M. **miR-328 mediates a metabolic shift in colon cancer cells by targeting SLC2A1/GLUT1**. *CLINICAL AND TRANSLATIONAL ONCOLOGY.* 20(9):1161-1167. I.F.: 2.392

19. Delgado-Oliver E, Vidal-Sicart S, Martínez D, Squarcia M, Mora M, Hanzu FA, Halperin I, Fuster D, Fondevila C, Vidal-Perez Ó. **Applicability of sentinel lymph node biopsy in papillary thyroid cancer.** *THE QUARTERLY JOURNAL OF NUCLEAR MEDICINE AND MOLECULAR IMAGING.* I.F.: 2.368

20. Brito-Zerón P., Acar-Denizli N., Sisó-Almirall A., Bosch X., Hernández F., Vilanova S., Villalta M., Kostov B., Paradela M., Sanchez M., Ramírez J., Muxí A., Berruezo A., Galceran-Chaves C., Xaubet A., Agustí C., Sellarés J., Ramos-Casals M. **The Burden of Comorbidity and Complexity in Sarcoidosis: Impact of Associated Chronic Diseases.** *LUNG.* 196(2):239-248. I.F.: 2.101

Review / I.F.: 4.808

1. Vidal-Sicart S, Valdés Olmos R, Nieweg O, Faccini R, Grootendorst M, Wester H, Navab N, Vojnovic B, van der Poel H, Martínez- Román S, Klode J, Wawroschek F, van Leeuwen F. **From interventionist imaging to intraoperative guidance: New perspectives by combining advanced tools and navigation with radio-guided surgery.** *REVISTA ESPANOLA DE MEDICINA NUCLEAR E IMAGEN MOLECULAR.* 37(1):28-40. I.F.: 1.202

2. Ruano Pérez R, Rebollo Aguirre AC, García-Talavera San Miguel P, Díaz Expósito R, Vidal-Sicart S, Cordero García JM, Carrera Salazar D, Rioja Martín ME, Grupo de Trabajo de Cirugía Radioguiada de la SEMNIM. **Review of the role of the sentinel node biopsy in neoadjuvant chemotherapy in women with breast cancer and negative or positive axillary node at diagnosis.** *REVISTA ESPANOLA DE MEDICINA NUCLEAR E IMAGEN MOLECULAR.* 37(1):63-70. I.F.: 1.202

3. Vidal-Sicart S., Fuertes Cabero S., Danús Lainez M., Valdés Olmos R., Paredes Barranco P., Rayo Madrid J., Rioja Martín M., Díaz Expósito R., Goñi Gironés E. **Update on radioguided surgery: from international consensus on sentinel node in head and neck cancer to the advances on gynaecological tumors and localization of non-palpable lesions.** *REVISTA ESPANOLA DE MEDICINA NUCLEAR E IMAGEN MOLECULAR.* 38(3):173-182. I.F.: 1.202

4. Vidal-Sicart S., Vera D., Valdés Olmos R. **Next generation of radiotracers for sentinel lymph node biopsy: What is still necessary to establish new imaging paradigms?** *REVISTA ESPANOLA DE MEDICINA NUCLEAR E IMAGEN MOLECULAR.* 37(6):373-379. I.F.: 1.202

Letters / I.F.: 7.729

1. Pericàs JM, Moreno A, Almela M, García-de-la-Mària C, Marco F, Muñoz P, Peña C, de Alarcón A, Del Río A, Eworo A, Cruceta A, Paré JC, Mestres CA, Miró JM, FOSIMI Investigators. **Efficacy and Safety of Fosfomycin Plus Imipenem vs. Vancomycin for Complicated Bacteremia and Endocarditis Due to Methicillin- Resistant Staphylococcus aureus: A Randomized Clinical Trial.** *CLINICAL MICROBIOLOGY AND* INFECTION. 24(6):673-676. I.F.: 5.394

2. Moreno-Ramírez D., Vidal-Sicart S., Puig S., Malvehy J. **Should immediate lymphadenectomy be discontinued in patients with metastasis of a melanoma in the sentinel lymph node? Report of the results of the Multicenter Selective Lymphadenectomy Trial-II.** *MEDICINA CLINICA.* 150(8):323-326. I.F.: 1.168

3. Tapias A, Sánchez N, Torregrosa JV, Fuster D, Perlaza P, Lomeña F. **Triple functioning renal allograft after repeated liver-kidney transplantation due to liver failure.** *NEFROLOGíA.* 38(6):667-669. I.F.: 1.167

Case Reports / I.F.: 1.167

1. Coloma A, Sánchez N, Fuster D, Ruiz C, Xipell M, Orozco J, Tapias A, Torregrosa JV. **Complex regional pain syndrome associated with erythropoietin therapy.** *NEFROLOGíA.* 38(1):99-101. I.F.: 1.167

GRANTS FOR RESEARCH IN PROGRESS

Oleaga A. Predictive geometrical model for personalized flow diverter sizing and interventional planning (PoroVIEW). Sponsored by: Ministerio de Economía y Competitividad (MINECO). RTC-2016-5073-1. Duration: 01/11/2016-30/09/2019

DOCTORAL THESES

Biete A. **Tratamiento del carcinoma in situ de la mama. Beneficio de la administración de una dosis adicional en el lecho de la tumorectomía a la radioterapia complementaria de toda la mama tras la cirugía conservadora. Estudio retrospectivo.**
PhD student: María José Cambra Serés

Monzó M, Navarro A. **Exosomes i microRNAS en biòpsia líquida com a biomarcadors pronòstics del càncer de colon.**
PhD student: Sandra Santasusagna Canal

5.3 Molecular biology of reproduction and development

LOCATION
UB School of Medicine

KEYWORDS
1. **Germinal cell line**
2. **Male infertility**
3. **Proteomics**
4. **Epigenetics**
5. **Cancer**
6. **Endocrine system**
7. **iPSC**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	10.95	3	2	1
2017	11.86	3	2	1
2018	13.60	4	2	1

TEAM INVOLVED IN
AGAUR_SGR17: 01555

TEAM LEADER
Rafael Oliva (HCB-UB)
T. 93 402 18 77 / 93 227 55 10
roliva@ub.edu / roliva@clinic.ub.es

RESEARCHERS
Cristóbal Mezquita (UB)
Jovita Mezquita (UB)
Josep Oriola (HCB-UB)

POST-DOCTORAL RESEARCHERS
Judit Castillo (IDIBAPS)
Michael Edel (UB)
Meritxell Jodar (FCRB-UB)
Betlem Mezquita (UB)

PRE-DOCTORAL RESEARCHERS
Ferran Barrachina (IDIBAPS)
Alberto de la Iglesia (IDIBAPS)
Jose Manuel Mayorga (UB)
Montserrat Pau (UB)
Ada Soler (UB)

ADMINISTRATIVE STAFF
Nuria Roman (UB)

COLLABORATORS
Josep Lluís Ballescà (HCB)
Salvadora Cívico (HCB)
Marta Guimerà (HCB)

STRATEGIC OBJECTIVES

The mechanisms involved in cell differentiation during reproduction and development, with a particular focus on the germinal cell line and the paternal contribution to the embryo, and the study of the endocrine disorders and cancer cell progression and regression are the main objectives of our research group.

MAIN LINES OF RESEARCH

1. **Genomics, proteomics and epigenetics of the germinal cell line.**
   Our interests include the study of the human sperm and seminal plasma proteomes,small RNA content, and the sperm cell epigenome to further understand the function and mechanisms operating in the sperm cell, fertilization and early embryo development, and to enable translational research in male infertility.

2. **Genetics of endocrine disorders.**
   We are studying the genetic aspects of hereditary endocrine disorders (multiple endocrine neoplasia, congenital adrenal hyperplasia and monogenic diabetes) for which we are a reference centre. Our interest also contribute to a better

TEAM Rafael Oliva

understanding of the genotype-phenotype correlations in these syndromes.

3. **Mechanisms involved in redifferentiation of cancer cells.** Oncogenesis is essentially a cell dedifferentiation process. Molecules that induce cell differentiation, such as retinoic acid, have been used for cancer therapy. However, we have shown that retinoic acid activates the pro-invasive pathway Src-Yap-Il6 in MDA-MB-231 triple negative breast cancer cells. At present we study the mechanisms used by statins to block the pro-invasive action of retinoic acid.

PUBLICATIONS

Originals / I.F.: 13.6

1. Gutierrez-Nogués A; García-Herrero C; Oriola J; Vincent O; Navas M. **Functional characterization of MODY2 mutations in the nuclear export signal of glucokinase.** *BIOCHIMICA ET BIOPHYSICA ACTA - MOLECULAR BASIS OF DISEASE.* 1864(7):2385-2394. I.F.: 5.108

2. Mezquita B, Mezquita P, Pau M, Gasa L, Navarro L, Samitier M, Pons M, Mezquita C. **All-trans-retinoic acid activates the pro-invasive Src-YAP-Interleukin 6 axis in triple-negative MDA-MB-231 breast cancer cells while cerivastatin reverses this action.** *SCIENTIFIC REPORTS.* 8(1):7047. I.F.: 4.122

3. Torra-Massana M, Barragán M, Bellu E, Oliva R, Rodríguez A, Vassena R. **Sperm telomere length in donor samples is not related to ICSI outcome.** *JOURNAL OF ASSISTED REPRODUCTION AND GENETICS.* 35(4):649-657. I.F.: 2.788

4. Barrachina F, Anastasiadi D, Jodar M, Castillo J, Estanyol JM, Piferrer F, Oliva R. **Identification of a complex population of chromatin-associated proteins in the European sea bass (Dicentrarchus labrax) sperm.** *SYSTEMS BIOLOGY IN REPRODUCTIVE MEDICINE.* 64(6):502-517. I.F.: 1.582

Review / I.F.: 14.473

1. Castillo J, Jodar M, Oliva R. **The contribution of human sperm proteins to the development and epigenome of the preimplantation embryo.** *HUMAN REPRODUCTION UPDATE.* 24(5):535-555. I.F.: 11.852

2. Soler-Ventura A, Castillo J, de la Iglesia A, Jodar M, Barrachina F, Ballesca JL, Oliva R. **A Step-By-Step Protocol For Mammalian Sperm Protamine Extraction And Analysis.** *PROTEIN AND PEPTIDE LETTERS.* 25(5):424-433. I.F.: 1.039

3. Gordon H, Mezquita-Pla J. **Dixon's trace in my personal career and the quantic jump experienced in regulatory information.** *SYST BIOL REPROD MED.* 64(6):448-468. I.F.: 1.582

Editorial / I.F.: 1.582

1. Balhorn R., Davies P., Kleene K., Krawetz S., Mezquita-Pla J., Oliva R., States J., Tempest H. **Special Issue in Honor of Gordon H. Dixon.** *SYSTEMS BIOLOGY IN REPRODUCTIVE MEDICINE.* 64(6):399-402. I.F.: 1.582

Clinical Guidelines / I.F.: 1.168

1. Alonso-Cerezo M., Calero Ruiz M., Chantada-Abal V., de la Fuente-Hernández L., García-Cobaleda I., García-Ochoa C., García-Sagredo J., Nuñez R., Oliva R., Orera-Clemente M., Pintado-Vera D., Sanchez-Ramon S. **Recommendations regarding the genetic and immunological study of reproductive dysfunction.** *MEDICINA CLINICA.* 151(4):161.e1-161.e12. I.F.: 1.168

GRANTS FOR RESEARCHIN PROGRESS

Oliva R. **Proteómica diferencial de espermatozoides e identificación de biomarcadores diagnósticos y pronósticos en reproducción asistida.**
Sponsoredby: Instituto de Salud Carlos III (ISCIII). PI13/00699.
Duration: 01/01/2014-30/06/2018

Oliva R. **Análisis proteómico y transcriptómico del semen e identificación de biomarcadores capaces de evaluar la contribución paterna a la fertilización y la embriogénesis.**
Sponsoredby: Instituto de Salud Carlos III (ISCIII). PI16/00346.
Duration: 01/01/2017-31/12/2019

5.4 Genetics

LOCATION
HCB building

KEYWORDS
1. **Intellectual disability**
2. **Next generation sequencing**
3. **Cryptic chromosomal imbalances**
4. **FMR1 premutation associated pathologies**
5. **Porphyria**
6. **Prostate cancer**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	78.25	21	10	3
2017	53.59	14	6	7
2018	30.68	7	4	1

TEAM INVOLVED IN
CIBERER CB06/07/0020
AGAUR_SGR17: 1134

TEAM LEADER
Montserrat Milà (HCB-UB)
T. 93 227 54 00 (Ext.: 2784)
mmila@clinic.cat

RESEARCHERS
Anna Carrió (HCB)
Xavier Filella (HCB)
Irene Madrigal (HCB)
Ester Margarit (HCB)
Laia Rodríguez-Revenga (HCB)
Aurora Sanchez (HCB)
Anna M Soler (HCB)
Jordi To (HCB)

POST-DOCTORAL RESEARCHERS
Maria Isabel Álvarez (CIBER)

TECHNICIANS
Maria Dolores Jiménez (HCB)

COLLABORATORS
Laura Foj (HCB)

STRATEGIC OBJECTIVES

To clinically, cytogenetic and molecular characterize rare genetic diseases. The main research lines are: i) study of molecular basis of intellectual disability using high throughput technologies; ii) identification of a biological marker for FXTAS; iii) genotype–phenotype correlation of porphyrias; and iv) discovery of new biomarkers that might help the diagnosis and prognosis of prostate cancer.

MAIN LINES OF RESEARCH

1. Identification of genetic bases of ID. The application of high throughput sequencing to different groups of clinically well characterized ID patients will allow us to identify new genes and to establish new molecular causes of ID.
2. Fragile X syndrome: Study and better characterization of FMR1 premutation associated pathologies. Identification of a susceptibility risk factor for FXTAS.
3. Detection of cryptic chromosomal imbalances and identification of new phenotypes based on cytogenetic – molecular techniques in a prenatal and postnatal diagnostic setting.
4. Study of the genotype-phenotype correlation and expression mechanisms of porphyria:

TEAM Montserrat Milà

- Advance in the study of the alterations in iron regulation and metabolism in skin and erythropoietic porphyria.

- Investigate the role of modifier genes that modulate the clinical expression of erythropoietic porphyria.

- Study of new serum and urine biomarkers of acute porphyria severity of use in clinical practice.

5. Prostate cancer:

- To study the value of miRNAs in urine for the detection and prognosis of prostate cancer.

- To isolate exosomes as a source of new biomarkers of prostate cancer.

PUBLICATIONS

Originals / I.F.: 30.679

1. Karube K, Enjuanes A, Dlouhy I, Jares P, Martin-Garcia D, Nadeu F, Ordóñez GR, Rovira J, Clot G, Royo C, Navarro A, Gonzalez-Farre B, Vaghefi A, Castellano G, Rubio-Perez C, Tamborero D, Briones J, Salar A, Sancho JM, Mercadal S, Gonzalez-Barca E, Escoda L, Miyoshi H, Ohshima K, Miyawaki K, Kato K, Akashi K, Mozos A, Colomo L, Alcoceba M, Valera A, Carrió A, Costa D, Lopez-Bigas N, Schmitz R, Staudt LM, Salaverria I, López-Guillermo A, Campo E. **Integrating genomic alterations in diffuse large B-cell lymphoma identifies new relevant pathways and potential therapeutic targets.** *LEUKEMIA.* 32(3):675-684. I.F.: 10.023

2. Kumar R., Gardner A., Homan C., Douglas E., Mefford H., Wieczorek D., Lüdecke H., Stark Z., Sadedin S., Nowak C., Douglas J., Parsons G., Mark P., Loidi L., Herman G., Mihalic Mosher T., Gillespie M., Brady L., Tarnopolsky M., Madrigal I., Eiris J., Domènech Salgado L., Rabionet R., Strom T., Ishihara N., Inagaki H., Kurahashi H., Dudding-Byth T., Palmer E., Field M., Gecz J. **Severe neurocognitive and growth disorders due to variation in THOC2, an essential component of nuclear mRNA export machinery.** *HUMAN MUTATION.* 39(8):1126-1138. I.F.: 5.359

3. García-Forn M, Martínez-Torres S, García-Díaz Barriga G, Alberch J, Milà M, Azkona G, Pérez-Navarro E. **Pharmacogenetic modulation of STEP improves motor and cognitive function in a mouse model of Huntington's disease.** *NEUROBIOLOGY OF DISEASE.* 120:88-97. I.F.: 5.227

4. Alvarez-Mora MI, Madrigal I, Martinez F, Tejada MI, Izquierdo-Alvarez S, Sanchez-Villar de Saz P, Caro-Llopis A, Villate O, Rodríguez-Santiago B, Pérez Jurado LA, Rodriguez-Revenga L, Milà M. **Clinical implication of FMR1 intermediate alleles in a Spanish population.** *CLINICAL GENETICS.* 94(1):153-158. I.F.: 3.512

5. Esteban I, Vilaró M, Adrover E, Angulo A, Carrasco E, Gadea N, Sánchez A, Ocaña T, Llort G, Jover R, Cubiella J, Servitja S, Herráiz M, Cid L, Martínez S, Oruezábal-Moreno MJ, Garau I, Khorrami S, Herreros-de-Tejada A, Morales R, Cano JM, Serrano R, López-Ceballos MH, González-Santiago S, Juan-Fita MJ, Alonso-Cerezo C, Casas A, Graña B, Teulé A, Alba E, Antón A, Guillén-Ponce C, Sánchez-Heras AB, Alés-Martínez JE, Brunet J, Balaguer F, Balmaña J. **Psychological impact of multi-gene cancer panel testing in patients with a clinical suspicion of hereditary cancer across Spain.** *PSYCHO- ONCOLOGY.* 27(6):1530-1537. I.F.: 3.455

6. Foj L, Filella X. **Identification of Potential miRNAs Biomarkers for High-Grade Prostate Cancer by Integrated Bioinformatics Analysis.** *PATHOLOGY ONCOLOGY RESEARCH.* I.F.: 1.935

7. Florez H., Mandelikova S., Filella X., Monegal A., Guañabens N., Peris P. **Clinical significance of increased serum levels of FGF-23 in fibrous dysplasia.** *MEDICINA CLINICA.* 151(2):65-67. I.F.: 1.168

Review / I.F.: 10.979

1. Pauta M, Grande M, Rodriguez-Revenga L, Kolomietz E, Borrell A. **Added value of Chromosomal Microarray Analysis (CMA) over karyotyping in Early Pregnancy Loss - a Systematic Review and Meta-Analysis.** *ULTRASOUND IN OBSTETRICS AND GYNECOLOGY.* 51(4):453-462. I.F.: 5.654

2. Mila M, Alvarez-Mora MI, Madrigal I, Rodriguez-Revenga L. **Fragile X syndrome: an overview and update of the FMR1 gene.** *CLINICAL GENETICS.* 93(2):197-205. I.F.: 3.512

3. Borrell A., Grande M., Pauta M., Rodriguez-Revenga L., Figueras F. **Chromosomal Microarray Analysis in Fetuses with Growth Restriction and Normal Karyotype: A Systematic Review and Meta-Analysis.** *FETAL DIAGNOSIS AND THERAPY.* 44(1):1-9. I.F.: 1.813

Letters / I.F.: 2.014

1. Borrell A., Grande M., Meler E., Sabrià J., Mazarico E., Muñoz A., Rodriguez-Revenga L., Badenas C., Figueras F. **Genomic Microarray in Fetuses with Early Growth Restriction: A Multicenter Study.** *OBSTETRICAL AND GYNECOLOGICAL SURVEY.* 73(2):73-74. I.F.: 2.014

Case Reports / I.F.: 13.551

1. Goncé A., Martínez M., Marbán-Castro E., Saco A., Soler A., Alvarez-Mora M., Peiro A., Gonzalo V., Hale G., Bhatnagar J., López M., Zaki S., Ordi J., Bardají A. **Spontaneous abortion associated with Zika virus infection and persistent viremia.** *EMERGING INFECTIOUS DISEASES.* 24(5):933-935. I.F.: 7.422

2. Podlipnik S., Guijarro F., Combalia A., To-Figueras J., Badenas C., Costa D., Rozman M., Jorge S., Aguilera P., Gaya A. **Acquired erythropoietic uroporphyria secondary to myelodysplastic syndrome with chromosome 3 alterations: A case report.** *BRITISH JOURNAL OF DERMATOLOGY.* 179(2):486-490. I.F.: 6.129

GRANTS FOR RESEARCH IN PROGRESS

Madrigal I. **Identificación de genes modificadores de penetrancia en enfermedades raras hereditatias mediante secuenciación masiva.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00483
Duration: 01/01/2016-31/12/2019

Milà M. **Estudio de la RAN translation en FXTAS y C9ALS/FTD: correlación clínica y molecular.**

Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/01067
Duration: 01/01/2018-31/12/2020

Ribes A. Implementació de la medicina personalitzada basada en la Genòmica en **Malalties Minoritàries Neurológiques no Diagnosticades. URDCat (Undiagnosed Rare Diseases Program of Catalonia).**
Sponsored by: Generalitat de Catalunya-PERIS_Programes16 (SLT002/16/00174)
Duration: 27/03/2017-31/12/2019

Rodriguez-Revenga L. **Estudio de las bases moleculares de los transtornos del neurodesarrollo.**
Sponsored by: Fundación Alicia Koplowitz.
Duration: 01/11/2018-

5.5 Melanoma: imaging, genetics and immunology

LOCATION
CEK building, floor 2

KEYWORDS
1. **Melanoma**
2. **Genetics**
3. **Dermoscopy**
4. **Confocal microscopy**
5. **Susceptibility**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	60.68	14	11	1
2017	264.52	37	27	7
2018	225.77	22	18	3

TEAM INVOLVED IN
AGAUR_SGR17: 01134
CIBERER: CB06/07/0020 (U726)

TEAM LEADER
Susana Puig (HCB)
T. 93 227 54 00 (Ext.: 5692)
spuig@clinic.cat

RESEARCHERS
Celia Badenas (HCB)
Cristina Carrera (HCB)
Josep Malvehy (HCB)
Joan Anton Puig (HCB)

POST-DOCTORAL RESEARCHERS
Paula Aguilera (HCB)
Gemma Tell (CIBER)

PRE-DOCTORAL RESEARCHERS
Alicia Ines Barreiro (IDIBAPS)
Neus Calbet (IDIBAPS)
Natalia Espinosa (FCRB)
Priscila Giavedoni (HCB)
Javiera Perez (FCRB)
Sebastian Podlipnik (UB)
Miriam Potrony (IDIBAPS)
Oriol Yélamos (IDIBAPS)

TECHNICIANS
Beatriz Alejo (FCRB)
Marc Combalia (FCRB)
Alexandra Franco (FCRB)
Judit Mateu (FCRB)

ADMINISTRATIVE STAFF
Lilian Roca (FCRB)

NURSING STAFF
Mireia Dominguez (FCRB)
Daniel Gabriel (FCRB)
Angels Herrero (FCRB)
Pablo Iglesias (FCRB)

COLLABORATORS
Melinda González (FCRB)
Ramon Pigem (IDIBAPS)
Carolina Sánchez (FCRB)
Agusti Toll (HCB)

STRATEGIC OBJECTIVES

1. Development of non-invasive imaging, biophotonics and physic techniques for the diagnosis of melanoma and non-melanoma skin cancer.
2. Study of the genetic bases implicated in susceptibility to melanoma, photocarcinogenesis and melanoma prognosis.
3. Development of treatment strategies in melanoma and skin cancer: specific

TEAM Susana Puig

molecular target / immunological therapies and photo-protection.

MAIN LINES OF RESEARCH

1. Dermoscopy, digital dermoscopy, Confocal microscopy & new photonic and physic technologies. Description of new algorithms, study of the evolution of lesions, new classifications and the use of telemedicine.

2. Giant congenital nevi, global research approach including clinical, genetics and psychological aspects.

3. Genetic epidemiology in melanoma and non melanoma skin cancer.

4. Study of the mechanisms involved in carcinogenesis and photocarcinogenesis in melanoma and non melanoma skin cancer.

5. Development of new treatment strategies for melanoma and other skin tumours.

6. Evaluation of immune response in melanoma.

7. Identification of genetic prognostic profiles in melanoma .

8. Analysis of the influence of the microbiota in skin cancer.

9. Identification of biomarkers for melanoma : study of circulating free DNA (cfDNA) or isolation of circulating melanoma cells (CMC) and single cell sequencing.

PUBLICATIONS

Originals / I.F.: 225.766

1. Eggermont AMM, Blank CU, Mandala M, Long GV, Atkinson V, Dalle S, Haydon A, Lichinitser M, Khattak A, Carlino MS, Sandhu S, Larkin J, Puig S, Ascierto PA, Rutkowski P, Schadendorf D, Koornstra R, Hernandez-Aya L, Maio M, van den Eertwegh AJM, Grob JJ, Gutzmer R, Jamal R, Lorigan P, Ibrahim N, Marreaud S, van Akkooi ACJ, Suciu S, Robert C. **Adjuvant Pembrolizumab versus Placebo in Resected Stage III Melanoma.** *NEW ENGLAND JOURNAL OF MEDICINE.* 378(19):1789-1801. I.F.: 79.260

2. Dreno B, Thompson JF, Smithers BM, Santinami M, Jouary T, Gutzmer R, Levchenko E, Rutkowski P, Grob JJ, Korovin S, Drucis K, Grange F, Machet L, Hersey P, Krajsova I, Testori A, Conry R, Guillot B, Kruit WHJ, Demidov L, Thompson JA, Bondarenko I, Jaroszek J, Puig S, Cinat G, Hauschild A, Goeman JJ, van Houwelingen HC, Ulloa-Montoya F, Callegaro A, Dizier B, Spiessens B, Debois M, Brichard VG, Louahed J, Therasse P, Debruyne C, Kirkwood JM. **MAGE-A3 immunotherapeutic as adjuvant therapy for patients with resected, MAGE-A3-positive, stage III melanoma (DERMA): a double-blind, randomised, placebo-controlled, phase 3 trial.** *LANCET ONCOLOGY.* 19(7):916-929. I.F.: 36.421

3. Walpole S, Pritchard AL, Cebulla CM, Pilarski R, Stautberg M, Davidorf FH, de la Fouchardière A, Cabaret O, Golmard L, Stoppa-Lyonnet D, Garfield E, Njauw CN, Cheung M, Turunen JA, Repo P, Järvinen RS, van Doorn R, Jager MJ, Luyten GPM, Marinkovic M, Chau C, Potrony M, Höiom V, Helgadottir H, Pastorino L, Bruno W, Andreotti V, Dalmasso B, Ciccarese G, Queirolo P, Mastracci L, Wadt K, Kiilgaard JF, Speicher MR, van Poppelen N, Kilic E, Al-Jamal RT, Dianzani I, Betti M, Bergmann C, Santagata S, Dahiya S, Taibjee S, Burke J, Poplawski N, O'Shea SJ, Newton-Bishop J, Adlard J, Adams DJ, Lane AM, Kim I, Klebe S, Racher H, Harbour JW, Nickerson ML, Murali R, Palmer JM, Howlie M, Symmons J, Hamilton H, Warrier S, Glasson W, Johansson P, Robles-Espinoza CD, Ossio R, de Klein A, Puig S, Ghiorzo P, Nielsen M, Kivelä TT, Tsao H, Testa JR, Gerami P, Stern MH, Paillerets BB, Abdel-Rahman MH, Hayward NK. **Comprehensive Study of the Clinical Phenotype of Germline BAP1 Variant-Carrying Families Worldwide.** *JOURNAL OF THE NATIONAL CANCER INSTITUTE.* 110(12):1328-1341. I.F.: 11.238

4. Kim J., Luo W., Wang M., Wegman-Ostrosky T., Frone M., Johnston J., Nickerson M., Rotunno M., Li S., Achatz M., Brodie S., Dean M., De Andrade K., Fortes F., Gianferante M., Khincha P., McMaster M., McReynolds L., Pemov A., Pinheiro M., Santiago K., Alter B., Caporaso N., Gadalla S., Goldin L., Greene M., Loud J., Yang X., Freedman N., Gapstur S., Gaudet M., Calista D., Ghiorzo P., Fargnoli M., Nagore E., Peris K., Puig S., Landi M., Hicks B., Zhu B., Kim J., Luo W., Wang M., Wegman-Ostrosky T., Frone M., Johnston J., Nickerson M., Rotunno M., Li S., Achatz M. **Prevalence of pathogenic/likely pathogenic variants in the 24 cancer genes of the ACMG Secondary Findings v2.0 list in a large cancer cohort and ethnicity-matched controls.** *GENOME MEDICINE.* 10(1):99. I.F.: 8.898

5. Martinez-Garcia MA, Campos-Rodriguez F, Nagore E, Martorell A, Rodriguez-Peralto JL, Riveiro-Falkenbach E, Hernandez L, Bañuls J, Arias E, Ortiz P, Cabriada V, Gardeazabal J, Montserrat JM, Carrera C, Corral J, Masa JF, de Terreros JG, Abad J, Boada A, Mediano O, de Eusebio E, Chiner E, Landete P, Mayos M, Fortuño A, Barbé F, Sánchez de la Torre M, Sanchez de la Torre A, Cano I, Gonzalez C, Pérez-Gil A, Gómez-García T, Cullen D, Somoza M, Formigón M, Aizpuru F, Navarro C, Selma-Ferrer MJ, Garcia-Ortega A, de Unamuno B, Almendros I, Farré R, Gozal D, Spanish Sleep Network. **Sleep-Disordered Breathing is Independently Associated with Increased Aggressiveness of Cutaneous Melanoma. A multicentre observational study in 443 patients**. *CHEST.* 154(6):1348-1358. I.F.: 7.652

6. Boada A, Tejera-Vaquerizo A, Ribero S, Puig S, Moreno-Ramírez D, Descalzo-Gallego MA, Fierro MT, Quaglino P, Carrera C, Malvehy J, Vidal-Sicart S, Bennássar A, Rull R, Alos L, Requena C, Bolumar I, Traves V, Pla Á, Fernández-Figueras MT, Ferrándiz C, Pascual I, Manzano JL, Sánchez-Lucas M, Giménez-Xavier P, Ferrandiz L, Nagore E. **Sentinel Lymph Node Biopsy vs Observation in Thick Melanoma: A Multicenter Propensity Score Matching Study.** *INTERNATIONAL JOURNAL OF CANCER.* 142(3):641-648. I.F.: 7.360

7. Carrera C, Scope A, Dusza SW, Argenziano G, Nazzaro G, Phan A, Tromme I, Rubegni P, Malvehy J, Puig S, Marghoob AA. **Clinical and dermoscopic characterization of pediatric and childhood melanomas. Multicenter study of 52 cases.** *JOURNAL OF THE AMERICAN ACADEMY OF DERMATOLOGY.* 78(2):278-288. I.F.: 6.898

8. Marchetti MA, Codella NCF, Dusza SW, Gutman DA, Helba B, Kalloo A, Mishra N, Carrera C, Celebi ME, DeFazio JL, Jaimes N, Marghoob AA, Quigley E, Scope A, Yélamos O, Halpern AC, International Skin Imaging Collaboration. **Results of the 2016 International Skin Imaging Collaboration International Symposium on Biomedical Imaging challenge: Comparison of the accuracy of computer algorithms to dermatologists for the diagnosis of melanoma from dermoscopic images.** *JOURNAL OF THE AMERICAN ACADEMY*

OF DERMATOLOGY. 78(2):270-277. I.F.: 6.898

9. Wolner ZJ, Bajaj S, Flores E, Carrera C, Navarrete-Dechent C, Dusza SW, Rabinovitz HS, Marchetti MA, Marghoob AA. **Variation in dermoscopic features of basal cell carcinoma as a function of anatomical location and pigmentation status.** *BRITISH JOURNAL OF DERMATOLOGY.* 178(2):e136-e137. I.F.: 6.129

10. Alonso N, Cañueto J, Ciria S, Bueno E, Palacios-Alvarez I, Alegre M, Badenas C, Barreiro A, Pena L, Maldonado C, Nespeira-Jato MV, Peña-Penabad C, Azon A, Gavrilova M, Ferrer I, Sanmartin O, Robles L, Hernandez-Martin A, Urioste M, Puig S, Puig L, Gonzalez-Sarmiento R. **Novel clinical and molecular findings in Spanish patients with Nevoid Basal Cell Carcinoma Syndrome.** *BRITISH JOURNAL OF DERMATOLOGY.* 178(1):198-206. I.F.: 6.129

11. Vallone MG, Tell-Marti G, Potrony M, Rebollo-Morell A, Badenas C, Puig-Butille JA, Gimenez-Xavier P, Carrera C, Malvehy J, Puig S. **Melanocortin 1 receptor (MC1R) polymorphisms' influence on size and dermoscopic features of nevi.** *PIGMENT CELL AND MELANOMA RESEARCH.* 31(1):39-50. I.F.: 6.115

12. Maiques O, Barceló C, Panosa A, Pijuan J, Orgaz JL, Rodriguez-Hernandez I, Matas-Nadal C, Tell G, Vilella R, Fabra A, Puig S, Sanz-Moreno V, Matias-Guiu X, Canti C, Herreros J, Marti RM, Macià A. **T-type calcium channels drive migration/invasion in BRAFV600E melanoma cells through Snail1.** *PIGMENT CELL AND MELANOMA RESEARCH.* 31(4):484-495. I.F.: 6.115

13. Helgadottir H., Ghiorzo P., Van Doorn R., Puig S., Levin M., Kefford R., Lauss M., Queirolo P., Pastorino L., Kapiteijn E., Potrony M., Carrera C., Olsson H., Höiom V., Jönsson G. **Efficacy of novel immunotherapy regimens in patients with metastatic melanoma with germline CDKN2A mutations.** *JOURNAL OF MEDICAL GENETICS.* I.F.: 5.751

14. Gu F, Chen TH, Pfeiffer RM, Fargnoli MC, Calista D, Ghiorzo P, Peris K, Puig S, Menin C, De Nicolo A, Rodolfo M, Pellegrini C, Pastorino L, Evangelou E, Zhang T, Hua X, DellaValle CT, Timothy Bishop D, MacGregor S, Iles MI, Law MH, Cust A, Brown KM, Stratigos AJ, Nagore E, Chanock S, Shi J, Consortium MM, Consortium M, Landi MT. **Combining common genetic variants and non-genetic risk factors to predict risk of cutaneous melanoma.** *HUMAN MOLECULAR GENETICS.* 27(23):4145-4156. I.F.: 4.902

15. Cinotti E, Labeille B, Debarbieux S, Carrera C, Lacarrubba F, Witkowski AM, Moscarella E, Arzberger E, Kittler H, Bahadoran P, Gonzalez S, Guitera P, Agozzino M, Farnetani F, Hofmann-Wellenhof R, Ardigò M, Rubegni P, Tognetti L, ?udzik J, Zalaudek I, Argenziano G, Longo C, Ribero S, Malvehy J, Pellacani G, Cambazard F, Perrot JL. **Dermoscopy versus reflectance confocal microscopy for the diagnosis of lentigo maligna.** *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY.* 32(8):1284-1291. I.F.: 4.287

16. Marchetti M., Marino M., Virmani P., Dusza S., Marghoob A., Nazzaro G., Lallas A., Landi C., Cabo H., Quiñones R., Gomez E., Puig S., Carrera C. **Dermoscopic features and patterns of poromas: A multicentre observational case-control study conducted by the International Dermoscopy Society.** *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY.* 32(8):1263-1271. I.F.: 4.287

17. Stratigos AJ, Fargnoli MC, De Nicolo A, Peris K, Puig S, Soura E, Menin C, Calista D, Ghiorzo P, Mandala M, Massi D, Rodolfo M, Del Regno L, Stefanaki I, Gogas H, Bataille V, Tucker MA, Whiteman D, Nagore E, Landi MT. **MelanoQ: A Consensus Questionnaire of Standardized Epidemiologic and Clinical Variables for Melanoma Risk Assessment by the MelaNostrum Consortium.** *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY.* 32(12):2134-2141. I.F.: 4.287

18. Potrony M, Puig-Butille JA, Farnham JM, Giménez-Xavier P, Badenas C, Tell-Martí G, Aguilera P, Carrera C, Malvehy J, Teerlink CC, Puig S. **Genome-wide linkage analysis in Spanish melanoma-prone families identifies a new familial melanoma susceptibility locus at 11q.** *EUROPEAN JOURNAL OF HUMAN GENETICS.* 26(8):1188-1193. I.F.: 3.636

19. Ch?opik A, Selim MA, Peng Y, Wu CL, Tell-Marti G, Paral KM, Shalin SC, Kraft S, Hsu CK, Shea CR, Puig S, Fernandez-Figueras MT, Biernat W, Ry? J, Marszalek A, Hoang MP. **Prognostic Role of Tumoral PDL1 Expression and Peritumoral FoxP3+ Lymphocytes in Vulvar Melanomas.** *HUMAN PATHOLOGY.* 73:176-183. I.F.: 3.125

20. Rey-Barroso L, Burgos-Fernández FJ, Delpueyo X, Ares M, Royo S, Malvehy J, Puig S, Vilaseca M. **Visible and Extended Near-Infrared Multispectral Imaging for Skin Cancer Diagnosis.** *SENSORS.* 18(5):1441. I.F.: 2.475

21. Dubois A, Levecq O, Azimani H, Siret D, Barut A, Suppa M, Del Marmol V, Malvehy J, Cinotti E, Rubegni P, Perrot JL. **Line-field confocal optical coherence tomography for high-resolution noninvasive imaging of skin tumors.** *JOURNAL OF BIOMEDICAL OPTICS.* 23(10):1-9. I.F.: 2.367

22. Caffery LJ, Clunie D, Curiel-Lewandrowski C, Malvehy J, Soyer HP, Halpern AC. **Transforming Dermatologic Imaging for the Digital Era: Metadata and Standards.** *JOURNAL OF DIGITAL IMAGING.* 31(4):568-577. I.F.: 1.536

Review / I.F.: 2.392

1. A. Boada García; Cristina Carrera; Sonia Segura; Helena Collgros Totosaus; Paola Pasquali; D. Bodet; Susana Puig; Josep Malvehy. **Cutaneous toxicities of new treatments for melanoma.** *CLINICAL AND TRANSLATIONAL ONCOLOGY.* 20(11):1373-1384. I.F.: 2.392

Letters / I.F.: 77.927

1. Carrera, Cristina; Potrony, Miriam; Puig, Susana. **Sex as a predictor of response to cancer immunotherapy.** *LANCET ONCOLOGY.* 19(8):E375-E375. I.F.: 36.421

2. Boada A, Tejera-Vaquerizo A, Ribero S, Puig S, Nagore E, Moreno-Ramírez D, Descalzo-Gallego MA. **Author's reply to: Prognosis of sentinel lymph node biopsy in patients with thick melanoma by a propensity score matching prospective study.** *INTERNATIONAL JOURNAL OF CANCER.* 142(7):1504-1504. I.F.: 7.360

3. Carrera C, Puig-Butille JA. **Clinical, Epidemiological, and Molecular Heterogeneity in Acral Melanoma.** *JOURNAL OF INVESTIGATIVE DERMATOLOGY.* 138(2):254-255. I.F.: 6.448

4. Barragan-Estudillo Z., Jesus-Silva M., Chavez-Bourgeois M., Brito J., Alos L., Puig S., Malvehy J. **Image Gallery: Transition**

pattern in acral melanoma. *BRITISH JOURNAL OF DERMATOLOGY.* 178(3):e225-e225. I.F.: 6.129

5. Villarreal-Martinez A, Bennàssar A, Gonzalez S, Malvehy J, Puig S. **Application of in vivo reflectance confocal microscopy (RCM) and ex vivo fluorescence confocal microscopy (FCM) in most common subtypes of Basal Cell Carcinoma and correlation with histopathology.** *BRITISH JOURNAL OF DERMATOLOGY.* 178(5):1215-1217. I.F.: 6.129

6. Malvehy J, Puig S. **Response to 'Phase IV head-to-head randomized controlled trial comparing ingenol mebutate 0·015% gel with diclofenac sodium 3% gel for the treatment of actinic keratosis on the face or scalp'**. *BRITISH JOURNAL OF DERMATOLOGY.* 178(3):812-813. I.F.: 6.129

7. Pellacani G, Gupta G, Micali G, Malvehy J, Stratigos AJ, Casari A, Chester J, Kaleci S, Dirschka T. **Actinic keratosis area severity index (AKASI): Reproducibility study and comparison with total lesion count.** *BRITISH JOURNAL OF DERMATOLOGY.* 179(3):763-764. I.F.: 6.129

8. Borrell A., Grande M., Meler E., Sabrià J., Mazarico E., Muñoz A., Rodriguez-Revenga L., Badenas C., Figueras F. **Genomic Microarray in Fetuses with Early Growth Restriction: A Multicenter Study.** *OBSTETRICAL AND GYNECOLOGICAL SURVEY.* 73(2):73-74. I.F.: 2.014

9. Moreno-Ramírez D., Vidal-Sicart S., Puig S., Malvehy J. **Should immediate lymphadenectomy be discontinued in patients with metastasis of a melanoma in the sentinel lymph node? Report of the results of the Multicenter Selective Lymphadenectomy Trial-II.** *MEDICINA CLINICA.* 150(8):323-326. I.F.: 1.168

Case Reports / I.F.: 18.728

1. Podlipnik S., Guijarro F., Combalia A., To-Figueras J., Badenas C., Costa D., Rozman M., Jorge S., Aguilera P., Gaya A. **Acquired erythropoietic uroporphyria secondary to myelodysplastic syndrome with chromosome 3 alterations: A case report.** *BRITISH JOURNAL OF DERMATOLOGY.* 179(2):486-490. I.F.: 6.129

2. Combalia A., Alejo B., Puig S. **Reflectance confocal microscopy evaluation of trichobacteriosis axilaris.** *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY.* 32(6):E208-E209. I.F.: 4.287

3. Fernández-Sartorio C, Boada A, Chavez-Bourgeois MM, Ruiz Ares GJ, Arance AM, Manzano JL, García-Herrera A, Carrera C. **Aged-looking skin and encorafenib: an adverse event of BRAF inhibitors.** *MELANOMA RESEARCH.* 28(2):160-162. I.F.: 3.135

4. Morgado-Carrasco D, Moreno-Rivera N, Fustà-Novell X, García-Herrera A, Carrera C, Puig S. **Histiocytoid Sweet's syndrome during combined therapy with BRAF and MEK inhibitors for metastatic melanoma.** *MELANOMA RESEARCH.* 28(3):256-257. I.F.: 3.135

5. Alos L, Rodriguez-Carunchio L, Brugués A, Fuster C, Pinyol M, Puig S. **The Usefulness of Molecular Tools for the Diagnosis of a Challenging Nevoid Melanoma.** *APPLIED IMMUNOHISTOCHEMISTRY AND MOLECULAR MORPHOLOGY.* I.F.: 2.042

Clinical Guidelines / I.F.: 1.944

1. Gutzmer R., Harrington K., Hoeller C., Lebbé C., Malvehy J., Öhrling K., Downey G., Dummer R. **Practical clinical guide on the use of talimogene laherparepvec monotherapy in patients with unresectable melanoma in Europe.** *EUROPEAN JOURNAL OF DERMATOLOGY.* 28(6):736-749. I.F.: 1.944

Consortium Publications / I.F.: 25.962

1. Duffy DL, Zhu G, Li X, Sanna M, Iles MM, Jacobs LC, Evans DM, Yazar S, Beesley J, Law MH, Kraft P, Visconti A, Taylor JC, Liu F, Wright MJ, Henders AK, Bowdler L, Glass D, Ikram MA, Uitterlinden AG, Madden PA, Heath AC, Nelson EC, Green AC, Chanock S, Barrett JH, Brown MA, Hayward NK, MacGregor S, Sturm RA, Hewitt AW,, Kayser M, Hunter DJ, Newton Bishop JA, Spector TD, Montgomery GW, Mackey DA, Smith GD, Nijsten TE, Bishop DT, Bataille V, Falchi M, Han J, Martin NG Melanoma GWAS Consortium. **Novel pleiotropic risk loci for melanoma and nevus density implicate multiple biological pathways.** *NATURE COMMUNICATIONS.* 9(1):4774. I.F.: 12.353

2. Zhang T, Choi J, Kovacs MA, Shi J, Xu M, NISC Comparative Sequencing Program, Melanoma Meta-Analysis Consortium, Goldstein AM, Trower AJ, Bishop DT, Iles MM, Duffy DL, MacGregor S, Amundadottir LT, Law MH, Loftus SK, Pavan WJ, Brown KM NISC Comparative Sequencing Program, Melanoma Meta-Analysis Consortium. **Cell-type-specific eQTL of primary melanocytes facilitates identification of melanoma susceptibility genes.** *GENOME RESEARCH.* 28(11):1621-1635. I.F.: 10.101

3. Almendros, Isaac; Angel Martinez-Garcia, Miguel; Campos-Rodriguez, Francisco; Riveiro-Falkenbach, Erica; Rodriguez-Peralto, Jose L.; Nagore, Eduardo; Martorell-Calatayud, Antonio; Hernandez Blasco, Luis; Banuls Roca, Jose; Chiner Vives, Eusebi; Sanchez-de-la-Torre, Alicia; Abad-Capa, Jorge; Maria Montserrat, Josep; Perez-Gil, Amalia; Cabriada-Nuno, Valentin; Cano-Pumarega, Irene; Corral-Penafiel, Jaime; Diaz-Cambriles, Trinidad; Mediano, Olga; Dalmau-Arias, Joan; Farre, Ramon; Gozal, David; Spanish Sleep Network. **Intermittent Hypoxia Is Associated With High Hypoxia Inducible Factor-1 alpha but Not High Vascular Endothelial Growth Factor Cell Expression in Tumors of Cutaneous Melanoma Patients.** *FRONTIERS IN NEUROLOGY.* 9:272. I.F.: 3.508

GRANTS FOR RESEARCH IN PROGRESS

Malvehy J. **Identificación de factores genéticos en individuos con nevus melanocíticos y su influencia en la determinacón de la mutación BRAF (V600E) en plasma.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00956
Duration: 01/01/2016-31/12/2019.

Malvehy J. **El metabolismo de los esfingolípidos como diana terapéutica para mejorar la inmunoterapia del melanoma.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). FIS_AC16/00081 – ERANET_TRANSC2_16
Duration: 01/01/2017-31/12/2019.

Puig S. **Grup d'estudi de Malalties Rares d'Origen Genètic.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_01067
Duration: 01/01/2017-31/12/2020

Puig S. **Evaluación de las alteraciones inmunológicas subyacentes en el desarrollo, progresión y respuesta a las terapias inmunológicas en melanoma. Implicación de la microbiota en la inducción de tolerancia y efectos secundarios de las terapias inmunológicas.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00716
Duration: 01/01/2016-31/12/2018

Puig S. **Vías de diseminación metastásica en distintos subtipos del melanoma maligno: nuevos biomarcadores tumorales y dianas terapéuticas.**
Sponsored by: Asociación Española Contra el Cáncer. AECC_Grupo Estable15 (CB1515297850EN)
Duration: 01/07/2015-30/06/2020

Puig S. **Melanoma Survival Model of genetic variant involved in naevus count.**
Sponsored by: European Academy of Dermatology and Venereology. PPRC-2017-19
Duration: 01/01/2018-31/1272019

DOCTORAL THESES

Puig S, Puig JA. **Rol del gen de pigmentació MC1R en la susceptibilitat a malalties neurodegeneratives.**
PhD student: Gemma Tell Martí

Puig S. **Characterization of genetic factors associated with melanoma susceptibility and prognosis.**
PhD student: Miriam Potrony Mateu

5.6 Hematopoietic progenitor cell transplantation

LOCATION
CEK building, floor 2

KEYWORDS
1. **Allogeneic transplantation**
2. **Immunotherapy**
3. **Veno-oclussive disease**
4. **Graft versus host disease**
5. **Infectious diseases**
8. **Chimeric antigen receptor**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	41.58	6	4	2
2017	68.07	16	6	8
2018	48.32	8	9	2

LOCATION
RTICC_2012

TEAM LEADER
Álvaro Urbano-Ispizua (HCB)
T. 93 227 57 76
aurbano@clinic.cat

RESEARCHERS
Francesc Fernández-Avilés (HCB)
Pedro José Marín (HCB)
Araceli Beatriz Martín-Antonio (FCRB)
Carmen Martínez (HCB)
Montserrat Rovira (HCB)

POST-DOCTORAL RESEARCHERS
Hugo Calderon (FCRB)
Maria Castella (FCRB)
Sònia Guedan (FCRB)
Guillermo Suñé (FCRB)

PRE-DOCTORAL RESEARCHERS
Lorena Pérez-Amil (FCRB)
María Suarez-Lledó (HCB-FCRB)

ADMINISTRATIVE STAFF
Mª José Sánchez-Melero (HCB)
Carme Torres (HCB)

STRATEGIC OBJECTIVES

We have started research lines in antitumor cell therapy (NK and CARTs), and cell immune modulation.
Lastly, we plan to develop a line of research in the field of the pharmacokinetics, pharmacodynamics and pharmacogenomics of immune modulators, as well as in the development of in vitro predictive models of graft-versus-host disease.

MAIN LINES OF RESEARCH

Clinical research lines

1. Assessment of new hematopoietic precursor transplantation (HPT) indications.

2. Evaluation of new transplant modalities, specially:
- Domiciliary autogenic HPT and allogenic HPT.
- Haploidentical transplantation with unmanipulated bone marrow.

3. Studies addressing the prevention and treatment of the main complications of HPT.
- Prevention and treatment of graft-versus-host disease with new agents and participation in different multicenter studies.

4. CART and CARNK therapy in multiple myeloma.

Basic and translational research lines

1. Study of the post-HPT complications originating from endothelial dysfunction. Our project aims to characterize such dysfunction and the early diagnosis of infections then to seek effective preventive in HPT.

2. Study of new techniques for the early diagnosis of infections in HPT.

3. Development of CARTs using autologous T cells and also from NK cells expanded from umbilical cord blood.

PUBLICATIONS

Originals / I.F.: 48.322

1. Wing A, Fajardo CA, Posey AD, Shaw C, Da T, Young RM, Alemany R, June CH, Guedan S. **Improving CART-Cell Therapy of Solid Tumors with Oncolytic Virus-Driven Production of a Bispecific T-cell Engager.** *CANCER IMMUNOL RES.* 6(5):605-616. I.F.: 9.188

2. Schmid C., De Wreede L., Van Biezen A., Finke J., Ehninger G., Ganser A., Volin L., Niederwieser D., Beelen D., Alessandrino P., Kanz L., Schleuning M., Passweg J., Veelken

H., Maertens J., Cornelissen J., Blaise D., Gramatzki M., Milpied N., Yakoub-Agha I., Mufti G., Rovira M., Arnold R., De Witte T., Robin M., Kröger N. **Outcome after relapse of myelodysplastic syndrome and secondary acute myeloid leukemia following allogeneic stem cell transplantation: A retrospective registry analysis on 698 patients by the chronic malignancies working party of the european society of blood and marrow transplantation.** *HAEMATOLOGICA.* 103(2):237-245. I.F.: 9.090

3. Smith SM, Godfrey J, Ahn KW, DiGilio A, Ahmed S, Agrawal V, Bachanova V, Bacher U, Bashey A, Bolaños-Meade J, Cairo M, Chen A, Chhabra S, Copelan E, Dahi PB, Aljurf M, Farooq U, Ganguly S, Hertzberg M, Holmberg L, Inwards D, Kanate AS, Karmali R, Kenkre VP, Kharfan-Dabaja MA, Klein A, Lazarus HM, Mei M, Mussetti A, Nishihori T, Ramakrishnan Geethakumari P, Saad A, Savani BN, Schouten HC, Shah N, Urbano-Ispizua A, Vij R, Vose J, Sureda A, Hamadani M. **Autologous transplantation versus allogeneic transplantation in patients with follicular lymphoma experiencing early treatment failure.** *CANCER.* 124(12):2541-2551. I.F.: 6.537

4. Lopez-Millan B, Diaz de la Guardia R, Roca-Ho H, Anguita E, Islam ABMMK, Romero-Moya D, Prieto C, Gutierrez-Agüera F, Bejarano-Garcia JA, Perez-Simon JA, Costales P, Rovira M, Marín P, Menendez S, Iglesias M, Fuster JL, Urbano-Ispizua A, Anjos-Afonso F, Bueno C, Menendez P. **IMiDs mobilize acute myeloid leukemia blasts to peripheral blood through downregulation of CXCR4 but fail to potentiate AraC/Idarubicin activity in preclinical models of non del5q/5q- AML.** *ONCOIMMUNOLOGY.* 7(9):e1477460. I.F.: 5.503

5. Lozano E, Díaz T, Mena MP, Suñe G, Calvo X, Calderón M, Pérez-Amill L, Rodríguez V, Pérez-Galán P, Roué G, Cibeira MT, Rosiñol L, Isola I, Rodríguez-Lobato LG, Martin-Antonio B, Bladé J, Fernández de Larrea C. **Loss of the Immune Checkpoint CD85j/LILRB1 on Malignant Plasma Cells Contributes to Immune Escape in Multiple Myeloma.** *JOURNAL OF IMMUNOLOGY.* 200(8):2581-2591. I.F.: 4.539

6. Gutiérrez-García G., Rovira M., Magnano L., Rosiñol L., Bataller A., Suárez-Lledó M., Cibeira M., de Larrea C., Garrote M., Jorge S., Moreno A., Rodríguez-Lobato L., Carreras E., Díaz-Ricart M., Palomo M., Martínez C., Urbano-Ispizua A., Bladé J., Fernández-Avilés F. **Innovative strategies minimize engraftment syndrome in multiple myeloma patients with novel induction therapy following autologous hematopoietic stem cell transplantation.** *BONE MARROW TRANSPLANTATION.* 53(12):1541-1547. I.F.: 4.497

7. Suárez-Lledó M, Martínez-Cibrián N, Gutiérrez-García G, Dimova-Svetoslavova V, Marcos MA, Martín-Antonio B, Martínez-Trillos A, Villamor N, Rosiñol L, Martínez C, Fernández-Avilés F, García-Vidal C, Urbano-Ispizua Á, Rovira M. **Deleterious Effect of Steroids on Cytomegalovirus Infection Rate after Allogeneic Stem Cell Transplantation Depends on Pretransplant Cytomegalovirus Serostatus of Donors and Recipients.** *BIOLOGY OF BLOOD AND MARROW TRANSPLANTATION.* 24(10):2088-2093. I.F.: 4.484

8. Jorge A., Suárez-Lledó M., Pereira A., Gutierrez G., Fernández-Avilés F., Rosiñol L., Llobet N., Solano T., Urbano-Ispízua Á., Rovira M., Martínez C. **Single Antigen-Mismatched Unrelated Hematopoietic Stem Cell Transplantation Using High-Dose Post-Transplantation Cyclophosphamide Is a Suitable Alternative for Patients Lacking HLA-Matched Donors.** *BIOLOGY OF BLOOD AND MARROW TRANSPLANTATION.* 24(6):1196-1202. I.F.: 4.484

Review / I.F.: 15.835

1. Snowden J., Panés J., Alexander T., Allez M., Ardizzone S., Dierickx D., Finke J., Hasselblatt P., Hawkey C., Kazmi M., Lindsay J., Onida F., Salas A., Saccardi R., Vermeire S., Rovira M., Ricart E. **Autologous haematopoietic stem cell transplantation (AHSCT) in severe Crohn's disease: A review on behalf of ECCO and EBMT.** *JOURNAL OF CROHN'S AND COLITIS.* 12(4):476-488. I.F.: 6.637

2. Guedan, Sonia; Alemany, Ramon. **CAR-T Cells and Oncolytic Viruses: Joining Forces to Overcome the Solid Tumor Challenge.** *FRONTIERS IN IMMUNOLOGY.* 9(2460):2460. I.F.: 5.511

3. Castella M., de Larrea C., Martín-Antonio B. **Immunotherapy: A Novel Era of Promising Treatments for Multiple Myeloma.** *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES.* 19(11):3613. I.F.: 3.687

Clinical Guidelines / I.F.: 1.707

1. Garcia-Vidal C, Alastruey-Izquierdo A, Aguilar-Guisado M, Carratalà J, Castro C, Fernández-Ruiz M, Aguado JM, Fernández JM, Fortún J, Garnacho-Montero J, Gavaldà J, Gudiol C, Guinea J, Gómez-López A, Muñoz P, Pemán J, Rovira M, Ruiz-Camps I, Cuenca-Estrella M. **Executive summary of clinical practice guideline for the management of invasive diseases caused by Aspergillus: 2018 Update by the GEMICOMED-SEIMC/REIPI.** *ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA.* I.F.: 1.707

GRANTS FOR RESEARCH IN PROGRESS

Martín B. **Modificación de la comunicación intercelular entre células inmunes y de mieloma para mejorar la sensibilidad a inmunoterapia y tratamientos convencionales.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/01043
Duration: 01/01/2018-31/12/2020

5.7 Hematological oncology

LOCATION
HCB building

KEYWORDS
1. **Lymphoid neoplasms**
2. **Genomic profile**
3. **Multiple myeloma**
4. **Myeloproliferative neoplasms**
5. **Acute myeloid leukemia**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	355.42	40	26	10
2017	511.46	57	40	13
2018	580.19	58	44	12

TEAM INVOLVED IN
RTICC
AGAUR_SGR17: 01655, 00792

TEAM LEADER
Francisco Cervantes (HCB)
T. 93 227 54 28
fcervan@clinic.cat

GROUP LEADERS
Joan Bladé (HCB)
T. 93 227 54 75
jblade@clinic.cat

Francisco Cervantes (HCB)
T. 93 227 54 28
fcervan@clinic.cat

Carlos Fernández de Larrea (IDIBAPS-HCB)
T. 93 227 54 75
cfernan1@clinic.cat

Armando López-Guillermo (HCB)
T. 93 227 54 75
alopezg@clinic.cat

RESEARCHERS
Maria Teresa Cibeira (HCB)
Julio Delgado (HCB)
Jordi Esteve (HCB)
Eva Giné (HCB)
Emili Montserrat (HCB)
Laura Rosiñol (HCB)

POST-DOCTORAL RESEARCHERS
Alberto Álvarez-Larrán (HCB)
Tycho Stephan Baumann (HCB)
Marina Díaz (HCB)
Tania Díaz (IDIBAPS)
Ester Lozano (IDIBAPS)
Laura Carola Magnano (HCB)
Natalia Tovar (HCB)

PRE-DOCTORAL RESEARCHERS
Juan Gonzalo Correa (HCB)
Daniel Esteban (FCRB)
Anna Gaya (FCRB)
Ignacio Isola (HCB)
Raquel Jiménez (FCRB)
Valentín Ortiz (FCRB)
Alfredo Rivas (HCB)
Ana Triguero (FCRB)

ADMINISTRATIVE STAFF
Laura Alcolea (HCB)
Vanessa Arellano (HCB-FCRB)

STRATEGIC OBJECTIVES

The main strategic objectives of our team are clinical, applied and basic research in haematological oncology.
The team is structured into three study groups of three major disease categories

MAIN LINES OF RESEARCH

1. Lymphoid neoplasms
- Mechanisms of progression.
- Genomic profile of diffuse large cell lymphoma.
- New prognostic models in T cell lymphomas.
- Mechanisms of progression of chronic lymphoid leukemia (CLL).
- Cellular microenvironment in CLL.
- Cellular proliferation in CLL.
- Project for the Chronic Lymphocytic Leukemia (CLL) Genome.

2. Multiple myeloma and other monoclonal gammopathies
- Extramedullary involvement and plasma cell leukemia.
- Immune reconstitution and bone marrow microenvironment in patients in response
- Mechanisms of progression and control in asymptomatic gammopathies.
- Impact of microRNA and other non-coding RNA.
- Cardiac involvement in AL amyloidosis.
- Phase I, II and III clinical trials.

3. Myeloid neoplasms
- Chronic myeloid leukemia (CML): European Registry of CML.
- Philadelphia-negative myeloproliferative neoplasms: Mechanisms of thrombosis; mutational status and prognosis of myelofibrosis.
- Acute myeloid leukemia (AML): Biological prognostic factors; expression of non-coding RNA; treatment protocols for the CETLAM group; impact of molecular markers in transplantation.
- Myelodysplastic syndromes (MDS): cytogenetic and molecular abnormalities and prognosis.
- Phase I, II and III clinical trials for CML, myelofibrosis, AML, ALL and MDS.

RESEARCH GROUP
MYELOMA AND OTHER MONOCLONAL GAMMAPATHIES

GROUP LEADER
Joan Bladé (HCB)

Multiple myeloma and systemic AL amyloidosis. Minimal residual disease, extramedullary involvement in myeloma, cardiac involvement in amyloidosis, and multicentric clinical trials with novel drugs.

GROUP Francisco Cervantes

RESEARCH GROUP
MYELOID NEOPLASMAS

GROUP LEADER
Francisco Cervantes (HCB)

Natural history and prognosis of chronic myeloid leukemia, myeloproliferative neoplasms, acute myeloid leukemia and myelodysplastic syndromes; prognostic importance of newer molecular markers in these diseases; clinical trials with new drugs.

GROUP Carlos Fernández de Larrea Rodríguez

50/50 PROGRAM
MECHANISMS OF PROGRESSION IN MONOCLONAL GAMMOPATHIES

GROUP LEADER
Carlos Fernández de Larrea Rodríguez (HCB-IDIBAPS)

Mechanisms of progression and control in patients with multiple myeloma. Molecular and cellular features of patients with long-lasting stable monoclonal gammopathy of undetermined significance and smoldering myeloma. Oligoclonal response and minimal residual disease in myeloma: impact of immune reconstitution and bone marrow microenvironment. Immunotherapy in monoclonal gammopathies. Clinical trials with novel molecules in myeloma and macroglobulinemia.

RESEARCH GROUP
LYMPHOID NEOPLASMS

GROUP LEADER
Armando López Guillermo (HCB)

Lymphomas, chronic lymphocytic leukemia and the other lymphoproliferative disorders: Study of progression mechanisms of the disease, genome of CLL and lymphoma, minimum residual disease and biological prognostic models.

PUBLICATIONS

Originals / I.F.: 580.188

1. Schmitz R, Wright GW, Huang DW, Johnson CA, Phelan JD, Wang JQ, Roulland S, Kasbekar M, Young RM, Shaffer AL, Hodson DJ, Xiao W, Yu X, Yang Y, Zhao H, Xu W, Liu X, Zhou B, Du W, Chan WC, Jaffe ES, Gascoyne RD, Connors JM, Campo E, Lopez-Guillermo A, Rosenwald A, Ott G, Delabie J, Rimsza LM, Tay Kuang Wei K, Zelenetz AD, Leonard JP, Bartlett NL, Tran B, Shetty J, Zhao Y, Soppet DR, Pittaluga S, Wilson WH, Staudt LM. **Genetics and Pathogenesis of Diffuse Large B-Cell Lymphoma.** *NEW ENGLAND JOURNAL OF MEDICINE.* 378(15):1396-1407. I.F.: 79.260

2. Morschhauser, F.; Fowler, N. H.; Feugier, P.; Bouabdallah, R.; Tilly, H.; Palomba, M. L.; Fruchart, C.; Libby, E. N.; Casasnovas, R-O.; Flinn, I. W.; Haioun, C.; Maisonneuve, H.; Ysebaert, L.; Bartlett, N. L.; Bouabdallah, K.; Brice, P.; Ribrag, V.; Daguindau, N.; Le Gouill, S.; Pica, G. M.; Martin Garcia-Sancho, A.; Lopez-Guillermo, A.; Larouche, J-F.; Ando, K.; Gomes da Silva, M.; Andre, M.; Zachee, P.; Sehn, L. H.; Tobinai, K.; Cartron, G.; Liu, D.; Wang, J.; Xerri, L.; Salles, G. A.;RELEVANCE Trial Investigators. **Rituximab plus Lenalidomide in Advanced Untreated Follicular Lymphoma.** *NEW ENGLAND JOURNAL OF MEDICINE.* 379(10):934-947. I.F.: 79.260

3. Huet S, Tesson B, Jais JP, Feldman AL, Magnano L, Thomas E, Traverse-Glehen A, Albaud B, Carrère M, Xerri L, Ansell SM, Baseggio L, Reyes C, Tarte K, Boyault S, Haioun C, Link BK, Feugier P, Lopez-Guillermo A, Tilly H, Brice P, Hayette S, Jardin F, Offner F, Sujobert P, Gentien D, Viari A, Campo E, Cerhan JR, Salles G. **A gene-expression profiling score for prediction of outcome in patients with follicular lymphoma: a retrospective training and validation analysis in three international cohorts.** LANCET ONCOLOGY. 19(4):549-561. I.F.: 36.421

4. Beekman R, Chapaprieta V, Russiñol N, Vilarrasa-Blasi R, Verdaguer-Dot N, Martens JHA, Duran-Ferrer M, Kulis M, Serra F, Javierre BM, Wingett SW, Clot G, Queirós AC, Castellano G, Blanc J, Gut M, Merkel A, Heath S, Vlasova A, Ullrich S, Palumbo E, Enjuanes A, Martín-García D, Beà S, Pinyol M, Aymerich M, Royo R, Puiggros M, Torrents D, Datta A, Lowy E, Kostadima M, Roller M, Clarke L, Flicek P, Agirre X, Prosper F, Baumann T, Delgado J, López-Guillermo A, Fraser P, Yaspo ML, Guigó R, Siebert R, Martí-Renom MA, Puente XS, López-Otín C, Gut I, Stunnenberg HG, Campo E, Martin-Subero JI. **The reference epigenome and regulatory chromatin landscape of chronic lymphocytic leukemia.** *NATURE MEDICINE.* 24(6):868-880. I.F.: 32.621

5. Gay F., Jackson G., Rosiñol L., Holstein S., Moreau P., Spada S., Davies F., Lahuerta J., Leleu X., Bringhen S., Evangelista A., Hulin C., Panzani U., Cairns D., Di Raimondo F., Macro M., Liberati A., Pawlyn C., Offidani M., Spencer A., Hájek R., Terpos E., Morgan G., Bladé J., Sonneveld P., San-Miguel J., McCarthy P., Ludwig H., Boccadoro M., Mateos M., Attal M. **Maintenance Treatment and Survival in Patients with Myeloma: A Systematic Review and Network Meta-Analysis.** *JAMA ONCOL.* 4(10):1389-1397. I.F.: 20.871

6. Clot G, Jares P, Giné E, Navarro A, Royo C, Pinyol M, Martín-Garcia D, Demajo S, Espinet B, Salar A, Ferrer A, Muntañola A, Aymerich M, Rauert-Wunderlich H, Jaffe ES, Connors JM, Gascoyne RD, Delabie J, López-Guillermo A, Ott G, Wright GW, Staudt LM, Rosenwald A, Scott DW, Rimsza LM, Beà S, Campo E. **A gene signature that distinguishes conventional and leukemic nonnodal mantle cell lymphoma helps predict outcome.** *BLOOD.* 132(4):413-422. I.F.: 15.132

7. Bretones G, Álvarez MG, Arango JR, Rodríguez D, Nadeu F, Prado MA, Valdés-Mas R, Puente DA, Paulo JA, Delgado J, Villamor N, López-Guillermo A, Finley DJ, Gygi SP, Campo E, Quesada V, López-Otín C. **Altered patterns of global protein synthesis and translational fidelity in RPS15-mutated chronic lymphocytic leukemia.** *BLOOD.* 132(22):2375-2388. I.F.: 15.132

8. Ciavarella S, Vegliante MC, Fabbri M, De Summa S, Melle F, Motta G, De Iuliis V, Opinto G, Enjuanes A, Rega S, Gulino A, Agostinelli C, Scattone A, Tommasi S, Mangia A, Mele F, Simone G, Zito AF, Ingravallo G, Vitolo U, Chiappella A, Tarella C, Gianni AM, Rambaldi A, Zinzani PL, Casadei B, Derenzini E, Loseto G, Pileri A, Tabanelli V, Fiori S, Rivas-Delgado A, López-Guillermo A, Venesio T, Sapino A, Campo E, Tripodo C, Guarini A, Pileri SA. **Dissection of DLBCL Microenvironment Provides a Gene Expression-Based Predictor of Survival Applicable to Formalin-Fixed Paraffin-Embedded Tissue.** *ANNALS OF ONCOLOGY.* 29(12):2363-2370. I.F.: 13.930

9. Harrison C., Vannucchi A., Platzbecker U., Cervantes F., Gupta V., Lavie D., Passamonti F., Winton E., Dong H., Kawashima J., Maltzman J., Kiladjian J., Verstovsek S. **Momelotinib versus best available therapy in patients with myelofibrosis previously treated with ruxolitinib (SIMPLIFY 2): A randomised, open-label, phase 3 trial.** *THE LANCET HAEMATOLOGY.* 5(2):E73-E81. I.F.: 10.698

10. Federico, Massimo; Caballero Barrigon, Maria Dolores; Marcheselli, Luigi; Tarantino, Vittoria; Manni, Martina; Sarkozy, Clementine; Alonso-Alvarez, Sara; Wondergem, Marielle; Cartron, Guillaume; Lopez-Guillermo, Armando; Issa, Djamila; Morschhauser, Franck; Alcoceba, Miguel; Kimby, Eva; Rusconi, Chiara; Chamuleau, Martine; Holte, Harald; Lockmer, Sandra; Montoto, Silvia; da Silva, Maria Gomes; Aurer, Igor; Zucca, Emanuele; Paszkiewicz-Kozik, Ewa; Minoia, Carla; Skrypets, Tetiana; Blaker, Yngvild Nuvin; Salles, Gilles; Coiffier, Bertrand; Aristotle Consortium. **Rituximab and the risk of transformation of follicular lymphoma: a retrospective pooled analysis.** *THE LANCET HAEMATOLOGY.* 5(8):E359-E367. I.F.: 10.698

11. Nadeu F, Clot G, Delgado J, Martín-García D, Baumann T, Salaverria I, Beà S, Pinyol M, Jares P, Navarro A, Suárez-Cisneros H, Aymerich M, Rozman M, Villamor N, Colomer D, González M, Alcoceba M, Terol MJ, Navarro B, Colado E, Payer ÁR, Puente XS, López-Otín C, López-Guillermo A, Enjuanes A, Campo E. **Clinical impact of the subclonal architecture and mutational complexity in chronic lymphocytic leukemia.** *LEUKEMIA.* 32(3):645-653. I.F.: 10.023

12. Karube K, Enjuanes A, Dlouhy I, Jares P, Martin-Garcia D, Nadeu F, Ordóñez GR, Rovira J, Clot G, Royo C, Navarro A, Gonzalez-Farre B, Vaghefi A, Castellano G, Rubio-Perez C, Tamborero D, Briones J, Salar A, Sancho JM, Mercadal S, Gonzalez-Barca E, Escoda L, Miyoshi H, Ohshima K, Miyawaki K, Kato K, Akashi K, Mozos A, Colomo L, Alcoceba M, Valera A, Carrió A, Costa D, Lopez-Bigas N, Schmitz R, Staudt LM, Salaverria I, López-Guillermo A, Campo E. **Integrating genomic alterations in diffuse large B-cell lymphoma identifies new relevant pathways and potential therapeutic targets.** *LEUKEMIA.* 32(3):675-684. I.F.: 10.023

13. De Larrea C., Isola I., Pereira A., Cibeira M., Magnano L., Tovar N., Rodríguez-Lobato L., Calvo X., Aróstegui J., Díaz T., Lozano E., Rozman M., Yagüe J., Bladé J., Rosiñol L.. **Evolving M-protein pattern in patients with smoldering multiple myeloma: impact on early progression.** *LEUKEMIA.* 32(6):1427-1434. I.F.: 10.023

14. Hernández-Boluda J., Pereira A., Correa J.,

Alvarez-Larrán A., Ferrer-Marín F., Raya J., Martínez-López J., Pérez-Encinas M., Estrada N., Velez P., Fox M., García-Gutiérrez V., Payer A., Kerguelen A., Cuevas B., Durán M., Ramírez M., Gómez-Casares M., Mata-Vázquez M., Mora E., Martínez-Valverde C., Gómez M., Cervantes F. **Performance of the myelofibrosis secondary to PV and ET-prognostic model (MYSEC-PM) in a series of 262 patients from the Spanish registry of myelofibrosis.** *LEUKEMIA.* 32(2):553-555. I.F.: 10.023

15. Arana P, Paiva B, Cedena MT, Puig N, Cordon L, Vidriales MB, Gutierrez NC, Chiodi F, Burgos L, Anglada LL, Martinez-Lopez J, Hernandez MT, Teruel AI, Gironella M, Echeveste MA, Rosiñol L, Martinez R, Oriol A, De la Rubia J, Orfao A, Blade J, Lahuerta JJ, Mateos MV, San Miguel JF. **Prognostic value of antigen expression in multiple myeloma: a PETHEMA/GEM study on 1265 patients enrolled in four consecutive clinical trials.** *LEUKEMIA.* 32(4):971-978. I.F.: 10.023

16. Rodríguez-Otero P., Mateos M., Martínez-López J., Martín-Calvo N., Hernández M., Ocio E., Rosiñol L., Martínez R., Teruel A., Gutiérrez N., Bargay J., Bengoechea E., González Y., de Oteyza J., Gironella M., Encinas C., Martín J., Cabrera C., Palomera L., de Arriba F., Cedena M., Paiva B., Puig N., Oriol A., Bladé J., Lahuerta J., San Miguel J. **Early myeloma-related death in elderly patients: development of a clinical prognostic score and evaluation of response sustainability role.** *LEUKEMIA.* 32(11):1-8. I.F.: 10.023

17. Poiré X, Labopin M, Polge E, Passweg J, Craddock C, Blaise D, Cornelissen JJ, Volin L, Russell NH, Socié G, Michallet M, Fegueux N, Chevallier P, Brecht A, Hunault-Berger M, Mohty M, Esteve J, Nagler A. **Allogeneic stem cell transplantation benefits for patients ≥ 60 years with acute myeloid leukemia and FLT3-ITD; a study from the Acute Leukemia Working Party (ALWP) of the European Society of Blood and Marrow Transplantation (EBMT).** *HAEMATOLOGICA.* 103(2):256-265. I.F.: 9.090

18. Mora B, Giorgino T, Guglielmelli P, Rumi E, Maffioli M, Rambaldi A, Caramella M, Komrokji R, Gotlib J, Kiladjian JJ, Cervantes F, Devos T, Palandri F, De Stefano V, Ruggeri M, Silver RT, Benevolo G, Albano F, Cavalloni C, Barraco D, Merli M, Pietra D, Casalone R, Barbui T, Rotunno G, Cazzola M, Vannucchi AM, Passamonti F. **Value of cytogenetic abnormalities in post-polycythemia vera and post-essential thrombocythemia myelofibrosis: a study of the MYSEC project.** *HAEMATOLOGICA.* 103(9):e392-e394. I.F.: 9.090

19. Ruiz-Heredia Y, Sánchez-Vega B, Onecha E, Barrio S, Alonso R, Martínez-Ávila JC, Cuenca I, Agirre X, Braggio E, Hernández MT, Martínez R, Rosiñol L, Gutierrez N, Martin-Ramos M, Ocio EM, Echeveste MA, de Oteyza JP, Oriol A, Bargay J, Gironella M, Ayala R, Bladé J, Mateos MV, Kortum KM, Stewart K, García-Sanz R, Miguel JS, Lahuerta JJ, Martinez-Lopez J. **Mutational screening of newly diagnosed multiple myeloma patients by deep targeted sequencing.** *HAEMATOLOGICA.* 103(11):e544-e548. I.F.: 9.090

20. San-Miguel J., Gutierrez M., Špicka I., Mateos M., Song K., Craig M., Bladé J., Hájek R., Chen C., Di Bacco A., Estevam J., Gupta N., Byrne C., Lu V., Van De Velde H., Lonial S. **A phase I/II dose-escalation study investigating all-oral ixazomib-melphalanprednisone induction followed by single-agent ixazomib maintenance in transplant-ineligible newly diagnosed multiple myeloma.** *HAEMATOLOGICA.* 103(9):1518-1526. I.F.: 9.090

21. Misiewicz-Krzeminska I, Corchete L, Rojas E, Martínez-López J, García-Sanz R, Oriol A, Bladé J, Lahuerta J, Miguel J, Mateos M, Gutiérrez N. **A novel nano-immunoassay method for quantification of proteins from CD138-purified myeloma cells: Biological and clinical utility.** *HAEMATOLOGICA.* 103(5):880-889. I.F.: 9.090

22. Mozas P, Rivas-Delgado A, Baumann T, Villamor N, Ortiz-Maldonado V, Aymerich M, Costa D, Navarro A, Giné E, López-Guillermo A, Montserrat E, Delgado J. **Analysis of criteria for treatment initiation in patients with progressive chronic lymphocytic leukemia.** *BLOOD CANCER JOURNAL.* 8(1):10. I.F.: 8.125

23. Hernández-Boluda JC, Pereira A, Pastor-Galán I, Alvarez-Larrán A, Savchuk A, Puerta JM, Sánchez-Pina JM, Collado R, Díaz-González A, Angona A, Sagüés M, García-Gutiérrez V, Boqué C, Osorio S, Vallansot R, Palomera L, Mendizábal A, Casado LF, Pérez-Encinas M, Pérez-López R, Ferrer-Marín F, Sánchez-Guijo F, García C, Heras NL, López-Lorenzo JL, Cervantes F, Steegmann JL, Grupo Español de Leucemia Mieloide Crónica (GELMC). **Feasibility of treatment discontinuation in chronic myeloid leukemia in clinical practice: results from a nationwide series of 236 patients.** *BLOOD CANCER JOURNAL.* 8(10):91. I.F.: 8.125

24. Barraco D., Mora B., Guglielmelli P., Rumi E., Maffioli M., Rambaldi A., Caramella M., Komrokji R., Gotlib J., Kiladjian J., Cervantes F., Devos T., Palandri F., De Stefano V., Ruggeri M., Silver R., Benevolo G., Albano F., Merli M., Pietra D., Barbui T., Rotunno G., Cazzola M., Giorgino T., Vannucchi A., Passamonti F. **Gender effect on phenotype and genotype in patients with post-polycythemia vera and post-essential thrombocythemia myelofibrosis: results from the MYSEC project.** *BLOOD CANCER JOURNAL.* 8(10):89. I.F.: 8.125

25. De Stefano, Valerio; Carobbio, Alessandra; Di Lazzaro, Vincenzo; Guglielmelli, Paola; Iurlo, Alessandra; Finazzi, Maria Chiara; Rumi, Elisa; Cervantes, Francisco; Elli, Elena Maria; Randi, Maria Luigia; Griesshammer, Martin; Palandri, Francesca; Bonifacio, Massimiliano; Hernandez-Boluda, Juan-Carlos; Cacciola, Rossella; Miroslava, Palova; Carli, Giuseppe; Beggiato, Eloise; Ellis, Martin H.; Musolino, Caterina; Gaidano, Gianluca; Rapezzi, Davide; Tieghi, Alessia; Lunghi, Francesca; Loscocco, Giuseppe Gaetano; Cattaneo, Daniele; Cortelezzi, Agostino; Betti, Silvia; Rossi, Elena; Finazzi, Guido; Censori, Bruno; Cazzola, Mario; Bellini, Marta; Arellano-Rodrigo, Eduardo; Bertozzi, Irene; Sadjadian, Parvis; Vianelli, Nicola; Scaffidi, Luigi; Gomez, Montse; Cacciola, Emma; Vannucchi, Alessandro M.; Barbui, Tiziano. **Benefit-risk profile of cytoreductive drugs along with antiplatelet and antithrombotic therapy after transient ischemic attack or ischemic stroke in myeloproliferative neoplasms.** *BLOOD CANCER JOURNAL.* 8(3):25. I.F.: 8.125

26. Esteve-Arenys A., Valero J., Chamorro-Jorganes A., Gonzalez D., Rodriguez V., Dlouhy I., Salaverria I., Campo E., Colomer D., Martinez A., Rymkiewicz G., Pérez-Galán P., Lopez-Guillermo A., Roué G. **The BET bromodomain inhibitor CPI203 overcomes resistance to ABT-199 (venetoclax) by downregulation of BFL-1/A1 in in vitro and in vivo models of MYC+/BCL2+ double hit lymphoma.** *ONCOGENE.* 37(14):1830-1844. I.F.: 6.854

27. Ciurea SO, Labopin M, Socie G, Volin L, Passweg J, Chevallier P, Beelen D, Milpied N, Blaise D, Cornelissen JJ, Fegueux N, Polge E, Kongtim P, Rondon G, Esteve J, Mohty M, Savani BN, Champlin RE, Nagler A. **Relapse and survival after transplantation for complex karyotype acute myeloid leukemia: A report from the Acute Leukemia Working Party of the European Society for Blood and Marrow Transplantation and the University of Texas MD Anderson Cancer**

Center. *CANCER.* 124(10):2134-2141. I.F.: 6.537

28. Espígol-Frigolé G., Planas-Rigol E., Lozano E., Corbera-Bellalta M., Terrades-García N., Prieto-González S., García-Martínez A., Hernández-Rodríguez J., Grau J., Cid M. **Expression and function of IL12/23 related cytokine subunits (p35, p40, and p19) in giant-cell arteritis lesions: Contribution of p40 to Th1-and Th17-mediated inflammatory pathways.** *FRONTIERS IN IMMUNOLOGY.* 9(809):809. I.F.: 5.511

29. Lazarevic VL, Labopin M, Depei W, Yakoub-Agha I, Huynh A, Ljungman P, Schaap N, Cornelissen JJ, Maillard N, Pioltelli P, Gedde-Dahl T, Lenhoff S, Houhou M, Esteve J, Mohty M, Nagler A. **Relatively favorable outcome after allogeneic stem cell transplantation for BCR-ABL1-positive AML: A survey from the acute leukemia working party of the European Society for blood and marrow transplantation (EBMT).** *AMERICAN JOURNAL OF HEMATOLOGY.* 93(1):31-39. I.F.: 5.303

30. Lorentino F., Labopin M., Bernardi M., Ciceri F., Socié G., Cornelissen J., Esteve J., Ruggeri A., Volin L., Yacoub-Agha I., Craddock C., Passweg J., Blaise D., Gedde-Dahl T., Poiani M., Fegueux N., Mohty M., Nagler A. **Comparable outcomes of haploidentical, 10/10 and 9/10 unrelated donor transplantation in adverse karyotype AML in first complete remission.** *AMERICAN JOURNAL OF HEMATOLOGY.* 93(10):1236-1244. I.F.: 5.303

31. Ortiz-Maldonado V, Villamor N, Baumann T, Aymerich M, Magnano L, Mozas P, Rivas-Delgado A, Martínez-Trillos A, Giné E, Campo E, López-Guillermo A, Delgado J. **Is there a role for minimal residual disease monitoring in the management of patients with hairy-cell leukaemia?** *BRITISH JOURNAL OF HAEMATOLOGY.* 183(1):127-129. I.F.: 5.128

32. Hernández-Boluda JC, Correa JG, Alvarez-Larrán A, Ferrer-Marín F, Raya JM, Martínez-López J, Velez P, Pérez-Encinas M, Estrada N, García-Gutiérrez V, Fox ML, Luño E, Kerguelen A, Cuevas B, Durán MA, Ramírez MJ, Gómez-Casares M, Mata-Vázquez MI, Regadera A, Pereira A, Cervantes F, Grupo Español de Enfermedades Mieloproliferativas Filadelfia Negativas (GEMFIN). **Clinical characteristics, prognosis and treatment of myelofibrosis patients with severe thrombocytopenia.** *BRITISH JOURNAL OF HAEMATOLOGY.* 181(3):386-417. I.F.: 5.128

33.-de la Guardia R., Correa J., López-Millán B., Juan M., Bueno C., Cervantes F., Menéndez P. **Detection of inflammatory monocytes but not mesenchymal stem/stromal cells in peripheral blood of patients with myelofibrosis.** *BRITISH JOURNAL OF HAEMATOLOGY.* 181(1):133-137. I.F.: 5.128

34. Montalban, Carlos; Diaz-Lopez, Antonio; Martin, Alejandro; Baile, Monica; Sanchez, Jose M.; Sancho, Juan M.; Garcia, Olga; Novelli, Silvana; Monter-Rovira, Anna; Salar, Antonio; Bastos, Mariana; Gutierrez, Antonio; Bento, Leyre; Corboda, Raul; Arquero, Teresa; Gonzalez de Villambrosia, Sonia; Barranco, Gilberto; De Ona, Raquel; Lopez Guillermo, Armando; Rodriguez Salazar, Maria J.; Dominguez, Juan F.; Fernandez, Ruben; Queizan, Jose A.; Rodriguez, Jose; Abraira, Victor; Garcia, Juan F.;GELTAMO-IPI Project Investigators. **Differential prognostic impact of GELTAMO-IPI in cell of origin subtypes of Diffuse Large B Cell Lymphoma as defined by the Hans algorithm.** *BRITISH JOURNAL OF HAEMATOLOGY.* 182(4):534-541. I.F.: 5.128

35. Lozano E, Díaz T, Mena MP, Suñe G, Calvo X, Calderón M, Pérez-Amill L, Rodríguez V, Pérez-Galán P, Roué G, Cibeira MT, Rosiñol L, Isola I, Rodríguez-Lobato LG, Martin-Antonio B, Bladé J, Fernández de Larrea C. **Loss of the Immune Checkpoint CD85j/LILRB1 on Malignant Plasma Cells Contributes to Immune Escape in Multiple Myeloma.** *JOURNAL OF IMMUNOLOGY.* 200(8):2581-2591. I.F.: 4.539

36. Gutiérrez-García G., Rovira M., Magnano L., Rosiñol L., Bataller A., Suárez-Lledó M., Cibeira M., de Larrea C., Garrote M., Jorge S., Moreno A., Rodríguez-Lobato L., Carreras E., Díaz-Ricart M., Palomo M., Martínez C., Urbano-Ispizua A., Bladé J., Fernández-Avilés F. **Innovative strategies minimize engraftment syndrome in multiple myeloma patients with novel induction therapy following autologous hematopoietic stem cell transplantation.** *BONE MARROW TRANSPLANTATION.* 53(12):1541-1547. I.F.: 4.497

37. Halaburda K, Labopin M, Houhou M, Niederwieser D, Finke J, Volin L, Maertens J, Cornelissen JJ, Milpied N, Stuhler G, Kröger N, Esteve J, Mohty M, Nagler A. **AlloHSCT for inv(3)(q21;q26)/t(3;3)(q21;q26) AML: a report from the acute leukemia working party of the European society for blood and marrow transplantation.** *BONE MARROW TRANSPLANTATION.* 53(6):683-691. I.F.: 4.497

38. Jiménez-Ubieto A., Grande C., Caballero D., Yáñez L., Hernández-Garcia M., Novelli S., Arranz R., Ferreiro J., Bobillo S., Mercadal S., Galeo A., Jiménez J., Moraleda J., Vallejo C., Albo C., Pérez E., Marrero C., Magnano L., Palomera L., Jarque I., Martínez-Sánchez P., Martín A., Coria E., López-Guillermo A., Salar A., Lahuerta J. **Secondary malignancies and survival outcomes after autologous stem cell transplantation for follicular lymphoma in the pre-rituximab and rituximab eras: a long-term follow-up analysis from the Spanish GELTAMO registry.** *BONE MARROW TRANSPLANTATION.* 53(6):780-783. I.F.: 4.497

39. Suárez-Lledó M, Martínez-Cibrián N, Gutiérrez-García G, Dimova-Svetoslavova V, Marcos MA, Martín-Antonio B, Martínez-Trillos A, Villamor N, Rosiñol L, Martínez C, Fernández-Avilés F, García-Vidal C, Urbano-Ispizua Á, Rovira M. **Deleterious Effect of Steroids on Cytomegalovirus Infection Rate after Allogeneic Stem Cell Transplantation Depends on Pretransplant Cytomegalovirus Serostatus of Donors and Recipients.** *BIOLOGY OF BLOOD AND MARROW TRANSPLANTATION.* 24(10):2088-2093. I.F.: 4.484

40. Jorge A., Suárez-Lledó M., Pereira A., Gutierrez G., Fernández-Avilés F., Rosiñol L., Llobet N., Solano T., Urbano-Ispízua Á., Rovira M., Martínez C. **Single Antigen-Mismatched Unrelated Hematopoietic Stem Cell Transplantation Using High-Dose Post-Transplantation Cyclophosphamide Is a Suitable Alternative for Patients Lacking HLA-Matched Donors.** *BIOLOGY OF BLOOD AND MARROW TRANSPLANTATION.* 24(6):1196-1202. I.F.: 4.484

41. Bermejo M, Ambrosioni J, Bautista G, Climent N, Mateos E, Rovira C, Rodríguez-Mora S, López-Huertas MR, García-Gutiérrez V, Steegmann JL, Duarte R, Cervantes F, Plana M, Miró JM, Alcamí J, Coiras M. **Evaluation of resistance to HIV-1 infection ex vivo of PBMCs isolated from patients with chronic myeloid leukemia treated with different tyrosine kinase inhibitors.** *BIOCHEMICAL PHARMACOLOGY.* 156:248-264. I.F.: 4.235

42. Tovar N, Rodríguez-Lobato LG, Cibeira MT, Magnano L, Isola I, Rosiñol L, Bladé J, Fernández de Larrea C. **Bone marrow plasma cell infiltration in light chain amyloidosis: impact on organ involvement and outcome.** *AMYLOID : THE INTERNATIONAL*

JOURNAL OF EXPERIMENTAL AND CLINICAL INVESTIGATION. 25(2):79-85. I.F.: 4.048

43. Jiménez-Ubieto A, Grande C, Caballero D, Yáñez L, Novelli S, Hernández-Garcia MT, Manzanares M, Arranz R, Ferreiro JJ, Bobillo S, Mercadal S, Galeo A, Jiménez JL, Moraleda JM, Vallejo C, Albo C, Pérez E, Marrero C, Magnano L, Palomera L, Jarque I, Martínez-Sánchez P, Martín A, Coria E, López-Guillermo A, Salar A, Lahuerta JJ, GELTAMO (Grupo Español de Linfomas y Trasplantes de Médula Ósea) Cooperative Study Group. **Autologous stem cell transplantation may be curative for patients with follicular lymphoma with early therapy failure who reach complete response after rescue treatment.** *HEMATOLOGICAL ONCOLOGY.* 36(5):765-772. I.F.: 3.193

44. Alvarez-Larran A., Martínez D., Arenillas L., Rubio A., Arellano-Rodrigo E., Boluda J., Papaleo N., Caballero G., Martínez C., Ferrer-Marín F., Mata M., Pérez-Encinas M., Durán M., Alonso J., Carreño-Tarragona G., Noya S., Magro E., Pérez R., López-Guerra M., Pastor-Galán I., Cervantes F., Besses C., Colomo L., Rozman M. **Essential thrombocythaemia with mutation in MPL: Clinicopathological correlation and comparison with JAK 2V617F-mutated and CALR- mutated genotypes.** *JOURNAL OF CLINICAL PATHOLOGY - CLINICAL MOLECULAR PATHOLOGY.* 71(11):975-980. I.F.: 2.894

45. Hernández-Boluda J., Pereira A., Correa J., Alvarez-Larrán A., Ferrer-Marín F., Raya J., Martínez-López J., Velez P., Pérez-Encinas M., Estrada N., García-Gutiérrez V., Fox M., Payer A., Kerguelen A., Cuevas B., Durán M., Ramírez M., Gómez-Casares M., Mata-Vázquez M., Mora E., Gómez M., Cervantes F. **Prognostic risk models for transplant decision-making in myelofibrosis.** *ANNALS OF HEMATOLOGY.* 97(5):813-820. I.F.: 2.845

46. Bobillo S., Abrisqueta P., Sánchez-González B., Giné E., Romero S., Alcoceba M., González-Barca E., González de Villambrosía S., Sancho J., Gómez P., Bento L., Montoro J., Montes S., López A., Bosch F. **Posttransplant monomorphic Burkitt's lymphoma: clinical characteristics and outcome of a multicenter series.** *ANNALS OF HEMATOLOGY.* 97(12):2417-2424. I.F.: 2.845

47. Garcia-Vidal C, Cardozo-Espinola C, Puerta-Alcalde P, Marco F, Tellez A, Agüero D, Romero-Santana F, Díaz-Beyá M, Giné E, Morata L, Rodríguez-Núñez O, Martinez JA, Mensa J, Esteve J, Soriano A. **Risk factors for mortality in patients with acute leukemia and bloodstream infections in the era of multiresistance.** *PLOS ONE.* 13(6):e0199531. I.F.: 2.766

48. Banús-Mulet A., Etxabe A., Cornet-Masana J., Torrente M., Lara-Castillo M., Palomo L., Nomdedeu M., Díaz-Beyá M., Solé F., Nomdedeu B., Esteve J., Risueño R. **Serotonin receptor type 1B constitutes a therapeutic target for MDS and CMML.** *PLOS ONE.* 8(1):13883. I.F.: 2.766

49. Lopez-Anglada L; Cueto-Felgueroso C; Rosinol L; Oriol A; Teruel AI; Lopez De La Guia A; Bengoechea E; Palomera L; de Arriba F; Hernandez JM; Granell M; Penalver FJ; Garcia-Sanz R; Besalduch J; González Y; Martinez RB; Hernández MT; Gutierrez NC; Puerta P; Valeri A; Paiva B; Blade J; Mateos MV; San Miguel J; Lahuerta JJ; Martinez-Lopez J; GEM (Grupo Español de MM)/PETHEMA (Programa para el Estudio de la Terapéutica en Hemopatías Malignas) Cooperative Study Group. **Prognostic utility of serum free light chain ratios and heavy-light chain ratios in multiple myeloma in three PETHEMA/GEM phase III clinical trials.** *PLOS ONE.* 13(9):e0203392. I.F.: 2.766

50. Martínez-Trillos A., Pinyol M., Delgado J., Aymerich M., Rozman M., Baumann T., González-Díaz M., Hernández J., Alcoceba M., Muntañola A., Terol M., Navarro B., Giné E., Jares P., Beà S., Navarro A., Colomer D., Nadeu F., Colado E., Payer A., García-Cerecedo T., Puente X., López-Otin C., Campo E., López-Guillermo A., Villamor N. **The mutational landscape of small lymphocytic lymphoma compared to non-early stage chronic lymphocytic leukemia.** *LEUKEMIA AND LYMPHOMA.* 59(10):2318-2326. I.F.: 2.644

51. Solé C, Martínez D, Giné E, Gonzalez-Farre B, Pérez-Galán P, Roncador G, Campo E, Matutes E, López-Guillermo A, Roué G, Martínez A. **Expression of a truncated B lymphocyte-induced maturation protein-1 isoform is associated with an incomplete plasmacytic differentiation program in chronic lymphocytic leukemia.** *LEUKEMIA AND LYMPHOMA.* 59(2):482-485. I.F.: 2.644

52. Torrebadell M; Díaz-Beyá M; Kalko SG; Pratcorona M; Nomdedéu J; Navarro A; Gel B; Brunet S; Sierra J; Camos M; Esteve J. **A 4-gene expression prognostic signature might guide post-remission therapy in patients with intermediate-risk cytogenetic acute myeloid leukemia.** *LEUKEMIA AND LYMPHOMA.* 59(10):2394-2404. I.F.: 2.644

53. Guillem V, Calabuig M, Brunet S, Esteve J, Escoda L, Gallardo D, Ribera JM, Queipo de Llano MP, Arnan M, Pedro C, Amigo ML, Martí-Tutusaus JM, García-Guiñón A, Bargay J, Sampol A, Salamero O, Font L, Talarn C, Hoyos M, Díaz-Beyá M, Garrido A, Navarro B, Nomdédeu J, Sierra J, Tormo M. **Bone marrow VEGFC expression is associated with multilineage dysplasia and several prognostic markers in adult acute myeloid leukemia, but not with survival.** *LEUKEMIA AND LYMPHOMA.* 59(10):1-11. I.F.: 2.644

54. González-Gascón Y Marín I, Hernández-Sanchez M, Rodríguez-Vicente AE, Puiggros A, Collado R, Luño E, González T, Ruiz-Xivillé N, Ortega M, Gimeno E, Muñoz C, Infante MS, Delgado J, Vargas MT, González M, Bosch F, Espinet B, Hernández-Rivas JM, Grupo Español de Leucemia Linfática Crónica (GELLC) and Grupo Cooperativo Español de Citogenética Hematológica (GCECGH). **Characterizing patients with multiple chromosomal aberrations detected by FISH in chronic lymphocytic leukemia.** *LEUKEMIA AND LYMPHOMA.* 59(3):633-642. I.F.: 2.644

55. Fernández-Galán E., Massana N., Parra-Robert M., Hidalgo S., Casals G., Esteve J., Jiménez W. **Validation of a routine gas chromatography mass spectrometry method for 2-hydroxyglutarate quantification in human serum as a screening tool for detection of idh mutations.** *JOURNAL OF CHROMATOGRAPHY B: ANALYTICAL TECHNOLOGIES IN THE BIOMEDICAL AND LIFE SCIENCES.* 1083:28-34. I.F.: 2.441

56. Blade J, Calleja MÁ, Lahuerta JJ, Poveda JL, de Paz HD, Lizán L. **Defining a set of standardised outcome measures for newly diagnosed patients with multiple myeloma using the Delphi consensus method: the IMPORTA project.** *BMJ OPEN.* 8(2):e018850. I.F.: 2.413

57. Mora, Barbara; Giorgino, Toni; Guglielmelli, Paola; Rumi, Elisa; Maffioli, Margherita; Rambaldi, Alessandro; Caramella, Marianna; Komrokji, Rami; Gotlib, Jason; Kiladjian, Jean Jacques; Cervantes, Francisco; Devos, Timothy; Palandri, Francesca; de Stefano, Valerio; Ruggeri, Marco; Silver, Richard T.; Benevolo, Giulia; Albano, Francesco; Cavalloni, Chiara; Barraco, Daniela; Pietra, Daniela; Barbui, Tiziano; Rotunno, Giada; Vannucchi, Alessandro Maria; Passamonti, Francesco. **Phenotype variability of patients**

with post polycythemia vera and post essential thrombocythemia myelofibrosis is associated with the time to progression from polycythemia vera and essential thrombocythemia. *LEUKEMIA RESEARCH.* 69:100-102. I.F.: 2.319

58. Wong S., Hegenbart U., Palladini G., Shah G., Landau H., Warner M., Toskic D., Jaccard A., Hansen T., Bladé J., Cibeira M., Kastritis E., Dispenzieri A., Wechalekar A., Varga C., Schönland S., Comenzo R. **Outcome of Patients With Newly Diagnosed Systemic Light-Chain Amyloidosis Associated With Deletion of 17p.** *CLINICAL LYMPHOMA, MYELOMA AND LEUKEMIA.* 18(11):e493-e499. I.F.: 2.308

Review / I.F.: 61.923

1. Bladé J., Rosiñol L., Teresa Cibeira M., De Larrea C. **Treatment of relapsed myeloma in a patient with renal insufficiency.** *JOURNAL OF CLINICAL ONCOLOGY.* 36(20):2012-2016. I.F.: 26.360

2. Barbui T., Tefferi A., Vannucchi A., Passamonti F., Silver R., Hoffman R., Verstovsek S., Mesa R., Kiladjian J., Hehlmann R., Reiter A., Cervantes F., Harrison C., Mc Mullin M., Hasselbalch H., Koschmieder S., Marchetti M., Bacigalupo A., Finazzi G., Kroeger N., Griesshammer M., Birgegard G., Barosi G. **Philadelphia chromosome-negative classical myeloproliferative neoplasms: revised management recommendations from European LeukemiaNet.** LEUKEMIA. 32(5):1057-1069. I.F.: 10.023

3. Ludwig H, Delforge M, Facon T, Einsele H, Gay F, Moreau P, Avet-Loiseau H, Boccadoro M, Hajek R, Mohty M, Cavo M, Dimopoulos M, San-Miguel J, Terpos E, Zweegman S, Garderet L, Mateos M, Cook G, Leleu X, Goldschmidt H, Jackson G, Kaiser M, Weisel K, Van De Donk N, Waage A, Beksac M, Mellqvist U, Engelhardt M, Caers J, Driessen C, Bladé J, Sonneveld P. **Prevention and management of adverse events of novel agents in multiple myeloma: A consensus of the European Myeloma Network.** *LEUKEMIA.* 32(7):1542-1560. I.F.: 10.023

4. Caers J, Paiva B, Zamagni E, Leleu X, Bladé J, Kristinsson SY, Touzeau C, Abildgaard N, Terpos E, Heusschen R, Ocio E, Delforge M, Sezer O, Beksac M, Ludwig H, Merlini G, Moreau P, Zweegman S, Engelhardt M, Rosiñol L. **Diagnosis, treatment, and response assessment in solitary plasmacytoma: updated recommendations from a European Expert Panel.** *JOURNAL OF HEMATOLOGY AND ONCOLOGY.* 11(1):10-10. I.F.: 7.333

5. Giebel S., Marks D., Boissel N., Baron F., Chiaretti S., Ciceri F., Cornelissen J., Doubek M., Esteve J., Fielding A., Foa R., Gorin N., Gökbuget N., Hallböök H., Hoelzer D., Paravichnikova E., Ribera J., Savani B., Rijneveld A., Schmid C., Wartiovaara-Kautto U., Mohty M., Nagler A., Dombret H. **Hematopoietic stem cell transplantation for adults with Philadelphia chromosome-negative acute lymphoblastic leukemia in first remission: a position statement of the European Working Group for Adult Acute Lymphoblastic Leukemia (EWALL) and the Acute Leukemia Working Party of the European Society for Blood and Marrow Transplantation (EBMT).** *BONE MARROW TRANSPLANTATION.* I.F.: 4.497

6. Castella M., de Larrea C., Martín-Antonio B. **Immunotherapy: A Novel Era of Promising Treatments for Multiple Myeloma.** *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES.* 19(11):3613. I.F.: 3.687

Letters / I.F.: 27.799

1. Bladé J, Cibeira MT. **M-protein-related disorders: MGCS**. *BLOOD.* 132(14):1464-1465. I.F.: 15.132

2. Fernández de Larrea C., Isola I., Pereira A., Cibeira M., Bladé J., Rosiñol L.. **The pattern of the M-protein in smoldering myeloma over the time: an evolving risk factor.** *LEUKEMIA.* 32(9):2082-2083. I.F.: 10.023

3. Muchtar E., Bladé J., Gertz M. **Testicular plasmacytoma: unique location or circumstantial presentation?** *LEUKEMIA AND LYMPHOMA.* 59(8):1769-1771. I.F.: 2.644

Case Reports / I.F.: 6.129

1. Podlipnik S., Guijarro F., Combalia A., To-Figueras J., Badenas C., Costa D., Rozman M., Jorge S., Aguilera P., Gaya A. **Acquired erythropoietic uroporphyria secondary to myelodysplastic syndrome with chromosome 3 alterations: A case report.** *BRITISH JOURNAL OF DERMATOLOGY.* 179(2):486-490. I.F.: 6.129

GRANTS FOR RESEARCH IN PROGRESS

Delgado J. **Estudio piloto de la infusión de linfocitos T autólogos modificados genéticamente para expresar anti-CD19 en pacientes con leucemia o linfoma CD19+ resistente o refractario a tratamiento.**
Sponsored by: Instituto de Salud Carlos III (ISCIII)
ICI 14/00122
Duration: 01/01/2015-31/12/2018

Delgado J. **Rol de los nuevos fármacos en la optimización del efecto antitumoral del tratamiento mediante linfocitos T con receptores antigénicos quiméricos anti CD19 (CART19) en leucemia linfática crónica.**
Sponsored by: Fundación Española de Hematología y Hemoterapia (FEHH).
BECAS17_02
Duration: 01/03/2018-31/12/2018

Esteve J. **Estudio post-autorización prospectivo de terapia adaptada al riesgo en la leucemia mieloide aguda y síndromes mielodisplásicos de alto riesgo: importancia del perfil genómico y de la enfermedad residual mínima en la asignación del tratamiento.**
Sponsored by: Generalitat de Catalunya. PERIS (SLT002/16/00433)
Duration: 27/03/2017-31/12/2019

Esteve J. **Caracterización genética de la leucemia mieloblástica aguda de riesgo citogenético intermedio y genotipo NPM1/CEBPA/FLT3-ITD triple negativo; análisis mutacional, expresión de lncRNAs.**
Sponsored by: Instituto de Salud Carlos III (ISCIII).
PI16/01027
Duration: 01/01/2017-31/12/2019

Fernández de Larrea C. **Mecanismos de control inmunológico involucrados en la progresión tras tratamiento en el mieloma multiple.**
Sponsored by: Instituto de Salud Carlos III (ISCIII).
PI16/00423
Duration: 01/01/2017-31/12/2019

Fernández de Larrea C. **Reposicionamiento de la Doxiciclina en el tratamiento de la amiloidosis AL cardiaca.**
Sponsored by: Instituto de Salud Carlos III (ISCIII).
AC16/00058
Duration: 01/01/2017-31/12/2019

Fernández de Larrea C. **ReDox: Repurposing doxycycline in the treatment of cardiac AL**

amyloidosis.
Sponsored by: European Commission.
E-RARE_JTC_2016
Duration: 01/05/2017-30/04/2020

López A. **Estudio longitudinal del perfil mutacional del linfoma difuso de células grandes mediante técnicas de biopsia líquida. Significado biológico e impacto clínico.**
Sponsored by: Instituto de Salud Carlos III (ISCIII)
PI16/00420
Duration: 01/01/2017-31/12/2019

López A. **Sequential assessment of the mutational landscape of follicular lymphoma in different clinical situations, including late relapse, early failure and histological transformation.**
Sponsored by: GILEAD SCIENCES.
GLD17/00197
Duration: 11/12/2017-31/12/2018

DOCTORAL THESES

Esteve J, Camós M. **Análisis del valor pronóstico del perfil de expresión génica en la leucemia mieloblástica aguda de riesgo citogenético intermedio según la opción terapéutica post-remisión.**
PhD student: Montserrat Torrebadell Burriel

Fernández De Larrea C, Bladé J. **Factores pronóstico en pacientes con amiloidosis sistémica por cadenas ligeras.**
PhD student: Luis Gerardo Rodríguez Lobato

López Guillermo A. **Estudio de factores clínico-biológicos relacionados con el microambiente, la transformación histológica y la respuesta al tratamiento en pacientes con linfoma folicular.**
PhD student: Laura Magnano Mayer

Nomdedeu B. **Valoració pronòstica de les síndromes mielodisplàstiques i de la leucèmia mielomonocítica crònica.**
PhD student: Xavier Calvo González

5.8 Physiopathology and molecular bases in hematology

LOCATION
CEK building, floor 2

KEYWORDS
1. **Lymphoid malignancies**
2. **Targeted therapies**
3. **Clinico-biological studies**
4. **Rare anemias**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	102.06	15	13	2
2017	148.12	25	17	5
2018	192.06	27	17	7

TEAM INVOLVED IN
RTICC
AGAUR_SGR17: 01009
CIBERONC

TEAM LEADER
Dolors Colomer (HCB)
T. 93 227 54 00 (Ext.: 2269)
dcolomer@clinic.cat

RESEARCHERS
Marta Aymerich (HCB)
Mª Teresa Estrach (HCB)
Patricia Pérez-Galan (IDIBAPS)
María Rozman (HCB)
Neus Villamor (HCB)

POST-DOCTORAL RESEARCHERS
Fabian Arenas (CIBER)
Juan García (IDIBAPS)
Laia Rosich (IDIBAPS)
Neus Serrat (IDIBAPS)
Rupal Tripathi (IDIBAPS)

PRE-DOCTORAL RESEARCHERS
Neus Gimenez (IDIBAPS)
Martina Guerrero (IDIBAPS)
Irene López (IDIBAPS)
Clara Recasens (IDIBAPS)

TECHNICIANS
Sandra Cabezas (FCRB)
Ariadna Giró (CIBER)
Laura Jiménez (FCRB)

ADMINISTRATIVE STAFF
Patricia Carvajal (IDIBAPS)

COLLABORATORS
Mònica López (HCB-FCRB)

VISITING SCIENTISTS
Morihiro Hihashi (IDIBAPS)

STRATEGIC OBJECTIVES

- Identification of potential points of intervention and development of new therapeutic strategies and combination approaches in lymphoid malignancies.
- To improve the diagnosis of lymphoid malignancies using histopathological, immunophenotypic and molecular biology technologies.

MAIN LINES OF RESEARCH

1. New targeted therapiesagainst recurrent alterations in lymphoid malignancies.
2. Characterization of molecular pathways activated by microenvironment in lymphoid malignancies.

TEAM Dolors Colomer

3. New targeted therapies against oncogenes, microenvironment and epigenetic regulators in lymphoid malignancies.

4. Cytological, immunophenotypic and molecular study of malignant hematological diseases. Development of new technologies for the diagnosis and analysis of minimal residual disease (MRD).

5. Promotion of cooperative strategies in the molecular diagnostic setting of leukemias and lymphomas. Design and implementation of internal and external quality control programs.

7. Cutaneous T and B cell lymphomas. Clinical, histopathological and immunophenotypic study. Prognostic factors and epidemiology.

PUBLICATIONS

Originals / I.F.: 192.058

1. Beekman R, Chapaprieta V, Russiñol N, Vilarrasa-Blasi R, Verdaguer-Dot N, Martens JHA, Duran-Ferrer M, Kulis M, Serra F, Javierre BM, Wingett SW, Clot G, Queirós AC, Castellano G, Blanc J, Gut M, Merkel A, Heath S, Vlasova A, Ullrich S, Palumbo E, Enjuanes A, Martín-García D, Beà S, Pinyol M, Aymerich M, Royo R, Puiggros M, Torrents D, Datta A, Lowy E, Kostadima M, Roller M, Clarke L, Flicek P, Agirre X, Prosper F, Baumann T, Delgado J, López-Guillermo A, Fraser P, Yaspo ML, Guigó R, Siebert R, Martí-Renom MA, Puente XS, López-Otín C, Gut I, Stunnenberg HG, Campo E, Martin-Subero JI. **The reference epigenome and regulatory chromatin landscape of chronic lymphocytic leukemia.** *NATURE MEDICINE.* 24(6):868-880. I.F.: 32.621

2. Clot G, Jares P, Giné E, Navarro A, Royo C, Pinyol M, Martín-Garcia D, Demajo S, Espinet B, Salar A, Ferrer A, Muntañola A, Aymerich M, Rauert-Wunderlich H, Jaffe ES, Connors JM, Gascoyne RD, Delabie J, López-Guillermo A, Ott G, Wright GW, Staudt LM, Rosenwald A, Scott DW, Rimsza LM, Beà S, Campo E . **A gene signature that distinguishes conventional and leukemic nonnodal mantle cell lymphoma helps predict outcome.** *BLOOD.* 132(4):413-422. I.F.: 15.132

3. Bretones G, Álvarez MG, Arango JR, Rodríguez D, Nadeu F, Prado MA, Valdés-Mas R, Puente DA, Paulo JA, Delgado J, Villamor N, López-Guillermo A, Finley DJ, Gygi SP, Campo E, Quesada V, López-Otín C. **Altered patterns of global protein synthesis and translational fidelity in RPS15-mutated chronic lymphocytic leukemia.** *BLOOD.* 132(22):2375-2388. I.F.: 15.132

4. Albero R, Enjuanes A, Demajo S, Castellano G, Pinyol M, García N, Capdevila C, Clot G, Suárez-Cisneros H, Shimada M, Karube K, López-Guerra M, Colomer D, Beà S, Martin-Subero JI, Campo E, Jares P. **Cyclin D1 overexpression induces global transcriptional downregulation in lymphoid neosplasms.** JOURNAL OF CLINICAL INVESTIGATION. 128(9):4132-4147. I.F.: 13.251

5. Nadeu F, Clot G, Delgado J, Martín-García D, Baumann T, Salaverria I, Beà S, Pinyol M, Jares P, Navarro A, Suárez-Cisneros H, Aymerich M, Rozman M, Villamor N, Colomer D, González M, Alcoceba M, Terol MJ, Navarro B, Colado E, Payer ÁR, Puente XS, López-Otín C, López-Guillermo A, Enjuanes A, Campo E. **Clinical impact of the subclonal architecture and mutational complexity in chronic lymphocytic leukemia.** *LEUKEMIA.* 32(3):645-653. I.F.: 10.023

6. De Larrea C., Isola I., Pereira A., Cibeira M., Magnano L., Tovar N., Rodríguez-Lobato L., Calvo X., Aróstegui J., Díaz T., Lozano E., Rozman M., Yagüe J., Bladé J., Rosiñol L. **Evolving M-protein pattern in patients with smoldering multiple myeloma: impact on early progression.** *LEUKEMIA.* 32(6):1427-1434. I.F.: 10.023

7. Solans M, Castelló A, Benavente Y, Marcos-Gragera R, Amiano P, Gracia-Lavedan E, Costas L, Robles C, Gonzalez-Barca E, de la Banda E, Alonso E, Aymerich M, Campo E, Dierssen-Sotos T, Fernández-Tardón G, Olmedo-Requena R, Gimeno E, Castaño-Vinyals G, Aragonés N, Kogevinas M, de Sanjose S, Pollán M, Casabonne D. **Adherence to the Western, Prudent, and Mediterranean dietary patterns and chronic lymphocytic leukemia in the MCC-Spain study.** *HAEMATOLOGICA.* 103(11):1881-1888. I.F.: 9.090

8. Mozas P, Rivas-Delgado A, Baumann T, Villamor N, Ortiz-Maldonado V, Aymerich M, Costa D, Navarro A, Giné E, López-Guillermo A, Montserrat E, Delgado J. **Analysis of criteria for treatment initiation in patients with progressive chronic lymphocytic leukemia.** *BLOOD CANCER JOURNAL.* 8(1):10. I.F.: 8.125

9. Cabello I., Alia P., Pintó X., Muniesa C., Fernandez-De-Misa R., Peñate Y., Morillo M., Perez-Farriols A., Estrach T., Izu R., Gallardo F., Román C., Cervigón I., Ortiz-Brugues A., Ortiz-Romero P., Servitje O. **Association of APOA5 and APOC3 Genetic Polymorphisms with Severity of Hypertriglyceridemia in Patients with Cutaneous T-Cell Lymphoma Treated with** *Bexarotene.* JAMA DERMATOLOGY. 154(12):1424-1431. I.F.: 8.107

10. Heine S, Kleih M, Giménez N, Böpple K, Ott G, Colomer D, Aulitzky WE, van der Kuip H, Silkenstedt E. **Cyclin D1-CDK4 activity drives sensitivity to bortezomib in mantle cell lymphoma by blocking autophagy-mediated proteolysis of NOXA.** *JOURNAL OF HEMATOLOGY & ONCOLOGY.* 11(1):112. I.F.: 7.333

11. López-Lerma I, Peñate Y, Gallardo F, Martí RM, Mitxelena J, Bielsa I, Velasco-Tamariz V, Yanguas-Bayona JI, Sánchez-Sambucety P, García-Patos V, Ortiz-Romero PL, Pujol RM, Estrach T. **Subcutaneous panniculitis-like T-cell lymphoma: Clinical features, therapeutic approach, and outcome in a case series of 16 patients.** *JOURNAL OF THE AMERICAN ACADEMY OF DERMATOLOGY.* 79(5):892-898. I.F.: 6.898

12. Esteve-Arenys A., Valero J., Chamorro-Jorganes A., Gonzalez D., Rodriguez V., Dlouhy I., Salaverria I., Campo E., Colomer D., Martinez A., Rymkiewicz G., Pérez-Galán P., Lopez-Guillermo A., Roué G. **The BET bromodomain inhibitor CPI203 overcomes resistance to ABT-199 (venetoclax) by downregulation of BFL-1/A1 in in vitro and in vivo models of MYC+/BCL2+ double hit lymphoma.** *ONCOGENE.* 37(14):1830-1844. I.F.: 6.854

13. Maroñas-Jiménez L, Estrach T, Gallardo F, Pérez A, Andrés Borja H, Servitje O, Pérez Gala S, Linares Barrio M, Jiménez Gallo D, Sanz-Bueno J, Lora D, Monsálvez V, Ortiz-Romero PL. **Aprepitant improves refractory pruritus in primary cutaneous T-cell lymphomas: experience of the Spanish Working Group on Cutaneous Lymphomas.** *BRITISH JOURNAL OF DERMATOLOGY.* 178(4):e273-e274. I.F.: 6.129

14. Rossi C., Gravelle P., Decaup E., Bordenave J., Poupot M., Tosolini M., Franchini D., Laurent C., Morin R., Lagarde J., Ysebaert L.,

Ligat L., Jean C., Savina A., Klein C., Céspedes A., Perez-Galan P., Fournié J., Bezombes C. **Boosting γδ T cell-mediated antibody-dependent cellular cytotoxicity by PD-1 blockade in follicular lymphoma.** *ONCOIMMUNOLOGY.* 8(3):1554175. I.F.: 5.503

15. Ortiz-Maldonado V, Villamor N, Baumann T, Aymerich M, Magnano L, Mozas P, Rivas-Delgado A, Martínez-Trillos A, Giné E, Campo E, López-Guillermo A, Delgado J . **Is there a role for minimal residual disease monitoring in the management of patients with hairy-cell leukaemia?** *BRITISH JOURNAL OF HAEMATOLOGY.* 183(1):127-129. I.F.: 5.128

16. Lozano E, Díaz T, Mena MP, Suñe G, Calvo X, Calderón M, Pérez-Amill L, Rodríguez V, Pérez-Galán P, Roué G, Cibeira MT, Rosiñol L, Isola I, Rodríguez-Lobato LG, Martin-Antonio B, Bladé J, Fernández de Larrea C . **Loss of the Immune Checkpoint CD85j/LILRB1 on Malignant Plasma Cells Contributes to Immune Escape in Multiple Myeloma.** *JOURNAL OF IMMUNOLOGY.* 200(8):2581-2591. I.F.: 4.539

17. Suárez-Lledó M, Martínez-Cibrián N, Gutiérrez-García G, Dimova-Svetoslavova V, Marcos MA, Martín-Antonio B, Martínez-Trillos A, Villamor N, Rosiñol L, Martínez C, Fernández-Avilés F, García-Vidal C, Urbano-Ispizua Á, Rovira M. **Deleterious Effect of Steroids on Cytomegalovirus Infection Rate after Allogeneic Stem Cell Transplantation Depends on Pretransplant Cytomegalovirus Serostatus of Donors and Recipients.** *BIOLOGY OF BLOOD AND MARROW TRANSPLANTATION.* 24(10):2088-2093. I.F.: 4.484

18. Castella M, Boronat A, Martín-Ibáñez R, Rodríguez V, Suñé G, Caballero M, Marzal B, Pérez-Amill L, Martín-Antonio B, Castaño J, Bueno C, Balagué O, González-Navarro EA, Serra-Pages C, Engel P, Vilella R, Benitez-Ribas D, Ortiz-Maldonado V, Cid J, Tabera J, Canals JM, Lozano M, Baumann T, Vilarrodona A, Trias E, Campo E, Menendez P, Urbano-Ispizua Á, Yagüe J, Pérez-Galán P, Rives S, Delgado J, Juan M. **Development of a Novel Anti-CD19 Chimeric Antigen Receptor: A Paradigm for an Affordable CAR T Cell Production at Academic Institutions.** *MOL THER METHODS CLIN DEV.* 12:134-144. I.F.: 3.681

19. Alvarez-Larran A., Martínez D., Arenillas L., Rubio A., Arellano-Rodrigo E., Boluda J., Papaleo N., Caballero G., Martínez C., Ferrer-Marín F., Mata M., Pérez-Encinas M., Durán M., Alonso J., Carreño-Tarragona G., Noya S., Magro E., Pérez R., López-Guerra M., Pastor-Galán I., Cervantes F., Besses C., Colomo L., Rozman M. **Essential thrombocythaemia with mutation in MPL: Clinicopathological correlation and comparison with JAK 2V617F-mutated and CALR- mutated genotypes.** *JOURNAL OF CLINICAL PATHOLOGY - CLINICAL MOLECULAR PATHOLOGY.* 71(11):975-980. I.F.: 2.894

20. Benavente Y., Casabonne D., Costas L., Robles C., Alonso E., de la Banda E., Gonzalez-Barca E., Marcos-Gragera R., Llorca J., Tardón A., Monleon J., Aymerich M., Campo E., Gimeno-Vázquez E., Castaño-Vinyals G., Aragonés N., Pollán M., Kogevinas M., de Sanjosé S. **Established and suggested exposures on CLL/SLL etiology: Results from the CLL-MCC-Spain study.** *CANCER EPIDEMIOLOGY.* 52:106-111. I.F.: 2.888

21. Rawstron A, Kreuzer K, Soosapilla A, Spacek M, Stehlikova O, Gambell P, McIver-Brown N, Villamor N, Psarra K, Arroz M, Milani R, de la Serna J, Cedena M, Jaksic O, Nomdedeu J, Moreno C, Rigolin G, Cuneo A, Johansen P, Johnsen H, Rosenquist R, Niemann C, Kern W, Westerman D, Trneny M, Mulligan S, Doubek M, Pospisilova S, Hillmen P, Oscier D, Hallek M, Ghia P, Montserrat E. **Reproducible diagnosis of chronic lymphocytic leukemia by flow cytometry: An European Research Initiative on CLL (ERIC) & European Society for Clinical Cell Analysis (ESCCA) Harmonisation project.** *CYTOMETRY PART B - CLINICAL CYTOMETRY.* 94(B):121-128. I.F.: 2.757

22. Martínez-Trillos A., Pinyol M., Delgado J., Aymerich M., Rozman M., Baumann T., González-Díaz M., Hernández J., Alcoceba M., Muntañola A., Terol M., Navarro B., Giné E., Jares P., Beà S., Navarro A., Colomer D., Nadeu F., Colado E., Payer A., García-Cerecedo T., Puente X., López-Otin C., Campo E., López-Guillermo A., Villamor N. **The mutational landscape of small lymphocytic lymphoma compared to non-early stage chronic lymphocytic leukemia.** *LEUKEMIA AND LYMPHOMA.* 59(10):2318-2326. I.F.: 2.644

23. Solé C, Martínez D, Giné E, Gonzalez-Farre B, Pérez-Galán P, Roncador G, Campo E, Matutes E, López-Guillermo A, Roué G, Martínez A. **Expression of a truncated B lymphocyte-induced maturation protein-1 isoform is associated with an incomplete plasmacytic differentiation program in chronic lymphocytic leukemia.** *LEUKEMIA AND LYMPHOMA.* 59(2):482-485. I.F.: 2.644

24. Rozas-Muñoz, Eduardo; Gallardo, Fernando; Maria Pujol, Ramon; Perez-Ferriols, Amparo; Servitje, Octavio; Estrach, Teresa; Bastida, Jesus; Roman, Concha; Palacio-Aller, Lucia; Gil, Inmaculada; Maria Marti, Rosa; Vidal-Sarro, David; Pilar Garcia-Muret, Maria. **Extranodal natural killer/T-cell lymphoma, nasal type: a Spanish multicentric retrospective survey.** *EUROPEAN JOURNAL OF DERMATOLOGY.* 28(1):64-70. I.F.: 1.944

25. Riquelme-Mc Loughlin C, Estrach T, Morgado-Carrasco D, Fustà-Novell X, Riera-Monroig J, Iranzo P. Rituximab for the treatment of autoimmune subepidermal blistering diseases. DERMATOLOGIC THERAPY. 31(5):e12687. I.F.: 1.563

26. Fernández-de-Misa R, Hernández-Machín B, Servitje O, Valentí-Medina F, Maroñas-Jiménez L, Ortiz-Romero PL, Sánchez Schmidt J, Pujol RM, Gallardo F, Pau-Charles I, García Muret MP, Pérez Gala S, Román C, Cañueto J, Blanch Rius L, Izu R, Ortiz-Brugués A, Martí RM, Blanes M, Morillo M, Sánchez P, Peñate Y, Bastida J, Pérez Gil A, Lopez-Lerma I, Muniesa C, Estrach T. **First-line treatment in lymphomatoid papulosis: a retrospective multicentre study.** *CLINICAL AND EXPERIMENTAL DERMATOLOGY.* 43(2):137-143. I.F.: 1.484

27. Varo R, Sitoe A, Cossa A, Ordi J, Rozman M, Bassat Q. **Leukoerythroblastosis in a Young Child with Severe Malaria and Superimposed Gram Negative Infection.** JOURNAL OF TROPICAL PEDIATRICS. 64(6):553-556. I.F.: 1.187

Case Reports / I.F.: 12.859

1. Podlipnik S., Guijarro F., Combalia A., To-Figueras J., Badenas C., Costa D., Rozman M., Jorge S., Aguilera P., Gaya A. **Acquired erythropoietic uroporphyria secondary to myelodysplastic syndrome with chromosome 3 alterations: A case report.** *BRITISH JOURNAL OF DERMATOLOGY.* 179(2):486-490. I.F.: 6.129

2. Guijarro F., Rozman M., Matutes E.

Multinucleated giant myeloma cells after failure of daratumumab therapy. *BRITISH JOURNAL OF HAEMATOLOGY.* 181(4):432-432. I.F.: 5.128

3. Fernández-Sartorio C, Combalia A, Ferrando J, Alsina M, Iranzo P, Estrach T, Hernández-Ruiz E, Mascaró JM. **Pancreatic panniculitis: A case series from a tertiary university hospital in Spain.** *AUSTRALASIAN JOURNAL OF DERMATOLOGY.* 59(4):e269-e272. I.F.: 1.602

GRANTS FOR RESEARCH IN PROGRESS

Colomer D. **Identificació de noves estratègies terapéutiques en la leucèmia limfàtica crònica (LLC).**
Sponsored by: Universitat de Barcelona.
2015-DI-075
Duration: 01/04/2016-31/03/2019

Colomer D. **Dianes terapèutiques i noves tècniques diagnostiques en neoplàsies limfoides.**
Sponsored by: Generalitat de Catalunya.
AGAUR_SGR17_01009
Duration: 01/01/2017-31/12/2019

Colomer D. **Estrategias terapéuticas dirigidas contra la heterogeneidad molecular y la resistencia en leucemia linfática crónica y linfoma de células del manto.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2015-67633-R
Duration: 01/01/2016-31/07/2019

Pérez-Galán P. **IMLINFO: Red transfonteriza de immunoterapias personalizadas para linfomas no hodgkin.**
Sponsoredby: European Commission.
Interreg-16_POCTE (EFA281/16)
Duration: 01/01/2018-31/12/2020

Pérez-Galán P. **Multi-cellular interactions in the progression of chronic inflammatory diseases and lymphoproliferative disorders: 3D models to investigate targeted immune therapies -3DIMMUNETARGET .**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2017-88275-R
Duration 01/01/2018-31/12/2020

Pérez-Galán P . **Crosstalk between lymphocytes and their microenvironment in chronic inflammatory diseases and lymphoproliferative disorders as a target for new therapeutic intervention.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2014-88275-R
Duration: 01/01/2015-30/06/2018

DOCTORAL THESES

Colomer D. **Novel therapeutic strategies for chronic lymphocytic leukemia.**
PhD student: María Eriong Lee Vergés.

Pérez P, Roué G. **Preclinical evaluation of the antitumor activity of a new CXCR4 inhibitor: a novel therapeutic approach in diffuse large B-cell lymphoma.**
PhD student: Clara Recasens Zorzo

Villamor N. **Influencia de las mutaciones genéticas en las características clínicas, biológicas y evolutivas de los pacientes con leucemia linfática crónica y linfoma linfocítico.**
PhD student: Sofia Alejandra Martínez Trillos

5.9 Hemotherapy - hemostasis

LOCATION
HCB building

KEYWORDS
1. **Platelets**
2. **Coagulation**
3. **Thrombosis**
4. **Transfusion**
5. **Aphaeresis**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	116.91	25	14	5
2017	103.98	23	14	5
2018	120.51	24	12	6

TEAM INVOLVED IN
AGAUR_SGR14
AGAUR_SGR17: 00675

TEAM LEADER
Ginés Escolar (HCB)
T. 93 227 54 00 (Ext.: 2034)
gescolar@clinic.cat

RESEARCHERS
Joan Cid (HCB)
Maribel Diaz (HCB)
Pablo García (CSIC)
Miguel Lozano (HCB)
Anna M Merino (HCB)
Juan Monteagudo (HCB)
Arturo Pereira (HCB)
Juan Carlos Reverter (HCB)
Cristina Chantal Sanz (HCB)
Mª Dolors Tassies (HCB)

POST-DOCTORAL RESEARCHERS
Irene Lopez (IDIBAPS)

PRE-DOCTORAL RESEARCHERS
Didac Jerez (FCRB)
Ana Belén Moreno (HCB)
Sergi Torramade (IDIBAPS)

TECHNICIANS
Patricia Molina (HCB)
Marcos Pino (HCB)

STRATEGIC OBJECTIVES

1. Mechanisms regulating blood cell function and their interactions with the vascular wall.
2. Characterization of bleeding and thrombotic phenotypes and genotypes. Evaluation of pharmacological/transfusional therapies.
3. Analysis of the efficacy and safety of new strategies for sparing blood component transfusions.
4. Laboratory and animal models of hemostasis.

MAIN LINES OF RESEARCH

1. Study of the molecular mechanisms involved in the development of bleeding and thrombotic disorders.
2. Characterization of endothelial dysfunction in association with stem cell transplantation and development of early complications. Search for biomarkers of graft-versus-host disease (GVHD).
3. Diagnosis and treatment of thrombotic microangiopathies.
4. Evaluation of the physiological and pathological implications of circulating and/or platelet associated procoagulant microparticles in atherothrombosis.

TEAM Ginés Escolar

5. New strategies for the treatment of combined humoral immunity in therapeutic apheresis.

6. Evaluation of the participation of serotoninergic and purinergic mechanisms in platelet function. Study of the antithrombotic potential of pharmacological inhibitors.

7. Role of the phenotype/genotype of fibrinolysis and its repercussions upon global or specific functional tests in hemorrhagic and thrombotic pathology.

8. Implications of the GAS6 vitamin K-dependent protein in hemostasis and the vascular wall, in knockout mice.

9. Evaluation of antidotes to reverse the anticoagulant action of the new oral antithrombotic agents.

PUBLICATIONS

Originals / I.F.: 120.505

1. Blasi A, Calvo A, Prado V, Reverter E, Reverter JC, Hernández-Tejero M, Aziz F, Amoros A, Cardenas A, Fernández J. **Coagulation failure in patients with Acute-on-Chronic Liver Failure (ACLF) and decompensated cirrhosis: beyond INR.** *HEPATOLOGY.* 68(6):2325-2337. I.F.: 14.079

2. Hurtado B; Trakala M; Ximénez-Embún P; El Bakkali A; Partida D; Sanz-Castillo B; Álvarez-Fernández M; Maroto M; Sánchez-Martínez R; Martinez L; Muñoz J; Garcia de Frutos P; Malumbres M. **Thrombocytopenia-associated mutations in Ser/Thr kinase MASTL deregulate actin cytoskeletal dynamics in platelets.** *JOURNAL OF CLINICAL INVESTIGATION.* 128(12):5351-5367. I.F.: 13.251

3. Corpas R., Griñán-Ferré C., Palomera-Ávalos V., Porquet D., García de Frutos P., Franciscato Cozzolino S., Rodríguez-Farré E., Pallàs M., Sanfeliu C., Cardoso B. **Melatonin induces mechanisms of brain resilience against neurodegeneration.** *JOURNAL OF PINEAL RESEARCH.* 65(4):e12515. I.F.: 11.613

4. De Larrea C., Isola I., Pereira A., Cibeira M., Magnano L., Tovar N., Rodríguez-Lobato L., Calvo X., Aróstegui J., Díaz T., Lozano E., Rozman M., Yagüe J., Bladé J., Rosiñol L. **Evolving M-protein pattern in patients with smoldering multiple myeloma: impact on early progression.** *LEUKEMIA.* 32(6):1427-1434. I.F.: 10.023

5. Hernández-Boluda JC, Pereira A, Pastor-Galán I, Alvarez-Larrán A, Savchuk A, Puerta JM, Sánchez-Pina JM, Collado R, Díaz-González A, Angona A, Sagüés M, García-Gutiérrez V, Boqué C, Osorio S, Vallansot R, Palomera L, Mendizábal A, Casado LF, Pérez-Encinas M, Pérez-López R, Ferrer-Marín F, Sánchez-Guijo F, García C, Heras NL, López-Lorenzo JL, Cervantes F, Steegmann JL, Grupo Español de Leucemia Mieloide Crónica (GELMC). **Feasibility of treatment discontinuation in chronic myeloid leukemia in clinical practice: results from a nationwide series of 236 patients.** *BLOOD CANCER JOURNAL.* 8(10):91. I.F.: 8.125

6. Vera M, Torramade-Moix S, Martin-Rodriguez S, Cases A, Cruzado JM, Rivera J, Escolar G, Palomo M, Diaz-Ricart M. **Antioxidant and Anti-Inflammatory Strategies Based on the Potentiation of Glutathione Peroxidase Activity Prevent Endothelial Dysfunction in Chronic Kidney Disease.** *CELLULAR PHYSIOLOGY AND BIOCHEMISTRY.* 51(3):1287-1300. I.F.: 5.500

7. Hernández-Boluda JC, Correa JG, Alvarez-Larrán A, Ferrer-Marín F, Raya JM, Martínez-López J, Velez P, Pérez-Encinas M, Estrada N, García-Gutiérrez V, Fox ML, Luño E, Kerguelen A, Cuevas B, Durán MA, Ramírez MJ, Gómez-Casares M, Mata-Vázquez MI, Regadera A, Pereira A, Cervantes F, Grupo Español de Enfermedades Mieloproliferativas Filadelfia Negativas (GEMFIN). **Clinical characteristics, prognosis and treatment of myelofibrosis patients with severe thrombocytopenia.** *BRITISH JOURNAL OF HAEMATOLOGY.* 181(3):386-417. I.F.: 5.128

8. Cid J, Guijarro F, Carbassé G, Lozano M. **24-h continuous infusion of platelets for patients with platelet transfusion refractoriness.** *BRITISH JOURNAL OF HAEMATOLOGY.* 181(3):386-389. I.F.: 5.128

9. Salvador J., Tassies D., Reverter J., Marco M. **Enzyme-linked immunosorbent assays for therapeutic drug monitoring coumarin oral anticoagulants in plasma.** *ANALYTICA CHIMICA ACTA.* 1028:59-65. I.F.: 5.123

10. Gutiérrez-García G., Rovira M., Magnano L., Rosiñol L., Bataller A., Suárez-Lledó M., Cibeira M., de Larrea C., Garrote M., Jorge S., Moreno A., Rodríguez-Lobato L., Carreras E., Díaz-Ricart M., Palomo M., Martínez C., Urbano-Ispizua A., Bladé J., Fernández-Avilés F. **Innovative strategies minimize engraftment syndrome in multiple myeloma patients with novel induction therapy following autologous hematopoietic stem cell transplantation.** *BONE MARROW TRANSPLANTATION.* 53(12):1541-1547. I.F.: 4.497

11. Jorge A., Suárez-Lledó M., Pereira A., Gutierrez G., Fernández-Avilés F., Rosiñol L., Llobet N., Solano T., Urbano-Ispízua Á., Rovira M., Martínez C. **Single Antigen-Mismatched Unrelated Hematopoietic Stem Cell Transplantation Using High-Dose Post-Transplantation Cyclophosphamide Is a Suitable Alternative for Patients Lacking HLA-Matched Donors.** *BIOLOGY OF BLOOD AND MARROW TRANSPLANTATION.* 24(6):1196-1202. I.F.: 4.484

12. Serafín V., Torrente-Rodríguez R., González-Cortés A., García de Frutos P., Sabaté M., Campuzano S., Yáñez-Sedeño P., Pingarrón J. **An electrochemical immunosensor for brain natriuretic peptide prepared with screen-printed carbon electrodes nanostructured with gold nanoparticles grafted through aryl diazonium salt chemistry.** *TALANTA.* 179:131-138. I.F.: 4.244

13. García D., Aguilera A., Antolín F., Arroyo J., Lozano M., Sanroma P., Romón I. **Home transfusion: three decades of practice at a tertiary care hospital.** *TRANSFUSION.* 58(10):2309-2319. I.F.: 3.423

14. Pagano MB, Dunbar NM, Tinmouth A, Apelseth TO, Lozano M, Cohn CS, Stanworth SJ, Biomedical Excellence for Safer Transfusion (BEST) Collaborative. **A methodological review of the quality of reporting of surveys in transfusion medicine.** *TRANSFUSION.* 58(11):2720-2727. I.F.: 3.423

15. Mirabet S., García-Osuna A., Garcia De Frutos P., Ferrero-Gregori A., Brossa V., Lopez L., Leta R., Garcia-Picart J., Padro J., Sánchez-Quesada J., Cinca J., Ordonez-Llanos J., Roig E. **High-Sensitivity Troponin T and Soluble Form of AXL as Long-Term Prognostic Biomarkers after Heart Transplantation.** *DISEASE MARKERS.* 2018(6243529). I.F.: 2.949

16. Hernández-Boluda J., Pereira A., Correa J.,

Alvarez-Larrán A., Ferrer-Marín F., Raya J., Martínez-López J., Velez P., Pérez-Encinas M., Estrada N., García-Gutiérrez V., Fox M., Payer A., Kerguelen A., Cuevas B., Durán M., Ramírez M., Gómez-Casares M., Mata-Vázquez M., Mora E., Gómez M., Cervantes F. **Prognostic risk models for transplant decision-making in myelofibrosis.** *ANNALS OF HEMATOLOGY.* 97(5):813-820. I.F.: 2.845

17. Plasín-Rodríguez M., Rodríguez-Pintó I., Patricio P., Monteagudo J., Cervera R., Reverter J., Espinosa G., Tàssies D. **The H1 haplotype of the endothelial protein C receptor protects against arterial thrombosis in patients with antiphospholipid syndrome.** *THROMBOSIS RESEARCH.* 169:128-134. I.F.: 2.779

18. Piñeiro G., De Sousa-Amorim E., Solé M., Ríos J., Lozano M., Cofán F., Ventura-Aguiar P., Cucchiari D., Revuelta I., Cid J., Palou E., Campistol J., Oppenheimer F., Rovira J., Diekmann F. **Rituximab, plasma exchange and immunoglobulins: An ineffective treatment for chronic active antibody-mediated rejection.** *BMC NEPHROLOGY.* 19(1):261. I.F.: 2.395

19. Cid J, Carbassé G, Cid-Caballero M, López-Púa Y, Alba C, Perea D, Lozano M. **The Barcelona Hospital Clínic therapeutic apheresis database.** *JOURNAL OF CLINICAL APHERESIS.* 33(3):259-264. I.F.: 2.392

20. Yazer MH, Spinella PC, Allard S, Roxby D, So-Osman C, Lozano M, Gunn K, Shih AW, Stensballe J, Johansson PI, Bagge Hansen M, Maegele M, Doughty H, Crombie N, Jenkins DH, McGinity A, Schaefer RM, Martinaud C, Shinar E, Strugo R, Chen J, Russcher H. **Vox Sanguinis International Forum on the use of prehospital blood products and pharmaceuticals in the treatment of patients with traumatic haemorrhage.** *VOX SANGUINIS.* 113(7):701-706. I.F.: 2.107

21. De Vooght KMK, Lozano M, Bueno JL, Alarcón A, Romera I, Suzuki K, Zhiburt E, Holbro A, Infanti L, Buser A, Hustinx H, Deneys V, Frélik A, Thiry C, Murphy M, Staves J, Selleng K, Greinacher A, Kutner JM, Bonet Bub C, Castilho L, Kaufman R, Colling ME, Perseghin P, Incontri A, Dassi M, Brilhante D, Macêdo A, Cserti-Gazdewich C, Pendergrast JM, Hawes J, Lundgren MN, Storry JR, Jain A, Marwaha N, Sharma RR. **Vox Sanguinis International Forum on typing and matching strategies in patients on anti-CD38 monoclonal therapy: summary.** *VOX SANGUINIS.* 113(5):492-498. I.F.: 2.107

22. Molina A., Guiñon L., Perez A., Segurana A., Bedini J., Reverter J., Merino A. **State of the art vs biological variability: Comparison on hematology parameters using Spanish EQAS data.** *INTERNATIONAL JOURNAL OF LABORATORY HEMATOLOGY.* 40(3):284-291. I.F.: 1.919

23. Blasi A, Hernandez V, Fernandez J, Colmenero J, Beltran J, Garcia-Valdecasas JC, Reverter JC. **Venous Thrombotic Events After Liver Transplantation.** *CLINICAL AND APPLIED THROMBOSIS/HEMOSTASIS.* 24(2):317-322. I.F.: 1.852

24. Olson J., Jennings I., Meijer P., Bon C., Bonar R., Favaloro E., Higgins R., Keeney M., Mammen J., Marlar R., Meley R., Nair S., Nichols W., Raby A., Reverter J., Srivastava A., Walker I. **Lack of grading agreement among international hemostasis external quality assessment programs.** *BLOOD COAGULATION AND FIBRINOLYSIS.* 29(1):111-119. I.F.: 1.119

Review / I.F.: 11.803

1. Gonzalez-Vicent, Marta; Sanz, Jaime; Luis Fuster, Jose; Cid, Joan; Diaz de Heredia, Cristina; Morillo, Daniel; Maria Fernandez, Jose; Pascual, Antonia; Badell, Isabel; Serrano, David; Fox, Laura; de la Serna, Javier; Benito, Ana; Miguel Couselo, Jose; Molina, Blanca; Angel Diaz, Miguel; Angel Sanz, Miguel. **Autoimmune hemolytic anemia (AIHA) following allogeneic hematopoietic stem cell transplantation (HSCT): A retrospective analysis and a proposal of treatment on behalf of the Grupo Español De Trasplante de Medula Osea en Niños (GETMON) and the Grupo Español de Trasplante Hematopoyetico (GETH).** *TRANSFUSION MEDICINE REVIEWS.* 32(3):179-185. I.F.: 4.111

2. Blasi A, Reverter JC. **Time to change the classical vision of coagulation in liver disease: from the balance disequilibrium to the systems biology network modelling.** *MINERVA ANESTESIOLOGICA.* 84(7):848-857. I.F.: 2.693

3. Rodellar J, Alférez S, Acevedo A, Molina A, Merino A. **Image processing and machine learning in the morphological analysis of blood cells.** *INTERNATIONAL JOURNAL OF LABORATORY HEMATOLOGY.* 40 (1):46-53. I.F.: 1.919

4. Garraud O, Brand A, Henschler R, Vuk T, Haddad A, Lozano M, Ertuğrul Örüç N, Politis C, de Angelis V, Laspina S, Tissot JD, 'European and Mediterranean Initiative in Transfusion Medicine' (EMITm) group. **Medical student education in transfusion medicine: Proposal from the European and Mediterranean initiative in transfusion medicine.** *TRANSFUSION AND APHERESIS SCIENCE.* 57(5):593-597. I.F.: 1.755

5. Díaz-Ricart M., Isola I., Escolar G. **Emicizumab for routine prophylaxis to prevent bleeding episodes in patients with hemophilia A.** *DRUGS OF TODAY.* 54(10):591-600. I.F.: 1.325

Letters / I.F.: 14.922

1. Fernández de Larrea C., Isola I., Pereira A., Cibeira M., Bladé J., Rosiñol L.. **The pattern of the M-protein in smoldering myeloma over the time: an evolving risk factor.** *LEUKEMIA.* 32(9):2082-2083. I.F.: 10.023

2. Zafar, M. U.; Badimon, J. J.; Escolar, G. **Incomplete reversibility of platelet inhibition following prolonged exposure to ticagrelor: comment.** *JOURNAL OF THROMBOSIS AND HAEMOSTASIS.* 16(3):605-606. I.F.: 4.899

GRANTS FOR RESEARCH IN PROGRESS

Diaz-Ricart M. **Caracterización genética e identificación de nuevos genes diana en el diagnóstico de las anemias congénitas no filiadas.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI14/00772
Duration: 01/01/2015-30/09/2018

Escolar G. **HEMOTROM.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_00675
Duration: 01/01/2017-31/12/2020

Escolar G. **Microchip-based point of care devices for a global evaluation of hemostasis under flow conditions: application to the screening of bleeding, thrombosis and monitoring of antithrombotic therapies.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). DTS16/00133
Duration: 01/01/2017-31/10/2019

Escolar G. **Targeting endothelial dysfunction in highly prevalent diseases: characterization and validating of prognostic biomarkers and identification of potential therapeutic strategies.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PIE15/00027
Duration: 01/01/2016-31/12.2018

DOCTORAL THESES

Diaz-Ricart MI, Palomo M. **Endothelial dysfunction ocurring in acute graft-versus-host disease. Potential preventive and therapeutic agents.**
PhD student: Enrique Mir Fuertes

5.10 Molecular and translational oncology

LOCATION
CELLEX building, floor 1A

KEYWORDS
1. **Inflammation and neuropeptides**
2. **Tumor microenvironment**
3. **Cell dormancy**
4. **Chemotherapy resistance**
5. **Tumor heterogeneity**
6. **Epigenetic plasticity**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	69.47	14	1	-
2017	23.62	6	2	1
2018	41.16	8	6	1

TEAM INVOLVED IN
AGAUR_SGR17: 01305, 01581

TEAM LEADER
Pere Gascón (HCB)
T. 93 227 54 02
gascon@clinic.cat

RESEARCHERS
Francisco Javier Avilés (HCB)
Isabel Vilaseca (HCB)

POST-DOCTORAL RESEARCHERS
Paloma Bragado (IDIBAPS)
Patricia Fernández (FCRB)
Gemma Fuster (FCRB)
Mario Mancino (FCRB)

PRE-DOCTORAL RESEARCHERS
Núria Moragas (IDIBAPS)
Aleix Noguera (UB)
Leire Recalde (UB)

TECHNICIANS
Miriam Badia (FCRB)
Patricia Jauregui (FCRB)
Anna Lopez (FCRB)

ADMINISTRATIVE STAFF
Darya Kulyk (FCRB)

COLLABORATORS
Neus Carbó (UB)
Maria Angeles Sierra (FCRB)

STRATEGIC OBJECTIVES

The overall objective of our team is to understand how the microenvironment, in particular the nervous system, interacts with and influences tumour cells metabolism, proliferation or survival and how these mechanisms contribute to breast cancer progression and therapy resistance.
We want to identify new biomarkers and therapeutic targets that could be transferred to the clinical practice.

MAIN LINES OF RESEARCH

1. **Stress and microenvironment influences in breast cancer.**

- Study the role of neuropeptides and neurotransmitters in the control of breast cancer progression.
- Evaluate the potential of different components of the microenvironment such as fibroblasts or bone marrow mesenchymal stem cells on the generation of breast cancer heterogeneity.
- Analyse the role of several stress factors, such as cathecolamines, glucocorticoids, hormones and neural related system

TEAM Pere Gascón

factors in the transition of carcinoma ductal in situ to invasive.

2. **Microenvironmental mechanisms of tumour dormancy and metastasis.**

- Determine the role of the TAC1 gene in the metastatic process in breast cancer.
- Study the role of the microenvironment on disseminated tumour cells dormancy, survival and progression to metastasis.
- Metastasis pathogenesis.

3. **Tumor resistance mechanisms:**

- Characterization of the mechanisms of epigenetic adaptation and cellular plasticity during the adquisition of chemoresistance.
- Study the mechanisms of tumour progression in breast cancer HER2+ induced by the acquisition of resistance to Trastuzumab and Lapatinib. Role of fibroblasts on antiHER therapies resistance .

PUBLICATIONS

Originals / I.F.: 41.157

1. Blackwell, K.; Gascon, P.; Krendyukov, A.; Gattu, S.; Li, Y.; Harbeck, N. **Safety and efficacy of alternating treatment with EP2006, a filgrastim biosimilar, and reference filgrastim: a phase III, randomised, double-blind clinical study in the prevention of severe neutropenia in patients with breast cancer receiving myelosuppressive chemotherapy.** *ANNALS OF ONCOLOGY.* 29(1):244-249. I.F.: 13.930

2. Fernández-Nogueira P., Noguera-Castells A., Fuster G., Recalde-Percaz L., Moragas N., López-Plana A., Enreig E., Jauregui P., Carbó N., Almendro V., Gascón P., Bragado P., Mancino M. **Histamine receptor 1 inhibition enhances antitumor therapeutic responses through extracellular signal-regulated kinase (ERK) activation in breast cancer.** *CANCER LETTERS.* 424:70-83. I.F.: 6.491

3. Zubeldia-Plazaola A., Recalde-Percaz L., Moragas N., Alcaraz M., Chen X., Mancino M., Fernández-Nogueira P., Prats de Puig M., Guzman F., Noguera-Castells A., López-Plana A., Enreig E., Carbó N., Almendro V., Gascón P., Bragado P., Fuster G. **Glucocorticoids promote transition of ductal carcinoma in situ to invasive ductal carcinoma by inducing myoepithelial cell apoptosis.** *BREAST CANCER RESEARCH.* 20(1):65. I.F.: 6.142

4. Harbeck N., Gascón P., Krendyukov A., Hoebel N., Gattu S., Blackwell K. **Safety Profile of Biosimilar Filgrastim (Zarzio/Zarxio): A Combined Analysis of Phase III Studies.** *ONCOLOGIST.* 23(4):403-409. I.F.: 5.306

5. Gascon, Pere; Arranz, Reyes; Bargay, Joan; Ramos, Fernando. **Fatigue- and health-related quality-of-life in anemic patients with lymphoma or multiple myeloma.** *SUPPORTIVE CARE IN CANCER.* 26(4):1253-1264. I.F.: 2.676

6. Gascon, Pere; Krendyukov, Andriy; Hoebel, Nadja; Aapro, Matti. **MONITOR-GCSF DLBCL subanalysis: Treatment patterns/outcomes with biosimilar filgrastim for chemotherapy-induced/febrile neutropenia prophylaxis.** *EUROPEAN JOURNAL OF HAEMATOLOGY.* 100(3):241-246. I.F.: 2.595

7. Valls-Mateus M., Nogués-Sabaté A., Blanch J., Bernal-Sprekelsen M., Avilés-Jurado F., Vilaseca I. **Narrow band imaging for head and neck malignancies: Lessons learned from mistakes.** *HEAD AND NECK.* 40(6):1164-1173. I.F.: 2.471

8. Nogués-Sabaté A., Aviles-Jurado F., Ruiz-Sevilla L., Lehrer E., Santamaría-Gadea A., Valls-Mateus M., Vilaseca I. **Intra and interobserver agreement of narrow band imaging for the detection of head and neck tumors.** *EUROPEAN ARCHIVES OF OTO-RHINO-LARYNGOLOGY.* 275(9):2349-2354. I.F.: 1.546

Review / I.F.: 17.643

1. Aapro, Matti; Krendyukov, Andriy; Hoebel, Nadja; Seidl, Andreas; Gascon, Pere. **Development and 10-year history of a biosimilar: the example of Binocrit (R).** *RAPEUTIC ADVANCES IN MEDICAL ONCOLOGY, THE.* 10:1-8. I.F.: 6.238

2. Arantes L., Crawford J., Gascon P., Latymer M., Launay-Vacher V., Rolland C., Scotte F., Wish J. **A quick scoping review of efficacy, safety, economic, and health-related quality-of-life outcomes of short- and long-acting erythropoiesis-stimulating agents in the treatment of chemotherapy-induced anemia and chronic kidney disease anemia.** *CRITICAL REVIEWS IN ONCOLOGY/HEMATOLOGY.* 129:79-90. I.F.: 4.495

3. Aapro M., Krendyukov A., Schiestl M., Gascón P. **Epoetin Biosimilars in the Treatment of Chemotherapy-Induced Anemia: 10 Years' Experience Gained.** *BIODRUGS.* 32(2):129-135. I.F.: 3.825

4. Cornes, Paul; Gascon, Pere; Chan, Stephen; Hameed, Khalid; Mitchell, Catherine R.; Field, Polly; Latymer, Mark; Arantes, Luiz H., Jr. **Systematic Review and Meta-analysis of Short- versus Long-Acting Granulocyte Colony-Stimulating Factors for Reduction of Chemotherapy-Induced Febrile Neutropenia.** *ADVANCES IN THERAPY.* 35(11):1816-1829. I.F.: 3.085

Clinical Guidelines / I.F.: 16.322

1. Aapro M; Beguin Y; Bokemeyer C; Dicato M; Gascon P; Glaspy J; Hofmann A; Link H; Littlewood T; Ludwig H; Österborg A; Pronzato P; Santini V; Schrijvers D; Stauder R; Jordan K; Herrstedt J; ESMO Guidelines Committee. **Management of anaemia and iron deficiency in patients with cancer: ESMO Clinical Practice Guidelines.** *ANNALS OF ONCOLOGY.* 29(Supplement_4):iv96-iv110. I.F.: 13.930

2. Lopez Lopez, R.; Camps Herrero, C.; Khosravi-Shahi, P.; Guillem Porta, V.; Carrato Mena, A.; Garcia-Foncillas, J.; Cruz Hernandez, J. J.; Gascon Vilaplana, P.; Anton Torres, A.; Diaz-Rubio, E.; Feyjoo Saus, M.; Aranda Aguilar, E. **Oncologist's knowledge and implementation of guidelines for breakthrough cancer pain in Spain: CONOCE study.** *CLINICAL AND TRANSLATIONAL ONCOLOGY.* 20(5):613-618. I.F.: 2.392

GRANTS FOR RESEARCH IN PROGRESS

Avilés FJ. **Head Neck Clínic.**
Sponsored by: Generalitat de Catalunya.
AGAUR_SGR17_01581
Duration: 01/01/2017-31/12/2020

Bragado P. **El reloj de la metástasis: Regulación circadiana de las células tumorales diseminadas.**
Sponsored by: Fundación BBVA.
BBM-TRA-0041
Duration: 15/09/2018-14/09/2019

Gascón P. **Role of neuropeptides and neurotransmitters in the regulation of tumorigenesis, disseminated tumour cells biology and metastasis in breast cancer.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00661
Duration: 01/01/2016-15/03/2019

5.11 Cell proliferation and signaling

LOCATION
UB School of Medicine

KEYWORDS
1. **Cell cycle**
2. **Signalling**
3. **Oncogenesis**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	16.18	2	2	-
2017	25.66	4	4	-
2018	8.16	2	2	-

TEAM INVOLVED IN
ProteoRed
CIBERONC

TEAM LEADER
Oriol Bachs (UB)
T. 93 403 52 86
obachs@ub.edu

RESEARCHERS
Rosa Aligué (UB)
María Jesús Pujol (UB)

POST-DOCTORAL RESEARCHERS
Edurne Gallastegui (UB)
Judit Macias (UB)
Ramon Marqués (UB)
Serena Orlando (UB)
Laura Sin (UB)
Tula Yanze (UB)

PRE-DOCTORAL RESEARCHERS
Carla Domuro (UB)
Rodrigo Duran (UB)
Julia Llanes (UB)
Edgar Martin (UB)
Jonatan Martinez (UB)

VISITING SCIENTISTS
Toni Hurtado *(University of Oslo)*

STRATEGIC OBJECTIVES

The aim of the group is to study the mechanisms involved in cell cycle regulation and in the cellular responses to different types of stresses. We also aim to analyse the alterations of these mechanisms in different types of cancers as for instance colorectal cancer and leukemias. The knowledge of these mechanisms will allow improving cancer therapy.

MAIN LINES OF RESEARCH

Involvement of p27 (Kip1) in cancer progression: p27 (Kip1), a classical inhibitor of cyclin dependent kinases, is also a transcriptional regulator. We are analysing the mechanisms by which p27 regulates transcription and which are the transcriptional programs regulated by this protein. p27 is decreased in many different types of human tumours and this reduction is associated with a worse outcome. Thus, the identification of the transcriptional programs regulated by p27 helps to understand how p27 participates in the progression of malignancy.

Protein kinases in cancer: Our research focuses on identifying the molecular mechanism by which the CaMK family regulate cell cycle control and stress response. We are actually focused in dissecting the role of the CaMKK2 in cancer development and metabolic stress.

TEAM Oriol Bachs

Preliminary results have indicated that, CaMKK2 has a role in glucosae uptake and nutrient homeostasis. The identification of Ckk2 substrates through the analysis of phospho-peptides indicates that there is a crosstalk between Ckk2 and TOR pathway.

PUBLICATIONS

Originals / I.F.: 8.163

1. Sanchez-Marinas M, Gimenez-Zaragoza D, Martin-Ramos E, Llanes J, Cansado J, Pujol MJ, Bachs O, Aligue R. **Cmk2 kinase is essential for survival in arsenite by modulating translation together with RACK1 orthologue Cpc2 in Schizosaccharomyces pombe.** *FREE RADICAL BIOLOGY AND MEDICINE.* 129:116-126. I.F.: 6.020

2. Hamdi M., Pérez J., Létourneau-Montminy M., Franco-Rosselló R., Aligue R., Solà-Oriol D. **The effects ofmicrobial phytases and dietary calcium and phosphorus levels on the productive performance and bone mineralization of broilers.** *ANIMAL FEED SCIENCE AND TECHNOLOGY.* 243:41-51. I.F.: 2.143

GRANTS FOR RESEARCH IN PROGRESS

Aligué R. **Role of Calmodulin dependent kinases in glucose uptake and nutrient homeostasis: connexion with the mTOR pathway.**
Sponsored by: Ministerio de Economía y competitividad (MINECO). BFU2015-65311-R
Duration: 01/01/2016-31/12/2018

Bachs O. **CiberONC (Cancer network).**
Sponsored by Instituto de Salud Carlos III (ISCIII). CB16/12/00244
Duration: 01/01/2017-31/12/2021

Bachs O. **Carlos III Networked Proteomics Plattform (ProteoRed).**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PT13/0001/0036
Duration: 01/01/2017-31/12/2021

Bachs O. **Role of the transcriptional programs regulated by p27Kip1 in cancer. Sponsored by: Ministerio de Economía y competitividad (MINECO).**
SAF2015-64344-R
Duration: 01/01/2016-31/12/2018

DOCTORAL THESES

Aligué RM. **Caracterización de una nueva fitasa y su expresión en Pichia pastoris.**
PhD student: Ramon Marquès Mascarell

Bachs O. **Papel del p21 en la regulación de la vía de Wnt y su implicación en la neurogénesis.**
PhD student: Laura Sin Díaz

5.12 Cell compartments and signaling

LOCATION
CELLEX building, floor 1B
UB School of Medicine

WEB
www.celltrafficbcn.cat

KEYWORDS
1. **Cell biology**
2. **Endocytosis and exocytosis**
3. **Lipids transport and storage**
4. **Signal transduction**
5. **Cell cycle**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	41.75	7	7	-
2017	29.53	7	5	2
2018	12.32	3	3	-

TEAM LEADER
Carles Enrich (UB)
T. (34) 93 402 19 08
enrich@ub.edu

GROUP LEADERS
Neus Agell (UB)
T. (34) 93 402 19 07
neusagell@ub.edu

Carles Enrich (UB)
T.(34) 93 402 19 08
enrich@ub.edu

Albert Pol (ICREA-IDIBAPS)
T. (34) 93 227 54 00 (Ext. 3337)
apol@ub.edu

RESEARCHERS
Montserrat Jaumot (UB)
Francesc Tebar (IDIBAPS-UB)

POST-DOCTORAL RESEARCHERS
Marta Bosch (UB)
Albert Gubern (IDIBAPS)
Carles Rentero (UB)
Teresa Royo (UB)

PRE-DOCTORAL RESEARCHERS
Baraa Abusaker (UB)
Patricia Blanco (UB)
Debora Cabot (UB)
Albert Chavero (UB)
Sonia Feu (UB)
Elsa Meneses (UB)
Frederic Morales (IDIBAPS)
Fernando Unzueta (UB)

TECHNICIANS
Sonia Brun (UB)
Josep Maria Estanyol (UB)
Alba Fajardo (IDIBAPS)

STRATEGIC OBJECTIVES

Our objective is to understand how the signals originated in the cell surface are transduced to trigger reactions that lead metabolic changes, proliferation, or survival and how these mechanisms are affected during disease. We are currently studying the endocytic compartment, lipid droplets and the endoplasmic reticulum, and the signalling pathways that regulate the cell cycle and apoptosis.

MAIN LINES OF RESEARCH

Endocytosis and intracellular trafficking of proteins and cholesterol:
Our objective is the study of the mechanisms that regulate the endocytosis and exocytosis of proteins and cholesterol and the signalling pathways associated with these processes. We focus on determining the role of annexin A6 in signalling, membrane trafficking and liver regeneration.

Lipid trafficking and disease:
Our objective is to characterize the intracellular transport and storage of lipids and the implication of these mechanisms in disease progression (lipotoxicity). We are Interested in lipid droplet biogenesis/metabolism and the intracellular trafficking of cholesterol mediated by caveolins,

Signal transduction and cell cycle:
Our objective is to analyse the signal transduction mechanisms that regulate cell cycle progression and their alterations in oncogenesis. Specifically we are studying the function and regulation of the Ras and Rho family of GTPases and the signal transduction pathways regulating replication stress in normal and tumour cells.

RESEARCH GROUP
SIGNAL TRANSDUCTION AND CELL CYCLE

GROUP LEADER
Neus Agell (UB)

Our group is interested in studying signal transduction pathways activated upon proliferative signals or upon replication stress and their alteration in tumorigenesis. Specifically we analyse the regulation of GTPases proteins of the Rho and Ras family signalling from different plasma membrane and endocytic platforms, and implications of this signalling compartmentalization in various cellular processes such as proliferation, cell migration and mobility, and also in oncogenesis. We are also analysing signalling from arrested replication forks that lead to cell cycle arrest and senescence.

GROUP Neus Agell

RESEARCH GROUP
ENDOCYTOSIS AND INTRACELLULAR TRAFFICKING OF PROTEINS AND CHOLESTEROL

GROUP LEADER
Carles Enrich (UB)

Our group is interested on the molecular mechanisms of membrane traffic in mammalian cells. This basic research is important for understanding a number of diseases including cancer, diabetes, and heart disease or liver disorders. We study the regulation of a variety of aspects of protein and cholesterol trafficking and signal transduction in the endocytic compartment; a sorting and processing station for proteins internalized by cells as well as of the secretory pathway. We are focus in the study of Annexin A6. Annexins are an evolutionarily conserved multigene family with roles in vesicle trafficking, phospholipid metabolism, actin dynamics, apoptosis and cell transformation.

GROUP Carles Enrich

RESEARCH GROUP
LIPID TRAFFICKING AND DISEASE

GROUP LEADER
Albert Pol (ICREA-IDIBAPS)

Lipid droplets are organelles that collect, store and supply lipids in all eukaryotic cells. These organelles are also cellular hallmarks of prevalent diseases ranging from obesity to cancer. The cell biology of lipid droplets and its role in pathogenesis are still unclear. Our group is interested in the mechanisms of lipid droplet biogenesis and consumption. Cholesterol accumulation promotes mitochondrial dysfunction and oxidative damage underlying in the pathogenesis of steatohepatitis, neurodegeneration and atherosclerosis. In this context, we are especially interested in how caveolin-1 regulates cholesterol trafficking and storage.

PUBLICATIONS

Originals / I.F.: 12.316

1. Wangsa D, Quintanilla I, Torabi K, Vila-Casadesús M, Ercilla A, Klus G, Yuce Z, Galofré C, Cuatrecasas M, Lozano JJ, Agell N, Cimini D, Castells A, Ried T, Camps J. **Near-tetraploid cancer cells show chromosome instability triggered by replication stress and exhibit enhanced invasiveness.** *FASEB JOURNAL.* 32(7):3502-3517. I.F.: 5.595

2. Garrido E, Lázaro J, Jaumot M, Agell N, Rubio-Martinez J. **Modeling and subtleties of K-Ras and Calmodulin interaction.** *PLOS COMPUTATIONAL BIOLOGY.* 14(10):e1006552. I.F.: 3.955

3. Cairns R, Fischer AW, Blanco-Munoz P, Alvarez-Guaita A, Meneses-Salas E, Egert A, Buechler C, Hoy AJ, Heeren J, Enrich C, Rentero C, Grewal T. **Altered hepatic glucose homeostasis in AnxA6-KO mice fed a high-fat diet.** *PLOS ONE.* 13(8):e0201310. I.F.: 2.766

GROUP Albert Pol

Review / I.F.: 3.687

1. Rentero C., Blanco-Muñoz P., Meneses-Salas E., Grewal T., Enrich C. **Annexins-coordinators of cholesterol homeostasis in endocytic pathways.** *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES.* 19(5):1444. I.F.: 3.687

GRANTS FOR RESEARCH IN PROGRESS

Agell N. **La fosforilacion de KRAS, su interaccion con calmodulina, y la respuesta al estrés replicativo, en la progresion del cancer colorectal y en el diseño de nuevas terapias.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
SAF2016-76239-R
Duration: 30/12/2016-29/12/2019

Enrich C, Tebar F. **Contribución del compartimiento endocítico a la migración celular: regulación por colesterol, annexin A6 y Rac1.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO). BFU2015-66785-P
Duration: 01/01/2016-31/12/2019

Pol A. **Lipid Droplet Overloading Promotes Pathogenesis and Progression of Type 2 Diabetes: Identifying New Therapeutic Targets and Applying Upgraded Therapies.**
Sponsored by: Fundació la Marató de TV3. TV3_Diabet_16
Duration: 24/02/2017-23/02/2020

Pol A. **Nuevas funciones de ACSL3, CAV1 y colesterol en el retículo endoplásmico: sensores homeostáticos que determinan la supervivencia o la muerte de las células.**
Sponsored by: Ministerio de Economía y Competitividad (MINECO).
BFU2015-66401-R
Duration: 01/01/2016-30/06/2019

Pol A. **Discovering the Partners of PCSK9 in Hepatic Endosomes: The Where, How, and Why of PCSK9 in Atherosclerosis.**
Sponsored by: AMGEN. PCSK9_18
Duration: 01/09/2018-31/08/2020

5.13 Translational genomics and targeted therapeutics in solid tumors

LOCATION
CEK building, floor 2

WEB
www.clinicbarcelona.org/en/idibaps/research-areas

KEYWORDS
1. Breast cancer
2. Lung cancer
3. Melanoma
4. Urologic cancer
5. Solid tumors
6. Targeted therapies
7. Immunotherapy
8. Biomarkers
9. Genomics
10. Solid tumors
11. Immunotherapy

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	124.54	16	15	1
2017	311.46	31	27	1
2018	254.96	26	18	5

TEAM INVOLVED IN
AGAUR_SGR17: 01554

TEAM LEADER
Aleix Prat (HCB)
T. 93 227 54 00 (Ext.: 2203)
alprat@clinic.cat

RESEARCHERS
Ana Arance (HCB)
Nuria de la Iglesia (IDIBAPS)
Juan Jose Grau (HCB)
Joan Maurel (HCB)
Begoña Mellado (HCB)
Noemí Reguart (HCB-IDIBAPS)
Maria Jesús Vidal (HCB)

POST-DOCTORAL RESEARCHERS
Barbara Adamo (HCB)
Fara Brasó (IDIBAPS)
Juan Miguel Cejalvo (IDIBAPS)
Mercedes Marin (FCRB)
Laia Paré (CIBER)
Cristina Teixidó (IDIBAPS)

PRE-DOCTORAL RESEARCHERS
Javier Garcia (FCRB)
Gaia Griguolo (IDIBAPS)
Tomas Pascual (FCRB)
Leire Pedrosa (FCRB)
Estela Pineda (HCB)
Oscar Reig (FCRB)
Margarita Viladot (HCB)

TECHNICIANS
Mari Carmen Diaz (FCRB)
Patricia Galván (FCRB)
Natalia Jiménez (FCRB)
Sandra López (FCRB)

ADMINISTRATIVE STAFF
Eva Paradell (FCRB)

COLLABORATORS
Carme Font (HCB)
Susana Garcia (FCRB)
Montserrat Muñoz (HCB)
Núria Viñolas (HCB)

STRATEGIC OBJECTIVES

Use genomic or molecular data to guide clinical trial design and biomarker development and study molecular mechanisms of drug sensitivity in order to identify optimal treatment regimens for patients with solid tumors.

TEAM Aleix Prat

MAIN LINES OF RESEARCH

Breast cancer

- To evaluate the impact of the identification of the intrinsic molecular subtypes of breast cancer in the clinical setting.
- To study the mechanisms of drug resistance and tumor progression in Luminal A and B breast cancer.
- To identify genomic biomarkers predictive of response to anti-HER2 drugs in HER2 -positive and mechanisms of resistancebreast cancer.

Colorectal cancer

- To evaluate intrinsic and acquired mechanisms of resistance to chemotherapy and targeted agents in metastatic colorectal cancer, in the three genotypes (KRAS/NRAS mutant, BRAF mutant and triple-WT).
- To characterize epithelial and mesenchymal phenotypes in resectable and metastatic pancreatic carcinoma and it's correlation with drug resistance.

Melanoma

- To evaluate the impact of the immune system in the response to immune checkpoint inhibitors and BRAF inhibitors.
- To study the mechanisms of drug resistance and tumor progression.
- To identify genomic biomarkers predictive of response to anti-PD1 and anti-CTLA4 drugs.

Lung cancer

- Validate novel molecular technologies to streamline the screening of targetable biomarkers in non-small cell lung cancer (NSCLC).
- Identification of novel fusion gene variants in NSCLC: phenotypic characterization of targeted population and prospective clinical validation of their predictive value to targeted treatments.
- Characterize the "stroma-tumor cell" crosstalk in NSCLC and the role of tumor fibroblasts in the tumorigenesis of both major NSCLC subtypes: adenocarcinoma (ADC) and squamous cell carcinoma (SQC). This project is being done in collaboration with Dr. Alcaraz at the UB, Hospital Clinic.

Central nervous system tumors

- Study of the molecular mechanisms of treatment resistance in glioblastoma
- Characterization of the biology behind the intrinsic molecular subtypes of glioblastoma.

Urologic cancer

- To study the molecular mechanisms of resistance to taxanes and novel hormone-therapies in preclinical models, circulating tumor cells and patients with castration resistant prostate cancer.
- To investigate the role of the androgen receptor variants in epithelial to mesenchymal transition and progression and therapy resistance in castration resistant prostate cancer.
- To investigate mechanisms of resistance to anti-angiogenic therapy and identification of new therapeutic targets in renal cell carcinoma.

PUBLICATIONS

Originals / I.F.: 254.959

1. Dummer R, Ascierto P, Gogas H, Arance A, Mandala M, Liszkay G, Garbe C, Schadendorf D, Krajsova I, Gutzmer R, Chiarion Sileni V, Dutriaux C, de Groot J, Yamazaki N, Loquai C, Moutouh-de Parseval L, Pickard M, Sandor V, Robert C, Flaherty K. **Overall survival in patients with BRAF-mutant melanoma receiving encorafenib plus binimetinib versus vemurafenib or encorafenib (COLUMBUS): a multicentre, open-label, randomised, phase 3 trial.** *LANCET ONCOLOGY.* 19(10):1315-1327. I.F.: 36.421

2. Dummer R, Ascierto P, Gogas H, Arance A, Mandala M, Liszkay G, Garbe C, Schadendorf D, Krajsova I, Gutzmer R, Chiarion-Sileni V, Dutriaux C, de Groot J, Yamazaki N, Loquai C, Moutouh-de Parseval L, Pickard M, Sandor V, Robert C, Flaherty K. **Encorafenib plus binimetinib versus vemurafenib or encorafenib in patients with BRAF-mutant melanoma (COLUMBUS): a multicentre, open-label, randomised phase 3 trial.** *LANCET ONCOLOGY.* 19(5):603-615. I.F.: 36.421

3. Duruisseaux M, Martínez-Cardús A, Calleja-Cervantes ME, Moran S, Castro de Moura M, Davalos V, Piñeyro D, Sanchez-Cespedes M, Girard N, Brevet M, Giroux-Leprieur E, Dumenil C, Pradotto M, Bironzo P, Capelletto E, Novello S, Cortot A, Copin MC, Karachaliou N, Gonzalez-Cao M, Peralta S, Montuenga LM, Gil-Bazo I, Baraibar I, Lozano MD, Varela M, Ruffinelli JC, Palmero R, Nadal E, Moran T, Perez L, Ramos I, Xiao Q, Fernandez AF, Fraga MF, Gut M, Gut I, Teixidó C, Vilariño N, Prat A, Reguart N, Benito A, Garrido P, Barragan I, Emile JF, Rosell R, Brambilla E, Esteller M. **Epigenetic prediction of response to anti-PD-1 treatment in non-small-cell lung cancer: a multicentre, retrospective analysis.** *THE LANCET. RESPIRATORY MEDICINE.* 6(10):771-781. I.F.: 21.466

4. Gawrzak S, Rinaldi L, Gregorio S, Arenas E, Salvador F, Urosevic J, Figueras-Puig C, Rojo F, Del Barco Barrantes I, Cejalvo J, Palafox M, Guiu M, Berenguer-Llergo A, Symeonidi A, Bellmunt A, Kalafatovic D, Arnal-Estapé A, Fernández E, Müllauer B, Groeneveld R, Slobodnyuk K, Stephan-Otto Attolini C, Saura C, Arribas J, Cortes J, Rovira A, Muñoz M, Lluch A, Serra V, Albanell J, Prat A, Nebreda A, Benitah S, Gomis R. **MSK1 regulates luminal cell differentiation and metastatic dormancy in ER+ breast cancer.** *NATURE CELL BIOLOGY.* 20(2):211-221. I.F.: 19.064

5. Mouliere F, Chandrananda D, Piskorz AM, Moore EK, Morris J, Ahlborn LB, Mair R, Goranova T, Marass F, Heider K, Wan JCM, Supernat A, Hudecova I, Gounaris I, Ros S, Jimenez-Linan M, Garcia-Corbacho J, Patel K, Østrup O, Murphy S, Eldridge MD, Gale D, Stewart GD, Burge J, Cooper WN, van der Heijden MS, Massie CE, Watts C, Corrie P, Pacey S, Brindle KM, Baird RD, Mau-Sørensen M, Parkinson CA, Smith CG, Brenton JD, Rosenfeld N. **Enhanced detection of circulating tumor DNA by fragment size analysis.** *SCIENCE TRANSLATIONAL MEDICINE.* 10(466). I.F.: 16.710

6. Paré L, Pascual T, Seguí E, Teixidó C, Gonzalez-Cao M, Galván P, Rodríguez A, González B, Cuatrecasas M, Pineda E, Torné A, Crespo G, Martin-Algarra S, Pérez-Ruiz E, Reig Ò, Viladot M, Font C, Adamo B, Vidal M, Gaba L, Muñoz M, Victoria I, Ruiz G, Viñolas N, Mellado B, Maurel J, Garcia-Corbacho J, Molina-Vila MÁ, Juan M, Llovet JM, Reguart N, Arance A, Prat A. **Association between PD1 mRNA and response to anti-PD1 monotherapy across multiple cancer-types.** *ANNALS OF ONCOLOGY.* 29(10):2121-2128. I.F.: 13.930

7. Nuciforo P, Pascual T, Cortés J, Llombart-Cussac A, Fasani R, Paré L, Oliveira M, Galvan P, Martínez N, Bermejo B, Vidal M, Pernas S, López R, Muñoz M, Garau I, Manso L, Alarcón J, Martínez E, Rodrik-Outmezguine V, Brase JC, Villagrasa P, Prat A, Holgado E. **A predictive model of pathological response based on tumor cellularity and tumor-infiltrating lymphocytes (CelTIL) in HER2-positive breast cancer treated with chemo-free dual HER2 blockade.** *ANNALS OF ONCOLOGY.* 29(1):170-177. I.F.: 13.930

8. Puig I, Tenbaum SP, Chicote I, Arqués O, Martínez-Quintanilla J, Cuesta-Borrás E, Ramírez L, Gonzalo P, Soto A, Aguilar S, Eguizabal C, Caratù G, Prat A, Argilés G, Landolfi S, Casanovas O, Serra V, Villanueva A, Arroyo AG, Terracciano L, Nuciforo P, Seoane J, Recio JA, Vivancos A, Dienstmann R, Tabernero J, Palmer HG. **TET2 controls chemoresistant slow-cycling cancer cell survival and tumor recurrence.** *JOURNAL OF CLINICAL INVESTIGATION.* 128(9):3887-3905. I.F.: 13.251

9. Martínez-Ricarte F, Mayor R, Martínez-Sáez E, Rubio-Pérez C, Pineda E, Cordero E, Cicuéndez M, Poca MA, López-Bigas N, Ramon Y Cajal S, Vieito M, Carles J, Tabernero J, Vivancos A, Gallego S, Graus F, Sahuquillo J, Seoane J. **Molecular diagnosis of diffuse gliomas through sequencing of cell-free circulating tumour DNA from cerebrospinal fluid.** *CLINICAL CANCER RESEARCH.* 24(12):2812-2819. I.F.: 10.199

10. Sharma P, Lopez-Tarruella S, García-Saenz J, Khan Q, Gomez H, Prat A, Moreno F, Jerez-Gilarranz Y, Barnadas A, Picornell A, del Monte-Millan M, Gonzalez-Rivera M, Massarrah T, Pelaez-Lorenzo B, Palomero M, del Val R, Cortes J, Fuentes-Rivera H, Morales D, Marquez-Rodas I, Perou C, Lehn C, Wang Y, Klemp J, Mammen J, Wagner J, Amin A, O'Dea A, Heldstab J, Jensen R, Kimler B, Godwin A, Martín M. **Pathological Response and Survival in Triple-Negative Breast Cancer Following Neoadjuvant Carboplatin plus Docetaxel.** *CLINICAL CANCER RESEARCH.* 24(23):5820-5829. I.F.: 10.199

11. Floros K, Lochmann T, Hu B, Monterrubio C, Hughes M, Wells J, Morales C, Ghotra M, Costa C, Souers A, Boikos S, Leverson J, Tan M, Serra V, Koblinski J, Arribas J, Prat A, Paré L, Miller T, Dozmorov M, Harada H, Windle B, Scaltriti M, Faber A. **Coamplification of miR-4728 protects HER2-amplified breast cancers from targeted therapy.** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA.* 115(11):E2594-E2603. I.F.: 9.504

12. Valpione S, Carlino M, Mangana J, Mooradian M, McArthur G, Schadendorf D, Hauschild A, Menzies A, Arance A, Ascierto P, Di Giacomo A, de Rosa F, Larkin J, Park J, Goldinger S, Sullivan R, Xu W, Livingstone E, Weichenthal M, Rai R, Gaba L, Long G, Lorigan P. **Rechallenge with BRAF-directed treatment in metastatic melanoma: A multi-institutional retrospective study.** *EUROPEAN JOURNAL OF CANCER.* 91:116-124. I.F.: 7.191

13. Hamid O, Robert C, Ribas A, Hodi F, Walpole E, Daud A, Arance A, Brown E, Hoeller C, Mortier L, Schachter J, Long J, Ebbinghaus S, Ibrahim N, Butler M. **Antitumour activity of pembrolizumab in advanced mucosal melanoma: a post-hoc analysis of KEYNOTE-001, 002, 006.** *BRITISH JOURNAL OF CANCER.* 119(6):670-674. I.F.: 5.922

14. Alonso V, Escudero P, Fernández-Martos C, Salud A, Méndez M, Gallego J, Rodriguez JR, Martín-Richard M, Fernández-Plana J, Manzano H, Méndez JC, Zanui M, Falcó E, Gil-Raga M, Rojo F, Cuatrecasas M, Feliu J, García-Albéniz X, Maurel J. **Coexpression of p-IGF-1R and MMP-7 Modulates Panitumumab and Cetuximab Efficacy in RAS Wild-Type Metastatic Colorectal Cancer Patients.** *NEOPLASIA.* 20(7):678-686. I.F.: 4.994

15. Mohr P, Ascierto P, Arance A, McArthur G, Hernaez A, Kaskel P, Shinde R, Stevinson K. **Real-world treatment patterns and outcomes among metastatic cutaneous melanoma patients treated with ipilimumab.** *JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY.* 32(6):962-971. I.F.: 4.287

16. Ruiz-Patiño A, Castro CD, Ricaurte LM, Cardona AF, Rojas L, Zatarain-Barrón ZL, Wills B, Reguart N, Carranza H, Vargas C, Otero J, Corrales L, Martín C, Archila P, Rodriguez J, Avila J, Bravo M, Pino LE, Rosell R, Arrieta O, Latin-American Consortium for the Investigation of Lung Cancer (CLICaP). **EGFR Amplification and Sensitizing Mutations Correlate with Survival in Lung Adenocarcinoma Patients Treated with Erlotinib (MutP-CLICaP).** *TARGETED ONCOLOGY.* 13(5):621-629. I.F.: 3.907

17. Teixidó C, Giménez-Capitán A, Molina-Vila MÁ, Peg V, Karachaliou N, Rodríguez-Capote A, Castellví J, Rosell R. **RNA Analysis as a Tool to Determine Clinically Relevant Gene Fusions and Splice Variants.** *ARCHIVES OF PATHOLOGY AND LABORATORY MEDICINE.* 142(4):474-479. I.F.: 3.658

18. García del Muro X, Maurel J, Martínez Trufero J, Lavernia J, López Pousa A, de las Peñas R, Cubedo R, Berros J, Casado Herráez A, de Juan A, Martín Broto J. **Phase II trial of ifosfamide in combination with the VEGFR inhibitor sorafenib in advanced soft tissue sarcoma: a Spanish group for research on sarcomas (GEIS) study.** *INVESTIGATIONAL NEW DRUGS.* 36(3):468-475. I.F.: 3.502

19. Laurberg T, Tramm T, Nielsen T, Alsner J, Nord S, Myhre S, Sørlie T, Leung S, Fan C, Perou C, Gelmon K, Overgaard J, Voduc D, Prat A, Cheang M. **Intrinsic subtypes and benefit from postmastectomy radiotherapy in node-positive premenopausal breast cancer patients who received adjuvant chemotherapy -results from two independent randomized trials.** ACTA ONCOLOGICA. 57(1):38-43. I.F.: 3.473

20. Maurel J, Sánchez-Cabús S, Laquente B, Gaba L, Visa L, Fabregat J, Povés I, Roselló S, Díaz-Beveridge R, Martín-Richard M, Rodriguez J, Sabater L, Conill C, Cambray M, Reig A, Ayuso JR, Valls C, Ferrández A, Bombí JA, Ginés A, García-Albéniz X, Fernández-Cruz L. **Outcomes after neoadjuvant treatment with gemcitabine and erlotinib followed by gemcitabine-erlotinib and radiotherapy for resectable pancreatic cancer (GEMCAD 10-03 trial).** *CANCER CHEMOTHERAPY AND PHARMACOLOGY.* 82(6):935-943. I.F.: 2.808

21. Tuca, Albert; Gomez-Martinez, Monica; Prat, Aleix. **Predictive model of complexity in early palliative care: a cohort of advanced cancer patients (PALCOM study).** *SUPPORTIVE CARE IN CANCER.* 26(1):241-249. I.F.: 2.676

22. Barril S, Alonso A, Rodríguez-Portal JA, Viladot M, Giner J, Aparicio F, Romero-Ortiz A, Acosta O, Castillo D. **Palliative Care in Diffuse Interstitial Lund Disease: Results of a Spanish Survey.** *ARCHIVOS DE BRONCONEUMOLOGIA.* 54(3):123-127. I.F.: 2.633

23. Carles J, Castellano D, Méndez-Vidal M,

Mellado B, Saez M, González del Alba A, Perez-Gracia J, Jimenez J, Suárez C, Sepúlveda J, Manneh R, Porras I, López C, Morales-Barrera R, Arranz J. **Circulating Tumor Cells as a Biomarker of Survival and Response to Radium-223 Therapy: Experience in a Cohort of Patients With Metastatic Castration-Resistant Prostate Cancer.** *CLINICAL GENITOURINARY CANCER.* 16(6):e1133-e1139. I.F.: 2.539

24. Balaña C, Estival A, Teruel I, Hardy-Werbin M, Sepulveda J, Pineda E, Martinez-García M, Gallego O, Luque R, Gil-Gil M, Mesia C, Del Barco S, Herrero A, Berrocal A, Perez-Segura P, De Las Penas R, Marruecos J, Fuentes R, Reynes G, Velarde JM, Cardona A, Verger E, Panciroli C, Villà S. **Delay in starting radiotherapy due to neoadjuvant therapy does not worsen survival in unresected glioblastoma patients.** *CLINICAL AND TRANSLATIONAL ONCOLOGY.* 20(12):1529-1537. I.F.: 2.392

25. Carles J, Méndez MJ, Pinto Á, Sáez MI, Arranz JA, Maroto P, López-Criado P, Mellado B, Donas JG, Hernando S, León L, Del Alba AG, Laínez N, Esteban E, Reynés G, Pérez-Gracia JL, Germà JR, López-Brea M, Pérez-Valderrama B, Moretones C, Castellano D. **Radium-223 international early access program: results from the Spanish subset.** *FUTURE ONCOLOGY.* 14(1):41-50. I.F.: 2.369

26. Buxó E, Sosa A, Reig O, Victoria I, Caballero M, Grau JJ, Garcia-Morillo M. **Intravenous 5-Fluorouracil in Patients With Advanced Squamous Cell Carcinoma: A Retrospective Study.** *ANNALS OF OTOLOGY, RHINOLOGY AND LARYNGOLOGY.* 127(7):456-462. I.F.: 1.513

Review / I.F.: 32.408

1. Remon J, Hendriks L, Cabrera C, Reguart N, Besse B. **Immunotherapy for oncogenic-driven advanced non-small cell lung cancers: Is the time ripe for a change?** *CANCER TREATMENT REVIEWS.* 71:47-58. I.F.: 8.122

2. Remon J, Vilariño N, Reguart N. **Immune checkpoint inhibitors in non-small cell lung cancer (NSCLC): Approaches on special subgroups and unresolved burning questions.** *CANCER TREATMENT REVIEWS.* 64:21-29. I.F.: 8.122

3. Cejalvo JM, Pascual T, Fernández-Martínez A, Brasó-Maristany F, Gomis RR, Perou CM, Muñoz M, Prat A. **Clinical implications of the non-luminal intrinsic subtypes in hormone receptor-positive breast cancer.** *CANCER TREATMENT REVIEWS.* 67:63-70. I.F.: 8.122

4. Teixidó C, Vilariño N, Reyes R, Reguart N. **PD-L1 expression testing in non-small cell lung cancer.** *THERAPEUTIC ADVANCES IN MEDICAL ONCOLOGY.* 10:1-17. I.F.: 6.238

5. Remon J, Mezquita L, Corral J, Vilariño N, Reguart N. **Immune-related adverse events with immune checkpoint inhibitors in thoracic malignancies: Focusing on non-small cell lung cancer patients.** *JOURNAL OF THORACIC DISEASE.* 10(suppl 13):S1516-S1533. I.F.: 1.804

Letters / I.F.: 5.088

1. Balaña C, Estival A, Pineda E. **Bevacizumab rechallenge in glioblastoma patients with initial response to bevacizumab who later progress off therapy.** *JOURNAL OF NEURO-ONCOLOGY.* 139(3):779-780. I.F.: 3.060

2. Rody A, Ettl J, Marmé F, Prat A. **Molecular Tumor Boards.** *BREAST CARE.* 13(2):141-143. I.F.: 2.028

Case Reports / I.F.: 10.302

1. Xipell M, Victoria I, Hoffmann V, Villarreal J, García-Herrera A, Reig O, Rodas L, Blasco M, Poch E, Mellado B, Quintana L. **Acute tubulointerstitial nephritis associated with atezolizumab, an anti-programmed death-ligand 1 (pd-l1) antibody therapy.** *ONCOIMMUNOLOGY.* 7(7):e1445952. I.F.: 5.503

2. Fernández-Sartorio C, Boada A, Chavez-Bourgeois MM, Ruiz Ares GJ, Arance AM, Manzano JL, García-Herrera A, Carrera C. **Aged-looking skin and encorafenib: an adverse event of BRAF inhibitors.** *MELANOMA RESEARCH.* 28(2):160-162. I.F.: 3.135

3. Cortes-Mateus, Karen S.; Holub, Katarzyna; Racca, Fabricio; Jose Grau, Juan; Capdevila, Jaume. **Concurrent palliative external radiotherapy with sorafenib or doxorubicin for bulky differentiated thyroid carcinoma: A case report.** *ONCOLOGY LETTERS.* 16(3):4085-4089. I.F.: 1.664

Clinical Guidelines / I.F.: 21.106

1. Cardoso F, Senkus E, Costa A, Papadopoulos E, Aapro M, André F, Harbeck N, Aguilar Lopez B, Barrios CH, Bergh J, Biganzoli L, Boers-Doets CB, Cardoso MJ, Carey LA, Cortés J, Curigliano G, Diéras V, El Saghir NS, Eniu A, Fallowfield L, Francis PA, Gelmon K, Johnston SRD, Kaufman B, Koppikar S, Krop IE, Mayer M, Nakigudde G, Offersen BV, Ohno S, Pagani O, Paluch-Shimon S, Penault-Llorca F, Prat A, Rugo HS, Sledge GW, Spence D, Thomssen C, Vorobiof DA, Xu B, Norton L, Winer EP. **4th ESO-ESMO International Consensus Guidelines for Advanced Breast Cancer (ABC 4).** *ANNALS OF ONCOLOGY.* 29(8):1634-1657. I.F.: 13.930

2. Balañá C, Alonso M, Hernandez A, Perez-Segura P, Pineda E, Ramos A, Sanchez A, Teixidor P, Verger E, Benavides M. **SEOM clinical guidelines for anaplastic gliomas (2017).** *CLINICAL AND TRANSLATIONAL ONCOLOGY.* 20(1):16-21. I.F.: 2.392

3. Berrocal A, Arance A, Castellon V, de la Cruz L, Espinosa E, Cao M, Larriba J, Márquez-Rodas I, Soria A, Algarra S. **SEOM clinical guideline for the management of malignant melanoma (2017).** *CLINICAL AND TRANSLATIONAL ONCOLOGY.* 20(1):69-74. I.F.: 2.392

4. Cassinello J, Arranz J, Piulats J, Sánchez A, Pérez-Valderrama B, Mellado B, Climent M, Olmos D, Carles J, Lázaro M. **SEOM clinical guidelines for the treatment of metastatic prostate cancer (2017).** *CLINICAL AND TRANSLATIONAL ONCOLOGY.* 20(1):57-68. I.F.: 2.392

GRANTS FOR RESEARCH IN PROGRESS

Maurel J. **Estudio observacional para evaluar la estrategia de uso de las terapias dirigidas, en cáncer de colon metastásico.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI13/01728
Duration: 01/01/2014-30/06/2019

Mellado B. **Caracterización molecular del cáncer de próstata en función de la expresión de TMPRSS2-ERG: implicaciones terapéuticas.**
Sponsored by: Instituto Carlos III (ISCIII). PI15/00676
Duration: 01/01/2016-21/05/2019

Pineda E. **Study of the molecular mechanisms involved in primary (glioblastoma) and secondary (metastasis) brain tumors to identify novel therapeutic targets and anti-cancer agents, biomarkers to select treatments and novel non-invasive methods for molecular diagnos.**
Sponsored by: Fundación Científica Asociación Española Contra el Cancer (AECC). GCTRA16015SEDA
Duration: 15/11/2017-14/11/2022

Prat A. **Translational Genomics and Targeted Therapeutics in Solid Tumors.**
Sponsored by: Generalitat de Catalunya. AGAUR_SGR17_01554
Duration: 01/01/2017-31/12/2020

Prat A. **Identificación y validación de una firma genómica predictiva de beneficio a fármacos anti-PD1 en múltiples tumores sólidos.**
Sponsored by: Fundación Sociedad Española de Oncología Médica (SEOM_16)
Duration: 01/11/2016-31/10/2019

Prat A. **Identificació d'alteracions moleculars accionables durant la progressió metastàsica del càncer de mama luminal.**
Sponsored by: Fundación Sociedad Española de Oncología Médica (SEOM_14). PROYECTOS16_01
Duration: 01/11/2016-31/10/2019

Prat A. **Estudio prospectivo exploratorio para la determinación de DNA circulante tumoral (ctDNA) en muestras sanguíneas de pacientes tratadas por cáncer de mama en seguimiento y sin evidencia de recidiva: ESTUDIO B-CRONOS.**
Sponsored by: Fundación de Investigación Médica Mútua Madrileña (FundMM). AP168952018
Duration: 06/07/2018-05/07/2021

Prat A. **Estudio del fenotipo HER2-enriquecido en cáncer de mama HER2-negativo.**
Sponsored by: Fundación Astrazeneca. JOVINV17_003
Duration: 12/12/2017-31/12/2018

Prat A. **Doble bloque HER2 sin quimioterapia en cáncer de mama precoz HER2+.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00904
Duration: 01/01/2017-31/12/2019

Prat A. **Financial Support for the Breast Cancer Intergroup Correlative Science Studies.**
Sponsored by: Regents of the University of Michigan. BCRF_2015
Duration: 01/10/2014-30/09/2019

Reguart N. **Validación de un ensayo multiplex personalizado para la detección de oncogenes y firmas inmunes en Cáncer de Pulmón (CP): estudio observacional, prospectivo y multicéntrico.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/00890
Duration: 01/01/2017-31/12/2019

DOCTORAL THESIS

Prat A. **Caracterización de la expresión de ácido ribonucleico mensajero en distintos subtipos histológicos de carcinoma basocelular.**
PhD student: Patricia Bassas Freixas

ANNUAL
SCIENTIFIC
REPORT
2018

TRANSVERSAL AREA

TRANSVERSAL RESEARCH GROUPS

© José César Milisenda

TRANSVERSAL RESEARCH GROUPS

T.1 **Primary healthcare transversal research group** 334
Antoni Sisó

T.2 **Research in nursing** 337
Adelaida Zabalegui

T.3 **Clinical pharmacology** 339
Gonzalo Calvo

T.1 Primary healthcare transversal research group

LOCATION
EAP Les Corts
EAP Comte Borrell
EAP Casanova

WEB
www.clinicbarcelona.org/en/idibaps/research-areas

KEYWORDS
1. **Primary healthcare**
2. **Chronic diseases**
3. **Cardiovascular diseases & cardiovascular risk factors**
4. **Health technology assessment**
5. **Autoimmune & rheumatic diseases**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	**56.83**	**18**	**7**	**4**
2017	**42.58**	**16**	**5**	**6**
2018	**19.18**	**8**	**1**	**4**

TEAM LEADER
Antoni Sisó Almirall (EAP Les Corts)
T. 93 227 99 24
asiso@clinic.cat

RESEARCHERS
Mª Carmen Alvira (CAPSBE)
August Anguita (CAPSBE)
Jaume Benavent (CAPSBE)
Lluisa Benito (CAPSBE)
Esther Blat (CAPSBE)
Marta Catalán (CAPSBE)
Cristina Colungo (CAPSBE)
Noemí García (CAPSBE)
Imma Garrell (CAPSBE)
Joan Gené (CAPSBE)
Núria Gimferrer (CAPSBE)
Lluís González (CAPSBE)
Susana González (CAPSBE)
Carmen Herranz (CAPSBE)
Zoe Herreras (CAPSBE)
Mireia López (CAPSBE)
Angela Martínez (CAPSBE)
Ignacio Menacho (CAPSBE)
Pilar Navarrete (CAPSBE)
Marta Navarro (CAPSBE)
Jacinto Ortiz (CAPSBE)
Anna Pereira (CAPSBE)
Montserrat Pinyol (CAPSBE)
Silvia Roura (CAPSBE)
Marina Rovira (HCB)
Antoni Salvà (CAPSBE)
Núria Sánchez (CAPSBE)
Mireia Sans (CAPSBE)
Elisenda Sant (CAPSBE)
Ethel Sequeira (CAPSBE)
Josep Miquel Sotoca (HCB)
Josep Maria Vilaseca (CAPSBE)

PRE-DOCTORAL RESEARCHERS
Maria Antonieta Also (CAPSBE)
Laia Cayuelas (CAPSBE)
Laia Gené (CAPSBE)
Alba Herrero (CAPSBE)
Enma Marianela Morales (AP-Consorci Hospital Terrassa)
Sonia Moreno (PAMEM)
Aina Perelló (UB)

TECHNICIANS
Belchin Kostov (IDIBAPS)

COLLABORATORS
Pilar Brito (HCB)
Diana Alicia Diaz (IDIBAPS)
Imma Grau (HCB)
Manel Ramos-Casals (HCB)

STRATEGIC OBJECTIVES

Primary care is the point of patient entry to the healthcare system.
In the research context, the multidisciplinary and transverse nature of the activities of the primary care professional favours a biological, psychological and social approach to the patients and their illnesses, in both the consulting office and in the home.

TEAM Antoni Sisó Almirall

MAIN LINES OF RESEARCH

Main outcomes:

- Conduction of population-based studies (both descriptive and evaluating interventions and follow-up), in an accessible and well defined population of subjects, taking advantage of the computer-based filing of clinical data.
- Conduction of research into healthcare results or outcomes.
- Description of the natural history of the patient and disease from a biological, psychological and social perspective.
- Conduction of studies of risk factors and preventive medicine.
- Analysis of the morbidity and mortality of the most prevalent disorders.
- Development of collaborative studies with the administration and research entities or groups allowing the implementation of transversal research.

The main lines of research include:

- Healthcare continuity and management of chronic diseases.
- Use of healthcare services.
- The fragility – geriatrics – dependency – home care axis.
- Use of medicines.
- Primary care and autoimmunity.
- Atherogenesis, risk factors and cardiovascular diseases.
- Chronic pain.
- Mental health, smoking and other addictions.
- Respiratory diseases.
- Digestive and liver diseases.
- HIV infection-AIDS and other infectious diseases.
- 2.0. Health.

PUBLICATIONS

Originals / I.F.: 19.176

1. Martinez-Perez A; Roure Díez S; Belhasen-Garcia M; Torrús-Tendero D; Perez-Arellano JL; Cabezas T; Soler C; Díaz-Menéndez M; Navarro M; Treviño B; Salvador-Vélez F; Soil-Transmitted Helminths' Study Group of the Spanish Society of Tropical Medicine and International Health (SEMTSI). **Management of severe strongyloidiasis attended at reference centers in Spain.** *PLOS NEGLECTED TROPICAL DISEASES.* 12(2):e0006272-e0006272. I.F.: 4.367

2. Flores-Chávez A, Kostov B, Solans R, Fraile G, Maure B, Feijoo-Massó C, Rascón FJ, Pérez-Alvarez R, Zamora-Pasadas M, García-Pérez A, Lopez-Dupla M, Duarte-Millán MÁ, Ripoll M, Fonseca-Aizpuru E, Guisado-Vasco P, Pinilla B, de-la-Red G, Chamorro AJ, Morcillo C, Fanlo P, Soto-Cárdenas MJ, Retamozo S, Ramos-Casals M, Brito-Zerón P, GEAS-SS SEMI Registry. **Severe, life-threatening phenotype of primary Sjögren's syndrome: clinical characterisation and outcomes in 1580 patients (GEAS-SS Registry).** *CLINICAL AND EXPERIMENTAL RHEUMATOLOGY.* 36 Suppl 112(3):121-129. I.F.: 3.201

3. Gené Huguet L., Navarro González M., Kostov B., Ortega Carmona M., Colungo Francia C., Carpallo Nieto M., Hervás Docón A., Vilarrasa Sauquet R., García Prado R., Sisó-Almirall A. **Pre Frail 80: Multifactorial Intervention to Prevent Progression of Pre-Frailty to Frailty in The Elderly.** *THE JOURNAL OF NUTRITION, HEALTH & AGING.* 22(10):1266-1274. I.F.: 2.868

4. Peralta-Gallego L, Gené-Badia J, Gallo P. **Effects of undocumented immigrants exclusion from health care coverage in Spain.** *HEALTH POLICY.* 122(11):1155-1160. I.F.: 2.293

5. Brito-Zerón P., Acar-Denizli N., Sisó-Almirall A., Bosch X., Hernández F., Vilanova S., Villalta M., Kostov B., Paradela M., Sanchez M., Ramírez J., Muxí A., Berruezo A., Galceran-Chaves C., Xaubet A., Agustí C., Sellarés J., Ramos-Casals M. **The Burden of Comorbidity and Complexity in Sarcoidosis: Impact of Associated Chronic Diseases.** *LUNG.* 196(2):239-248. I.F.: 2.101

6. Barberan-Garcia A., Gimeno-Santos E., Blanco I., Cano I., Martínez-Pallí G., Burgos F., Miralles F., Coca M., Murillo S., Sanz M., Steblin A., Ubré M., Benavent J., Vidal J., Sitges M., Roca J. **Protocol for regional implementation of collaborative self-management services to promote physical activity.** *BMC HEALTH SERVICES RESEARCH.* 18(1):560. I.F.: 1.843

7. Farré M, Kostov B, Haro JM, Cabrera E, Risco E, Alvira M, Miguel S, Zabalegui A. **Costs and Burden Associated with Loss of Labor Productivity in Informal Caregivers of People with Dementia: Results from Spain.** *JOURNAL OF OCCUPATIONAL AND ENVIRONMENTAL MEDICINE.* 60(5):449-456. I.F.: 1.355

8. Blánquez Moreno C., Colungo Francia C., Alvira Balada M., Kostov B., González-de Paz L., Sisó-Almirall A. **Effectiveness of an educational program for respiratory rehabilitation of Chronic Obstructive Pulmonary Disease patients in Primary Care in improving the quality of life, symptoms, and clinical risk.** *ATENCION PRIMARIA.* 50(9):539-546. I.F.: 1.148

Editorial / I.F.: 3.464

1. Vilaseca JM, Sans M. **Alma Ata 40th anniversary: Milestones of primary health care.** *MEDICINA CLINICA.* 151(11):441-443. I.F.: 1.168

2. Gené Badia J, Gallo de Puelles P, de Lecuona I. **Big data y seguridad de la información.** *ATENCION PRIMARIA.* 50(1):3-5. I.F.: 1.148

3. Badia JG, Zurro AM. **Julian Tudor Hart (1927-2018): indisputable world leader in primary care**. *ATENCION PRIMARIA.* 50(7):385-386. I.F.: 1.148

Consortium Publications / I.F.: 6.462

1. Bruyndonckx R, Hens N, Verheij TJ, Aerts M, Ieven M, Butler CC, Little P, Goossens H, Coenen S, GRACE project group. **Development of a prediction tool for patients presenting with acute cough in primary care: a prognostic study spanning six European countries.** *BRITISH JOURNAL OF GENERAL PRACTICE.* 68(670):e342-e350. I.F.: 3.261

2. Brito-Zerón P, Acar-Denizli N, Ng WF, Zeher M, Rasmussen A, Mandl T, Seror R, Li X, Baldini C, Gottenberg JE, Danda D, Quartuccio L, Priori R, Hernandez-Molina G, Armagan B, Kruize AA, Kwok SK, Kvarnström M, Praprotnik S, Sène D, Bartoloni E, Solans R, Rischmueller M, Suzuki Y, Isenberg DA, Valim V, Wiland P, Nordmark G, Fraile G, Bootsma H, Nakamura T, Giacomelli R, Devauchelle -Pensec V, Knopf A, Bombardieri M, Trevisani VF, Hammenfors D, Pasoto SG, Retamozo S, Gheita TA, Atzeni F, Morel J, Vollenveider C, Horvath IF, Sivils KL, Olsson P, De Vita S, Sánchez-Guerrero J, Kilic L, Wahren-Herlenius M, Mariette X, Ramos-Casals M, Sjögren Big Data Consortium. **How immunological profile drives clinical phenotype of primary Sjögren's syndrome at diagnosis: analysis of 10,500 patients (Sjögren Big Data Project).** *CLINICAL AND*

EXPERIMENTAL RHEUMATOLOGY.
36(3):102-112. I.F.: 3.201

GRANTS FOR RESEARCH IN PROGRESS

Herranz C. **Avaluació d'una Intervenció Comunitària per disminuir la percepció de soledat en les persones majors.**
Sponsored by: Consorci d'Atenció Primària de Salut Barcelona Esquerra (CAPSBE)
Duration: 01/06/2017-01/06/2018

Sequeira E. **CRIB-MI: cribado en pacientes inmigrantes mediante Herramienta informática adaptada a la historia Clínica en Atención Primaria.**
Sponsored by: Generalitat de Catalunya (PERIS).
Duration: 01/01/2017-31/12/2019

Sisó A. **Validez de un método de monitorización de la Presión Arterial de 1 hora frente a los métodos habituales: estudio de evaluación de tecnología diagnóstica .**
Sponsored by: Instituto de Salud Carlos III (ISCIII).
Duration: 01/01/2017-31/12/2019

DOCTORAL THESES

Sisó A, Ramos M. **Dolor crónico generalizado y Fibromialgia: estudio de pruebas objetivas, comorbilidad, complejidad y gasto sanitario.**
PhD student: Enma Marianela Morales Espinoza

T.2 Research in nursing

LOCATION
HCB building

KEYWORDS
1. **Older people**
2. **Chronic-care / Long-term care**
3. **Dementia**
4. **Best practice**
5. **Advance nursing practice**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	16.96	9	1	3
2017	20.94	6	4	2
2018	24.51	12	2	7

TEAM INVOLVED IN
AGAUR_SGR17: 01114

TEAM LEADER
Adelaida Zabalegui (HCB)
T. 93 227 54 00 (Ext.: 3055)
azabaleg@clinic.cat

POST-DOCTORAL RESEARCHERS
Ester Risco (HCB)

PRE-DOCTORAL RESEARCHERS
Cindy Esther Frías (HCB)
Marta García (HCB)
Sara Pedragosa (HCB)
Sonia Sevilla (HCB)

NURSING STAFF
Ana Alonso (HCB)
Sheila Baena (HCB)
Lourdes Corominas (HCB)
Marta Farré (HCB)
Marta García (HCB)
Miguel Ángel Giménez (HCB)
Dolors Robles (HCB)
Victoria Ruiz (HCB)
M. Carmen Sánchez (HCB)

COLLABORATORS
Montserrat Amigó (HCB)

STRATEGIC OBJECTIVES

Research in nursing is essential for responding to the healing demands of the current healthcare system. Its complexity in the hospital setting is derived from the associated increase in patient severity upon admission, the reduction in hospital stay, the incorporation of new technologies, the aging of the population, patient requests for information, social change, and the global crisis.

MAIN LINES OF RESEARCH

Empowerment:
The main target is to increase the patient empowerment and develop assessment tools for educational interventions to improve their bio-physiological, functional and social wellbeing.

Chronic & aging care:
Dementia care: The main target is to improve health service for people with dementia through careful development of best practice strategies using various data collection methods including extensive literature review, focus groups, clinical assessments and analysis of new interventions in different nursing settings (homecare, institutional long term and hospital.

Innovation:
As an instrument to improve the efficiency and quality of care processes involving cardiac and respiratory diseases, as well as other areas of clinical practice. Implementation of Dedicated Educational Units.

Professional Competencies:
To determine how hospital nurse staffing, skill mix, educational composition, and quality of the nurse work environment impact on different hospital outcomes such as mortality, failure to rescue, quality of care, and patient satisfaction. These findings will allow researchers to refine existing nurse workforce.

Advanced Practice:
To describe and analyse including the development of a new instrument to measure the different dimentions at APNs, the advance practice role and competences in nursing.

PUBLICATIONS

Originals / I.F.: 24.511

1. Costa, Nadege; Wuebker, Ansgar; De Mauleon, Adelaide; Zwakhalen, Sandra M. G.; Challis, David; Leino-Kilpi, Helena; Hallberg, Ingalill R.; Stephan, Astrid; Zabalegui, Adelaida; Saks, Kai; Molinier, Laurent; Wimo, Anders; Vellas, Bruno; Sauerland, Dirk; Binot, Ingrid; Soto, Maria E. RightTimePlaceCare Consortium. **Costs of Care of Agitation Associated With Dementia in 8 European Countries: Results From the RightTimePlaceCare Study.** *JOURNAL OF THE AMERICAN MEDICAL DIRECTORS ASSOCIATION.* 19(1):95.e1-95.e10. I.F.: 5.325

2. Renom-Guiteras, Anna; Thurmann, Petra A.; Miralles, Ramon; Klaassen-Mielke, Renate; Thiem, Ulrich; Stephan, Astrid; Bleijlevens, Michel H. C.; Jolley, David; Leino-Kilpi, Helena; Hallberg, Ingalill Rahm; Saks, Kai; Soto-Martin, Maria; Zabalegui, Adelaida; Meyer, Gabriele; RightTimePlaceCare Consortium. **Potentially inappropriate medication among people with dementia in eight European countries.** *AGE AND AGEING.* 47(1):68-74. I.F.: 4.013

3. Römhild J; Fleischer S; Meyer G; Stephan A; Zwakhalen S; Leino-Kilpi H; Zabalegui A; Saks K; Soto-Martin M; Sutcliffe C; Rahm Hallberg I;

Berg A; RightTimePlaceCare Consortium. **Inter-rater agreement of the Quality of Life-Alzheimer's Disease (QoL-AD) self-rating and proxy rating scale: secondary analysis of RightTimePlaceCare data.** *HEALTH AND QUALITY OF LIFE OUTCOMES*. 16(1):131-131. I.F.: 2.278

4. Martina Pellice Arino, Olga Rodriguez, Isabel Fortes, Silvia Valls, Miguel Ángel Giménez Lejara, Juan Ambrosioni, Jose Antonio Martinez, Alejandro Soriano, Elisa De Lazzari, Ana Del Rio. **Reduction of Catheter Related Bloodstream Infections (CRBI) Rates After Implementation of 2% Gluconate- Chlorhexidine-Impregnated Wipes (CHG Wipes) Daily Bathing in a Cardiovascular Surgical Intensive Care Unit (CSICU).** *AMERICAN JOURNAL OF INFECTION CONTROL*. 46(6):45. I.F.: 1.929

5. Lethin C., Leino-Kilpi H., Bleijlevens M., Stephan A., Martin M., Nilsson K., Nilsson C., Zabalegui A., Karlsson S. **Predicting caregiver burden in informal caregivers caring for persons with dementia living at home – A follow-up cohort study.** *DEMENTIA*. :1471301218782502. I.F.: 1.671

6. Risco E., Cabrera E., Alvira M., Farré M., Miguel S., Zabalegui A. **Risk factors related to the admission of people with dementia into a long-term care institution in Spain: an explorative study.** *AGEING AND SOCIETY*. 38(1):192-211. I.F.: 1.620

7. Charalambous A, Papastavrou E, Valkeapää K, Zabalegui A, Ingadóttir B, Lemonidou C, Fatkulina N, Jouko K, Leino-Kilpi H. **Content of Orthopedic Patient Education Provided by Nurses in Seven European Countries.** *CLINICAL NURSING RESEARCH*. 27(7):770-789. I.F.: 1.466

8. Farré M, Kostov B, Haro JM, Cabrera E, Risco E, Alvira M, Miguel S, Zabalegui A. **Costs and Burden Associated with Loss of Labor Productivity in Informal Caregivers of People with Dementia: Results from Spain.** *JOURNAL OF OCCUPATIONAL AND ENVIRONMENTAL MEDICINE*. 60(5):449-456. I.F.: 1.355

9. Copanitsanou P., Sourtzi P., Cano S., Cabrera E., Charalambous A., Katajisto J., Leino-Kilpi H., Papastavrou E., Valkeapää K., Zabalegui A., Lemonidou C. **Empowering education of arthroplasty patients' significant others in three Southern European countries.** *INTERNATIONAL JOURNAL OF OLDER PEOPLE NURSING*. 13(3):e12193. I.F.: 1.333

10. Sevilla Guerra, Sonia; Miranda Salmeron, Josep; Zabalegui, Adelaida. **Profile of advanced nursing practice in Spain: A cross-sectional study.** *NURSING AND HEALTH SCIENCES*. 20(1):99-106. I.F.: 1.237

11. Cano-Plans S, Lacueva-Pérez L, Cabrera E, Zabalegui A. **Knowledge expectations of orthopaedic patients.** *INTERNATIONAL JOURNAL OF NURSING PRACTICE*. 24(3):e12639. I.F.: 1.142

12. Sevilla Guerra, Sonia; Risco Vilarasau, Ester; Galisteo Gimenez, Maria; Zabalegui, Adelaida. **Spanish version of the modified Advanced Practice Role Delineation tool, adaptation and psychometric properties.** *INTERNATIONAL JOURNAL OF NURSING PRACTICE*. 24(3):e12635. I.F.: 1.142

GRANTS FOR RESEARCH IN PROGRESS

Zabalegui A. **Avaluació d'una intervenció innovadora informativa, formativa i de suport social (INFOSA-DEM) als cuidadors informals de persones amb demència al domicili.**
Sponsored: Fundació La Marató de TV3 (20144410)
Duration: 12/05/2015-11/05/2018

Zabalegui A. **Cuidado de personas mayores con alteración cognitiva o demencia hospitalizadas en unidades de traumatologia.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI17/01049
Duration: 01/01/2018-31/12/2020

DOCTORAL THESES

Zabalegui A. **The implementation of advanced practice nursing in catalonia.**
PhD student: Sonia Sevilla Guerra

Zabalegui A. **L'evolució de la professió infermera a l'Hospital Clínic de Barcelona. Una Investigació Històrica (1906-2018).**
PhD student: Montse Venturas Nieto

T.3 Clinical pharmacology

LOCATION
Rosselló 138
(rooms 12, 20, 21, 25)

Mallorca 183
(rooms 3, 10, 78, 86, 89, 90, 91)

KEYWORDS
1. **Clinical trials, design and methodology**
2. **Ethics in clinical research**
3. **Drug regulation**
4. **Pharmacoepidemiology**
5. **Pharmacovigilance**

Original publications from 2016 to 2018

YEAR	I.F.	TOTAL	Q1	Q2
2016	35.37	5	4	1
2017	21.75	6	5	1
2018	14.62	4	1	3

TEAM INVOLVED IN
SCReN
ECRIN
AGAUR_SGR14

TEAM LEADER
Gonzalo Calvo Rojas (HCB)
T. 93 227 93 28
gcalvo@clinic.cat

RESEARCHERS
Joan Albert Arnaiz (HCB)

COLLABORATORS
Ferran Torres (HCB)
Joaquín Sáez-Peñataro (HCB)
Andrea Scalise (HCB)
Juan José Aragonés (FCRB)
Alexandre Bernalte (FCRB)
Georgina Casanovas (FCRB)
Ana Cruceta (FCRB)
Gemma Domenech (IDIBAPS)
Juan Ferrero (FCRB)
David García (FCRB)
Judit Pich (FCRB)
Jose Ríos (IDIBAPS)
Sandra Serrano (IDIBAPS)
Sara Varea (FCRB)

STRATEGIC OBJECTIVES

1. We provide support of all technical and administrative aspects related to randomized clinical trials carried out in the Institution.
2. We provide support for the conduction of academic-driven clinical trials.
3. We also offer support activities in pharmacovigilance and pharmacoepidemiology.
4. Collaboration with the Pharmacology Unit of the UB in pharmacogenetic studies.

MAIN LINES OF RESEARCH

- **Ethics in clinical research:**
  Ethics methodological aspects of clinical research currently are of increasing importance; based on the main ethical principals; respect for persons, beneficence, non-maleficence and justice.
- **Clinical trials, design and methodology:**
  Our aim is to give support to the investigators of our institution in designing and performing academic clinical trials.
- **Statistical support of clinical research:**
  Statistics and data management are basic aspects of clinical research. We provide these tools to the investigators of our institution.
- **Pharmacovigilance and pharmacoepidemiology:**
  We also provide support to observational studies with the aim to improve the safety of drug use in our institution.
- **Pharmacogenetics and pharmacogenomics:**
  These are important tools to improve the efficient use of drugs in the context of the personalized medicine.

PUBLICATIONS

Originals / I.F.: 14.624

1. Leal L., Guardo A., Morón-López S., Salgado M., Mothe B., Heirman C., Pannus P., Vanham G., van den Ham H., Gruters R., Andeweg A., Van Meirvenne S., Pich J., Arnaiz J., Gatell J., Brander C., Thielemans K., Martínez-Picado J., Plana M., García F. **Phase I clinical trial of an intranodally administered mRNA-based therapeutic vaccine against HIV-1 infection.** *AIDS.* 32(17):2533-2545. I.F.: 4.914

2. Tió E, Gaig C, Giner-Soriano M, Romero O, Jurado MJ, Sansa G, Pujol M, Sans O, Álvarez-Guerrico I, Caballol N, Jimenez M, Becerra JL, Escartin A, Monasterio C, Molins A, Bove A, Viña J, Iranzo A, Cambrodi R, Calvo G, Morros R, Santamaria J. **The prevalence of narcolepsy in Catalunya (Spain).** *JOURNAL OF SLEEP RESEARCH.* 27(5):e12640. I.F.: 3.433

3. Gómez-Outes A., Terleira-Fernández A., Lecumberri R., Suárez-Gea M., Calvo-Rojas G., Vargas-Castrillón E. **Causes of Death in Patients with Venous Thromboembolism Anticoagulated with Direct Oral Anticoagulants: A Systematic Review and Meta-Analysis.** *SEMINARS IN THROMBOSIS AND HEMOSTASIS.* 44(4):377-387. I.F.: 3.345

4. Pett SL, Amin J, Horban A, Andrade-Villanueva J, Losso M, Porteiro N, Madero JS, Belloso W, Tu E, Silk D, Kelleher A, Harrigan R, Clark A, Sugiura W, Wolff M, Gill J, Gatell J, Clarke A, Ruxrungtham K, Prazuck T, Kaiser R, Woolley I, Alberto Arnaiz J, Cooper D,

Rockstroh JK, Mallon P, Emery S, MARCH study group. **Week 96 results of the randomized, multicentre Maraviroc Switch (MARCH) study.** *HIV MEDICINE.* 19(1):65-71. I.F.: 2.932

GRANTS FOR RESEARCH IN PROGRESS

Arnaiz JA. **Mecanismos moleculares implicados en la Farmacogenética del síndrome metabólico inducido por antipsicóticos.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI16/01222
Duration: 01/01/2017-31/12/2019

Arnaiz JA. **Evaluating a combination of immune-based therapies to achieve a functional cure of HIV infection (HIVACAR).**
Sponsored by: European Clinical Research Infrastructure Network (ECRIN-ERIC). H2020-SC1 (GA n.731626)
Duration: 01/01/2017-31/12/2021

Arnaiz JA. **Simvastatin and Rifaximin as new therapy for patients with decompensated cirrhosis (LIVERHOPE).**
Sponsored by: European Clinical Research Infrastructure Network (ECRIN-ERIC). H2020-SC1 (GA n.731875)
Duration: 01/01/2017-31/12/2021

Calvo G. **Coste-efectividad y coste utilidad de una estrategia de transfusión de hematíes "liberal" vs. otra "restrictiva" en pacientes con infarto agudo de miocardio y anemia. Estudio REALITY.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PI15/00915
Duration: 01/01/2016-31/12/2018

Calvo G. **Plataforma de unidades de investigación clínica y ensayos clínicos.**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PT13/0002/0009
Duration: 01/01/2014-31/12/2018

Calvo G. **Plataforma de unidades de investigación clínica y ensayos clínicos. Spanish Clinical Research Network (SCReN).**
Sponsored by: Instituto de Salud Carlos III (ISCIII). PT17/0017/0031
Duration: 01/01/2018-31/12/2020

Calvo G. **ORTHOpedic randomized clinical trial with expanded bone marrow MSC and bioceramics versus autograpt in long bone nonUNIONs (ORTHOUNION).**
Sponsored by: European Clinical Research Infrastructure Network (ECRIN-ERIC). H2020-SC1 (733288)
Duration: 01/01/2017-31/12/2021

Team and group leaders index

A

Alfredo Adán 90
Neus Agell 324
Alvar Agustí 145
Jordi Alberch 240
Antonio Alcaraz 148
Francesc Artigas 221

B

Oriol Bachs 321
Joan Albert Barberà 133
Miquel Bernardo 244
Joan Bladé
Isabel Blanco 134
Josep Brugada 104
Jordi Bruix 172

C

Gonzalo Calvo 339
Elías Campo 278
Antoni Castells 197
Sergi Castellví-Bel 198
Josefina Castro-Fornieles 245
Francisco Cervantes 302
Ricard Cervera 60
Ángel Chamorro 225
Maria Cinta Cid 61
Marc Claret 208
Joan Clària 167
Daniel Closa 88
Dolors Colomer 310
Albert Compte 261
Miriam Cuatrecasas 279

D

Josep Dalmau 264
Jaime de la Rocha 261
Fritz Diekmann 114

E

Gustavo Egea 105
Carles Enrich 323
Ginés Escolar 314
Ramon Estruch 118

F

Ramon Farré 124
Carlos Fernández de Larrea 303
José Carlos Fernández-Checa 189
Mercedes Fernández-Lobato 178
Jorge Ferrer 205
Cristina Fillat 198
Xavier Forns 162

G

Juan Carlos García-Pagán 177
Pere Gascón 318
Xavier Gasull 233
Pere Ginés 166
Ramon Gomis 208
Jordi Gracia-Sancho 179
Eduard Gratacós 156
Josep Maria Grau 236
Antoni Gual 245
Núria Guañabens 186
Eduard Guasch 106

H

Felicia A. Hanzu 209

I

Alejandro Iranzo 232

J

Wladimiro Jiménez 168
Carme Junqué 257

L

Josep Maria Llovet 173
Sara Llufriu 265
Armando López-Guillermo 303
Francisco Lozano 76

M

Josep Mallolas 67
Maria Josep Martí 228
Jose Ignacio Martín-Subero 280
María Ángeles Martínez-Zamora 154
Guadalupe Mengod 220
Montserrat Milà 292
Josep Maria Miró 66
Oscar Miró 82
Lluis Mont 106
Josep Maria Montserrat 128
Albert Morales 173
Asunción Moreno 68
Joaquim Mullol 138

N

Miquel Navasa 192
Anna Novials 214

O

Rafael Oliva 290

P

Julià Panés 182
Albert Parés 186
Carmen Peralta 193
Albert Pol 325
Francesca Pons 286
Antonio Postigo 279
Aleix Prat 326
Susana Puig 295

R

Ignacio Revuelta 115
Antonia Ribes 203

S

Manel Sabaté 96
Raquel Sánchez del Valle 272
Maria Victoria Sánchez-Vives 260
Pau Sancho-Bru 168
Coral Sanfeliu 222
Raimon Sanmartí 58
Pere Santamaria 209
Josep Saura 222
Antoni Sisó 334
Marta Sitges 107
Alex Soriano 68
Gisela Sugranyes 246

T

Antoni Torres 127
Ramon Trullàs 270

U

Álvaro Urbano-Ispizua 300

V

Josep Vidal 207
Eduard Vieta 243
Pablo Villoslada 266

Y

Jordi Yagüe 79

Z

Adelaida Zabalegui 337

IDIBAPS

Institut
D'Investigacions
Biomèdiques
August Pi i Sunyer

Rosselló, 149-153
08036 Barcelona

www.idibaps.org
info@idibaps.org
www.facebook.com/idibaps
@idibaps

The mission of **IDIBAPS** is to combine high-quality clinical research with high-level basic research in order to achieve a more effective transfer of scientific results in the prevention and treatment of the most common health issues in our country.

CLÍNIC
BARCELONA
Hospital Universitari

UNIVERSITAT DE BARCELONA

CSIC
CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS

Generalitat de Catalunya