



# 2011

Scientific Report

 Sant Pau Biomedical Research Institute

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Jaume Kulisevsky Bojarski  
Hospital de la Santa Creu i Sant Pau  
Research Institute

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# Summary

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# Presentation



Since its constitution in 2009, the IIB Sant Pau has been consolidated as a research project of reference without ever losing sight of its main objective, the health and welfare of the people. Its consolidation as a research institute was confirmed in early 2011, when it was accredited as a Healthcare Research Institute by the Carlos III Institute, which emphasizes the commitment of the IIB Sant Pau with excellence. Despite the current economic climate of budget adjustments, the entities forming the IIB Sant Pau have continued to lead large research projects that have a broad impact in the field of production and scientific publications, generating in some cases, patent and technology transfer agreements.

Are the research groups of IIB Sant Pau, and especially each of the persons that are part of them and their very day work, who make it possible for the institute to be a reference of research in Catalonia.

Jaume Kulisevsky  
IIB Sant Pau Manager



# Who We Are

The Sant Pau Biomedical Research Institute (IIB Sant Pau) conducts research into basic, clinical and epidemiological medicine and healthcare services. Ten entities cooperate to perform high-level research into new techniques and processes aimed at improving the quality of life of patients. Stakeholders include the following:

- Hospital de la Santa Creu i Sant Pau Healthcare Management Foundation
- Hospital de la Santa Creu i Sant Pau Private Foundation
- Hospital de la Santa Creu i Sant Pau Research Institute
- Autonomous University of Barcelona - Ageing Institute
- Catalan Institute of Cardiovascular Sciences
- Puigvert Foundation
- Blood and Tissue Bank
- Iberoamerican Cochrane Centre
- Barcelona-Sardenya Primary Health Care Centre
- Public Health Agency of Barcelona

IIB Sant Pau was founded on 27 May 2009 as an association of healthcare entities carrying out their own research. Throughout 2010, IIB Sant Pau has become consolidated as a research centre, while continuing to implement an accreditation process as a Healthcare Research Institute with the Spanish Ministry of Science and Innovation. This accreditation was finally obtained in early 2011. The institutions participating in IIB Sant Pau, which together form a natural alliance for historical and geographical proximity reasons, jointly implement research activities and cooperate in other scientific areas. The cooperation between these institutes represents a qualitative leap in terms of fostering translational research projects that bridge the gap between basic and clinical research.

The knowledge developed in this kind of research is channelled to society by the application of discoveries to clinical practice and to healing patients. The most tangible benefits are the application of technology to health and the scientific communication of new knowledge. This research infrastructure also generates employment and spotlights Catalonia's contributions to biomedical research. Our success as a research centre ultimately translates to patient health.



# Strategic Objectives



IIB Sant Pau's mission is to manage, promote, develop and communicate research into the health sciences.

To fulfill its mission, IIB Sant Pau has set itself a number of strategic objectives that guide its activities:

- To promote and consolidate relationships and knowledge exchanges between IIB Sant Pau researchers and with other public and private organizations, prioritizing the implementation of joint projects and the creation of multidisciplinary teams so as to strengthen alliances and implement translational research with a bearing on clinical activities.
- To organize courses, conferences, open days, seminars and workshops aimed at communicating scientific advances to society and at facilitating innovation and technology transfers to the productive sector.
- To organize and participate in continuous professional development, whether by developing teaching activities or arranging grant-aided stays abroad for researchers.
- To participate in developing policies aimed at coordinating biomedical research in Catalonia, while ensuring a strong presence in national and international research projects and networks of excellence.
- To acquire, maintain and optimize use of scientific and technological infrastructures and equipment.

# IIB Sant Pau Entities



## Hospital de la Santa Creu i Sant Pau Healthcare Management Foundation

The Hospital de la Santa Creu i Sant Pau Healthcare Management Foundation (HSCSP Healthcare Management Foundation) is a high-technology and specialist care hospital performing patient care, teaching and research activities in the clinical, epidemiological and healthcare services fields. It offers accredited specialist and undergraduate health science training courses.



Institut de Recerca

## Hospital de la Santa Creu i Sant Pau Research Institute

The Hospital de la Santa Creu i Sant Pau Research Institute (HSCSP RI) promotes, manages and communicates biomedical research conducted in the Hospital de la Santa Creu i Sant Pau. It raises and manages funds and other resources for health science research in the basic, clinical, epidemiological and healthcare service fields.



## Hospital de la Santa Creu i Sant Pau Private Foundation

The Hospital de la Santa Creu i Sant Pau Private Foundation (HSCSP Private Foundation), which owns the Hospital de la Santa Creu i Sant Pau, is responsible for building, improving and maintaining buildings and premises used for medical care and associated and complementary activities.



Universitat  
Autònoma  
de Barcelona



Institut de l'Envel·liment  
UAB

## Autonomous University of Barcelona (UAB) - Ageing Institute

The UAB, a leading university renowned for quality and innovation in research, coordinates an influential scientific and technological centre, called Esfera UAB, responsible for promoting new business projects. The UAB also projects its productive activity in such a way as to disseminate new knowledge in society.

The Ageing Institute, attached to the Autonomous University of Barcelona, is a non-profit foundation governed by a board of trustees formed by the UAB, the UAB Foundation and the Trade and Industry Mutual Society (Agrupació Mútua del Comerç i de la Indústria). Its mission is to improve knowledge of different aspects related to ageing with the aim of enhancing the quality of life of older people and promoting actions that contribute to adapting the society and people to the challenges of the demographic change.





### Catalan Institute of Cardiovascular Sciences

The Catalan Institute of Cardiovascular Sciences performs basic and clinical research into cardiovascular and heart diseases. The fact that it competes successfully at the international level enables it to avail of the infrastructure necessary to transfer basic research to the development of therapies and diagnostic methods, ultimately improving medical care for patients.



### Puigvert Foundation

The Puigvert Foundation has the aim of deepening medical knowledge and perfecting medical techniques in the field of research and treatment of urinary and male reproductive system disorders and diseases. More specifically, it performs urology, nephrology and andrology research, focusing particularly on medical care, teaching, training and studies.



### Iberoamerican Cochrane Centre

This independent, not-for-profit organization has as its main aim the promotion of medical practice based on the best available scientific evidence. To this end, it ensures that valid, useful, up-to-date and thoroughly reviewed information is made available for clinical and healthcare decision making.



### Barcelona-Sardenya Primary Care Centre

Part of the public healthcare system, this teaching and care centre provides primary care services in its catchment area of Barcelona and has a research unit which performs clinical trials and epidemiology studies.



### Public Health Agency of Barcelona



This autonomous body, created by the Barcelona Health Consortium, has as its main mission to analyse and monitor the health of the population of Barcelona with a view to improving health and preventing risk. It is also responsible for epidemiological surveillance and the provision of medical care to substance abusers. It has an excellent track record in the public health and applied research fields.



### Blood and Tissue Bank

The Blood and Tissue Bank is a public healthcare body which carries out patient care, teaching and research activities in the blood transfusion and tissue bank fields.

# IIB Sant Pau Scientific Structure

IIB Sant Pau has seven research areas that can be divided into three research lines: vertical, transversal and associated groups.

## **The vertical line has five main areas of research:**

- Cardiovascular Diseases
- Genetic, Metabolic and Inflammatory Diseases
- Haematological and Oncological Diseases
- Neurological and Mental Disorders
- Uronephrology and Experimental Surgery

## **The transversal line consists of two areas:**

- Epidemiology, Public Health and Healthcare Services
- Molecular, Genomic, Cellular and Kinetic-Dynamic Bases for Diseases and their Treatment

Activities in transversal line complement and support research in the vertical line.



# Vertical Areas of Research



## Cardiovascular Diseases

The incorporation of new technologies that facilitate molecular profiling and gene regulation has led to innovative research into heart disease. The great diversity of the groups in this area gives research varied perspectives, whether in developing or testing the effectiveness of new biomarkers (as in the investigation of the metabolic and genetic bases of diseases) or improving the range of results and possible applications in short-term therapies.



## Genetic, Metabolic and Inflammatory Diseases

Identifying the genes and mutations responsible for genetic diseases is an essential component of knowledge and understanding of the physiological bases of metabolic pathways and also in the development of new forms of treatment for common diseases affecting large proportions of the population.

Diseases of this type include nutrition-related disorders, such as diabetes and obesity, and a large number of hereditary diseases, infectious diseases such as AIDS and tuberculosis and rare diseases that, while not well known, may have a devastating impact on those affected.



## Haematological and Oncological Diseases

A broad range of research is conducted in this area, particularly head-and-neck, breast, ovary, colorectal and haematological cancers, among others. Research covers a wide range of fields, with disciplines that include nanomedicine, new anticancer agents and predictive molecular markers, to name but a few.

Initiatives of specific relevance include the GAIT (Genetic Analysis of Idiopathic Thrombophilia) project, a world pioneer in the identification of genes influencing the risk of thromboembolic disease, and research into antitumour immunotherapy in animals and humans.



### Neurological and Mental Disorders

This structure covers research in a broad range of disciplines. Besides the study of ageing and the most common neurodegenerative disorders such as Alzheimer and Parkinson, neurological research is also focused on stroke, neuroimmunology and neuromuscular diseases. Research into cognitive, affective, psychotic and personality disorders ranges from identification and evaluation of new therapeutic targets to neurogenesis and the effects of deep-brain stimulation. Research in this field has the support of the Drug Research Centre, which assesses the effectiveness of new drugs and therapies in humans.



### Urology and Experimental Surgery

IIB Sant Pau promotes experimental surgery in the knowledge that this area has a promising future both as an independent research line and as a complement to general surgery. This interdisciplinary approach ensures valuable new insights, techniques and procedures of great clinical relevance. Current areas of interest include the development of minimally invasive techniques and the application of deep-brain stimulation in different pathologies. The Puigvert Foundation is a leading centre in Spain for research of this type in the fields of andrology, urology and nephrology.

# Transversal Areas of Research



## Epidemiology, Public Health and Healthcare Services

Research into epidemiology and public health aims both to determine the magnitude and distribution and identify the determinants of public health problems in order to evaluate the effectiveness and efficiency of public interventions and prevention practices.

This area also aims to reduce patient risk and make healthcare safer by promoting evidence-based medical practice and ensuring the use of conscious, explicit and rational decision, making concerning patient care.



## Molecular, Genomic, Cellular and Kinetic-Dynamic Bases for Diseases and their Treatment

This area focuses on the structure of proteins associated with neurodegenerative diseases and inflammatory processes and on factors linked to the innate immune system. Research is also conducted in the area of osteoporosis, ageing-related macular degeneration and coagulation-cascade factors closely linked to cardiovascular disease and haemophilia.

Such studies are vital to the understanding of diseases of the heart, blood and nervous systems and to advances in the fields of cancer and epidemiology. The development of new simulation models enables maximum data use during the conduct of clinical trials.

# Associated Groups

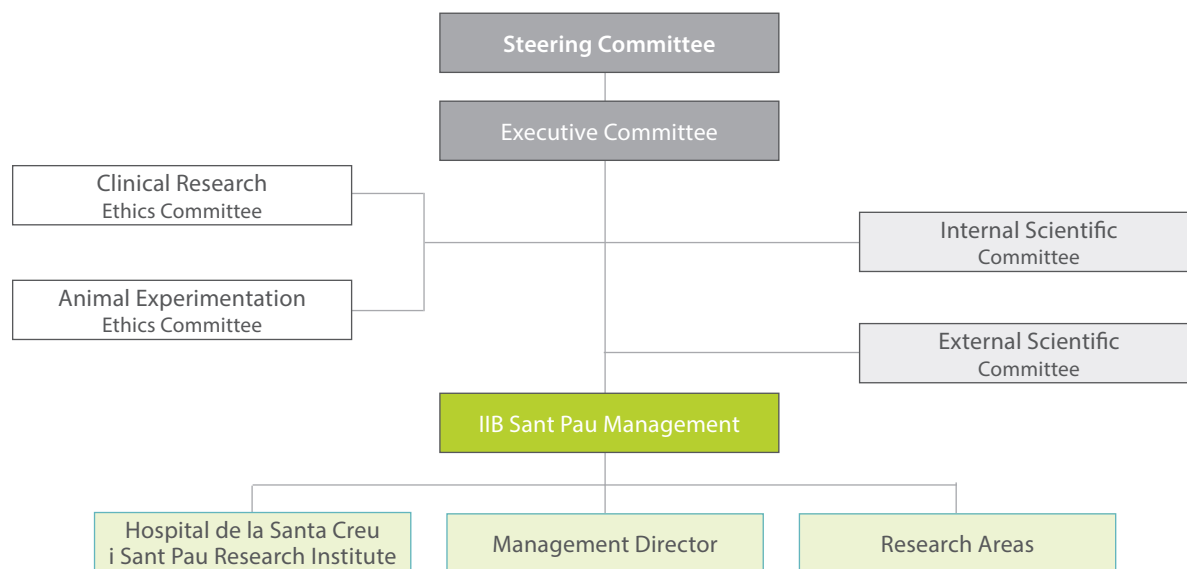


This area includes HSCSP Research Institute groups that do not form part of the IIB Sant Pau because they have not, as yet, been accredited by the External Scientific Committee.

Emerging Processes in Prevalent Diseases  
 Radiophysics and Radioprotection  
 Ophthalmology  
 Paediatrics  
 Chronic Respiratory Diseases  
 Nuclear Medicine  
 Intensive Medicine  
 Anaesthesiology  
 Pharmacy  
 Dermatology  
 Palliative Care

Cardiac Imaging  
 Plastic Surgery  
 Andrology  
 Urology  
 Radiation Oncology  
 Locomotor System Research  
 Multiple Sclerosis and Epilepsy Research  
 Reproductive Health  
 Nursing Care Research  
 Translational Molecular Oncology

# Organization Chart



## Steering Committee

### Chair

\*Dr. Jordi Varela  
Hospital de la Santa Creu i Sant Pau Healthcare Management Foundation

### Members

Dr. Jordi Bachs  
Hospital de la Santa Creu i Sant Pau Private Foundation

\*Dr. Manuel Antonio López  
Autonomous University of Barcelona

Dr. Lina Badimon  
Catalan Institute of Cardiovascular Sciences

Mr. Martí Masferrer  
Puigvert Foundation

Dr. Ramon Pla  
Blood and Tissue Bank

Dr. Xavier Bonfill  
Iberoamerican Cochrane Centre

Mr. Conrad Casas  
Public Health Agency of Barcelona

Mr. Jaume Sellarès  
Barcelona-Sardenya Primary Care Centre

Dr. Jaume Kulisevsky  
Hospital de la Santa Creu i Sant Pau Research Institute

*\*Members until December 31st, 2011*

## Executive Committee

### Chair

Dr. Jaume Kulisevsky  
IIB Sant Pau Manager

### Representatives of Associated Entities

Dr. Jordi Sierra  
Autonomous University of Barcelona

Dr. Ramon Mangues  
Hospital de la Santa Creu i Sant Pau Research Institute

Dr. Xavier Bonfill  
Iberoamerican Cochrane Centre

Dr. Juan Cinca  
Hospital de Sant Pau i la Santa Creu Healthcare Management Foundation

Dr. Salvador Benito  
Hospital de la Santa Creu i Sant Pau Private Foundation

Dr. Lina Badimon  
Catalan Institute of Cardiovascular Sciences

Dr. Helena Isabal  
Puigvert Foundation

Dr. Ricard Pujol  
Blood and Tissue Bank

Dr. Carme Borrell  
Public Health Agency of Barcelona

Dr. Carlos Brotons  
Barcelona-Sardenya Primary Care Centre



## Internal Scientific Committee

### Chair

Dr. Jaume Kulisevsky  
IIB Sant Pau Manager

### Vice-Chair

Dr. Antonio López Pousa  
Chair, Clinical Research Ethics Committee

### 4 members designated by the IIB Sant Pau Manager

Dr. Antoni Salvà  
Autonomous University of Barcelona -  
Ageing Institute

Dr. Carlos Brotons  
Barcelona-Sardenya Primary Care Centre

Dr. Lina Badimon  
Catalan Institute of Cardiovascular Sciences

Dr. Sílvia Mateu  
Puigvert Foundation

### 2 members each representing IIB Sant Pau thematic areas

#### Cardiovascular Diseases

Dr. Jordi Ordóñez  
Hospital de la Santa Creu i Sant Pau:  
Cardiovascular biochemistry

Dr. Luis Vila  
Hospital de la Santa Creu i Sant Pau  
Research Institute: Vascular biology and  
inflammation

#### Genetic, Metabolic, Inflammatory and Infectious Diseases

Dr. Cándido Juárez  
Hospital de la Santa Creu i Sant Pau:  
Inflammatory diseases

Dr. Carlos Guarnier  
Hospital de la Santa Creu i Sant Pau:  
Cirrhosis complications

\*\*Deceased in 2012

### Haematological and Oncological Diseases

Dr. Josep Nomdedéu  
Hospital de la Santa Creu i Sant Pau:  
Haematological diagnosis

Dr. Jaime Prat  
Hospital de la Santa Creu i Sant Pau:  
Molecular cancer pathology

### Neurological and Mental Disorders

Dr. Víctor Pérez  
Hospital de la Santa Creu i Sant Pau: Clinical  
psychiatry

Dr. Alberto Lleó  
Hospital de la Santa Creu i Sant Pau Research  
Institute: Neurobiology of dementia

### Urology and Experimental Surgery

Dr. José Ballarín  
Puigvert Foundation: Nephrology research

Dr. Manel Trias  
Hospital de la Santa Creu i Sant Pau:  
General and digestive surgery

### Epidemiology, Public Health and Healthcare Services

Dr. Gerard Urrútia  
Hospital de la Santa Creu i Sant Pau:  
Clinical epidemiology and healthcare  
services

\*\*Dr. Manel Nebot  
Public Health Agency of Barcelona:  
Evaluation of public health policies and  
programmes

### Molecular, Genomic, Cellular and Kinetic-Dynamic Bases for Diseases and Treatments

Dr. Joan García  
Blood and Tissue Bank: Generation of  
advanced treatments

Dr. José Manuel Soria  
Hospital de la Santa Creu i Sant Pau Research  
Institute: Genomics and bioinformatics for  
genetically complex disease

## External Scientific Committee

Dr. José López-Barneo MD, PhD  
Physiology professor  
Institute of Biomedicine of Seville (Spain)

Dr. Ángel María Carracedo MD, PhD  
Genomic medicine group researcher  
Institute of Legal Medicine  
Faculty of Medicine and Dentistry  
Santiago de Compostela University  
(Spain)

Dr. Vicente Vicente MD, PhD  
Haematology Group Researcher  
Faculty of Internal Medicine  
Murcia General University Hospital (Spain)

Dr. José Palacios MD, PhD  
Head of Pathology  
Virgen del Rocío University Hospital  
(Seville, Spain)

Dr. Agustín Gómez de la Cámara MD, PhD  
Clinical Epidemiology Group Researcher  
Doce de Octubre Teaching Hospital  
(Madrid, Spain)

Dr. John Louis McGregor MD, PhD  
Director of Research-INSERM Unit 689  
Cardiovascular Research Centre–  
Lariboisière Hospital (Paris, France)

Dr. Jordi Alonso MD, PhD  
Health Services Research Unit  
Hospital del Mar Municipal  
Institute for Medical Research (Barcelona,  
Spain)

Mr. Guillem López Casasnovas, PhD  
Professor  
Faculty of Economics and Business  
Sciences  
Pompeu Fabra University (Barcelona,  
Spain)

# Financial Data

## Public/Private Income Summary 2004-2011



*In millions of euros*

## Balance sheet year ending 31 December 2011

Income from activities	11,624,446.80
Services	3,679,247.97
Collaborations with partners and sponsors	1,117,517.90
Government grants	5,871,605.19
Other grants, donations and legacies	1,001,910.44
Repayment of grants, donations, etc.	-45,834.70
Stocks and supplies	-1,542,081.96
Material and equipment for activities	-1,542,081.96
Other income	1,597.76
Accessory income and management	1,597.76
Personnel expenditure	-7,692,749.34
Salaries	-6,143,442.58
Social security	-1,549,306.76
Other operating expenses	-2,727,744.40
External services	-2,594,174.73
Repairs and maintenance	-148,752.26
Freelance services	-504,698.85
Insurance	-75,640.17
Banking	-19,283.44
Sundry	-233.64
Other services	-1,845,566.37
Taxes	-25,539.44
Loss, deterioration and variation in provisions for operations	-46,616.86
Other operating expenses	-61,413.37
Depreciation of fixed assets	-1,146,330.05
Grants, donations and bequests transferred to results	866,818.14
Impairment and results of alienation of fixed assets	-4,573.88
Results for alienations and others	-4,573.88
Other results	300,812.86
Incidental expenses	-90,445.50
Incidental income	391,258.36
<b>EXPLOITATION RESULT</b>	<b>-319,804.07</b>
Financial income	451,886.67
From investments in equity instruments	0.00
Negotiable costs	451,886.67
Financial expenditure	-128,074.97
For debts with third parties	-128,074.97
Exchange differences	-4,007.63
<b>FINANCIAL RESULT</b>	<b>319,804.07</b>
<b>RESULTS FOR THE YEAR</b>	<b>0.00</b>

# Scientific Outcomes

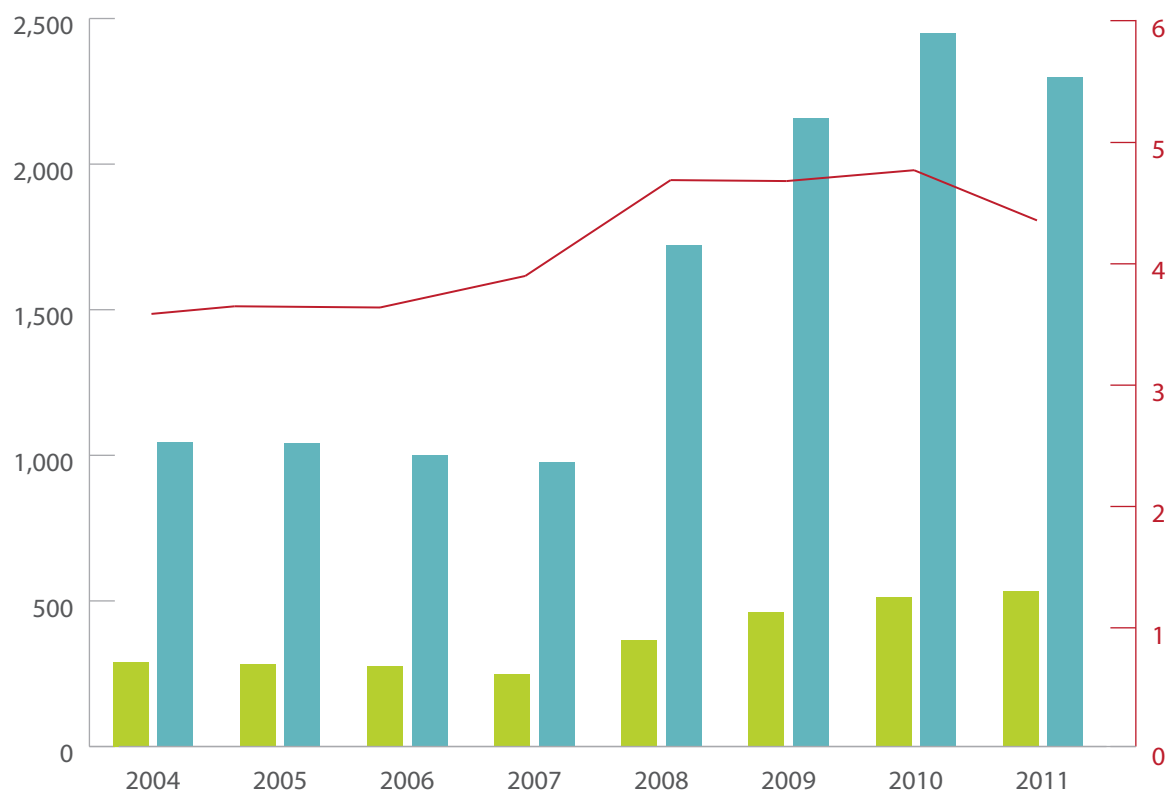
Outcomes for IIB Sant Pau's scientific activities are summarized in the following pages in terms of five illustrations as follows:

- **Publications with an Impact Factor:** This figure shows IIB Sant Pau publications over the years with an impact factor, one of the most important indicators used to identify the relevance of a science journal in its field and to give an approximate idea of the quality of the publications of researchers.
- **Publications by Thematic Area:** This figure reflects the relative importance of each of the thematic areas covered by IIB Sant Pau.
- **Publications by Quartile:** This figure depicts IIB Sant Pau publications by quartiles that reflect the importance of the scientific journal. The journals in a specific category are listed in descending order according to their impact factor and the list is divided into four equal quartiles. Thus, journals in the top quartile (Q1) are the most important journal in their category.
- **Research Resources and Training:** These tables show the list of institutions providing support to IIB Sant Pau and sharing its vision of research.
- **Doctoral Theses:** This table reflects the potential of up-and-coming IIB Sant Pau staff members and their ability to generate new ideas and drive new projects.
- **Patents:** This table shows the patents requested by IIB Sant Pau researchers between 2009 (constitution date of the Institute) and 2011.
- **Technology Transfer Agreements:** This table reflects the agreements on this matter signed between 2009 (constitution date of the Institute) and 2011.



# Publications with an Impact Factor

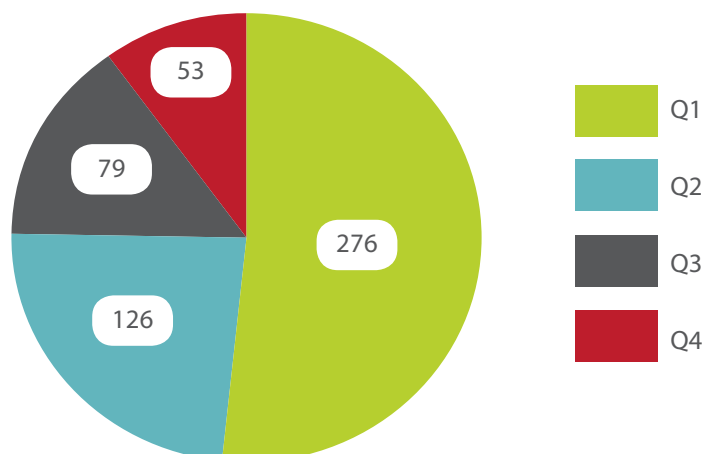
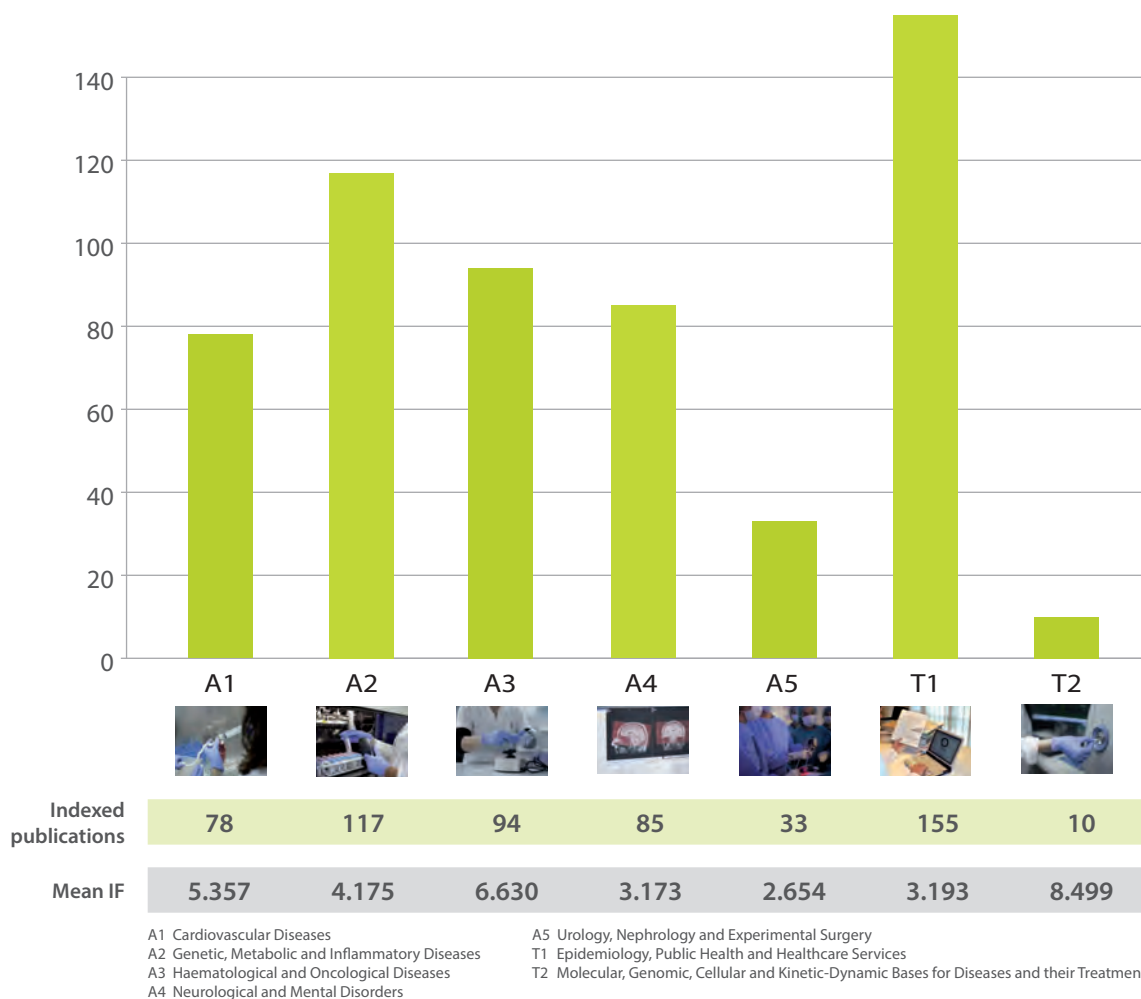
## Production status



Publications	289	285	275	250	367	461	514	534
Total IF	1,046.16	1,040.62	1,001.03	975.36	1,722.76	2,158.53	2,448.88	2,298.44
Mean IF	3.59	3.65	3.64	3.9	4.69	4.68	4.78	4.30

# Publications by Thematic Area and Quartile

## Indexed publications



# Research Resources

Centre	Active		Granted	
	2010	2011	2010	2011
European projects	7	7	2	4
American projects	1	1	0	0
AECC (Spanish Association Against Cancer)	0	0	0	1
AGAUR (Catalan Agency for University and Research Support Management)	11	19	0	1
Caixa Navarra	0	1	1	0
Caixa Tarragona	0	1	1	0
CNIC (National Cardiovascular Research Centre)	1	1	0	0
COIB (Official College of Nurses of Barcelona)	4	5	4	1
Farmaindustria	0	2	1	0
FEA (Spanish Arteriosclerosis Foundation)	2	1	0	0
FIPSE (Foundation for AIDS Research and Prevention in Spain)	2	1	0	0
Catalan and Balearic Academy of Medical and Health Sciences Foundation	0	0	0	1
Spanish Genome Foundation	1	0	0	0
MAPFRE Foundation	1	3	2	0
La Marató de TV3 Foundation	13	14	3	3
FMM (Mutua Madrileña Foundation)	5	3	0	1
GEIS (Spanish Sarcoma Research Group)	1	1	0	0
Spanish Ministry of Education, Culture and Sports	0	0	0	1
Merk Serono	0	0	0	1
Spanish Ministry of Economy and Competitivity - ISCIII (Carlos III Health Institute)	109	103	15	32
Spanish Ministry of Economy and Competitivity (Secretariat of Research, Development and Innovation)	7	8	4	2
Spanish Ministry of Industry, Energy and Tourism	2	2	0	1
Spanish Ministry of Health, Social Services and Equality	5	7	5	6
SEOM (Spanish Medical Oncology Society)	1	1	0	0
SEPAR (Spanish Pneumology and Thoracic Surgery Society)	1	1	0	0
SERAM (Spanish Medical Radiology Society)	1	2	1	0
	<b>175</b>	<b>184</b>	<b>39</b>	<b>55</b>

Source: Hospital de la Santa Creu i Sant Pau Research Institute



# Research Training

Centre	Type of grant	Active		Granted	
		2010	2011	2010	2011
AGAUR (Catalan Agency for University and Research Support Management)	Renewals of the grants programme for researcher training	4	4	2	2
	Study grants for outside Catalonia	0	1	1	0
Catalan Department of Health	Stabilization agreement	5	1	0	2
	Stabilization agreement for support technicians	1	0	0	0
Catalan General Directorate for Research	Programme i3 agreement	2	1	0	0
HSCSP Management Foundation	MIA contract	0	4	4	4
Spanish Ministry of Economy and Competitiveness (Secretariat of Research, Development and Innovation)	Juan de la Cierva	1	2	2	1
	Research staff training (FPI)	0	1	1	0
	University teacher training (FPU)	0	1	1	0
	Ramón y Cajal	0	0	0	1
Spanish Ministry of Economy and Competitiveness - ISCIII (Carlos III Health Institute)	Predoctoral grants for research training	6	7	2	1
	Miguel Servet contracts for national health service researchers	5	6	1	1
	Sara Borrell postdoctoral research training contracts	4	5	1	1
	Rio Hortega post-training contracts for specialist healthcare personnel	6	7	1	3
	Contracts for support technicians for national health service research	3	2	0	1
		<b>37</b>	<b>42</b>	<b>16</b>	<b>17</b>

Source: Hospital de la Santa Creu i Sant Pau Research Institute

# Doctoral Theses

Institution	Candidate	Director(s)	Thesis title	Defended at
HSCSP	Julia de Juan	Xavier León, Miquel Quer	Proposal for a classification (pTNM) in patients with head and neck carcinoma depending on the presence of capsular rupture	Autonomous University of Barcelona (UAB)
CIBERER	Eugenia Resmini	Susan Webb, Francesco Minuto	Complications of Hypersecreting pituitary diseases: Acromegaly and Cushing, new perspectives	Genova University (Italy)
CIBERER	Nuria Sucunza	Susan Webb	Cardiovascular risk factors and morbidity and mortality in acromegaly	Autonomous University of Barcelona (UAB)
HSCSP RI	Laura Martínez	Óscar de la Calle	Molecular and Genetic Study of X-linked Primary Immunodeficiencies	Autonomous University of Barcelona (UAB)
ASPB	Rosa Puigpinós	Carme Borrell, Carlos Ascaso	Cancer Inequalities in urban areas: mortality and screening	University of Barcelona (UB)
ASPB	Katia Rocha	Catherine Pérez, Jordi Obiols	Social inequalities associated with mental health problems in Spain. An epidemiological study	Autonomous University of Barcelona (UAB)
HSCSP RI	Caterina Mata	Beatriz Mirelis, Ferran Navarro	Molecular epidemiology of plasmid AmpC beta-lactamases in Enterobacteriaceae isolated in HSCSP and its Horizontal Diffusion	Autonomous University of Barcelona (UAB)
CIBERER	Lidia González	Maria Pia Gallano	Study of Molecular Pathology in disferlinopathies	Autonomous University of Barcelona (UAB)

Institution	Candidate	Director(s)	Thesis title	Defended at
UAB	Rafael Guimaraes	Jordi Riba	Ayahuasca: physiological and subjective effects, comparison with d-amphetamine and repeated dose assessment	Autonomous University of Barcelona (UAB)
HSCSP RI	Lavinia Dinia	Massimo del Sette	Sonothrombolysis for Acute Ischemic Stroke: A Cochrane Systematic Review	University of Genova (Italy)
HSCSP	Carlos Guarnier Argente	Gloria Fernández	Physiological impact of the transluminal endoscopic surgery through natural orifices (NOTES) using different access routes: a comparative study in a pig model	University of Barcelona (UB)
HSCSP	Gerard Urrútia	Xavier Bonfill	Healthcare technology assessment in pathologies of the spine. Some methodological challenges and the process of evaluation, approval and implementation in the healthcare system	Autonomous University of Barcelona (UAB)
HSCSP	Paloma Gastelurrutia	Laura Tuneu	Pharmacotherapeutic monitoring of body composition in patients with heart failure	University of Granada (Spain)
HSCSP RI	Rosa Bosh	Ramon Mangues, Isolda Casanova	Involvement of focal adhesions in large B-cell lymphoma	University of Barcelona (UB)
HSCSP RI	Jorge Malouf	Josep Baños	Satisfaction evaluation of pain treatment in hospitalized patients	Pompeu Fabra University (UPF, Barcelona)
HSCSP	Carme Jover	José Luis Medina, Lourdes Garcia	Reflective practice and professional development in nursing. Leadership of care.	University of Barcelona (UB)
HSCSP RI	María Ángeles Corral	Pablo Fuentes	Structural basis and functional activation of factor V coagulation cascade	University of Barcelona (UB)

# Patents

IIB Sant Pau Group	Researchers	Organizations	Title	Application Number	Year
Oncogenesis and Antitumour Drug	Ramon Mangues, Isolda Casanova, María Virtudes Céspedes	HSCSP RI, UAB, CIBERBBN	Methods and reagents for efficient and targeted delivery of therapeutic molecules to CXCR4 cells	PCT/EP2012/050513	2011
Andrology	Lluís Bassas	Puigvert Foundation, IDIBELL	In vitro method for predicting fecundity of semen	EP 11382187	2011
Molecular Pathology and Therapeutic of Ischaemic and Atherothrombotic Diseases, Biomarkers for Disease Status	Lina Badimon, Judit Cubedo, Teresa Padró	CSIC-ICCC	APO J isoforms as biomarkers of tissue lesion	ES 2364169	2010

# Technology Transfer Agreements

IIB Sant Pau Group	Organizations	Application Number	Year
Clinical Oncology	University of Valencia, USC, ICN	PCT/EP2009/067136	2011
Clinical and Translational Cardiology	Transactel Therapeutics	PCT/ES2008/000543	2009
Endocrinology, Diabetes and Nutrition	UPM	PCT/ES2008/000543	2009
Oncogenesis and Antitumour Drug	Argon Pharma	PCT/EP2010/060983	2009

# Research Support Services

Sharing and pooling resources is an effective way to optimize funds and boost research. This is the main objective of the research support services, which are divided into two blocks.

## Research Support Services

These provide facilities and equipment that are exclusively available to any specific research group but are shared among groups at all institutions within the IIB Sant Pau.

The IIB Sant Pau has 12 services that support of research:

- Clinical Trial Documentation Management
- Research Institute Management
- Tumour Bank
- Quality and Information Systems Unit
- Radioactivity Unit
- Centre for Drug Research (CIM Sant Pau)
- Communications Coordination Team
- Central Clinical Research and Clinical Trials Unit (UCICEC Sant Pau)
- Animal Housing
- Transfer and Innovation Unit
- Clinical Research Ethics Committee
- Clinical Research Ethics Committee Secretariat
- Author Editing

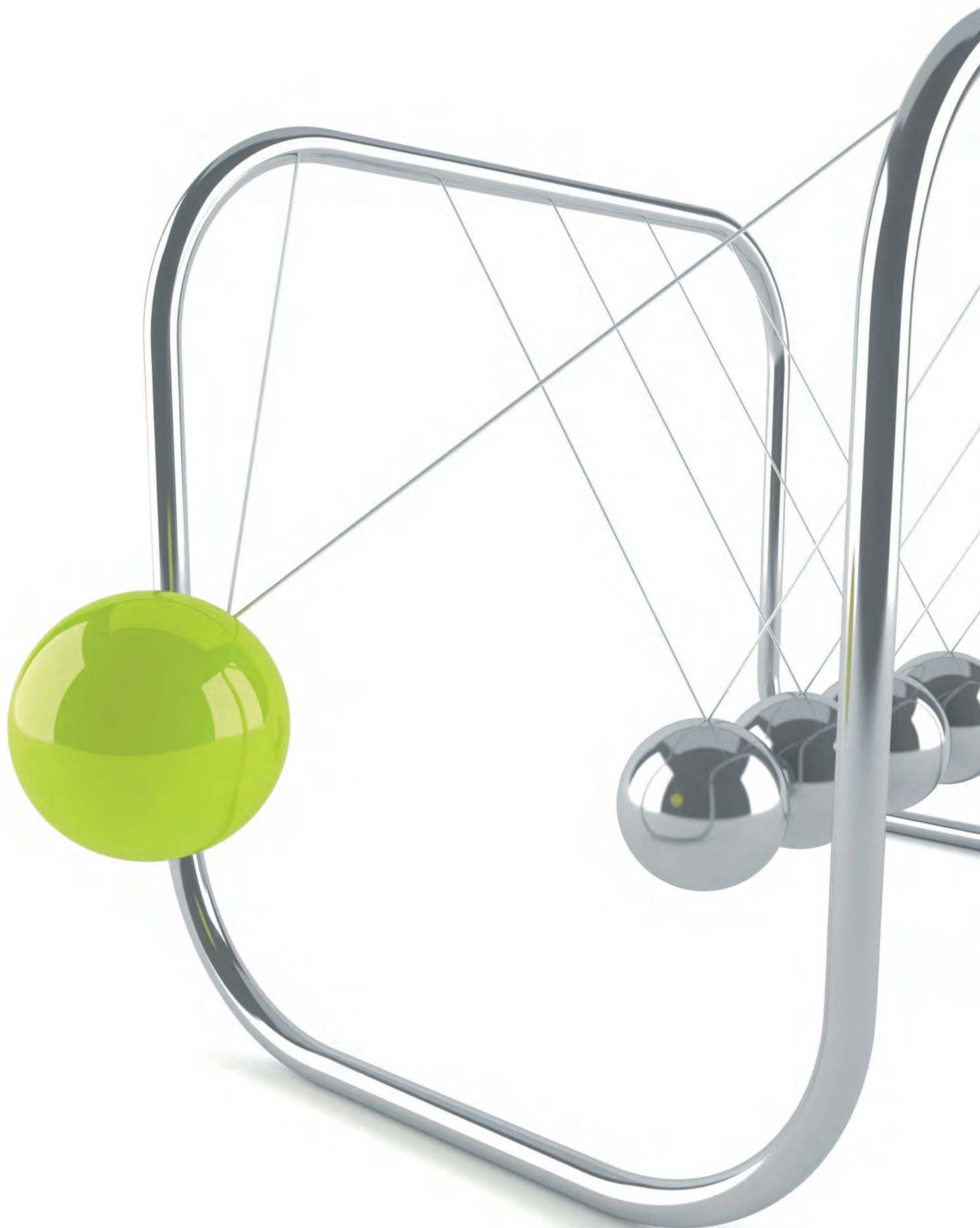
## Scientific and Technical Service Platforms

The main aim of these support services is to manage, allocate and optimize the top-level research resources available to IIB Sant Pau. They provide researchers with support and scientific/technical assessment and advise on the most appropriate methods to prepare samples and to plan optimal work flows for each objective. They also promote experimental development with equipment, infrastructure and specialist staff.

IIB Sant Pau has six platforms:

- Genomics and Transcriptomics Platform
- Proteomics Platform
- Functional and Cellular Analysis Platform
- Microscopy and Immunohistochemistry Platform
- Innovation Platform
- Biobank

The platforms may also use equipment available for general use to complement their functioning.



# Research Support Services



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**Staff:**  
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M. Àngels Piera

## Clinical Trial Documentation Management

### Functions:

- > Manage and supervise all documentation associated with active clinical trials in the experimental phase and destruction of documentation for terminated clinical trials located in the external archive.
- > Supervise data processing and management.
- > Coordinate researchers and monitors and agendas for meetings and study monitoring.
- > Provide logistical support to the cold area and the clinical materials store associated with clinical trials in the experimental phase.
- > Shipment of biological samples to Central Laboratory Services.

### Facilities:

Several areas have been designated for conduct these functions:

- > Head office and administration.
- > Data processing and management.
- > Clinical trial monitoring meeting rooms.
- > Documentation filing.
- > Cold room.



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Núria García, Declan de la Fuente

Human Resources Unit  
Rafael Fernández

Projects Unit  
Fabiola Fernández, Eva José, Marta Lorente, Eva Rodríguez

General Secretariat  
Rosa M. García, Amanda García,  
Magda Sanz

## Research Institute Management

### Functions:

- > Management of HSCSP Research Institute and IIB Sant Pau finances: manage accounts and fiscal matters; design, administer and control budget-related issues; manage and monitor financial and material resources.
- > Management of public body funding requirements fulfilled entered into with government bodies and official regional and state entities; ensure compliance with current fiscal, financial, labour and legal regulations and with HSCSP Research Institute–IIB Sant Pau management policies.
- > Administration and management of activities, providing management support for research groups in different areas; project management, human resources, procurement, invoicing, control and monitoring of projects, general administration, management of services (courses, travel and continuing professional development).
- > Design, elaboration, development and maintenance of information systems for management area units, both for HSCSP Research Institute–IIB Sant Pau and research groups.





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María Jesús Nagel  
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## Tumour Bank

### Functions:

- > Create and maintain a collection of healthy and diseased tissue samples in optimal conditions for use in research projects that may include morphology, phenotype and molecular analyses and which may also be used in diagnosis.
- > Guarantee the quality of stored material by means of morphology analyses of samples, assuring anatomical and pathological correla-

tion with definitive diagnoses for tissues.

- > Supply material to research groups on a non-profit basis (investigators may apply for samples as long as their project meets current regulations and is scientifically, technically and ethically viable).

### Equipment:

- > 4 fast-freeze (isopentane bath, stored at -50°C).
- > 1 cryostat.
- > Storage and cryopreservation systems: 2 freezers -80°C and 1 deposit for liquid nitrogen.
- > 1 manual tissue arrayer.



**Coordinator:**  
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**Staff:**  
Susana Daniel  
Catalina Pérez

## Quality and Information Systems Unit

### Functions:

- > General:
  - Coordinate the contingency plan for the HSCSP Research Institute premises.
  - Coordinate to draw up the functional plan for the Hospital de la Santa Creu i Sant Pau Research Institute's new building.
  - Coordinate the IIB Sant Pau deployment.
- > Quality:
  - Draw up the IIB Sant Pau quality plan.
  - Coordinate accreditation processes involving IIB Sant Pau.
  - Implement ISO 9001/2008 and Good Clinical Practice and Good Laboratory Practice quality standards, related to the laboratories and infrastructures involving the Institution.
  - Provide support in drawing up, updating and distributing standard operating procedures (SOPs) associated with the Quality

Assurance Programme.

- Establish evaluation mechanisms for quality and good scientific practice at IIB Sant Pau.
- Provide support to IIB Sant Pau management in applications for public and private funding.

### > Information systems:

- Monitor IIB Sant Pau indicators.
- Coordinate the implementation of Spanish personal data protection legislation with respect to records containing personal data held by IIB Sant Pau and participate in the Security Regulations Committee.
- Manage the general insurances for the HSCSP Research Institute: researchers, equipment, civil liability and operations.
- Coordinate the preparation of statistical reports for different bodies.

# Research Support Services



**Coordinator:**  
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**Supervisor in charge:**  
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## Radioactivity Unit

### Functions:

- > The Radioactivity Unit provides groups with specific research laboratories in which to work with radioactive isotopes in liquid form. These areas are fully-equipped and adapted for the handling of radioactive material and apply optimum measures for the safety and radioprotection of staff and the environment.
- > This area has been authorized by the nuclear safety authority. The staff in charge supervise the compliance of laws, guidelines and regulations established by regulatory body.
- > It provides the necessary services for studies in the following:
  - In vitro labelling of proteins, lipoproteins and liposomes.
  - Cellular proliferation and toxicity.
  - Nucleic acid labelling.
  - Immunoassay techniques.
  - Determination of enzymatic activities using radiolabeled substrates. Analysis and separation of labelled molecules.
  - Cellular cholesterol efflux.
  - Metabolism in vivo.

### Facilities:

The Radioactivity Unit has the following facilities:

- > 1 room for radioactive material storage.
- > 7 equipped laboratories, one of them refrigerated.
- > 1 room for gamma- and beta- counters.
- > 1 room for radioactive waste storage.
- > 1 room for controlled disposal of radioactive waste.
- > Radioactive liquid waste containers for controlled radioactive waste disposal.
- > Shielding accessories for radiation safety (table top shields, shielded containers, protective equipment, etc.)
- > Portable radiation and environmental contamination detectors.
- > 1 ventilated rack for in vivo studies.
- > 2 chemical safety cabinet for gas extraction.
- > 1 vertical laminar air flow cabinet for cell cultures.
- > 1 CO<sub>2</sub> incubator for cell cultures.



**Coordinator:**  
Rosa M. Antonijoan

## Centre for Drug Research (CIM Sant Pau)

### Functions:

Perform clinical drug trials and/or clinical research in compliance with methodological, ethical and legal requirements in the context of international Good Clinical Practice guidelines concerning:

- > Clinical trials that are not of therapeutic interest for participants (phase I, special populations, psychopathological research, biomarkers, proof of concept).
- > Clinical trials in neuropsychopharmacology.
- > Clinical trials in initial developmental phases.

### Facilities:

Three separate work areas have been designated for the trials:

#### Healthcare:

- > Admission zone.
- > 24 beds distributed in 4 units: trials in healthy volunteers and patients.
- > 2 individual rooms for CNS studies.
- > Ambulatory zone.
- > 4 consulting rooms for complementary testing mainly related to CNS.
- > 3 cubicles to evaluate psychomotor performance.

#### Logistical support:

- > Rest area for clinical trial participants with bathrooms and kitchen.
- > Areas for the preparation, centrifugation and separation of biological samples.
- > Cold room.
- > Filing.

#### Management, administration and data processing:

- > Offices.
- > Area for monitors.
- > IT equipment for clinical trial activities of a non-experimental nature.



**Coordinators:**  
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**Staff:**  
Abraham del Moral, Santi Porta

## Communications Coordination Team

### Functions:

- > Coordinate IIB Sant Pau communications.
- > Prepare IIB Sant Pau annual reports and other communication materials.
- > Provide an effective news distributes service and generate positive media coverage.
- > Respond to media enquiries.
- > Update website content.
- > Establish standards concerning graphics and linguistic style to ensure visual uniformity in all IIB Sant Pau communications.

# Research Support Services



## Coordinator:

Rosa M. Antonijoan  
rantonijoana@santpau.cat

## Staff:

3 advanced research technicians  
4 research technicians  
1 administrative officer

## Central Clinical Research and Clinical Trials Unit (UCICEC Sant Pau)

### Functions:

Comprehensive methodological, regulatory, administrative, financial and practical support to researchers developing independent research projects (not supported by the pharmaceutical industry).

### Knowledge Management:

- > Single input window for independent studies.
- > Liaison between researchers and technical units.
- > Support and supervision.
- > Adverse events notification.
- > Knowledge Management:
  - Project feasibility studies.
  - Project needs identification.
  - Dimensionality studies for new projects.
  - Documentation: protocols, final reports.
- > Activities arising from research:
  - Spin-off project identification.
  - Strategic partnerships with other entities.
  - Publication plans.
- > Training needs identification.

### Methodological and Statistical Support:

- > Advice on study design.
- > Data entry.
- > Data processing.
- > Statistical report preparation.
- > Electronic CRF validation and management.
- > Documentation and reports.

### Documentation, Archives, Monitoring and Follow-up:

- > Document preparation support: EUDRA / applications / monitoring.
- > Monitoring.
- > Support with applications: Spanish Medicines and Health Products Agency, clinical research ethics committees, healthcare authorities.
- > Master file custody for sponsors.
- > Insurance policy management.
- > Communications with clinical research ethics committees, the Generalitat de Catalunya and the Spanish Medicines and Health Products Agency.

### Pharmacy:

- > Drug reception, distribution and return.
- > Drug preparation, masking and labelling.
- > Liaison for external preparation of clinical trial drugs.

### Management and financial management:

- > Financial management.
- > Budgeting and financial monitoring.
- > Contract management.
- > Personnel management.

**Coordinator:**

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**Staff:**

Margarita Domingo  
Luis Garcia

## Animal Housing

**Functions:**

- > Produce different small rodent strains in-house for research and teaching purposes.
- > Manage the purchase and transportation of animals from domestic and international breeding and supply centres.
- > Receive and house incoming animals and subsequently deliver them to users once the quarantine period is over and health requirements are met.
- > House and maintain experimental animals while ensuring their welfare.
- > Feed animals according to experimental protocols.
- > Provide support in animal surgery, anaesthesia and euthanasia.
- > Supply laboratory material and collect samples.
- > Monitor mating, mating plugs, pregnant females and weaning.
- > Provide healthcare.
- > Advise the animal welfare expert.
- > Perform periodic health checks with sentinel screening in all rooms.
- > Maintain monitoring protocols.
- > Ensure the hygiene and safety of facilities and equipment.
- > Manage waste disposal.
- > Attend training in relation to all protocols developed in the animal house.
- > Advise on the drafting of research projects involving the use of animals.

**Facilities:**

- > Mice rooms (2), total capacity 2400.
- > Rat room, capacity 200.
- > Quarantine room.
- > Wash room.
- > Clean-storage room.
- > Standard storeroom.
- > Surgery.
- > CO<sub>2</sub> euthanasia equipment.
- > Treatment room.
- > Office.
- > Shower.
- > WC.

# Research Support Services



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Carlos Enrique

**President:**

Antonio López Pousa

**Vice-president:**

Gerard Urrutia

**Secretary:**

Milagros Alonso

**Members:**

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Ester Bajo  
Isabel Carbonell  
Josep Corbella  
Francesc Jané  
Xavier León  
Jordi Mancebo  
Estela Moreno  
Miguel Ortín  
M<sup>a</sup> Virtudes Pacheco  
Marisol Mogollón  
Albert Querol

## Transfer and Innovation Unit

**Functions:**

- > Promote innovation culture and education.
- > Develop a framework for innovation management.
- > Evaluate technological opportunities originating with IIB Sant Pau staff, detect inventions and assess their protection, transfer and commercialization.
- > Manage the intellectual property of the Institution.
- > Establish links with the business sector.
- > Assist researchers in developing projects with companies.
- > Manage competitive official announcements of innovation projects, within national and European frameworks of funding.
- > Develop technological platforms.

## Clinical Research Ethics Committee

The Ethics Committee for Clinical Research (CEIC) of the Hospital de la Santa Creu i Sant Pau Healthcare Management Foundation is an independent body that, according to the laws that accredit it, has the mission to ensure the protection of rights, safety and welfare of the subjects involved in a trial and provide public

assurance of that protection, reviewing and approving the protocol, the suitability of the researcher, facilities, equipment and methods to be used in obtaining and documenting the informed consent of the subjects.

**Its specific functions are:**

- > Evaluate the methodological, ethical and legal aspects of:
  - Clinical trials with drugs and health products.
  - Observational studies.
  - Pharmacogenetic and pharmacogenomic studies.
  - Studies evaluating surgical or psychological treatments.
  - Studies involving invasive procedures or the use of health data (HC, biological samples).
- > Evaluate the relevant amendments in projects approved by the CEIC.
- > Monitoring of clinical drug trials and clinical research with medical devices.



**Coordinator:**  
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**Administrative Staff:**  
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Marisol Mogollón  
Albert Querol

## Clinical Research Ethics Committee Secretariat

The HSCSP Research Ethics Committee is an independent agency whose mission is to protect the rights, safety and wellbeing of persons participating in the HSCSP research projects which may entail physical or psychological harm. The Secretariat of the Clinical Research Ethics Committee evaluates the methodological, ethical and

legal aspects as well as any other relevant information regarding all research projects listed in the minutes of the Committee's meetings. It also advises researchers in the HSCSP and the HSCSP Research Institute regarding the preparation and presentation of clinical research projects.

### Functions:

- > Receive, log and validate documentation for clinical research projects submitted to the Committee for evaluation.
- > Arrange and call Committee meetings, inform members of the agenda and provide them with copies of protocol summaries and patient informed consent and information sheets.
- > Prepare and submit reports to the Committee containing a methodological, ethical and legal description and analysis (and any other relevant information) of the research projects listed in agendas.
- > Act as a reference point in communications with and between researchers, sponsors, medical administrators and managers and healthcare authorities regarding all aspects of the activities of the Committee and of the research projects evaluated by the Committee.
- > Prepare and sign the reports of the Committee and communicate its decisions to the corresponding sponsors and researchers.
- > Prepare the minutes of meetings and distribute them to Committee members within the established period.
- > Manage all documentation associated with the operations and activities of the Committee and with the research projects evaluated by the Committee.
- > Administer contracts for all clinical trials to be performed at the HSCSP.
- > Certify the actions of the Committee.
- > Prepare the annual report of the Committee.
- > Ensure compliance with the Standard Operating Procedures of the Committee.



**Coordinator:**  
Carolyn Newey  
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## Author Editing

### Functions:

- > Review and edit research papers, abstracts, posters, presentations and other scientific documents written in English.
- > Assist in the preparation and delivery of presentations, lectures, speeches, etc in English for meetings, conferences and similar events.

# Scientific and Technical Service Platforms



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**Technical Staff:**  
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Transcriptomics Laboratory:  
Elena Serrano  
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## Genomics and Transcriptomics Platform

### > GENOMICS LABORATORY

#### Functions:

- > Sequencing:
  - Mutation analysis.
  - Identification of microorganisms.
- > Fragment analysis:
  - Instability of microsatellites.
  - Loss of heterozygosity in pathological processes.
- > Detection and genotyping of mutations.
- > Gene copy number quantification.
- > Methylation.
- > Polymorphism and disease associations.
- > Next generation sequencing.

#### Equipment:

- > Ion Torrent Personal Genome Machine.
- > Ion OneTouch(TM) System.
- > ABI 3130xl Genetic Analyzer capillary electrophoresis sequencer.

### > TRANSCRIPTOMICS LABORATORY

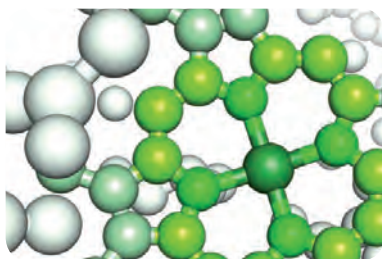
#### Functions:

- > Hybridization and analysis of Affymetrix microarrays:
  - RNA and micro-RNA expression profiles in normal conditions and in diseases and treatment.
  - Loss of heterozygosity, copy number analysis and genome-wide mutation detection.
  - Genome-wide linkage and association studies.
- > Real time quantitative PCR (gene expression, allelic discrimination).
- > Nucleic acid quality assessment.
- > Quantification of nucleic acids (Bioanalyzer, Nanodrop).

#### Equipment:

- > Affymetrix array platform (upgrade 7G).
- > Real-time quantitative PCR ABI 7000.
- > Real time quantitative PCR ABI 7900HT.
- > Bioanalyzer 2100.
- > Nanodrop 2000.





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**Technical Staff:**

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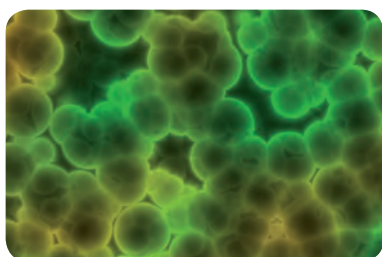
## Proteomics Platform

**Functions:**

- > Analysis of mass spectrometry proteomics.
- > Identification of differentially expressed proteins in pathological conditions, treatments, etc.
- > Post-translational modifications.
- > Relative quantification of proteins in pathological conditions.

**Equipment:**

- > MALDI-TOF-TOF (Bruker) mass spectrometer.
- > Nano-HPLC (Agilent) for offline coupling with MALDI-TOF-TOF.
- > Nano-HPLC-ESI ion trap mass spectrometer.
- > Freedom Evo (Tecan) robot for sample preparation.
- > Isoelectric focusing (Agilent 3100 OFFGEL).



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**Coordinator:**

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**Technical Staff:**

Flow Cytometry Laboratory:  
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## Functional and Cellular Analysis Platform

### > FLOW CYTOMETRY LABORATORY

**Functions:**

- > Conventional cytometry:
  - te presence.
  - Production of mediators.
  - Detection of minority populations.
- > In homogenous (cell line) or heterogeneous (biological fluid) samples:
  - Detection of the presence of proteins and determination of cell populations (cell markers).
  - Studies of signalling cascades (cell cycle, cell proliferation, apoptosis, intracellular calcium determination).
  - Quantification of transfection efficiency.
  - Phenotype changes. Relative and absolute presence.
- > Cell separator:
  - In sub-populations of separated cells:
    - Microarrays.
    - Western blot.
    - Cell cultures.
    - RT PCR.

**Equipment:**

- > FACSCalibur conventional flow cytometry.
- > Cytomics FC500 conventional flow cytometer (Beckman Coulter).
- > Flow cytometry FACS Aria cell sorter.

# Scientific and Technical Service Platforms



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Microscopy Laboratory:  
Carne Casal  
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## Microscopy and Immunohistochemistry Platform

### > IMMUNOHISTOCHEMISTRY LABORATORY

#### Functions:

- > Tissue processing.
- > Microtome paraffin-block cutting.
- > Automatic immunostaining.
- > Staining (Giemsa, haematoxylin-eosin).
- > Image acquisition and analysis using high-resolution colour microscopy and specialist software.

#### Equipment:

- > Tissue processor (Sakura).
- > Paraffin bath (Sakura).
- > Microtome (Microm).
- > Immune autostainer AS48 (Dako).
- > Autostainer (Sakura).

### > MICROSCOPY LABORATORY

#### Functions:

- > Confocal microscopy in live and fixed cells:
  - Immunofluorescence of 2 to 5 fluorochromes.
  - Reconstruction of 3D and 4D images.
  - Colocalization studies.
- Inter- and intra-interactions (FRET and FLIM).
- Molecular diffusion times (FCS).
- > Conventional fluorescence microscopy (immunofluorescence with 1 or 2 fluorochromes, FISH).

#### Equipment:

- > Zeiss digital time-lapse microscope.
- > Confocal multispectral Leica SP5 AOBs with high-resolution scanning system and high-speed tandem scanning, FLIM/FCS modules and time-lapse incubation system.

## Innovation Platform i2Health Sant Pau

#### Functions:

- > Promote the development of the information and communication technologies in the health sector.
- > Support researchers and sanitary staff undertaking e-health projects.
- > Provide a dedicated space within the hospital to create a living lab by bringing together medical staff, engineers, technologists, industry and health administration.



PLAN AVANZA

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**Coordinator:**  
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**Coordinator:**

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**Technical Staff:**

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## Biobank

**Functions:**

- > Create and maintain a collection of healthy and diseased biological human samples in optimal conditions for use in research projects.
- > Facilitate the collaboration projects by getting investigators in touch and making possible the biological human samples' cession.
- > Supply (non-profit) human biological samples to research groups, in terms of legal regulations.
- > Obtaining, processing and storing human biological samples by means of international standards, maintaining the traceability and security of the sample, as legally required.
- > Provide formation in the legal and ethical regulations of biological human sample management.

**Grants:**

- > HSCSP Research Institute. Biobank Network 2009. RD09/0076/00081. Amount: €138,000.00.



**Coordinator:**

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Image Analysis Laboratory:

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Other Equipment:

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## Equipment for General Use

> **IMAGE ANALYSIS LABORATORY:**

**Equipment:**

- > Revolution 4200 microarray scanner (Vidar).
- > Image Station 4000MM Pro (Kodak) gel documentation: luminescence, fluorescence, absorption.

> **OTHER EQUIPMENT**

**Equipment:**

- > Precision weighing balances (Sartorius).
- > Bioanalyzer 2100 (Agilent).
- > Nanodrop 2000 (Thermo).
- > Infinite 200 (Tecan) microplate reader: spectrophotometer, fluorometer, luminometer.

**Grants:**

- > HSCSP Research Institute. In vivo optical image equipment: IVIS Spectrum and add-ins for the new laboratory. IF09/3651. Amount: €300,129.
- > HSCSP Research Institute. Innovation Network 2009. RD09/0077/00075. Amount: €123,414.
- > Kulisevsky, J. Expert system integrating tele-assistance and -medicine to prevent dependence and promote autonomy of the elderly in the home environment. e-Health Platform for Healthy Ageing. Plan Avanza. TSI 020110-2009-444. Amount: €60,848.55.



## AREA 1

# Cardiovascular Diseases

- 46 Clinical and Translational Cardiology
- 50 Thrombosis and Haemostasis
- 52 Cardiovascular Biochemistry
- 54 Angiology, Vascular Biology and Inflammation
- 56 Molecular and Therapeutic Pathologies of Ischaemic and Atherothrombotic Diseases
- 60 Inflammation and Vascular Remodelling
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# Clinical and Translational Cardiology

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## Main Lines of Research

- Cardiac electrophysiology and arrhythmias.
- Heart failure.
- Ischaemic heart disease.
- New diagnostic techniques.

## Challenges

- Describe cardiac repolarization (T wave genesis) in the isolated perfused human heart (Langendorff).
- Develop new drugs to treat atrial fibrillation based on involvement of atrial receptors for adenosine.
- Set up basic research lines related to cardiac physiology in experimental models.
- Develop new diagnostic techniques for myocardial involvement based on myocardial electrical impedance measurements.

## Active Grants

- Cinca J. Electrophysiological and molecular characterization of cardiac repolarization in the isolated human heart. La Marató de TV3 Foundation. March 2009-December 2012. 080630. €48,320.00.
- Cinca J. Remodelling of adenosine receptors in human atrial fibrillation: A novel mechanism for atrial arrhythmogenesis. CNIC-Carlos III Health Institute. January 2008-December 2011. CNIC-12. €71,646.50.
- Cinca J. Redinscor. Spanish Heart Failure Research Network. Coordinated project. Carlos III Health Institute. January 2007-December 2012. RD06/0003. €151,639.78.
- Guerra J.M. Comparative study of electro-mechanical effects of epicardial and endocardial biventricular stimulation of the left ventricle in an animal model of heart failure. FIS Project. Carlos III Health Institute. January 2011-December 2013. PI10/01149. €82,340.50.
- Hove L. Effects of atrial fibrillation on the distribution and frequency of spontaneous calcium release events in human atrial myocytes. SAF Project. Ministry of Economy and Competitiveness. January 2012-December 2014. SAF 2011-30312.

**External Collaborations**

**Redinscor (RD06/0003). Spanish Heart Failure Research Network. Carlos III Health Institute. PI: Juan Cinca.**

**External Researchers:**

- Rafael Vázquez. Virgen de Valme University Hospital (Sevilla, Spain) / Puerta del Mar Hospital (Cádiz, Spain).
- Josep Brugada. Clinic Hospital (Barcelona, Spain).
- Josep M. Verdú. Institut Català de la Salut (Barcelona, Spain).
- Fernando Worner. Arnau de Vilanova University Hospital (Lleida, Spain).
- Alfredo Bardají. Joan XXIII University Hospital (Tarragona, Spain).
- José Ramón González. Clinic University Hospital (Santiago de Compostela, Spain).
- Arturo Fernández-Cruz. Internal Medicine. San Carlos Clinic Hospital (Madrid, Spain).
- Julián Pérez-Villacastín. Cardiovascular Institute. San Carlos Clinic Hospital (Madrid, Spain).
- Juan Francisco Delgado. Doce de Octubre

Hospital (Madrid, Spain).

- Luis Alonso-Pulpón. Puerta del Hierro Hospital (Madrid, Spain).
- Mariano Valdés. Virgen de la Arrixaca University Hospital (Murcia, Spain).
- Francisco Javier Chorro. Clinic University Hospital (Valencia, Spain).
- Concepción Vicenta Llorente. CSIC-ICCC (Barcelona, Spain).
- Francisco Javier Rosell. Polytechnic University of Catalonia (UPC, Barcelona, Spain).
- José Miguel Rivera. La Fe Hospital (Valencia, Spain).
- Oscar Aramburu. Virgen Macarena University Hospital (Sevilla, Spain).
- Covadonga García. Guadarrama Hospital (Madrid, Spain).
- Diego Miguel Giménez. Morales Meseguer Hospital (Murcia, Spain).
- Andrés Grau. Son Dureta Hospital (Palma de Mallorca, Spain).
- Plácido Orosa. Francesc de Borja Hospital (Gandia, Spain).
- Francesc Planas. City Hospital (Badalona,

Spain).

**Proyecto CNIC-12. Remodeling of adenosine receptors in human atrial fibrillation: A novel mechanism for atrial arrhythmogenesis. Traslatonal Research Project 2007. National Heart Failure Research Center (CNIC). PI: Juan Cinca.**

**External Researchers:**

- Rafael Franco. University of Barcelona (Spain).
- Leif Hove Madsen. CSIC-ICCC (Barcelona, Spain).
- Blas Echebarria. Polytechnic University of Catalonia (UPC, Barcelona, Spain).

**La Marató de TV3 Foundation Project. Electrophysiological and molecular characterization of cardiac repolarization in the isolated human heart. PI: Juan Cinca.**

**External Researchers:**

- Francisco Javier Chorro. Clinic University Hospital (Valencia, Spain).
- Ruben Coronel. Academic Medical Center (Amsterdam, Holland).

\*TIF: 124.410 \*\*MIF: 4.147

**ISI Web of Knowledge Indexed Publications with IF**

- 01 Llach A., Molina C.E., Fernandes J., Padro J., Cinca J., Hove-Madsen L. Sarcoplasmic reticulum and L-type Ca<sup>2+</sup> channel activity regulate the beat-to-beat stability of calcium handling in human atrial myocytes. *Journal of Physiology*;589(13):3247-3262. **IF: 4.881**
- 02 Chinchilla A., Daimi H., Lozano-Velasco E., Dominguez J.N., Caballero R., Delpo E., Tamargo J., Cinca J., Hove L.-M., Aranega A.E., Franco D. PITX2 insufficiency leads to atrial electrical and structural remodeling linked to arrhythmogenesis. *Circulation: Cardiovascular Genetics*;4(3):269-279. **IF: 6.105**
- 03 Castellano J., Farre J., Fernandes J., Bayes-Genis A., Cinca J., Badimon L., Hove-Madsen L., Llorente-Cortes V. Hypoxia exacerbates Ca<sup>2+</sup>-handling disturbances induced by very low density lipoproteins (VLDL) in neonatal rat cardiomyocytes. *Journal of Molecular and Cellular Cardiology*;50(5):894-902. **IF: 5.166**

- 04 Llach A., Molina C.E., Prat-Vidal C., Fernandes J., Casad V., Ciruela F., Llus C., Franco R., Cinca J., Hove-Madsen L. Abnormal calcium handling in atrial fibrillation is linked to up-regulation of adenosine A<sub>2A</sub> receptors. *European Heart Journal*;32(6):721-729. **IF: 10.478**
- 05 Catalan P., Leta R., Hidalgo A., Montiel J., Alomar X., Vilades D., Barros A., Pujadas S., Carreras F., Padro J.M., Cinca J., Pons-Llado G. Ruling out coronary artery disease with noninvasive coronary multidetector CT angiography before noncoronary cardiovascular surgery. *Radiology*;258(2):426-434. **IF: 5.726**
- 06 Gastelurrutia P., Pascual-Figal D., Vazquez R., Cygankiewicz I., Shamagian L.G., Puig T., Ferrero A., Cinca J., De Luna A.B., Bayes-Genis A. Obesity paradox and risk of sudden death in heart failure: Results from the MUerte Subita en Insuficiencia Cardiaca (MUSIC) Study. *American Heart Journal*;161(1):158-164. **IF: 4.651**
- 07 Giovino G., Ribas N., Cinca J., Rosell-Ferrer J. The feasibility of transoesophageal bioimpedance measure-

ments for the detection of heart graft rejection. *Physiological Measurement*;32(7):867-876. **IF: 1.677**

- 08 Cubedo J., Padro T., Garcia-Moll X., Pinto X., Cinca J., Badimon L. Proteomic signature of apolipoprotein J in the early phase of new-onset myocardial infarction. *Journal of Proteome Research*;10(1):211-220. **IF: 5.113**

- 09 Sabate M., Cequier A., Iniguez A., Serra A., Hernandez-Antolin R., Mainar V., Valgimigli M., Tespili M., Den Heijer P., Bethencourt A., Vazquez N., Brugaletta S., Backx B., Serruys P.W. Rationale and design of the EXAMINATION trial: A randomised comparison between everolimus-eluting stents and cobalt-chromium bare-metal stents in ST-elevation myocardial infarction. *EuroIntervention*;7(8):977-984. **IF: 3.285**

- 10 Urban P., Abizaid A., Banning A., Bartorelli A.L., Baux A.C., Davk V., Ellis S., Gao R., Holmes D., Jeong M.H., Legrand V., Neumann F.-J., Nyakern M., Spaulding C., Worthley S., e-SELECT Investigators (col. Serra A.) Stent thrombosis and

# Clinical and Translational Cardiology

\*TIF: 124.410 \*\*MIF: 4.147

- bleeding complications after implantation of sirolimus-eluting coronary stents in an unselected worldwide population: A report from the e-SELECT (Multi-center Post-Market Surveillance) registry. *Journal of the American College of Cardiology*;57(13):1445-1454.  
**IF: 14.156**
- 11 Grube E., Chevalier B., Smits P., Davk V., Patel T.M., Mallasari A.S., Whrle J., Stuteville M., Dorange C., Kaul U., SPIRIT V Investigators (Serra A.) The SPIRIT V study. *JACC: Cardiovascular Interventions*;4(2):168-175.  
**IF: 6.8**
- 12 Martin-Yuste V., Brugaletta S., Ferreira-Gonzalez I., Cola C., Alvarez-Contreras L., De Antonio M., Marti V., Garcia-Picart J., Sabate M. Endothelial progenitor cell capturing stent and short dual antiplatelet therapy in patients on chronic anti-vitamin k regimen undergoing percutaneous coronary interventions: Long-term outcomes of a single centre registry. *EuroIntervention*;6(7):831-837.  
**IF: 3.285**
- 13 Marti V., Garcia-Picart J., Balcells J. Coronary stenting after failure of conservative treatment for spontaneous coronary dissection: Usefulness of the intravascular ultrasound. *Journal of Clinical Ultrasound*;39(3):175-178.  
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- 14 Martin-Yuste V., Alvarez-Contreras L., Cola C., Brugaletta S., Garcia Picart J., Marti V., Masotti M., Sabate M. Usefulness of the Tornus® catheter in nondilatable coronary chronic total occlusion. *Revista Espanola de Cardiologia*;64(10):935-938.  
**IF: 2.53**
- 15 Martin-Yuste V., Alvarez-Contreras L., Brugaletta S., Ferreira-Gonzalez I., Cola C., Garcia-Picart J., Marti V., Sabate M. Emergent versus elective percutaneous stent implantation in the unprotected left main: Long-term outcomes from a single-center registry. *Journal of Invasive Cardiology*;23(10):392-397.  
**IF: 1.841**
- 16 Garcia-Moll X., Facila L., Conthe P., Zapata A., Artigas R., Bertomeu V., Gonzalez-Juanatey J.R. How beta-blockers are used in Spain? Analysis of limitations in their use in internal medicine and cardiology: CHARACTER-BETA study [¿cómo se usan los bloqueadores beta en España? Análisis de las limitaciones para su uso en medicina interna y cardiología: estudio CHARACTER-BETA]. *Revista Espanola de Cardiologia*;64(10):883-890.  
**IF: 2.53**
- 17 Tremmel J.A., Ng M.K.C., Ikeno F., Hunt S.A., Lee D.P., Yeung A.C., Fearon W.F. Comparison of drug-eluting versus bare metal stents in cardiac allograft vasculopathy. *American Journal of Cardiology*;108(5):665-668.  
**IF: 3.368**
- 18 Mirabet S., Gelpi C., Roldan C., Brossa V., Mendoza C.A., Lopez L., Molto E., Alvaro Y., Martinez V., Padro J.M., Roig E. Assessment of immunological markers as mediators of graft vasculopathy development in heart transplantation. *Proceedings*;43(6):2253-2256.  
**IF: 1.005**
- 19 Bueno H., Betriu A., Heras M., Alonso J.J., Cequier A., Garcia E.J., Lopez-Sendon J.L., Macaya C., Hernandez-Antolin R. Primary angioplasty vs. fibrinolysis in very old patients with acute myocardial infarction: TRIANA (TRatamiento del Infarto Agudo de miocardio en Ancianos) randomized trial and pooled analysis with previous studies. *European Heart Journal*;32(1):51-60.  
**IF: 10.478**
- 20 Serra-Grima R., Donate M., Borrás X., Rissech M., Puig T., Albert D.C., Bartrons J., Gran F., Manso B., Ferrer Q., Girona J., Casaldaliga J., Subirana M. Cardiopulmonary stress testing in children who have had congenital heart disease surgery. Physical exercise recommendations during school hours [Prueba de esfuerzo con función cardiopulmonar en niños operados de cardiopatía congénita. Recomendaciones de ejercicio físico en el ámbito escolar]. *Revista Espanola de Cardiologia*;64(9):780-787.  
**IF: 2.53**
- 21 Borrás-Perez X., Murga-Eizagahevarria N. Progress in clinical cardiology. the clinical cardiologist's response to new cardiovascular drugs [Novedades en cardiología clínica. La actitud del cardiólogo clínico ante los nuevos fármacos cardiovasculares]. *Revista Espanola de Cardiologia*;64(SUPPL. 1):73-80.  
**IF: 2.53**
- 22 Remacha A.F., Souto J.C., Pinana J.L., Sarda M.P., Queraltó J.M., Marti-Fabregas J., Garcia-Moll X., Fernandez C., Rodriguez A., Cuesta J. Vitamin B12 deficiency, hyperhomocysteinemia and thrombosis: A case and control study. *International Journal of Hematology*;93(4):458-464.  
**IF: 1.268**
- 23 Goldwasser D., Bayes De Luna A., Serra G., Elosua R., Rodriguez E., Guerra J.M., Alonso C., Vinolas Prat X. A new method of filtering T waves to detect hidden P waves in electrocardiogram signals. *Europace*;13(7):1028-1033.  
**IF: 1.98**
- 24 Sheng X.Y., Qu Y., Dan P., Lin E., Korthout L., Bradford A., Hove-Madsen L., Sanatani S., Tibbits G.F. Isolation and characterization of atrioventricular nodal cells from neonate rabbit heart. *Circulation: Arrhythmia and Electrophysiology*;4(6):936-946.  
**IF: 6.462**
- 25 Llach A., Molina C.E., Alvarez-Lacalle E., Tort L., Benitez R., Hove-Madsen L. Detection, properties, and frequency of local calcium release from the sarcoplasmic reticulum in teleost cardiomyocytes. *PLoS ONE*;6(8).  
**IF: 4.092**
- 26 Hove-Madsen L. Associating chagasic cardiomyopathy with abnormal diastolic calcium handling [Asociación de la miocardiopatía chagásica con el comportamiento anormal del calcio diastólico]. *Revista Espanola de Cardiologia*;64(6):451-452.  
**IF: 2.53**
- 27 Gershon C., Lin E., Kashihara H., Hove-Madsen L., Tibbits G.F. Colocalization of voltage-gated Na<sup>+</sup> channels with the Na<sup>+</sup>/Ca<sup>2+</sup>. *American Journal of Physiology – Heart and Circulatory Physiology*;300(1):H300-H311.  
**IF: 3.708**
- 28 Zhang P.C., Llach A., Sheng X.Y., Hove-Madsen L., Tibbits G.F. Calcium handling in zebrafish ventricular myocytes. *American Journal of Physiology – Regulatory Integrative and Comparative Physiology*;300(1):R56-R66.  
**IF: 3.336**
- 29 Flotats A., Hasbak P., Hidalgo A., Leta R. Cardiac SPECT-CT and PET-CT imaging. *Current Medical Imaging Reviews*;7(3):175-191.  
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- 30 Alegret J.M., Vinolas X., Villacastin J., Martinez J.G., Pachon N., Crespo F. Use and clinical implications of anticoagulation maintenance after a successful cardioversion [Uso e implicaciones clínicas del mantenimiento de la anticoagulación tras una cardioversión eficaz]. *Medicina Clinica*;137(1):14-16.  
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### ISI Web of Knowledge Indexed Publications without IF

- 01 Marti V., Seixo F., Leta R., Serra A. Mycotic aortic aneurysm secondary to repeated endocarditis. *Revista Portuguesa De Cardiologia*;30(11):863-4.
- 02 Martí V., García-Picart J., Carballeira L. Acute coronary syndrome due to distal embolization of a thrombus located in the left main coronary artery. *Revista Española De Cardiología*;64(7):614.
- 03 Brugaletta S., Martin-Yuste V., Ferreira-Gonzalez I., Cola C., Alvarez-Contreras L., De Antonio M., Garcia-Moll X., Garcia-Picart J., Marti V., Balcells-Iranzo J., Sabate M. Adequate antiplatelet regimen in patients on chronic anti-vitamin K treatment undergoing percutaneous coronary intervention. *World journal of cardiology*;3(11):367-73.
- 04 In-cycle myocardium tissue electrical impedance monitoring using broadband impedance spectroscopy. Proceedings of the annual international conference of the IEEE engineering in medicine and biology society, EMBS;2518 p.
- 05 Marti V., Seixo F., Leta R., Serra A. Mycotic aortic aneurysm secondary to repeated endocarditis. *Revista Portuguesa De Cardiologia*;30(11):863-4.

### Scopus Indexed Publications

- 01 Martí V., García-Picart J., Balcells J., Cola C., Kastanis P., Sabaté M. Rescue maneuver for entrapped stent in the coronary tree. *Archivos De Cardiologia De Mexico*;81(1):29-32.
- 02 Cubedo J., Padró T., García-Moll X., Pintó X., Cinca J., Badimon L. Serum proteome in acute myocardial infarction. *Clinica e Investigacion En Arteriosclerosis*;23(4):147-54.

### Book Chapter

- Cinca J. XVII Edition "Treaty on Internal Medicine Farreras-Rozman". Chapter No 54, subsection "Electrocardiography".

# Thrombosis and Haemostasis

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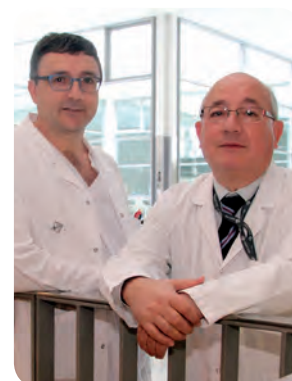
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## Main Lines of Research

- Investigation of the genetic basis of venous and arterial thrombosis. GAIT-1 and GAIT-2 projects.
- Investigation of new antithrombotic drugs: thrombin inhibitors, molecules against activated factor X, low molecular weight heparin with oral activity, among others.
- Biomarkers of prothrombotic states in patients under 55 years with venous thromboembolic disease, acute ischaemic stroke, or acute myocardial infarction.
- Applied clinical development of the self-management model of oral anticoagulant treatment.

## Challenges

- Study of the QTL detected in GAIT-1 families in relation to phenotypes of haemostasia with thrombosis risk (resistance to activated protein C, factor VIII, homocysteine, factor XII and others).
- Replication of the QTL related to thrombosis in GAIT-1 families by means of the linkage analysis using the new GAIT-2 families.
- Genomewide association study (GWAS) of the phenotypes included in GAIT-1.
- Design of new epidemiological projects on the risk of venous thromboembolism. The RETROVE Project: with the goal of establishing a score of individual risk, by jointly analyzing clinical data, plasma phenotypes and genetic markers). The PAN Project: on the influence of contraceptives on the phenotypes of the Hemostasis system and on the thrombosis risk.
- Continue the collaboration with the RECAVA Spanish network of cardiovascular patients and with other European groups. Mainly with the goal of applying the GAIT Project findings to cohorts of patients with venous and arterial thrombosis in Spain and other European countries.

## Active Grants

- Fontcuberta J. Funds in support of Catalan research groups. Thrombosis and Haemostasis Group. AGAUR Project. September 2009-December 2013. 2009SGR 1147. €43,860.
- Fontcuberta J. RECAVA. FIS Project. Carlos III Health Institute. January 2007-December 2011. RD06/0014/0016. €143,973.
- Souto J. Genetic bases for primary haemostasis phenotypes and the link with thrombosis. Spanish Ministry of Economy and Competitiveness. January 2009-December 2011. SAF08-01859. €90,000.

Collaborations

Collaborations with other IIB Sant Pau Groups

- Angiology, Vascular Biology and Inflammation Group.
- Genomics of Complex Diseases Group.
- Haematological Diagnosis Group.
- Cerebrovascular Diseases Group.
- Reproductive Health Group (Prenatal Diagnosis and Reproduction Endocrinology).

External Collaborations

- BEAST Project on cerebral venous thrombosis (Italy, France, Germany and Spain).
- Genomic Predisposition on Unexplained Miscarriages (a European Project from France, Israel, Italy and Spain).

\*TIF: 77.529 \*\*MIF: 12.922

Scientific Production

ISI Web of Knowledge Indexed Publications with IF

- |   |   |  |
|---|---|--|
| <p>01 Athanasiadis G., Buil A., Souto J.C., Borrell M., Lopez S., Martinez-Perez A., Lathrop M., Fontcuberta J., Almasy L., Soria J.M. A genome-wide association study of the protein C anticoagulant pathway. <i>PLoS ONE</i>;6(12).<br/><b>IF: 4.092</b></p> <p>02 Souto J.C., Vila L., Bru A. Polymorphonuclear neutrophils and cancer: Intense and sustained neutrophilia as a treatment against solid tumors. <i>Medicinal Research Reviews</i>;31(3):311-363.<br/><b>IF: 10.7</b></p> <p>03 Rico S., Antonijoan R.M., Gich I., Borrell M., Fontcuberta J., Monreal M., Martinez-Gonzalez J., Barbanoj M.J. Safety</p> | <p>assessment and pharmacodynamics of a novel ultra low molecular weight heparin (RO-14) in healthy volunteers – A first-time-in-human single ascending dose study. <i>Thrombosis Research</i>;127(4):292-298.<br/><b>IF: 2.44</b></p> <p>04 Remacha A.F., Souto J.C., Pinana J.L., Sarda M.P., Queralto J.M., Marti-Fabregas J., Garcia-Moll X., Fernandez C., Rodriguez A., Cuesta J. Vitamin B12 deficiency, hyperhomocysteinemia and thrombosis: A case and control study. <i>International Journal of Hematology</i>;93(4):458-464.<br/><b>IF: 1.268</b></p> <p>05 Patel M.R., Mahaffey K.W., Garg J., Pan G., Singer D.E., Hacke W., Breithardt G., Halperin J.L., Hankey G.J., Piccini J.P.,</p> | <p>Becker R.C., Nessel C.C., Paolini J.F., Berkowitz S.D., Fox K.A.A., Califf R.M., ROCKET AF Investigators (col. Fontcuberta J.) Rivaroxaban versus warfarin in nonvalvular atrial fibrillation. <i>New England Journal of Medicine</i>;365(10):883-891.<br/><b>IF: 53.298</b></p> <p>06 Poller L., Ibrahim S., Keown M., Pattison A., Jespersen J. The prothrombin time/international normalized ratio (PT/INR) Line: Derivation of local INR with commercial thromboplastins and coagulometers – two independent studies. <i>Journal of Thrombosis and Haemostasis</i>;9(1):140-148.<br/><b>IF: 5.731</b></p> |
|---|---|--|

Other Publications

Letter

- Mateo J., Paniagua P., Koller T., Moral V., Fontcuberta J. Dextran and hydroxyethyl starch do not interfere with fibrinogen measurement if claus method with mechanical clot detection is used. *Critical Care*;15:441.

Guide

- Protocol for the activation and management of massive transfusions (HSCSP).

# Cardiovascular Biochemistry

## Coordinator

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Agustina Castellví HSCSP  
Julia Freixa HSCSP  
Vanessa Criado HSCSP  
Immaculada Porcel HSCSP



## Main Lines of Research

- Mechanisms of atherogenicity in low density lipoproteins (LDL).
- Electronegative LDL, interaction with cells from atheromatous lesions.
- Vulnerability markers in atheromatous plaque: electronegative LDL, myeloperoxidase, phospholipase.
- New markers of acute cardiovascular disease: cardiac troponins, natriuretic peptides, ST-2.
- New markers of cardiovascular risk in HIV: phospholipases, LDL size.
- New markers of cardiovascular risk in diabetes: phospholipases, HDL function, electronegative LDL.

## Challenges

- Demonstrate that electronegative LDL is a marker of vulnerable atheromatous plaque.
- Determine the intracellular mechanisms involved in the inflammatory response induced by LDL(-) and the components of the particle that entail atherogenicity.
- Development of novel molecular strategies to inhibit the aggregation and binding to arterial wall proteoglycans of LDL.
- Find new markers of cardiovascular risk in diseases as diabetes, HIV or cardiac failure.

## Active Grants

- Benítez S. Study of the mechanisms involved in the inflammatory effects of LDL(-) in monocytes and the inhibitory role of HDL. FIS Project. Carlos III Health Institute. January 2010-December 2012. PI09/0160. €56,500.
- Ordóñez J. Funds in support of Catalan research groups. Cardiovascular Biochemistry Group. AGAUR Project. August 2009-December 2013. 2009 SGR 1205. €46,800.
- Sánchez-Quesada J.L. Molecular strategies to inhibit the aggregation and binding to arterial wall proteoglycans of low-density lipoproteins. FIS Project. Carlos III Health Institute. January 2011-December 2013. PI10/00265. €99,220.
- Sánchez-Quesada J.L. Enzymatic activities associated to electronegative LDL. Modulation of the pro/anti-inflammatory balance. FIS Project. Carlos III Health Institute. February 2007 – January 2013. CP06/0220. €41,000.
- Ordóñez J. Funds in support of Catalan research groups. Cardiovascular Biochemistry Group. AGAUR Project. August 2009-December 2013. 2009SGR 1205. €46,800.
- Ordóñez J. Metabolic effects of Atazanavir/Ritonavir versus Darunavir/Ritonavir in combination with Tenofovir/Emtricitabine in naïve HIV-1 infected patients. ATADAR Trial. 2011-2012. NCT01274780. €17,000.
- Ordóñez J. Performance Study of the Cobas b101 device for lipid profile and hemoglobin A1c evaluation. Roche Diagnostics. 2011-2012. €55,000.
- Ordóñez J. Evaluation of the High Sensitive Cardiac Troponin I Assay of Abbott Diagnostics and Prognostic Value of high sensitive Troponin I measurements in Severely Ill Patients. Abbott Diagnostics. 2011. €15,000.

Collaborations

**Collaborations with other IIB Sant Pau Groups**

- Metabolic Bases of Cardiovascular Risk Group.
- Endocrinology, Diabetes and Nutrition Group.
- Angiology, Vascular Biology and Inflammation Group.
- Clinical and Translational Cardiology Group.

**External Collaborations**

**Basic research on the molecular mechanisms of ldl atherogenicity:**

- Dr. Sandra Villegas. Biochemistry Department. Autonomous University of Barcelona (Spain).
- Dr. Ross Milne. Heart Research Institute. University of Ottawa (Canada).

- Dr. Petri T. Kovanen. Wihuri Research Institute (Helsinki, Finland).
- Dr. Kati Öörni. Wihuri Research Institute (Helsinki, Finland).
- Dr. Francisco J. Blanco. CIC-BIOGUNE (Vizcaya, Spain). Proyecto CNIC-12. Remodeling of adenosine receptors in human atrial fibrillation: A novel mechanism for atrial arrhythmogenesis. Traslational Research Project 2007. National Heart Failure Research Center (CNIC). PI: Juan Cinca.

**Multicentric studies:**

Bicombo-met Substudy Team:

- Dr. Daniel Podzamczar. Bellvitge Hospital (L'Hospitalet de Llobregat, Spain).

Sudden Death in Hearth failure (MUSIC) and Meta-analysis Global Group in Chronic Heart Failure (MAGGIC):

- Dr. Domingo Pascual-Figal. Virgen de la Arrixaca University Hospital (Murcia, Spain).
- Dr. Rafael Vázquez. Cardiology Service. Puer-ta del Mar University Hospital (Cádiz, Spain).
- Dr. Antoni Bayes-Genís. Cardiology Department. Germans Trias i Pujol University Hospital (Barcelona, Spain).

IFCC Task Force on Clinical Applications of Cardiac Biomarkers:

- Dr. Fred S. Apple. Department of Laboratory Medicine and Pathology. University of Minnesota (USA).
- Dr. Paul O. Collinson. St. George's Hospital (London, United Kingdom).
- Dr. Alan S. Jaffe. Mayo Clinic. Cardiovascular Division (Rochester, New York, USA).
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\*TIF: 32.120 \*\*MIF: 3.212

Scientific Production

**ISI Web of Knowledge Indexed Publications with IF**

- 01 Ferrer E., Rio L.D., Martinez E., Curto J., Domingo P., Ribera E., Negredo E., Rosales J., Saumoy M., Ordonez J., Gatell J.M., Podzamczar D. Impact of switching from lopinavir/ritonavir to atazanavir/ritonavir on body fat redistribution in virologically suppressed HIV-infected adults. *AIDS Research and Human Retroviruses*;27(10):1061-1065. **IF: 2.246**
- 02 Wagner A.M., Sanchez-Quesada J.L., Benitez S., Bancells C., Ordonez-Llanos J., Perez A. Effect of statin and fibrate treatment on inflammation in type 2 diabetes. A randomized, cross-over study. *Diabetes Research and Clinical Practice*;93(1):e25-e28. **IF: 2.754**
- 03 Saumoy M., Ordonez-Llanos J., Martinez E., Barragan P., Ribera E., Bonet R., Knobel H., Negredo E., Lonca M., Curran A., Gatell J.M., Podzamczar D. Low-density lipoprotein size and lipoprotein-associated phospholipase A2 in HIV-infected patients switching to abacavir or tenofovir. *Antiviral Therapy*;16(4):459-468. **IF: 3.161**

- 04 Ordonez Llanos J., Santalo Bel M. Early diagnosis of myocardial injury: What will bring the markers in the future? [Diagnóstico precoz de la lesión miocárdica: ¿qué nos depararán los marcadores bioquímicos en el futuro?]. *Emergencias*;23(2):149-151. **IF: 2.486**
- 05 Zapata L., Vera P., Roglan A., Gich I., Ordonez-Llanos J., Betbese A.J. B-type natriuretic peptides for prediction and diagnosis of weaning failure from cardiac origin. *Intensive Care Medicine*;37(3):477-485. **IF: 5.399**
- 06 Subirana M.T., Juan-Babot J.O., Puig T., Lucena J., Rico A., Salguero M., Borondo J.C., Ordonez J., Arimany J., Vazquez R., Badimon L., Thiene G., De Luna A.B. Specific characteristics of sudden death in a mediterranean Spanish population. *American Journal of Cardiology*;107(4):622-627. **IF: 3.368**
- 07 Bancells C., Benitez S., Ordonez-Llanos J., Oorni K., Kovanen P.T., Milne R.W., Sanchez-Quesada J.L. Immunochemical analysis of the electronegative LDL subfraction shows that abnormal N-terminal apolipoprotein B conformation is involved in increased binding to proteoglycans. *Journal of Biological Chemistry*;286(2):1125-1133. **IF: 4.773**

- 08 Pascual-Figal D.A., Garrido I.P., Blanco R., Minguela A., Lax A., Ordoez-Llanos J., Bayes-Genis A., Valdes M., Moore S.A., Januzzi J.L. Soluble ST2 is a marker for acute cardiac allograft rejection. *Annals of Thoracic Surgery*;92(6):2118-2124. **IF: 3.741**
- 09 Ferrer E., Rio L.D., Martinez E., Curto J., Domingo P., Ribera E., Negredo E., Rosales J., Saumoy M., Ordonez J., Gatell J.M., Podzamczar D. Impact of switching from lopinavir/ritonavir to atazanavir/ritonavir on body fat redistribution in virologically suppressed HIV-infected adults. *AIDS Research and Human Retroviruses*;27(10):1061-1065. **IF: 2.246**
- 10 Cubero J.M., Domingo P., Sambeat M., Ordonez-Llanos J., Rodriguez-Espinosa J., Sanchez-Quesada J.L., Perez A. Prevalence of metabolic syndrome among human immunodeficiency virus-infected subjects is widely influenced by the diagnostic criteria. *Metabolic Syndrome and Related Disorders*;9(5):345-351. **IF: 1.946**

Other Publications

**Book Chapters**

- Chapter: Sánchez-Quesada J.L., Villegas S. Modified forms of LDL in plasma. Book: Atherogenesis. Editor: Parthasarathy S. Editorial In Tech (Zagreb, Croatia, 2011).

# Angiology, Vascular Biology and Inflammation

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## Researchers

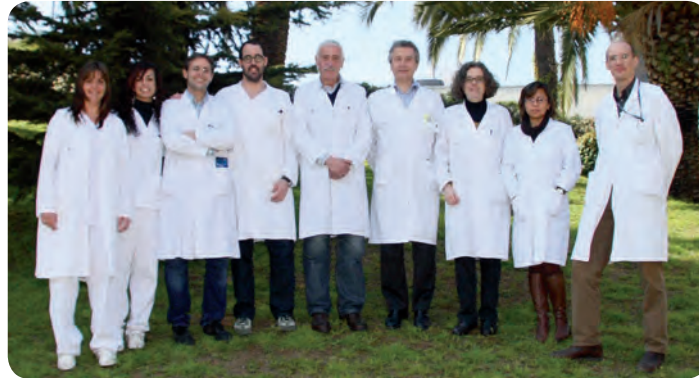
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Mercedes Camacho HSCSP RI  
Jaime Dilmé HSCSP  
José Román Escudero HSCSP  
José María Romero HSCSP

## Technicians

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Laura Siguero HSCSP RI

## Collaborators

Kelly Casós HSCSP RI



## Main Lines of Research

### Cardiovascular research:

- Inflammatory mechanisms involved in vascular disorders.
- Genetic basis of vascular pathologies: atherothrombosis, aortic aneurisms, and chronic venous insufficiency.
- New, more effective targets. Research into pharmacologic targets for NSAIDs of cardiovascular interest.

### Cancer research:

- Intense peritumoural inflammatory response as a therapeutic strategy in solid tumours.
- Role of inflammatory mediators in head and neck squamous carcinoma, and in regulating gene expression in tumour relapse.

## Challenges

- Our main challenge is to strengthen our collaboration with other groups. To do so we need to incorporate more predoctoral researchers, establish collaborations with the industry sector to develop new anti-inflammatory drugs based on the inhibition of mPGES-1, and set up training program-

mes for clinical physicians with a strong interest in research.

## Active Grants

- Camacho M. Modulation by hypoxia of PGE2 biosynthesis in vascular cells and leukocytes: role of the PGE Synthases. Spanish Ministry of Industry, Energy and Tourism. January 2009-December 2011. SAF08-01777. €72,600.
- Vila L. RECAVA. FIS Project. Carlos III Health Institute. January 2008-December 2012. RD06/0014/1005. €143,251.

- Vila L. Identification of new therapeutic targets for the abdominal aortic aneurysm. Caixa Tarragona 2010. June 2010-May 2011. TU AYUDAS. €1,070.
- Vila L. Microsomal PGE-synthase-1 as a target for generation of new anti-inflammatory drugs useful in cardiovascular disorders: study in the abdominal aortic aneurysm context. Spanish Ministry of Industry, Energy and Tourism. January 2011-December 2013. SAF2010-21392. €145,200.

## Awards

- Award for best scientific communication. 19 th National Congress of the Spanish Chapter of Phlebology. Spanish Society of Angiology and Vascular Surgery (SEACV) (Granada, April 2011). Romero J.M., Martí-

nez A., Souto J.C., Rib L., Vila L., Escudero J.R., Soria J.M. Genetic Basis of Chronic Venous Insufficiency and its involvement in VTE.

## Collaborations

## Collaborations with other IIB Sant Pau Groups

- Ear, Nose and Throat Cancers Group.
- Inflammation and Vascular Remodelling Group.
- Genomics of Complex Diseases Group.
- Thrombosis and Haemostasis Group.
- Nephrology Group.
- Multi-organ Damage Group.
- Cerebrovascular Diseases Group.
- Molecular Bases of Disease Group.

## External Collaborations

- Dr. Eduard Permanyer, Dr. Christian Muñoz, Dr. Josep M. Padró. HSCSP Cardiac Surgery Service.
- Dr. Juan Miguel Redondo. Department of Vascular and Inflammation Biology. National Center for Cardiovascular (CNIC, Madrid).
- Dra. Mercedes Salaices. Pharmacology Department. Autonomous University of Madrid (Spain).
- Dr. Antonio Brú. Complutense University of Madrid (Spain).
- Dr. Manuel Fresno. Severo Ochoa Molecular Biology Center (CBM Severo Ochoa, Madrid, Spain).

\*TIF: 37.535 \*\*MIF: 6.256

## Scientific Production

## ISI Web of Knowledge Indexed Publications with IF

- 01 1. Souto J.C., Vila L., Bru A. Polymorphonuclear neutrophils and cancer: Intense and sustained neutrophilia as a treatment against solid tumors. *Medicinal Research Reviews*;31(3):311-363. **IF: 10.7**
- 02 2. Bellmunt S., Dilme J., Barros A., Escudero J.R. Compression assisted by removable coils as a new treatment for iatrogenic femoral pseudoaneurysms. *Journal of Vascular Surgery*;53(1):236-238. **IF: 3.21**
- 03 3. Mostaza J.M., Puras E., Alvarez J., Cairols M., Garcia-Rospide V., Miralles M., Escudero J.R., Arroyo Bielsa A. Clinical characteristics and in-hospital outcomes of patients with critical leg ischemia: ICEBERG Study [Características clínicas y evolución intrahospitalaria de los pacientes con isquemia crítica de miembros inferiores: Estudio ICEBERG]. *Medicina Clinica*;136(3):91-96. **IF: 1.385**
- 04 4. Casos K., Sigüero L., Fernandez-Figueras M.-T., Leon X., Sarda M.-P., Vila L., Camacho M. Tumor cells induce COX-2 and mPGES-1 expression in microvascular endothelial cells mainly by means of IL-1 receptor activation. *Microvascular Research*;81(3):261-268. **IF: 2.828**
- 05 5. Camacho M., Rodriguez C., Guadall A., Alcolea S., Orriols M., Escudero J.-R., Martinez-Gonzalez J., Vila L. Hypoxia upregulates PGI-synthase and PGI2 release in human vascular cells exposed to inflammatory stimuli. *Journal of Lipid Research*;52(4):720-731. **IF: 5.559**
- 06 6. Esteban V., Mendez-Barbero N., Jimenez-Borreguero L.J., Roque M., Novensa L., Garcia-Redondo A.B., Salaices M., Vila L., Arbones M.L., Campanero M.R., Redondo J.M. Regulator of calcineurin 1 mediates pathological vascular wall remodeling. *Journal of Experimental Medicine*;208(10):2125-2139. **IF: 13.853**

## Scientific Production

## Scopus Indexed Publications

- 01 Plaza Martínez A., Carrera Díaz S., Alonso Álvarez M.I., Escudero J.R., Vaquero Puerta C., Cairois Castellote M.A., Rimbau V., Lojo Rocamonde I., Gutiérrez Alonso V. Endovascular treatment of aortoiliac obstructive disease. *Angiologia*;63(2):75-94.
- 02 Altés Mas P., Bellmunt Montoya S., Soto Carricas B., Sirvent González M., Martínez Carnovale L.I., Escudero Rodríguez J.R. Peripheral artery disease and HIV infection. *Angiologia*;63(6):243-9.
- 03 Monteserín R., Reyes C., Bellmunt S., Escudero J.R. Leg ulcer. consensus documents of the C.O.N.U.E.I.: Quality standards in the management of leg ulcers. *Anales De Patologia Vascular*;5(1):34-5.
- 04 Dilmé Muñoz J.F., Egea L.M.A., Carro J.M.R., Montoya S.B., Navarro L.V., Rodríguez J.R.E. Chronic limb ischemia: Clinical diagnostic and hemodynamics of chronic leg ischemia. *Anales De Patologia Vascular*;5(1):15-8.
- 05 Martínez L., Llagostera S., Escudero J.R. Open surgical repair of an iatrogenic popliteal arteriovenous fistula with proximal arteriomegaly: A case report. *EJVES Extra*;22(6):e70-2.

## Other Publications

## Book Chapter

- Chapter: Marinel-lo J., Escudero J.R. Epidemiology of Chronic Venous Insufficiency in Spain. Book: White Paper of the Spanish Society of Angiology and Vascular Surgery (SEACV). *Angiology and Vascular Surgery in Spain (SEACV 2011)*.

# Molecular Pathology and Therapeutic of Ischaemic and Atherothrombotic Diseases

## Coordinator

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Elena Martínez PNS-MICINN  
Carolina Romero DANONE Inst.



## Main Lines of Research

- Physiopathological role of LRP family proteins in chronic diseases.
- Identification and characterization of transcription factors and genetic targets. Role of HDL and LDL.
- Vascular impact of ischaemia and angiogenesis in heart disease. Cellular therapy.

## Challenges

- Set up and maintain an NMR/PET platform, essential for the strategic development of this programme and requiring the use of imaging techniques to evaluate the function of new targets for later therapeutic development.
- Use nuclear magnetic resonance is needed to answer questions arising from myocardial perfusion.
- Broaden the experimental focus to include transgenic animal models with/without cardiovascular risk factors in order to proceed to in-depth analysis of molecules involved in the modulation of new proteins.
- Maintain present relationships with collaborators and establish new multidisciplinary collaborations.
- Strengthen international funding for new platform development apply to international bodies for financing once we have the platforms necessary to carry out the proposed activities.

## Awards

- Eurothrombosis Investigator Award 2011. First prize for the poster "Proteomic profiling of the human thrombus components". Eurothrombosis (Porto, Portugal).
- Journal of the American Heart Association. Karl Link New Investigator Award 2011 in Thrombosis, to the article "Glucose – regulated Protein 78 and Platelet Deposition: Effect of rosuvastatin", published in *Atherosclerosis, Thrombosis and Vascular Biology*. *Arterioscler Thromb Vasc Biol* 2010;30:1246-1252.



Active Grants

- Badimon L. Programme of annual activities of the Science Culture Unit of the ICC: Bringing cardiovascular research to the public. FECYT. July 2010-May 2011. FCT-10-1185.
- Badimon L. Development of new methodologies and emerging technologies to provide evidence of foods with health properties for the reduction of the risk of chronic pathologies from middle age (HENUFOOD). Spanish Ministry of Economy and Competitiveness/CENIT. May 2010-December 2013. CEN20101016.
- Badimon L. Angiogenic cell therapy of cardiovascular ischaemic diseases. AGAUR Project. January 2010-December 2011. 2009 CTP 00028.
- Badimon L. Consolidated research group. AGAUR Project. January 2009-December 2013. 2009 SGR 826.
- Badimon L. From hypercholesterolemia to atherosclerosis in hFH patients: Characterization and functional effects on resident vascular cells of plasma lipoproteins (HDL, LDL) and circulating microparticles. CNIC. January 2009-December 2011. CNIC2008-08.
- Badimon L. Safer and Faster Evidence-Based Translation. European Commission IMI\_Call\_2008\_1\_05. September 2009-December 2013. SAFE-T.
- Badimon L. European Network for Cell Imaging and Tracking Expertise. European Commission. June 2009-May 2012. ENCITE.
- Badimon L. Cellular and molecular mechanisms in coronary arteriosclerosis and myocardial ischaemia. Therapeutic implications. Spanish Ministry of Economy and Competitiveness. October 2006-September 2011. SAF 2006-10091.
- Badimon L. Cell Therapy (TERCEL). Retics Project. Carlos III Health Institute. December 2006-December 2011. RD06/0010/0017.
- Badimon L. Thematic Physiopathology Network for Obesity and Nutrition (CIBEROBN). CIBER Project. Carlos III Health Institute. December 2006-December 2012. CB2006/03.
- Badimon L. Atherosclerotic plaque instability in relation to increasing cardiovascular risk: targeting angiogenesis (CARDIO-RISK). Spanish Ministry of Economy and Competitiveness. January 2011 – December 2013. SAF2010-16549.

Collaborations

Collaborations with other IIB Sant Pau Groups

- Clinical and Translational Cardiology Group.
- Biomarkers for Disease Status Group.
- Cerebrovascular Diseases Group.
- Inflammation and Vascular Remodelling Group.
- Endocrinology, Diabetes and Nutrition Group.

External Collaborations

National Collaboration:

- Participated in a CNIC-financed project in collaboration with Jiménez Díaz Foundation, Family Hypercholesterolemia Foundation (Madrid, Spain) and Reina Sofía Hospital (Córdoba, Spain).

- Biomedical Research Centre on Physiopathology Network of Obesity and Nutrition (CIBEROBN).

International Collaboration:

- IMI-collaborative project based in academic, SMEs, and pharmaceutical companies.
- International Collaboration: Atherothrombosis Research Unit, Cardiovascular Institute, Mount Sinai School of Medicine (New York, USA).
- WG – Coronary Pathophysiology and Microcirculation (ESC).
- WG – Coronary Thrombosis (ESC).lar Division (Rochester, New York, USA).

\*TIF: 139.376 \*\*MIF: 5.575

Scientific Production

ISI Web of Knowledge Indexed Publications with IF

- 01 Matheis K., Laurie D., Andriamandroso C., Arber N., Badimon L., Benain X., Bendjama K., Clavier I., Colman P., Firat H., Goepfert J., Hall S., Joos T., Kraus S., Kretschmer A., Merz M., Padro T., Planatscher H., Rossi A., Schneiderhan-Marra N., Schuppe-Koistinen I., Thomann P., Vidal J.-M., Molac B. A generic operational strategy to qualify translational safety biomarkers. *Drug Discovery Today*;16(13-14):600-608. **IF: 6.828**
- 02 Patrono C., Andreotti F., Arnesen H., Badimon L., Baigent C., Collet J.-P., De Caterina R., Gulba D., Huber K., Husted S., Kristensen S.D., Morais J., Neumann F.-J., Rasmussen L.H., Siegbahn A., Steg P.-G., Storey R.F., Van De Werf F., Verheugt F. Antiplatelet agents for the treatment and prevention of atherothrombosis. *European Heart Journal*;32(23):2922-2932. **IF: 10.478**
- 03 Badimon L., Vilahur G., Padro T. Atherosclerosis and thrombosis: Insights from large animal models. *Journal of Biomedicine and Biotechnology*;2011. **IF: 2.436**
- 04 Steg P.G., Huber K., Andreotti F., Arnesen H., Atar D., Badimon L., Bassand J.-P., De Caterina R., Eikelboom J.A., Gulba D., Hamon M., Helft G., Fox K.A.A., Kristensen S.D., Rao S.V., Verheugt F.W.A., Widimsky P., Zeymer U., Collet J.-P. Bleeding in acute coronary syndromes and percutaneous coronary interventions: Position paper by the Working Group on Thrombosis of the European Society of Cardiology. *European Heart Journal*;32(15):1854-1864. **IF: 10.478**
- 05 Calvayrac O., Rodriguez-Calvo R., Alonso J., Orbe J., Martin-Ventura J.L., Guadall A., Gentile M., Juan-Babot O., Egido J., Belouqui O., Paramo J.A., Rodriguez C., Martinez-Gonzalez J. CCL20 is increased in hypercholesterolemic subjects and is upregulated by LDL in vascular smooth muscle cells: Role of NF-κB. *Arteriosclerosis, Thrombosis, and Vascular Biology*;31(11):2733-2741. **IF: 6.368**

# Molecular Pathology and Therapeutic of Ischaemic and Atherothrombotic Diseases

\*TIF: 139.376 \*\*MIF: 5.575

- 06 Llorente-Cortes V., Casani L., Cal R., Llenas A., Juan-Babot O., Camino-Lopez S., Sendra J., Badimon Maestro L. Cholesterol-lowering strategies reduce vascular LRP1 overexpression induced by hypercholesterolaemia. *European Journal of Clinical Investigation*;41(10):1087-1097.  
**IF: 3.018**
- 07 Mata N., Alonso R., Badiman L., Padra T., Fuentes F., Muiz O., Perez-Jimenez F., Laperez-Miranda J., Diaz J.L., Vidal J.I., Barba A., Piedecausa M., Sanchez J.F., Irigoyen L., Guallar E., Ordovas J.M., Mata P. Clinical characteristics and evaluation of LDL-cholesterol treatment of the Spanish Familial Hypercholesterolemia Longitudinal Cohort Study (SAFEHEART). *Lipids in Health and Disease*;10.  
**IF: 2.17**
- 08 Hamm C.W., Bassand J.P., Agewall S., Bax J., Boersma E., Bueno H., Caso P., Dudek D., Gielen S., Huber K., Ohman M., Petrie M.C., Sonntag F., Uva M.S., Storey R.F., Wijns W., Zahger D., Task Force Members (Badimon L.) ESC Guidelines for the management of acute coronary syndromes in patients presenting without persistent ST-segment elevation. *European Heart Journal*;32(23):2999-3054.  
**IF: 10.478**
- 09 Guadall A., Orriols M., Rodriguez-Calvo R., Calvayrac O., Crespo J., Aledo R., Martinez-Gonzalez J., Rodriguez C. Fibulin-5 is up-regulated by hypoxia in endothelial cells through a hypoxia-inducible factor-1 (HIF-1 $\alpha$ )-dependent mechanism. *Journal of Biological Chemistry*;286(9):7093-7103.  
**IF: 4.773**
- 10 Castellano J., Farre J., Fernandes J., Bayes-Genis A., Cinca J., Badimon L., Hove-Madsen L., Llorente-Cortes V. Hypoxia exacerbates Ca<sup>2+</sup>-handling disturbances induced by very low density lipoproteins (VLDL) in neonatal rat cardiomyocytes. *Journal of Molecular and Cellular Cardiology*;50(5):902.  
**IF: 5.166**
- 11 Castellano J., Aledo R., Sendra J., Costales P., Juan-Babot O., Badimon L., Llorente-Cortes V. Hypoxia stimulates low-density lipoprotein receptor-related protein-1 expression through hypoxia-inducible factor-1 $\alpha$  in human vascular smooth muscle cells. *Arteriosclerosis, Thrombosis, and Vascular Biology*;31(6):1411-1420.  
**IF: 6.368**
- 12 Vaccarino V., Badimon L., Corti R., De Wit C., Dorobantu M., Hall A., Koller A., Marzilli M., Pries A., Bugiardini R. Ischaemic heart disease in women: Are there sex differences in pathophysiology and risk factors?. *Cardiovascular Research*;90(1):9-17.  
**IF: 6.064**
- 13 Llorente-Cortes V., Barbarigo V., Badimon L. Low density lipoprotein receptor-related protein 1 modulates the proliferation and migration of human hepatic stellate cells. *Journal of Cellular Physiology*;227(10):3528-3533.  
**IF: 3.874**
- 14 Bernal-Lopez R.M., Llorente-Cortes V., Lopez-Carmona D., Mayas D.M., Gomez-Huelgas R., Tinahones F.J., Badimon L. Modulation of human monocyte CD36 by type 2 diabetes mellitus and other atherosclerotic risk factors. *European Journal of Clinical Investigation*;41(8):854-862.  
**IF: 3.018**
- 15 Vilahur G., Juan-Babot O., Pena E., Onate B., Casani L., Badimon L. Molecular and cellular mechanisms involved in cardiac remodeling after acute myocardial infarction. *Journal of Molecular and Cellular Cardiology*;50(3):522-533.  
**IF: 5.166**
- 16 Molins B., Pea E., De La Torre R., Badimon L. Monomeric C-reactive protein is prothrombotic and dissociates from circulating pentameric C-reactive protein on adhered activated platelets under flow. *Cardiovascular Research*;92(2):328-337.  
**IF: 6.064**
- 17 Slevin M., Badimon L., Grau-Olivares M., Morrison M., Krupinski J. Nanotechnology as a basis for the vascular treatment of atherosclerosis. *International Journal of Nanotechnology*;8(8-9):618-630.  
**IF: 1.013**
- 18 Agewall S., Badimon L., Drouet L., Eschenhagen T., Husted S., Simon T., Steg G. Oral antiplatelet agents in ACS: From pharmacology to clinical differences. *Fundamental and Clinical Pharmacology*;25(5):564-571.  
**IF: 1.799**
- 19 Cubedo J., Padro T., Garcia-Moll X., Pinto X., Cinca J., Badimon L. Proteomic signature of apolipoprotein J in the early phase of new-onset myocardial infarction. *Journal of Proteome Research*;10(1):211-220.  
**IF: 5.113**
- 20 Pena E., Padro T., Molins B., Vilahur G., Badimon L. Proteomic signature of thrombin-activated platelets after in vivo nitric oxide-donor treatment: Coordinated inhibition of signaling (phosphatidylinositol 3-kinase- $\gamma$ , 14-3-3 $\zeta$ , and growth factor receptor-bound protein 2) and cytoskeleton protein translocation. *Arteriosclerosis, Thrombosis, and Vascular Biology*;31(11):2560-2569.  
**IF: 6.368**
- 21 Subirana M.T., Juan-Babot J.O., Puig T., Lucena J., Rico A., Salguero M., Borondo J.C., Ordonez J., Arimany J., Vazquez R., Badimon L., Thiene G., De Luna A.B. Specific characteristics of sudden death in a mediterranean Spanish population. *American Journal of Cardiology*;107(4):622-627.  
**IF: 3.368**
- 22 Ibanez B., Cimmino G., Prat-Gonzalez S., Vilahur G., Hutter R., Garcia M.J., Fuster V., Sanz J., Badimon L., Badimon J.J. The cardioprotection granted by metoprolol is restricted to its administration prior to coronary reperfusion. *International Journal of Cardiology*;147(3):428-432.  
**IF: 7.078**
- 23 Arderiu G., Pena E., Aledo R., Juan-Babot O., Badimon L. Tissue factor regulates microvessel formation and stabilization by induction of chemokine (C-C motif) ligand 2 expression. *Arteriosclerosis, Thrombosis, and Vascular Biology*;31(11):2607-2615.  
**IF: 6.368**
- 24 Badimon L., Storey R.F., Vilahur G. Update on lipids, inflammation and atherothrombosis. *Thrombosis and Haemostasis*;105(SUPPL. 1):34-42.  
**IF: 5.044**
- 25 Borrell-Pags M., Romero J.C., Juan-Babot O., Badimon L. Wnt pathway activation, cell migration, and lipid uptake is regulated by low-density lipoprotein receptor-related protein 5 in human macrophages. *European Heart Journal*;32(22):2841-2850.  
**IF: 10.478**

### Scopus Indexed Publications

- 01 Iván Palomo G., Eduardo Fuentes Q., Moore-Carrasco R., González D.R., Armando R.R., Padro T., Badimon L. Consumption of fruits and vegetables in the prevention of endothelial damage. *Revista Chilena De Nutricion*;38(3):343-55.
- 02 Padró T., García-Arguinzonis M., Badimon L. Effects of rosuvastatin on the coordinated proteomic response of human coronary smooth muscle cells to low density lipoproteins. *Clinica e Investigacion En Arteriosclerosis*;23(5):191-200.
- 03 Badimon L. Introduction: Statins and cardiovascular health. *Revista Espanola De Cardiologia Suplementos*;11(SUPPL. 2):1-2.
- 04 Cubedo J., Padró T., García-Moll X., Pintó X., Cinca J., Badimon L. Serum proteome in acute myocardial infarction. *Clinica e Investigacion En Arteriosclerosis*;23(4):147-54.
- 05 Badimon L., Vilahur G. The clinical benefits of statins: Have we covered the full spectrum? *Revista Espanola De Cardiologia Suplementos*;11(2):3-13.

### Book Chapters

- Chapter: Badimon L., Vilahur G., Padró T. Atherosclerosis and thrombosis (pp. 365-375). Book: *ESC Text Book of Acute and Intensive Cardiac Care*. Tubaro M., Danchin N., Filippatos G., Goldstein P., Vranckx P., Zahger D. (editors). Editorial: Oxford University Press Inc (2011).
- Chapter: Badimon L. Fat tissue, thrombosis and atherosclerosis (pp. 233-244). Book: *Obesity*. Serrano Rios M., Ordovás J.M., Gutiérrez Fuentes J.A. Editorial: Elsevier España, SL.

# Inflammation and Vascular Remodelling

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## Technicians

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## Main Lines of Research

- Inflammation and vascular remodelling. Regulation of vascular homeostasis by lysyl oxidase (LOX).
- Molecular and cellular mechanisms in atherosclerosis.
- Molecular basis of abdominal aortic aneurysm (AAA).

## Challenges

- Identify and characterize the components of MEX involved in the appearance, progression and complication of atherosclerosis and AAA.
- Characterize the role of LOX in the control of vascular homeostasis and identify genes modulated by this enzyme in vascular cells.
- Characterize new cellular and molecular mechanisms in the modulation of ECM stability.
- Identify new therapeutic targets, progression markers and biomarkers in atherosclerosis and AAA.
- Determine the role of LOX and other enzymes that modify MEX in the development of cardiovascular diseases such as atherosclerosis and AAA.

## Active Grants

- Rodríguez C. Mechanisms involved in the control of vascular homeostasis by lysyl oxidase (LOX): LOX as a new marker of the evolution of abdominal aorta aneurysms. FIS Project. Carlos III Health Institute. 2009-2012. PS09/01797. €152,460.

## Collaborations

## Collaborations with other IIB Sant Pau Groups

- Angiology, Vascular Biology and Inflammation Group.

## External Collaborations

- Cachofeiro V. Role of renin in cardiac remodeling associated with hypoxia: mechanisms involved. Renin Academy (Novartis Grant). 2011. €20,00. €Participant Entities: Complutense University of Madrid (UCM, Faculty of Medicine) and Cardiovascular Research Center (CSIC-ICCC).

\*TIF: 40.689 \*\*MIF: 5.086

## Scientific Production

## ISI Web of Knowledge Indexed Publications with IF

- 01 Calvayrac O., Rodriguez-Calvo R., Alonso J., Orbe J., Martin-Ventura J.L., Guadall A., Gentile M., Juan-Babot O., Egido J., Beloqui O., Paramo J.A., Rodriguez C., Martinez-Gonzalez J. CCL20 is increased in hypercholesterolemic subjects and is upregulated by LDL in vascular smooth muscle cells: Role of NF- $\kappa$ B. *Arteriosclerosis, Thrombosis, and Vascular Biology*;31(11):2733-2741. **IF: 6.368**
- 02 Pou J., Martinez-Gonzalez J., Rebollo A., Rodriguez C., Rodriguez-Calvo R., Martin-Fuentes P., Cenarro A., Civeira F., Laguna J.C., Alegret M. Type II interleukin-1 receptor expression is reduced in monocytes/macrophages and atherosclerotic lesions. *Biochimica et Biophysica Acta – Molecular and Cell Biology of Lipids*;1811(9):556-563. **IF: 5.269**
- 03 Camacho M., Rodriguez C., Guadall A., Alcolea S., Orriols M., Escudero J.-R., Martinez-Gonzalez J., Vila L. Hypoxia upregulates PGI-synthase and increases PGI2 release in human vascular cells exposed to inflammatory stimuli. *Journal of Lipid Research*;52(4):720-731. **IF: 5.559**
- 04 Guadall A., Orriols M., Rodriguez-Calvo R., Calvayrac O., Crespo J., Aledo R., Martinez-Gonzalez J., Rodriguez C. Fibulin-5 is up-regulated by hypoxia in endothelial cells through a hypoxia-inducible factor-1 (HIF-1 $\alpha$ )-dependent mechanism. *Journal of Biological Chemistry*;286(9):7093-7103. **IF: 4.773**
- 05 Galan M., Miguel M., Beltran A.E., Rodriguez C., Garcia-Redondo A.B., Rodriguez-Calvo R., Alonso M.J., Martinez-Gonzalez J., Salaices M. Angiotensin II differentially modulates cyclooxygenase-2, microsomal prostaglandin E2 synthase-1 and prostaglandin I2 synthase expression in adventitial fibroblasts exposed to inflammatory stimuli. *Journal of Hypertension*;29(3):529-536. **IF: 4.021**
- 06 Robador P.A., San Jos G., Rodriguez C., Guadall A., Moreno M.U., Beaumont J., Fortuo A., Dez J., Martinez-Gonzalez J., Zalba G. HIF-1-mediated up-regulation of cardiotrophin-1 is involved in the survival response of cardiomyocytes to hypoxia. *Cardiovascular Research*;92(2):247-255. **IF: 6.064**
- 07 Miana M., de las Heras N., Rodriguez C., Sanz-Rosa D., Martin-Fernandez B., Mezzano S., Lahera V., Martinez-Gonzalez J., Cachofeiro V. Effect of eplerenone on hypertension-associated renal damage in rats: Potential role of peroxisome proliferator activated receptor gamma (PPAR- $\gamma$ ). *Journal of Physiology and Pharmacology*;62(1):87-94. **IF: 2.267**
- 08 Fuster J.J., Gonzalez-Navarro H., Vinue A., Molina-Sanchez P., Andres-Manzano M.J., Nakayama K.I., Nakayama K., Diez-Juan A., Bernad A., Rodriguez C., Martinez-Gonzalez J., Andres V. Deficient p27 phosphorylation at serine 10 increases macrophage foam cell formation and aggravates atherosclerosis through a proliferation-independent mechanism. *Arteriosclerosis, Thrombosis, and Vascular Biology*;31(11):2455-2463. **IF: 6.368**

## Scientific Production

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- 01 Guadall A., Orriols M., Alcludia J.F., Cachofeiro V., Martinez-Gonzalez J., Rodriguez C. Hypoxia-induced ROS signaling is required for LOX up-regulation in endothelial cells. *Frontiers in Bioscience (Elite Edition)*;3:955-67.
- 02 Guadall A., Calvayrac O., Orriols M., Martinez-Gonzalez J., Rodriguez C. Regulation of gene expression by lysyl oxidase (LOX): A2-macroglobulin modulation in endothelial cells. *Clinica e Investigacion En Arteriosclerosis*;23(4):168-74.

# Biomarkers for Disease Status

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## Main Lines of Research

- Identification of new biomarkers of atherothrombosis and ischaemic heart disease with potential use in diagnosis and prognosis, performing studies in cell cultures, animal models of cardiovascular disease and human samples of patients with coronary heart disease risk factors.

## Challenges

- Advance research aiming to identify and characterize new biomarkers of vascular injury, atherothrombotic disease and/or ischaemic, coronary and cerebrovascular syndromes using post-genomic techniques.
- Generate new information on potential soluble biomarkers (in serum, plasma) and in microparticles circulating in blood, as well as in blood and/or vascular cells, using proteomic techniques based on liquid chromatography and bidimensional electrophoresis, antibody array systems and mass spectrometry (MALDI-ToF/ToF; lineal ion trap).
- Validate biomarkers identified in the diagnosis and prognosis of cardiovascular and/or cerebrovascular disease using specific quantitative techniques (confocal microscope, ELISA, multiplex assays, etc).
- Characterize molecular and functional mechanisms for which the selected biomarkers in cardiovascular pathology (biology of systems).
- Consolidate the Proteomic Platform.
- Lead and launch the BIOBANK for the SAFE-T European project.

## Active Grants

- Padró T. Safer And Faster Evidence-Based Translation. European Commission IMI\_Call\_2008\_1\_05. September 2009-December 2013. SAFE-T.
- Padró T. Biomarker for cardiovascular risk assessment in Europe (BIOMARCARE). FP7 – European Commission HEALTH-2011. 2011-2015. HEALTH-F2-2011-278913.
- Padró T. Low-density lipoproteins and stability of arteriosclerotic plaques. FIS Project. Carlos III Health Institute. December 2010-December 2013. PI10/01115.
- Padró T. Keys to healthy vascular aging in octogenarian population – CEVASALU. Spanish Ministry of Health. 2011-2012. 113/2011 Project.

## Awards

- Eurothrombosis Investigator Award 2011. First prize for the poster “Proteomic profiling of the human thrombus components”. Eurothrombosis (Porto, Portugal).
- Journal of the American Heart Association. Karl Link New Investigator Award 2011 in Thrombosis, to the article “Glucose – regulated Protein 78 and Platelet Deposition: Effect of rosuvastatin”, published in Atherosclerosis, Thrombosis and Vascular Biology. Arterioscler Thromb Vasc Biol 2010;30:1246-1252.

## Collaborations

## Collaborations with other IIB Sant Pau Groups

- Molecular and Therapeutic Pathologies of Ischaemic and Atherothrombotic Disease Group.
- Clinical and Translational Cardiology Group.
- Endocrinology, Diabetes and Nutrition Group.

## External Collaborations

- At the National level the group has participated in a CNIC-financed project in collaboration with Jiménez Díaz Fundación, Family Hypercholesterolemia Foundation (Madrid, Spain) and Reina Sofia Hospital (Córdoba, Spain).
- At the international level Dr. Teresa Padró participates in IMI-laborative project based in academic, SMEs, and pharmaceutical companies.

\*TIF: 40.513 \*\*MIF: 5.064

## Scientific Production

## ISI Web of Knowledge Indexed Publications with IF

- 01 Matheis K., Laurie D., Andriamandroso C., Arber N., Badimon L., Benain X., Bendjama K., Clavier I., Colman P., Firat H., Goepfert J., Hall S., Joos T., Kraus S., Kretschmer A., Merz M., Padro T., Planatscher H., Rossi A., Schneiderhan-Marra N., Schuppe-Koistinen I., Thomann P., Vidal J.-M., Molac B. A generic operational strategy to qualify translational safety biomarkers. *Drug Discovery Today*;16(13-14):600-608.  
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- 02 Badimon L., Vilahur G., Padro T. Atherosclerosis and thrombosis: Insights from large animal models. *Journal of Biomedicine and Biotechnology*;2011.  
**IF: 2.436**
- 03 Vilahur G., Juan-Babot O., Pena E., Onate B., Casani L., Badimon L. Molecular and cellular mechanisms involved in cardiac remodeling after acute myocardial infarction. *Journal of Molecular and Cellular*

lar Cardiology;50(3):522-533.  
**IF: 5.166**

- 04 Cubedo J., Padro T., Garcia-Moll X., Pinto X., Cinca J., Badimon L. Proteomic signature of apolipoprotein J in the early phase of new-onset myocardial infarction. *Journal of Proteome Research*;10(1):211-220.  
**IF: 5.113**
- 05 Pena E., Padro T., Molins B., Vilahur G., Badimon L. Proteomic signature of thrombin-activated platelets after in vivo nitric oxide-donor treatment: Coordinated inhibition of signaling (phosphatidylinositol 3-kinase- $\gamma$ , 14-3-3 $\zeta$ , and growth factor receptor-bound protein 2) and cytoskeleton protein translocation. *Arteriosclerosis, Thrombosis, and Vascular Biology*;31(11):2560-2569.  
**IF: 6.368**
- 06 Arderiu G., Pena E., Aledo R., Juan-Babot O., Badimon L. Tissue factor regulates microvessel formation and stabilization by induction of chemokine (C-C motif) ligand 2 expression. *Arteriosclerosis, Thrombosis, and Vascular Biology*;31(11):2607-2615.  
**IF: 6.368**
- 07 Mata N., Alonso R., Badiman L., Padra T., Fuentes F., Muiz O., Perez-Jimenez F., Lapez-Miranda J., Diaz J.L., Vidal J.I., Barba A., Piedecausa M., Sanchez J.F., Irigoyen L., Guallar E., Ordovas J.M., Mata P. Clinical characteristics and evaluation of LDL-cholesterol treatment of the Spanish Familial Hypercholesterolemia Longitudinal Cohort Study (SAFEHEART). *Lipids in Health and Disease*;10.  
**IF: 2.17**
- 08 Molins B., Pea E., De La Torre R., Badimon L. Monomeric C-reactive protein is prothrombotic and dissociates from circulating pentameric C-reactive protein on adhered activated platelets under flow. *Cardiovascular Research*;92(2):328-337.  
**IF: 6.064**

## Scientific Production

## ISI Web of Knowledge Indexed Publications without IF

- 01 Cubedo J., Padró T., García-Moll X., Pintó X., Cinca J., Badimon L. Serum proteome in acute myocardial infarction. *Clinica e Investigacion En Arteriosclerosis*;23(4):147-54.
- 02 Iván Palomo G., Eduardo Fuentes Q., Moore-Carrasco R., González D.R., Armando R.R., Padro T., Badimon L.. Consumption of fruits and vegetables in the prevention of endothelial damage. *Revista Chilena De Nutricion*;38(3):343-55.
- 03 Padró T., García-Arguinzonis M., Badimon L. Effects of rosuvastatin on the coordinated proteomic response of human coronary smooth muscle cells to low density lipoproteins. *Clinica e Investigacion En Arteriosclerosis*;23(5):191-200.

## Other Publications

## Book Chapter

- Chapter: Badimon L., Vilahur G., Padró T. Atherosclerosis and thrombosis (pp. 365-375). Book: ESC Text Book of Acute and Intensive Cardiac Care. Tubaro M., Danchin N., Filippatos G., Goldstein P., Vranckx P., Zahger D. Editorial: Oxford University Press Inc (2011).







## AREA 2

# Genetic, Metabolic and Inflammatory Diseases

- 66 Genetic Diseases
- 70 Metabolic Bases of Cardiovascular Risk
- 72 Inflammatory Diseases
- 74 Endocrinology, Diabetes and Nutrition
- 76 Pituitary Gland Disorders
- 78 Digestive Diseases
- 82 Microbiology and Infectious Diseases
- 90 Multi-organ Damage

# Genetic Diseases

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## Main Lines of Research

- Pharmacogenetics: genetic determinants in drug-response profiles.
- Monogenic muscular disorders: dystrophinopathies, dysferlinopathies, limb girdle dystrophies. Myotonic dystrophy.
- Hereditary breast/ovarian cancer.
- Motor neuron disorders: pathogenic mechanisms during human development and validation of biological markers for therapeutic follow-up.
- Monogenic blood disorders: haemochromatosis, haemophilia A and B, thalassemic syndromes.

## Challenges

### Pharmacogenetics:

- Pharmacogenetic studies in the treatment of colorectal cancer.
- Pharmacogenetic studies in the treatment of chronic inflammatory diseases.

### Muscular dystrophies:

- Study of post-transcriptional regulation of the dystrophin gene using nonsense-mediated decay analysis in DNA from patients with Duchenne muscular dystrophy.
- Study of genes associated with new phenotypic forms of limb girdle muscular dystrophy.

### Hereditary breast/ovarian cancer:

- DNA studies to classify DNA variants found in the BRCA1 and BRCA2 genes as pathogenic or neutral.
- Study of circulating tumour cells (CTCs) as prognostic markers in patients with locally advanced and disseminated breast cancer.

### Hereditary motor neurone diseases:

- Development of neuromuscular junction in health and disease. Generation of iPS from fibroblasts or keratinocytes from patients.
- Broadening the spectrum of study of motor neuron diseases such as bulbar and spinal muscular atrophy, distal muscular atrophies and amyotrophic lateral sclerosis.

### Monogenic hereditary haematological diseases:

- Study of genetic factors in the appearance of inhibitors to treatment with factor VIII and in the variability of phenotypic expression in haemophilia A.

Active Grants

- Baiget M. Pharmacogenetic and pharmacogenomic studies of solid tumour treatments (colorectal cancer and advanced rectal cancer). FIS Project. Carlos III Health Institute. January 2009-December 2011. PI08/0199. €246,598.
- Gallano P. Study of messenger RNA of the gene for Duchenne muscular dystrophy (DMD): interference of the mRNA degradation mechanism mediated by nonsense mutations (nonsense-mediated decay) in suppression therapy for premature termination codons. FIS Project. Carlos III Health Institute. January 2009-December 2011. PI08/0347. €279,389.
- Tizzano E. Study of the involvement of the poliovirus receptor (PVR) and androgen receptor (AR) in infantile spinal muscular atrophy. FIS Project. Carlos III Health Institute. January 2009-December 2011. PI08/0729. €76,835.
- Baiget M. Funds in support of Consolidated Catalan Research Groups. AGAUR Project. August 2009-December 2013. 2009SGR 1299. €42,640.

Collaborations

External Collaborations

- Participation in CIMBA (The Consortium of Investigators of Modifiers of BRCA1/2).
- Collaboration with the University of Udine (Italy). Spinal muscular atrophy (SMA).
- Collaboration with the Royal Holloway University of London (United Kingdom). Development of iPSC derived fibroblasts from SMA patients.
- Molecular Genetics Unit. Ramón y Cajal Hospital (Madrid, Spain). Genotype-phenotype studies in SMA patients.
- National Cancer Research Centre (CNIO) (Madrid, Spain).
- Catalan Institute of Oncology (ICO) (Barcelona, Spain).

Awards

- Scientific Committee Award of the Spanish Society of Clinical Biochemistry and Molecular Pathology (SEQC) to Montserrat Baiget.
- Research Excellence Prize of the College of Physicians of Barcelona (COMB) to Eduardo Tizzano.

\*TIF: 82.128 \*\*MIF: 3.910

Scientific Production

ISI Web of Knowledge Indexed Publications with IF

- 01 Marcuello E., Paez D., Pare L., Salazar J., Sebio A., Del Rio E., Baiget M. A genotype-directed phase I-IV dose-finding study of irinotecan in combination with fluorouracil/leucovorin as first-line treatment in advanced colorectal cancer. *British Journal of Cancer*;105(1):53-57. **IF: 5.042**
- 02 Meznaric M., Gonzalez-Quereda L., Gallardo E., de Luna N., Gallano P., Fanin M., Angelini C., Peterlin B., Zidar J. Abnormal expression of dysferlin in skeletal muscle and monocytes supports primary dysferlinopathy in patients with one mutated allele. *European Journal of Neurology*;18(7):1021-1023. **IF: 3.692**
- 03 Domingo P., Cabeza M.C., Pruvost A., Torres F., Salazar J., Del Mar Gutierrez M., Mateo M.G., Fontanet A., Fernandez I., Domingo J.C., Villarroya F., Vidal F., Baiget M. Association of Thymidylate Synthase Gene Polymorphisms with Stavudine Triphosphate Intracellular Levels and Lipodystrophy. *Antimicrobial Agents and Chemotherapy*;55(4):1428-1435. **IF: 4.841**
- 04 Gallardo E., de Luna N., Diaz-Manera J., Rojas-Garcia R., Gonzalez-Quereda L., Flix B., de Morree A., van der Maarel S., Illa I. Comparison of dysferlin expression in human skeletal muscle with that in monocytes for the diagnosis of dysferlin myopathy. *PLoS ONE*;6(12). **IF: 4.092**
- 05 Pieras J.I., Barragan I., Borrego S., Audo I., Gonzalez-Del M.P., Bernal S., Baiget M., Zeitz C., Bhattacharya S.S., Antinolo G. Copy-number variations in EYS: A significant event in the appearance of arRP. *Investigative Ophthalmology and Visual Science*;52(8):5625-5631. **IF: 3.597**
- 06 Cocho D., Marti-Fabregas J., Baiget M., Gallardo E., Rio E., Arboix A., Ruscalleda J., Marti-Vilalta J.L. Diagnosis of CADASIL disease in normotensive and non-diabetics with lacunar infarct [Diagnóstico de la enfermedad de CADASIL en pacientes normotensos y no diabéticos con infarto lacunar]. *Neurologia*;26(6):325-330. **IF: 0.79**
- 07 Osorio A., Milne R.L., Alonso R., Pita G., Peterlongo P., Teule A., Nathanson K.L., Domchek S.M., Rebbeck T., Lasa A., Konstantopoulou I., Hogervorst F.B., Verhoef S., Van Dooren M.F., Jager A., Ausems M.G.E.M., Aalfs C.M., Van Asperen C.J., Vreeswijk M., Waisfisz Q., Van Roozendaal C.E., Ligtenberg M.J., Easton D.F., Peock S., Cook M., Oliver C.T., Frost D., Curzon B., Evans D.G., Lalloo F., Eeles R., Izatt L., Davidson R., Adlard J., Eccles D., Ong K.-R., Douglas F., Downing S., Brewer C., Walker L., Nevanlinna H., Aittomaki K., Couch F.J., Fredericksen Z., Lindor N.M., Godwin A., Isaacs C., Caligo M.A., Loman N., Jernstrom H., Barbany-Bustinza G., Liljegren A., Ehrencrona H., Stenmark-Askmal M., Feliubadalo L., Manoukian S., Peissel B., Zaffaroni D., Bonanni B., Fortuzzi S., Johannsson O.T., Chenevix-Trench G., Chen X.-C., Beesley J., Spurdle A.B., Sinilnikova O.M., Healey S., McGuffog L., Antoniou A.C., Brunet J., Radice P., Benitez J. Evaluation of the XRCC1 gene as a phenotypic modifier in BRCA1/2 mutation carriers. Results from the consortium of investigators of modifiers of BRCA1/BRCA2. *British Journal of Cancer*;104(8):1356-1361. **IF: 5.042**
- 08 Bonifaci N., Palafox M., Pellegrini P., Osorio A., Benitez J., Peterlongo P., Manoukian S., Peissel B., Zaffaroni D., Roversi G.,

# Genetic Diseases

\*TIF: 82.128 \*\*MIF: 3.910

- Barile M., Viel A., Mariette F., Bernard L., Radice P., Kaufman B., Laitman Y., Milgrom R., Friedman E., Saez M.E., Climent F., Soler M.T., Diez O., Balmana J., Lasa A., Ramon Y Cajal T., Miramar M.-D., De La Hoya M., Perez-Segura P., Caldes T., Moreno V., Urruticoechea A., Brunet J., Lazaro C., Blanco I., Pujana M.A., Gonzalez-Suarez E. Evidence for a link between TNFRSF11A and risk of breast cancer. *Breast Cancer Research and Treatment*;129(3):947-954.  
**IF: 4.431**
- 09 Grana B., Fachal L., Darder E., Balmana J., Ramon Y Cajal T., Blanco I., Torres A., Lazaro C., Diez O., Alonso C., Santamarina M., Velasco A., Teule A., Lasa A., Blanco A., Izquierdo A., Borrás J., Gutierrez-Enriquez S., Vega A., Brunet J. Germline ATM mutational analysis in BRCA1/BRCA2 negative hereditary breast cancer families by MALDI-TOF mass spectrometry. *Breast Cancer Research and Treatment*;128(2):573-579.  
**IF: 4.431**
- 10 Peixoto A., Santos C., Pinheiro M., Pinto P., Soares M.J., Rocha P., Gusmao L., Amorim A., Van Der Hout A., Gerdes A.-M., Thomassen M., Kruse T.A., Cruger D., Sunde L., Bignon Y.-J., Uhrhammer N., Cornil L., Rouleau E., Lidereau R., Yannoukakis D., Pertesi M., Narod S., Royer R., Costa M.M., Lazaro C., Feliubadalo L., Grana B., Blanco I., De La Hoya M., Caldes T., Maillot P., Benais-Pont G., Pardo B., Laitman Y., Friedman E., Velasco E.A., Duran M., Miramar M.-D., Valle A.R., Calvo M.-T., Vega A., Blanco A., Diez O., Gutierrez-Enriquez S., Balmana J., Ramon Y Cajal T., Alonso C., Baiget M., Foulkes W., Tischkowitz M., Kyle R., Sabbaghian N., Ashton-Prolla P., Ewald I.P., Rajkumar T., Mota-Vieira L., Giannini G., Gulino A., Achatz M.I., Carraro D.M., De Paillerets B.B., Remenieras A., Benson C., Casadei S., King M.-C., Teugels E., Teixeira M.R. International distribution and age estimation of the Portuguese BRCA2 c.156-157insAlu founder mutation. *Breast Cancer Research and Treatment*;127(3):671-679.  
**IF: 4.431**
- 11 Maxwell C.A., Benitez J., Gomez-Baldo L., Osorio A., Bonifaci N., Fernandez-Ramires R., Costes S.V., Guino E., Chen H., Evans G.J.R., Mohan P., Catala I., Petit A., Aguilar H., Villanueva A., Aytes A., Serra-Musach J., Rennert G., Lejbkowitz F., Peterlongo P., Manoukian S., Peissel B., Ripamonti C.B., Bonanni B., Viel A., Allavena A., Bernard L., Radice P., Friedman E., Kaufman B., Laitman Y., Dubrovsky M., Milgrom R., Jakubowska A., Cybulski C., Gorski B., Jaworska K., Durda K., Sukiennicki G., Lubinski J., Shugart Y.Y., Domchek S.M., Letrero R., Weber B.L., Hogervorst F.B.L., Rookus M.A., Collee J.M., Devilee P., Ligtenberg M.J., van der Luijt R.B., Aalfs C.M., Waisfisz Q., Wijnen J., van Roozendaal C.E.P., HEBON, EMBRACE, Easton D.F., Peock S., Cook M., Oliver C., Frost D., Harrington P., Evans D.G., Laloo F., Eeles R., Izatt L., Chu C., Eccles D., Douglas F., Brewer C., Nevanlinna H., Heikkinen T., Couch F.J., Lindor N.M., Wang X., Godwin A.K., Caligo M.A., Lombardi G., Loman N., Karlsson P., Ehrencrona H., von Wachenfeldt A., SWE-BRCA, Barkardottir R., Hamann U., Rashid M.U., Lasa A., Caldes T., Andres R., Schmitt M., Assmann V., Stevens K., Offit K., Curado J., Tilgner H., Guigo R., Aiza G., Brunet J., Castellsague J., Martrat G., Urruticoechea A., Blanco I., Tihomirova L., Goldgar D.E., Buys S., John E.M., Miron A., Southey M., Daly M.B., BCFR, Schmutzler R.K., Wapenschmidt B., Meindl A., Arnold N., Deissler H., Varon-Mateeva R., Sutter C., Niederacher D., Imyamtov E., Sinilnikova O.M., Stoppa-Lyonne D., Mazoyer S., Verny-Pierre C., Castera L., de Pauw A., Bignon Y.-J., Uhrhammer N., Peyrat J.-P., Vennin P., Ferrer S., Collonge-Rame M.-A., Mortemousque I., GEMO Study Collaborators, Spurdle A.B., Beesley J., Chen X., Healey S., Barcellos-Hoff M.H., Vidal M., Gruber S.B., Lazaro C., Capella G., McGuffog L., Nathanson K.L., Antoniou A.C., Chenevix-Trench G., Fleisch M.C., Moreno V., Pujana M.A. Interplay between BRCA1 and RHAMM regulates epithelial apico-basal polarization and may influence risk of breast cancer. *PLoS Biology*;9(11).  
**IF: 11.452**
- 12 Gutierrez-Enriquez S., Ramon Y Cajal T., Alonso C., Corral A., Carrasco P., Cornet M., Sanz J., Ribas M., Baiget M., Diez O. Ionizing radiation or mitomycin-induced micronuclei in lymphocytes of BRCA1 or BRCA2 mutation carriers. *Breast Cancer Research and Treatment*;127(3):611-622.  
**IF: 4.431**
- 13 Gonzalez-Quereda L., Delgadillo V., Juan-Mateu J., Verdura E., Rodriguez M.J., Baiget M., Pineda M., Gallano P. LMNA mutation in progeroid syndrome in association with strokes. *European Journal of Medical Genetics*;54(6):e576-e579.  
**IF: 2.178**
- 14 Garcia-Garcia G., Aparisi M.J., Jaijo T., Rodrigo R., Leon A.M., Avila-Fernandez A., Blanco-Kelly F., Bernal S., Navarro R., Diaz-Llopis M., Baiget M., Ayuso C., Millan J.M., Aller E. Mutational screening of the USH2A gene in Spanish USH patients reveals 23 novel pathogenic mutations. *Orphanet Journal of Rare Diseases*;6(1).  
**IF: 5.074**
- 15 Paez D., Salazar J., Pare L., Pertriz L., Targarona E., Del Rio E., Barnadas A., Marcuello E., Baiget M. Pharmacogenetic study in rectal cancer patients treated with preoperative chemoradiotherapy: Polymorphisms in thymidylate synthase, epidermal growth factor receptor, GSTP1, and DNA repair genes. *International Journal of Radiation Oncology Biology Physics*;81(5):1319-1327.  
**IF: 4.105**
- 16 Bernal S., Also-Rallo E., Martinez-Hernandez R., Alias L., Rodriguez-Alvarez F.J., Millan J.M., Hernandez-Chico C., Baiget M., Tizzano E.F. Platin 3 expression in discordant spinal muscular atrophy (SMA) sibs. *Neuromuscular Disorders*;21(6):413-419.  
**IF: 2.797**
- 17 Garcia Planells J., Molano J., Borrego S., Trujillo M.J., Gallano P., Baiget M., Grau E., Millan J.M., Marcos I., Gallego J., Ayuso C. Recommendations of good practices for the genetic diagnosis of myotonic dystrophy [Recomendaciones de buenas prácticas para el diagnóstico genético de la distrofia miotónica]. *Medicina Clinica*;136(7):303-308.  
**IF: 1.385**
- 18 Ramon y Cajal T., Torres A., Alonso C., Fisas D., Ojeda B., Boguna I., Prat J., Baiget M., Barnadas A. Risk factors associated with the occurrence of breast cancer after bilateral salpingo-oophorectomy in high-risk women. *Cancer Epidemiology*;35(1):78-82.  
**IF: 2.01**
- 19 Also-Rallo E., Alias L., Martinez-Hernandez R., Caselles L., Barcelo M.J., Baiget M., Bernal S., Tizzano E.F. Treatment of spinal muscular atrophy cells with drugs that upregulate SMN expression reveals inter- and intra-patient variability. *European Journal of Human Genetics*;19(10):1059-1065.  
**IF: 4.4**
- 20 Parra J., Martinez-Hernandez R., Also-Rallo E., Alias L., Barcelo M.J., Amenedo M., Medina C., Senosiain R., Calaf J., Baiget M., Bernal S., Tizzano E.F. Ultrasound evaluation of fetal movements in pregnancies at risk for severe spinal muscular atrophy. *Neuromuscular Disorders*;21(2):97-101.  
**IF: 2.797**
- 21 Alias L., Bernal S., Barcelo M.J., Also-Rallo E., Martinez-Hernandez R., Rodriguez-Alvarez F.J., Hernandez-Chico C., Baiget M., Tizzano E. Genetic Testing and Molecular Biomarkers;15(9):587-594.  
**IF: 1.11**

Scientific  
Production

## ISI Web of Knowledge Indexed Publications without IF

- 01 Febrer A., Vigo M., Fagoaga J., Medina-Cantillo J., Rodríguez N., Tizzano E. Hammersmith functional rating scale for children with spinal muscular atrophy validation of the spanish version. *Rev Neurol*;53(11):657-63.

Other  
Publications

## Guides

- Tizzano E. Overview in therapeutics approaches to spinal muscular atrophy. Guías de tratamiento dirigidas a profesionales de atención especializada. Brief summary of the latest therapies applied to muscle atrophy. <http://www.treat-nmd.eu/sma/research-overview/introduction>
- Rodríguez-Martorell F.J. et al. Protocols on the diagnosis of haemophilia carriers. Guidelines for clinical diagnostic protocols. Document approved by the Scientific Committee of the Royal Victoria Eugenia Foundation. <http://www.hemofilia.com/fundacion/publicaciones/monograficos/recomendaciones-sobre-transportadoras-en-hemofilia.html?pag=1>
- Villar A. et al. Protocols on the diagnosis of haemophilia carriers. Guidelines for clinical diagnostic protocols. Document approved by the Scientific Committee of the Royal Victoria Eugenia Foundation. <http://www.hemofilia.com/fundacion/publicaciones/monograficos/recomendaciones-sobre-inmunotolerancia-en-hemofilia.html?pag=1>
- Garcia Planells J., Molano J., Borrego S., Trujillo M.J., Gallano P., Baiget M., Grau E., Millan J.M., Marcos I., Gallego J., Ayuso C. Recommendations of good practices for the genetic diagnosis of myotonic dystrophy. *Med Clin*;136(7):303-8.

## Book Chapter

- Chapter: Tizzano E. From allele segregation to motor neuron death: the long way to unravelling spinal muscular atrophy developmental pathomechanisms (pp. 65-75). Book: Spinal muscular atrophy: on the eve of the cure. Editors: Irena Hausmanova Pretusewicz and Maria Jedrzejowska. Polish Academy of Science.

# Metabolic Bases of Cardiovascular Risk

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## Researchers

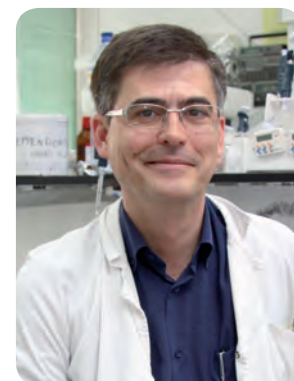
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## Main Lines of Research

- HDL and susceptibility to diabetes / arteriosclerosis: modification of the relationship by metabolic disorders, genetic modification and drug intervention.
- Genetic determinants of metabolic factors of cardiovascular risk: dyslipidaemia, type 2 diabetes, hyperhomocysteinaemia.
- Positive health effects of phytosterols.
- Development, validation and application of new clinical laboratory methods in the field of metabolic and cardiovascular medicine.

## Challenges

- Analyse the effects of diabetes mellitus and hyperhomocysteinemia in reverse cholesterol transport in vivo.
- Determine the pathogenic relevance of alterations in cholesterol metabolism in diabetic retinopathy.
- Compare the effects of niacine and fenofibrate in the HDL of patients with type 2 diabetes.
- Evaluate the importance of liver lipase and endothelial lipase on macrophage-specific reverse cholesterol transport in vivo.
- Study anti-cancer mechanisms of phytosterol action in depth.
- Define the genes/polymorphisms in chromosome 3p related to type 2 diabetes.
- Demonstrate the relationship of the four SNPs identified in the NNMT gene with homocysteine and thrombosis in a case-control study.
- Develop new molecular techniques to diagnose metabolic inherited diseases to be used in the clinical laboratory.

## Active Grants

- Blanco F. Role of the lipases involved in lipoprotein metabolism in modulating the anti-atherogenic properties of HDL (reverse cholesterol transport specific to macrophage and antioxidant capacity). FIS Project. Carlos III Health Institute. January 2009-May 2012. PI08/1147. €215,985.
- Escolà J. Effect of apolipoprotein A-II on the metabolism of triglycerides in transgenic mice and in normolipidaemic subjects. Society/Spanish Foundation of Arteriosclerosis. April 2009-April 2011. 08/FEA SEA. €12,000.
- Julve J. HDL functionality in diabetes mellitus and hyperhomocysteinemia: studies in patients and in animal models. FIS Project. Carlos III Health Institute. January 2011-January 2014. PI1000277. €63,525.
- Escolà J. Functional analysis of antiatherogenic properties of HDL (reverse cholesterol transport specific to in vivo macrophages and antioxidant capacity) in animal models of type 2 diabetes mellitus and atherosclerosis. FIS Project. Carlos III Health Institute. January 2010-December 2012. PI09/0178. €92,570.
- Blanco F. Diabetes and Associated Metabolic Diseases CIBER (CIBERDEM). Carlos III Health Institute. January 2008-present. CIBER07/08/0016. €441,323.
- Blanco F. HDL – from biological understanding to clinical exploitation. European Union Project. COST BM0904. €300,000.
- Blanco F. Antiatherogenic properties of HDL in hyperhomocysteinemia: search for novel biomarkers using proteomic analysis. Society/Spanish Foundation of Arteriosclerosis (Almirall). Junio 2010-Junio 2012. €12,000.

Collaborations

Collaborations with other IIB Sant Pau Groups

- Cardiovascular Biochemistry Group.
- Genomics of Complex Diseases Group.
- Molecular Bases of Disease Group.

External Collaborations

- M. Petri Kovanen and Miriam Lee-Rueckert. Vilhuri Institut (Helsinki, Finland). Mast cells and reverse cholesterol transport.
- Rafael Simó. Vall d'Hebron Hospital (Barcelona, Spain). Biological Bases of lipid lowering treatment of diabetic angiopathy.
- Lluís Masana, Sant Joan de Reus Hospital (Tarragona, Spain); Juan F. Ascaso, Hospital Clinic Hospital of Valencia (Spain); Manel Vázquez, University of Barcelona (Spain); X Correig, Rovira i Virgili University (Spain). Treatment of low HDL syndrome in patients with type 2 diabetes: nicotinic acid versus fenofibrat.

\*TIF: 36.199 \*\*MIF: 4.524

Scientific Production

ISI Web of Knowledge Indexed Publications with IF

- 01 Mendez-Gonzalez J., Julve J., Rotllan N., Llaverias G., Blanco-Vaca F., Escola-Gil J.C. ATP-binding cassette G5/G8 deficiency causes hypertriglyceridemia by affecting multiple metabolic pathways. *Biochimica et Biophysica Acta – Molecular and Cell Biology of Lipids*;1811(12):1186-1193. **IF: 5.269**
- 02 Rotllan N., Llaverias G., Julve J., Jauhiainen M., Calpe-Berdiel L., Hernandez C., Simo R., Blanco-Vaca F., Escola-Gil J.C. Differential effects of gemfibrozil and fenofibrate on reverse cholesterol transport from macrophages to feces in vivo. *Biochimica et Biophysica Acta – Molecular and Cell Biology of Lipids*;1811(2):104-110. **IF: 5.269**
- 03 Hernandez C., Francisco G., Ciudin A., Chacon P., Montoro B., Llaverias G., Blanco-Vaca F., Simo R. Effect of atorvastatin on lipoprotein (a) and interleukin-10: A randomized placebo-controlled trial [Effet de l'atorvastatine sur la lipoprotéine (a) et l'interleukine-10 essai contrôlé et randomisé en double-insu contre placebo]. *Diabetes and Metabolism*;37(2):124-130. **IF: 2.411**
- 04 Lee-Rueckert M., Silvennoinen R., Rotllan N., Judstrom I., Blanco-Vaca F., Metso J., Jauhiainen M., Kovanen P.T., Escola-Gil J.C. Mast cell activation in vivo impairs the macrophage reverse cholesterol transport pathway in the mouse. *Arteriosclerosis, Thrombosis, and Vascular Biology*;31(3):520-527. **IF: 6.368**
- 05 Hervera A., Negrete R., Leanez S., Martin-Campos J.M., Pol O. Peripheral effects of morphine and expression of  $\mu$ -opioid receptors in the dorsal root ganglia during neuropathic pain: Nitric oxide signaling. *Molecular Pain*;7. **IF: 3.526**
- 06 Julve J., Llaverias G., Blanco-Vaca F., Escola-Gil J.C. Seeking novel targets for improving In Vivo macrophage-specific reverse cholesterol transport: Translating basic science into new therapies for the prevention and treatment of atherosclerosis. *Current Vascular Pharmacology*;9(2):220-237. **IF: 2.896**
- 07 Negrete R., Hervera A., Leanez S., Martin-Campos J.M., Pol O. The antinociceptive effects of JWH-015 in chronic inflammatory pain are produced by nitric oxide-cGMP-PKG-KATP pathway activation mediated by opioids. *PLoS ONE*;6(10). **IF: 4.092**
- 08 Escola-Gil J.C., Llaverias G., Julve J., Jauhiainen M., Mendez-Gonzalez J., Blanco-Vaca F. The cholesterol content of western diets plays a major role in the paradoxical increase in high-density lipoprotein cholesterol and upregulates the macrophage reverse cholesterol transport pathway. *Arteriosclerosis, Thrombosis, and Vascular Biology*;31(11):2493-2499. **IF: 6.368**

# Inflammatory Diseases

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## Main Lines of Research

- The role of the natural immune system in the development of autoimmune and inflammatory processes.
- Immunological response and clinical course in immunomodulator treatment.
- The role of autoantibodies, components of the adaptive immunity system, in the pathogenesis of autoimmune processes, and their use as diagnostic and prognostic markers in these diseases.
- Mechanisms involved in immunodeficiency.
- Study of lymphocyte subpopulations involved in the chronic rejection of the graft in cardiac post-transplant patients.

## Challenges

- Research into the role of innate immunity molecules in the development and control of inflammatory processes, in the appearance of autoimmune phenomena, immunodeficiencies, infections, cardiovascular diseases and development of tumours.
- Analysis of the evolution of immunological parameters and their correlation with clinical response to treatment with immunomodulators.
- Role of TLR and STAT signalling in inflammatory diseases.
- Involvement of STAT family of transcription factors in response to superantigens.
- Study of mechanisms implicated in immunodeficiency caused by alterations of the CD8a molecule.
- Effects of rituximab, tocilizumab and adalimumab in immunological variables and their correlation with the clinical response in patients with inflammatory diseases.
- Role of perivascular adipocytes and TLR signalling pathways in the development of atherosclerosis.
- Inflammation and rejection in heart transplantation.
- Effects of immunobiological treatments on immunological variables.

## Collaborations

### Collaborations with other IIB Sant Pau Groups

- Multi-organ Damage Group.
- Nephrology Group.
- Digestive Diseases Group.
- Chronic Respiratory Diseases Group.



Active Grants

- De la Calle, O. Redirecting T cell specificity against WT1 tumour antigen peptides restricted by HLA-A2. Translational preclinical study. FIS Project. Carlos III Health Institute. January 2010-December 2012. PI09/0310. €60,000.
- Gelpí C., Roldan C. Preceding the Cardiac Allograft Vasculopathy (CAV): in search for a comprehensive post-transplant immune monitoring platform. Novartis. January 2011-December 2011. 4333/2999. €20,000.
- Juárez C. Perivascular adipocytes and signaling via Toll-like receptors: role in the pathophysiology of atherosclerosis. La Marató de TV3. February 2009-February 2012. 080210. €198,125.
- Juárez C. Mechanisms involved in the action of Rituximab in Myasthenia Gravis: differential effect on AChR autoantibodies and anti-MuSK. FIS Project. Carlos III Health Institute. January 2012-December 2014.
- Juárez C. Role of the Stat family transcription factors in modulating the response to superantigens. FIS Project. Carlos III Health Institute. October 2007-June 2011. PI07/0964. €104,060.
- Vidal S. Involvement of TLRs in intestinal tumourigenesis: a study of the inflammation mechanisms mediated by TLRs involved in intestinal tumourigenesis. FIS Project. Carlos III Health Institute. January 2010-December 2012. PI09/0132. €111,925.

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Scientific Production

ISI Web of Knowledge Indexed Publications with IF

- 01 Moga E., Canto E., Vidal S., Juárez C., Sierra J., Briones J. Interleukin-15 enhances rituximab-dependent cytotoxicity against chronic lymphocytic leukemia cells and overcomes transforming growth factor beta-mediated immunosuppression. *Experimental Hematology*;39(11):1064-1071. **IF: 2.905**
- 02 Mirabet S., Gelpí C., Roldan C., Brossa V., Mendoza C.A., Lopez L., Molto E., Alvaro Y., Martinez V., Padro J.M., Roig E. Assessment of immunological markers as mediators of graft vasculopathy development in heart transplantation. *Transplantation Proceedings*;43(6):2253-2256. **IF: 1.005**
- 03 Bernardo I., Mancebo E., Aguilo I., Anel A., Allende L.M., Guerra-Vales J.M., Ruiz-Contreras J., Serrano A., Talayero P., de la Calle O., Gonzalez-Santesteban C., Paz-Artal E. Phenotypic and functional evaluation of CD3 +CD4 – CD8 – T cells in human cd8 immunodeficiency. *Haematologica*;96(8):1195-1203. **IF: 6.424**
- 04 Cervera C., Fernandez-Aviles F., de la Calle-Martin O., Bosch X., Rovira M., Plana M., Moreno A., Garcia F., Miro J.M., Martinez A., Gallart T., Carreras E., Blade J., Gatell J.M. Non-myeloablative hematopoietic stem cell transplantation in the treatment of severe idiopathic CD4+ lymphocytopenia. *European Journal of Haematology*;87(1):87-91. **IF: 2.614**

Letter

- Paradas C., Morgado Y., Gallardo E., Juárez C., Rojas-García R. Prednisone can worsen ATAXIC neuropathy with anti-disialosyl IgM antibodies. *Muscle and Nerve*;44(5):839-41.

Journals

- Sanz M.T., Moga E., Gelpí C. Autoimmunity Workshop Results of the Spanish Society of Immunology 2010. 1) Evaluation of techniques for determining the Anti-Nuclear and cytoplasmic (ANA) Extractable Antigens anti-core, anti-ribosomal, anti-dsDNA and anti-histone, 2) anti-thyroid antibodies. *Inmunología*;30(2).
- Delgado De La Poza J., Cantó E., Díaz-Torné C., Ferrer Villahoz B., Martínez Carretero M.A., López M., Geli C., Díaz C., Rodríguez-Sánchez J., Vidal S. Contribution of polymorphism in the gene LILRB1 and the shared epitope in rheumatoid arthritis. *Inmunología*;30(4).

Other Publications

# Endocrinology, Diabetes and Nutrition

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## Main Lines of Research

### Telemedical Artificial Pancreas:

- The second year of activities of the research Grant "Idosing" (FIS/Carlos III Health Institute) allowed, with success, the validation in vitro, as well as the development of phase I of a clinical pilot. The pertinent report was submitted to the Carlos III Health Institute in due time. PI: Dr. Ana Chico.

### Diabetes and Gestation:

- The registration of demographic characteristics of GDM patients in Spain and Portugal has made a significant progress in 2011. Both research lines ("Vitamin D and prevention of GDM" and "Optimization of glycemic control during the preconceptional period and pregnancies of type 1 diabetes") accomplished the proposed objectives for the year 2011. Periodical reports were submitted to the Coordinating Center, in Graz (Austria) (EC-FP-VII-Health).

### Epithelial Thyroid Cancer and Cell-Nanothyroid:

- Over 110 surgical samples have been processed so far. Identification of tumor markers of prognostic values (BRAF, K-Ras) and testing the identified signature for poor prognosis are in progress. In 2011, the incorporation of Nano-particles to the human anaplastic cell-lines have been partially carried out, providing information on the cellular capacity to incorporate the nanoparticles by both normal cells and tumoral cells, and also confirming the promising incorporation of nanoparticles (designed already in 2010) as vehicles for one antitumoral agent specifically directed against the overexpression of epidermal growth factor receptor (EGFR). Annual report of activities was submitted to the Carlos III Health Institute (second year).

## Challenges

- The application of "Efectividad Clínica del Páncreas Artificial Telemédico en pacientes con Diabetes Mellitus Tipo 1 (PAT-Dia1)" was successful, and qualified as high priority (number 4 in the national list of approved Grants). This is a Cooperative Research project, coordinated by this group, with the participation of the following Scientific Partners: Sansum Research Institution (University of California, Santa Barbara, USA), San Carlos Hospital (Madrid,

Spain), La Fe Hospital-University of Valencia (Spain), and GBT (CIBERBBN)-UPM. At present, we are negotiating the budget with the CAIBER's Central Office.

- The group has also been successful in receiving an additional Grant from CAIBER (Carlos III Health Institute), as a financial complement to the EC Project "DALI" (Grant Application by Dr. Rosa Corcoy).

Active Grants

- Chico A. Idosing: helping tool for optimal insulin dosage for diabetic patients based on interactive learning control techniques integrated in a telemedicine platform. FIS Project. Carlos III Health Institute. January 2009-June 2012. PI08/0669.
- Corcoy R. Vitamin D and Lifestyle Intervention for Gestational Diabetes Mellitus (GDM) Prevention (DALI). 7th Framework Programme. EU. March 2010-August 2014. HEALTH-F2-2009-242187.
- De Leiva A. Grants to support research groups in Catalonia. Diabetes and other endocrine diseases. CAIBER. September 2009-December 2013. 2009SGR 806.
- De Leiva A. Investigation of the predictive and diagnostic value of molecular markers that make up a genetic signature of poor prognosis for thyroid samples and involvement in the process of tumour differentiation. FIS Project. Carlos III Health Institute. January 2010-December 2012. PI09/2286.

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Scientific Production

ISI Web of Knowledge Indexed Publications with IF

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|---|--|--|
| <p>01 Benezet J., Diaz De La Llera L.S., Cubero J.M., Villa M., Fernandez-Quero M., Sanchez-Gonzalez A. Drug-eluting stents following rotational atherectomy for heavily calcified coronary lesions: Long-term clinical outcomes. <i>Journal of Invasive Cardiology</i>;23(1):28-32.<br/><b>IF: 1.841</b></p> <p>02 Wagner A.M., Sanchez-Quesada J.L., Benitez S., Bancells C., Ordonez-Llanos J., Perez A. Effect of statin and fibrate treatment on inflammation in type 2 diabetes. A randomized, cross-over study. <i>Diabetes Research and Clinical Practice</i>;93(1):e25-e28.<br/><b>IF: 2.754</b></p> | <p>03 Saigi Ullastre I., Perez Perez A. Management of glucocorticoid induced hyperglycemia. <i>Revista Clínica Española</i>;210(8):397-403.<br/><b>IF: 2.008</b></p> <p>04 Montaner P., Ripolles J., Pamies C., Corcoy R. Measurement of fasting ketonuria and capillary blood glucose after main meals in women with gestational diabetes mellitus: How well is the metabolic picture captured?. <i>Journal of Obstetrics and Gynaecology Research</i>;37(7):722-728.<br/><b>IF: 0.942</b></p> <p>05 Garcia-Patterson A., Aulinas A., Sojo L., Ginovart G., Adelantado J.M., de Leiva A., Corcoy R. Poorer perinatal outcome in male newborns of women with pregestational diabetes mellitus. <i>Diabetic</i></p> | <p><i>Medicine</i>;28(4):436-439.<br/><b>IF: 2.902</b></p> <p>06 Cubero J.M., Domingo P., Sambeat M., Ordonez-Llanos J., Rodriguez-Espinosa J., Sanchez-Quesada J.L., Perez A. Prevalence of metabolic syndrome among human immunodeficiency virus-infected subjects is widely influenced by the diagnostic criteria. <i>Metabolic Syndrome and Related Disorders</i>;9(5):345-351.<br/><b>IF: 1.946</b></p> <p>07 Blanco C.G., Ballesteros A.C., Saladich I.G., Pla R.C. Glycemic control and pregnancy outcomes in women with type 1 diabetes mellitus using lispro versus regular insulin: A systematic review and meta-analysis. <i>Diabetes Technology and Therapeutics</i>;13(9):907-911.<br/><b>IF: 1.931</b></p> |
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Scientific Production

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| <p>01 Corcoy R., María M.A. Diabetes and pregnancy. health education. <i>Revista De Enfermería (Barcelona, Spain)</i>;34(5):48-53.</p> <p>02 De Leiva-Hidalgo A., De Leiva-Pérez A., Brugus-Brugus E. From pancreatic extracts to artificial pancreas: History, science and controversies about the discovery of the pancreatic antidiabetic hormone VII: Early clinical use of pancreatic extracts (1921-1923). <i>Avances En Diabetologia</i>;27(1):15-26.</p> <p>03 De Leiva-Hidalgo A., Brugus-Brugus E., De Leiva-Pérez A. From pancreatic extracts to artificial pancreas: History, science and controversies about the discovery of the pancreatic antidiabetic</p> | <p>hormone VIII: Step by step towards the artificial pancreas. <i>Avances En Diabetologia</i>;27(1):27-38.</p> <p>04 Martínez-Sarriegui I., García-Sáez G., Rigla M., Brugués E., de Leiva A., Gómez E.J., Hernando E.M. How continuous monitoring changes the interaction of patients with a mobile telemedicine system. <i>Journal of Diabetes Science and Technology</i>;5(1):5-12.</p> <p>05 De Leiva A., Brugués E., de Leiva-Pérez A. The discovery of insulin: Continued controversies after ninety years. <i>Endocrinología y Nutrición</i>;58(9):449-56.</p> <p>06 Pérez A., González Blanco C., Hernández-Presa M.T., Chaves J. Therapeutic approach to dyslipidemia and goal achievement in a spanish population with type 2 diabetes without cardiovascular disease. <i>Endocrinología y Nutrición</i>;58(6):283-90.</p> |
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Other Publications

Letter

- Corcoy R. Comment on: Soranzo et al. common variants at 10 genomic loci influence hemoglobin A1C levels via glycemic and nonglycemic pathways. *Diabetes* 2010;59:3229-3239. *Diabetes*;60(2).

# Pituitary Gland Disorders

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## Main Lines of Research

- Morbimortality, low grade inflammation and cardiovascular risk in patients with acromegaly or Cushing's syndrome. FIS PI05/0448.
- ERCUSYN: European Registry on Cushing's syndrome. SANCO, EU Public Health Programme: PHP A800200 ([www.ercusyn.eu](http://www.ercusyn.eu)).
- Neuroradiological, neuropsychological and clinical study of endogenous hypercortisolism: comparison of Cushing's syndrome and chronic major depressive disorder. FIS 08/0302.
- Validation of psychological properties of specific questionnaires to evaluate health-related quality of life (HRQoL) in Cushing's syndrome and acromegaly.
- Study of signal transduction of GH in muscle by gene expression in a C2C12 cell line stimulated with GH.
- Etiology of cardiopathy in acromegaly and its relation to body composition. FIS 11/0001.

## Challenges

- Investigate the neuropsychological, neuroradiological and clinical correlation of patients with endogenous hypercortisolism (due to Cushing's syndrome or chronic major depressive disorder) or exogenous exposure to low-dose glucocorticoids (due to treatment of adrenal insufficiency or rheumatoid arthritis). Similar studies for acromegaly.
- Study gene expression in cultured muscle cells after exposure to GH, by means of microarrays.
- Validate psychological properties of questionnaires specifically developed to evaluate QoL in patients with Cushing's syndrome or acromegaly.
- Evaluate long-term morbidity and mortality in patients who have had Cushing's syndrome or acromegaly in the last 25 years.
- Analyse and update the European database of patients with Cushing's syndrome (ERCUSYN); over 500 patients from 36 countries were included by the end of 2011.
- Conduct in vitro molecular analysis of operated pituitary adenomas in coordination with the Department of Biochemistry and Molecular Biology at the University of Cordoba (Spain).

## Active Grants

- Webb S. Neuropsychological, neuroradiological and clinical study in endogenous hypercortisolism: Comparison in Cushing's syndrome and chronic major depressive disorders. FIS Project. Carlos III Health Institute. January 2009-March 2012. PI08/0302. 220,068.75.
- Webb S. Etiology of cardiopathy in acromegaly and its relation to body composition. FIS Project. Carlos III Health Institute. January 2012-December 2015. PI11/0001. 198,714.67.

Collaborations

Collaborations with other IIB Sant Pau Groups

- Neuromuscular Diseases Group.
- Clinical and Translational Cardiology Group.
- Multi-organ Damage Group.

External Collaborations

- Group 708 of CIBERER (Juan Bernal) of the Alberto Sols Biomedical Research Institute (CSIC, Madrid). Study of GH signal transduction in muscle, using the gene expression profile of the C2C12 cell line stimulated with GH.
- Groups 745 (Jordi Surrallés, Autonomous University of Barcelona) and 757 (R. Perona, Madrid) of the CIBERER. Research on telomere maintenance system in Cushing's syndrome: a contribution to the phenomena of premature aging and specific death? ERCUSYN Project, collaborating with 36 centers throughout Europe.
- Spanish Registry on acromegaly (REA), led by the Spanish Society of Endocrinology and Nutrition (SEEN).
- Study Remah (Molecular Registry of pituitary adenomas), led by the Spanish Society of Endocrinology and Nutrition (SEEN).

\*TIF: 19.005 \*\*MIF: 4.751

Scientific Production

ISI Web of Knowledge Indexed Publications with IF

- 01 Resmini E., Morte B., Soriano E., Gallardo E., De Luna N., Illa I., Zorzano A., Bernal J., Webb S.M. Identification of novel GH-regulated genes in C2C12 cells. *Hormone and Metabolic Research*;43(13):919-930.  
**IF: 2.188**
- 02 Valassi E., Santos A., Yaneva M., Toth M., Strasburger C.J., Chanson P., Wass J.A.H., Chabre O., Pfeifer M., Feelders R.A.,

- Tsagarakis S., Trainer P.J., Franz H., Zopf K., Zacharieva S., Lamberts S., Tabarin A., Webb S.M. The European Registry on Cushing's syndrome: 2-Year experience. Baseline demographic and clinical characteristics. *European Journal of Endocrinology*;165(3):383-392.  
**IF: 3.423**
- 03 Webb S.M. Pituitary tumors: Coping with 'cured' pituitary tumors. *Nature Reviews Endocrinology*;7(5):251-252.  
**IF: 9.971**
  - 04 Martínez-Fuentes A.J., Molina M.,

Vazquez-Martinez R., Gahete M.D., Jimenez-Reina L., Moreno-Fernandez J., Benito-Lopez P., Quintero A., De La Riva A., Dieguez C., Soto A., Leal-Cerro A., Resmini E., Webb S.M., Zatelli M.C., Degli Uberti E.C., Malagon M.M., Luque R.M., Castano J.P. Expression of functional KISS1 and KISS1R system is altered in human pituitary adenomas: Evidence for apoptotic action of kisspeptin-10. *European Journal of Endocrinology*;164(3):355-362.  
**IF: 3.423**

Scientific Production

ISI Web of Knowledge Indexed Publications without IF

- 01 Luque-Ramírez M., Carreño T., Álvarez Escolá C., del Pozo Picó C., Varela da Costa C., Fajardo Montañana C., Gilibert M., Webb S., Albero R., Acha J., Ballesteros M., Bernal C., Blanco C., Boronat M., Catalá M., Díez A., Donnay S., Fernández P., Ferrer J.C., García A., García H., Gaztambide S., López J.F., López P., de Luis D., Martínez P., Montreal M., Moreno A., Pardo C., Pavón I., Pazos F., Pérez J., Pinedo R., Rodríguez P., Salinas I., Sanabria C., Sillero A., Soto A., Tarroba C., Villabona C. The OASIS study: Therapeutic management of acromegaly in standard clinical practice. assessment of the efficacy of various treatment strategies. *Endocrinología y Nutrición*;58(9):478-86.

Other Publications

Book Chapters

- Chapter: Webb S., Resmini E., Santos A., Badia X. Quality of Life in Acromegaly and Growth Hormone Deficiency. Book: Growth Hormone Clinics in Endocrinology and Metabolism. Editorial: Humana Press (New York, USA).
- Chapter: Webb S., Santos A., Resmini E., Valassi E., Martínez M.A., Roig O., Crespo I., Badia X.. Quality of life and long-term follow-up in Cushing's syndrome. Book: Handbook of Cushing's Disease. Editorial: Bioscientifica (Bristol, United Kingdom, 2011).
- Chapter: Aulinas A., Colom C., Webb S. Pineal physiology and pathophysiology, including pineal tumours. Book: Oxford Textbook of Endocrinology and Diabetes Second Edition. Oxford University Press. Editorial: Editores PM Stewart & JAH Wass (2011).
- Martínez M.A., Gómez C., Santos A., Resmini E., Webb S., Gómez M.J., Egea L., Campillo B., Martínez J., Úbeda I. Perception of the information received in patients with Cushing syndrome and Cardiovascular Risk. Editor: Spanish Association of Nursing in Cardiology.

Scientific Journals

- Aulinas A., Valassi E., Webb S. Experience in GH treatment in adult patients with deficiency. *Rev Horm Crecim* 2011;14(2):107-114.

# Digestive Diseases

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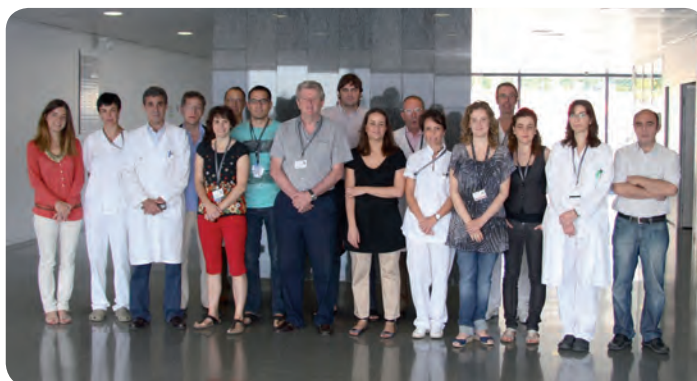
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Alicia Brotons CIBEREHD  
Juan Camilo Nieto HSCSP RI



## Main Lines of Research

### Experimental research:

- Experimental rat model of cirrhosis and ascites.
- Mechanisms and prevention of bacterial translocation in rats with cirrhosis.
- Experimental model of spontaneous and induced bacterial peritonitis: physiopathology and treatment.
- MiRNAs expression profile in inflammatory bowel disease after stimulation with toll-like receptors ligands.

### Clinical investigation:

- Physiopathology, diagnosis, treatment and prevention of bacterial infections, ascites and hepatorenal syndrome in cirrhosis.
- Diagnosis and treatment of hepatic encephalopathy in cirrhosis.

- Physiopathology, diagnosis, treatment and prevention of digestive haemorrhage due to portal hypertension of non-varicose origin.
- Chronic hepatitis B and C: diagnosis and treatment.
- Diagnosis and treatment of hepatocarcinoma.
- Physiopathology, diagnosis and treatment of intestinal inflammatory disease (inflammatory bowel disease).
- Polyps and colorectal cancer: epidemiology and early diagnosis.
- Diagnosis and treatment of acute pancreatitis.
- Prevention of acute pancreatitis post-ERCP.
- Chronic pancreatitis and pancreatic neoplasms: molecular studies, early detection and treatment.

## Challenges

- Consolidate the CIBEREHD research group studying complications in cirrhosis.
- Expand the hepatology research lab and develop new research.
- Consolidate the research group on portal hypertension.
- Consolidate the line of research on pancreatic illnesses.
- Consolidate the line of research on inflammatory bowel disease.
- Consolidate the line of research on polyps and colon cancer.
- Develop a line of research on digestive endoscopy.

## Active Grants

- Gómez C. Double-blind randomized study of the effectiveness of the administration of bolus somatostat in followed by a brief intraves infusion as prophylaxis for acute pancreatitis after performing an endoscopic retrograde cholangiopancreatography. FIS Project. Carlos III Health Institute. January 2009-December 2012. EC08/00002.
- Guarner C. Experimental model of induced or spontaneous bacterial peritonitis in rats with cirrhosis and ascites: characterization of humoral, hormonal and haemodynamic and evaluation of a new therapeutic strategy. FIS Project. Carlos III Health Institute. September 2009-December 2012. PI08/0262.
- Guarner C. Estudio clínico y experimental de traslocación bacteriana en la cirrosis mediante pirosecuenciación. FIS Project. Carlos III Health Institute. 2011-December 2014. PI11/1026.
- Soriano G. Study of the benefits of a physical exercise programme and branched-chain amino acid supplements in the diet of patients with liver cirrhosis. MAPFRE Foundation. March 2010-March 2011. MAPFRE 2009.
- Soriano G. Relationship of polymorphisms of toll-like receptors TLR2, TLR4 and TLR9 with infection incidence, disease progression and inflammatory response in cirrhotic patients. FIS Project. Carlos III Health Institute. January 2010-December 2012. PI09/0357.
- Soriano G. Study of the effect of VSL#3 on systemic inflammatory response, bacterial translocation and liver damage in cirrhotic rats. VSLPharma. January 2010-December 2012.
- Torras X. Recurrence rate and predictive factors in the treatment of hepatitis C in actual clinical practice in Spanish Hospitals. Schering Plough. September 2008-January 2011. P05181.
- Torras X. Validation of a questionnaire of adherence to treatment in patients infected with hepatitis B. IMIM Hospital del Mar (Barcelona, Spain). July 2010-December 2012. Habit-01. N° CEIC: AC/10/123/3126.
- Torras X. Study disHCovery. Noninterventionist observational study to analyze the clinical profile of patients with chronic hepatitis, management and monitoring in hospitals in Spain. October 2011-May 2012. JAN-HEP-2011-01.
- Villanueva C. Multicenter, randomized, double-blind, placebo-controlled study on the efficacy of beta-blockers to prevent decompensation of cirrhosis with portal hypertension. FIS Project. Carlos III Health Institute. January 2009-December 2011. EC08/00087.
- Villanueva C. Prevention of portal hypertension developing clinically significant hepatic cirrhosis compensated by selective hepatic vasodilation. Multicenter, double-blind, randomized trial. FIS Project. Carlos III Health Institute. January 2011-December 2013. PI10/01552.
- Villanueva C. Randomized controlled trial comparing bempiparin versus acenocoumarol in patients requiring anticoagulation restart after an episode of severe gastrointestinal bleeding. Spanish Ministry of Health. January 2011-December 2011. EC10-135.
- Villanueva C. Clinical study on the effects of prolonged administration of albumin 20% on the kidney cardiocirculatory function and hepatic hemodynamics in patients with advanced cirrhosis and ascites. Grifols SA Institute. January 2011-December 2013.
- Villanueva C. Efficacy and safety of self-expanding esophageal prosthesis versus Sengstaken balloon catheter as emergency haemostatic therapy in patients with acute variceal bleeding and failure of endoscopic and pharmacological treatment. FIS Project. Carlos III Health Institute. January 2009-December 2013. PI 08/0504.
- Villanueva C. Association of statins to standard therapy in the prevention of rebleeding in patients with cirrhosis and variceal bleeding. Multicenter study. Clinic Foundation. January 2010-December 2013.

## Scientific Production

## Scopus Indexed Publications

- 01 Garcia-Planella E, Ábalos J.G. Thromboembolic events and inflammatory bowel disease. *Gastroenterología y Hepatología Continuada*;10(6):272-5.
- 02 Colomo A., Puente Á. Correction of coagulation in variceal bleeding in patients with cirrhosis. Is it useful? *Gastroenterología y Hepatología Continuada*;10(4):175-9.

# Digestive Diseases

## Collaborations with other IIB Sant Pau Groups

- Parkinson Disease and Movement Disorders Group.
- Pharmacological Research in Humans Group.
- Neuroradiology Group.

## External Collaborations

- Mechanisms of the benefits of exercise in patients with cirrhosis. PI: Dr. Germán Soriano. Collaboration: Group of the Vall d'Hebron. Dr. Joan Cordoba (CIBEREHD), and the Departments of Cardiology, Physiotherapy, Radiology and Rheumatology (calcium metabolism team) of HSCSP.
- Multicenter, randomized, double-blind, placebo-controlled study on the efficacy of beta-blockers to prevent decompensation of cirrhosis with portal hypertension (FIS EC08/00087). PI: Dr. Candido Villanueva. Contributors: Clinic Hospital (Barcelona, Spain), Vall d'Hebron Hospital (Barcelona, Spain), Germans Trias i Pujol Hospital (Barcelona, Spain), Ramón y Cajal Hospital (Madrid, Spain), Gregorio Marañón Hospital (Madrid, Spain), Puerta del Hierro Clinic (Madrid, Spain) and Arnau de Vilanova Hospital (Lleida, Spain).
- Preventing progression of portal hypertension in compensated cirrhosis using hepatic selective vasodilators. Multicenter, randomized, double-blind (FIS PI10/01552). PI: Dr. Candido Villanueva. Contributors: Hospital of Mataró (Spain), Hospital of Terrassa (Spain), Arnau de Vilanova Hospital (Lleida, Spain) and Viladecans Hospital (Spain).
- European Registry of ulcerative colitis. Program of prospective postmarketing safety surveillance, observational, non-interventionist (Protocol No. P04808). Dr. Esther Garcia-Planella.
- A 5-year registry study of Humira\* (Adalimumab) in subjects with moderate to severe active Crohn's disease (CD). PI: Dr.

Esther Garcia-Planella.

- An open randomized multicenter clinical investigation to compare the efficacy and safety of prednisone plus Adacolumn \* GMA apheresis versus prednisone alone in the treatment of patients with mild or moderately active steroid dependent ulcerative colitis (Ada-UC-07-102). Co-Investigator: Dr. Esther Garcia-Planella.
- National study on inflammatory bowel disease on genetic and environmental determinants. Promoter: GETECCU. Co-Investigator: Dr. Esther Garcia-Planella.
- Development of a diagnostic kit for diseases mediated by immune mechanisms (IMID Project-Kit). Collaborating Researcher: Dr. Esther Garcia-Planella. Ministry of Science and Innovation: Unique and Strategic Projects. National Biotechnology Plan: PSE-10000-2006-6/PSE-10000-2008-9 / PSE-010000-2009-1. 2006-2011. €4164.979.
- Biobank IMiDs to identify biomarkers and new therapies. Collaborating Researcher: Dr. Esther Garcia-Planella. Ministry of Science and Innovation: National Plan for Research, Development and Technological Innovation. Sub INNPACTO: IPT-010000-2010-36. 2010-2013. €2,058.748.00.
- Determining utility in detecting fecal calprotectin in endoscopic postoperative recurrence of Crohn's disease. Collaborating Researcher: Dr. Esther Garcia-Planella. Spanish Working Group on Crohn's Disease and Ulcerative Colitis (GETECCU). 2008-2011. €9,000.
- Utility semiquantitative fecal calprotectin in predicting recurrence of ulcerative colitis. A prospective, observational, multicenter study. PI: Dr. Esther Garcia-Planella. Department of Gastroenterology. Germans Trias i Pujol Hospital (Badalona, Spain). 2011-2012.



\*TIF: 62.985 \*\*MIF: 3.705

## ISI Web of Knowledge Indexed Publications with IF

- 01 Soriano G., Esparcia O., Montemayor M., Guarner-Argente C., Pericas R., Torras X., Calvo N., Romn E., Navarro F., Guarner C., Coll P. Bacterial DNA in the diagnosis of spontaneous bacterial peritonitis. *Alimentary Pharmacology and Therapeutics*;33(2):275-284.  
**IF: 3.769**
- 02 Steiner B., Rosendahl J., Witt H., Teich N., Keim V., Schulz H.-U., Pfutzer R., Luhr M., Gress T.M., Nickel R., Landt O., Koudova M., Macek M., Farre A., Casals T., Desax M.-C., Gallati S., Gomez-Lira M., Audrezet M.P., Ferec C., Des Georges M., Claustres M., Truninger K. Common CFTR haplotypes and susceptibility to chronic pancreatitis and congenital bilateral absence of the vas deferens. *Human Mutation*;32(8):912-920.  
**IF: 5.686**
- 03 Manosa M., Cabre E., Garcia-Planella E., Bernal I., Gordillo J., Esteve M., Zabana Y., Gassull M.A., Domenech E. Decision tree for early introduction of rescue therapy in active ulcerative colitis treated with steroids. *Inflammatory Bowel Diseases*;17(12):2497-2502.  
**IF: 4.855**
- 04 Esparcia O., Montemayor M., Ginovart G., Pomar V., Soriano G., Pericas R., Gurgui M., Sulleiro E., Prats G., Navarro F., Coll P. Diagnostic accuracy of a 16S ribosomal DNA gene-based molecular technique (RT-PCR, microarray, and sequencing) for bacterial meningitis, early-onset neonatal sepsis, and spontaneous bacterial peritonitis. *Diagnostic Microbiology and Infectious Disease*;69(2):153-160.  
**IF: 2.528**
- 05 Les I., Doval E., Garcia-Martinez R., Planas M., Cardenas G., Gomez P., Flavi M., Jacas C., Minguez B., Vergara M., Soriano G., Vila C., Esteban R., Cordoba J. Effects of branched-chain amino acids supplementation in patients with cirrhosis and a previous episode of hepatic encephalopathy: A randomized study. *American Journal of Gastroenterology*;106(6):1081-1088.  
**IF: 7.282**
- 06 Guarner-Argente C., Chandrasekhara V., Levine M.S., Marcotte P.J., Weinstein G.S., Ginsberg G.G. Esophageal stent-induced fistulization to an anterior cervical plate. *Gastrointestinal Endoscopy*;74(1):219-221.  
**IF: 4.923**
- 07 Antonijoan R.M., Gich I., Azaro A., Sainz S., Balanzo J., Izquierdo I., Borja J., Donado E., Blanch I., Barbanoj M.J. Gastrointestinal safety of triflusal solution in healthy volunteers: A proof of concept endoscopic study. *European Journal of Clinical Pharmacology*;67(7):663-669.  
**IF: 2.845**
- 08 Guarner-Argente C., Cordova H., Martinez-Palli G., Navarro-Ripoll R., Rodriguez-D'Jesus A., de Miguel C.R., Beltran M., Fernandez-Esparrach G. Gastroscopy closure with a new tissue anchoring device: A porcine survival study. *World Journal of Gastroenterology*;17(13):1732-1738.  
**IF: 2.471**
- 09 Carrion J.A., Navasa M., Buti M., Torras X., Xiol X., Vergara M., Planas R., Sola R., Forn X. Hepatic elastography. Position paper of the Catalan Society of Gastroenterology [Elastografía hepática. Documento de posicionamiento de la Societat Catalana d'Digestologia]. *Gastroenterologia y Hepatologia*;34(7):504-510.  
**IF: 0.727**
- 10 Guarner-Argente C., Beltran M., Martinez-Palli G., Navarro-Ripoll R., Martinez-Zamora M.T., Cordova H., Comas J., Rodriguez de Miguel C., Rodriguez-D'Jesus A., Almela M., Hernandez-Cera C., Lacy A.M., Fernandez-Esparrach G. Infection during Natural Orifice Transluminal Endoscopic Surgery Peritoneoscopy: A Randomized Comparative Study in a Survival Porcine Model. *Journal of Minimally Invasive Gynecology*;18(6):741-746.  
**IF: 1.738**
- 11 Esteve M., Loras C., Garcia-Planella E. Inflammatory bowel disease in travelers: Choosing the right vaccines and check-ups. *World Journal of Gastroenterology*;17(22):2708-2714.  
**IF: 2.471**
- 12 Roman E., Cordoba J., Torrens M., Torras X., Villanueva C., Vargas V., Guarner C., Soriano G. Minimal hepatic encephalopathy is associated with falls. *American Journal of Gastroenterology*;106(3):476-482.  
**IF: 7.282**
- 13 Sabate M., Ibanez L., Perez E., Vidal X., Buti M., Xiol X., Mas A., Guarner C., Forne M., Sola R., Castellote J., Rigau J., Laporte J.-R. Paracetamol in therapeutic dosages and acute liver injury: Causality assessment in a prospective case series. *BMC Gastroenterology*;11.  
**IF: 2.422**
- 14 Zabana Y., Van Domselaar M., Garcia-Planella E., Manosa M., San Roman A.L., Gordillo J., Cabre E., Domenech E. Perianal disease in patients with ulcerative colitis: A case-control study. *Journal of Crohn's and Colitis*;5(4):338-341.  
**IF: 2.566**
- 15 Poca M., Puente A., Graupera I., Villanueva C. Prognostic markers in patients with cirrhosis and portal hypertension who have not bled. *Disease Markers*;31(3):147-154.  
**IF: 1.642**
- 16 Domenech E., Carrion S., Garcia-Planella E., Manosa M., Gordillo J., Concepcion M., Guarner C., Cabre E. Smoking status and response to thiopurines in steroid-dependent inflammatory bowel disease. *Inflammatory Bowel Diseases*;17(4):971-975.  
**IF: 4.855**
- 17 Guarner-Argente C., Shah P., Buchner A., Ahmad N.A., Kochman M.L., Ginsberg G.G. Use of antimicrobials for EUS-guided FNA of pancreatic cysts: A retrospective, comparative analysis. *Gastrointestinal Endoscopy*;74(1):81-86.  
**IF: 4.923**

# Microbiology and Infectious Diseases

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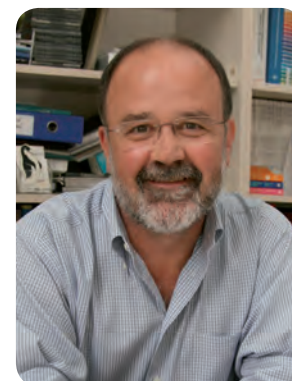
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## Main Lines of Research

### CLINICAL MICROBIOLOGY UNIT

- Study of resistance mechanisms.
- Tuberculosis, epidemiology and antituberculosis resistance mechanisms.
- Molecular biology applications to infectious disease detection, taxonomy and epidemiology.
- Medical care projects.

### HIV AND AIDS UNIT

- Medical care projects.
- Study of pathogenic mechanisms altering body fat distribution.
- Study of metabolic disorders associated with antiretroviral treatment.
- Body composition changes.
- New antiretroviral drugs.

- Cardiovascular risk associated with antiretroviral treatment.
- Comorbid conditions associated with HIV-1 infection.
- Pharmacogenetics (toxicokinetics).
- Bacterial meningitis.

### INFECTIOUS PATHOLOGY UNIT

- Restricted-use policies for antibiotic and antimicrobial agents and suitable use of antimicrobial agents.
- Study of infections associated with foreign bodies (joint prostheses, catheters, cardiac prostheses and pacemakers).
- Study of infections due to multiresistant microorganisms or requiring isolation.
- Tuberculosis.

## Challenges

### CLINICAL MICROBIOLOGY UNIT

#### Resistance mechanisms:

- Study of increased resistance as a result of gene carrier-vector spread.
- Continuity of work in the context of the Spanish Network for Research into Infectious Pathologies (REIPI), heading certain projects (e.g., epidemiology of the class C beta-lactamases in Spain) and cooperating with a project on the epidemiology of resistance to amoxicillin-clavulanic acid among others.
- Advancement of other research lines, both in-house and in cooperation with other centres, leading to 2 doctoral theses.

#### Tuberculosis, epidemiology and resistance mechanisms:

- Prospective monitoring of primary and acquired *Mycobacterium tuberculosis* re-

sistance to first – and second-line drugs.

- Molecular detection of resistance using a molecular antibiogram.
- Study of the epidemiology and spread of resistant strains and assessment of the impact of immigration and the contribution of new *M. tuberculosis* families (Beijing, EAI, CAS).

#### Molecular biology applications to infectious disease detection, taxonomy and epidemiology:

- Study of the usefulness of the 16S RNA gene for microbiological diagnosis and molecular identification.
- Genotype characterization of *Cryptosporidium* spp. oocysts from stool samples collected by the HSCSP microbiology service.

**Medical care projects:**

- Continuing with the government health department agreement regarding the development of epidemiological surveillance support functions for nosocomial infections and flaccid paralysis.
- Study of mycoses in depth, especially invasive fusariosis and aspergillosis and respiratory tract viral infections in patients with onco-haematological diseases.
- Continuing with multicentre studies of HIV.
- Monitoring of congenital infection in pregnant patients with Chagas disease.

**HIV AND AIDS UNIT****Medical care projects:**

- Continuing with, expanding and, as appropriate, consolidating the care team for HIV-1 infected patients, consisting currently of 3 staff physicians, 4 grant-aided research assistants (including a Río Hortega-funded research assistant) and 2 nurses).
- Continuing with participation in multicentre projects (especially the AIDS network, Gesida, VACH, EuroSIDA and ART collaboration).
- Exploration of possible participation in clinical trials of new antiretroviral drugs.
- Increasing the number of HIV-1 infected patients attended to in our hospital (given current mortality rates, an estimated annual increase of 50 patients is required).
- Continuing with current clinical research and mixed basic research-clinical research lines.

**Pathogenic mechanisms altering body fat distribution:**

- Study of metabolism in pyrimidines and derivatives in the genesis of lipodystrophy associated with HIV-1 and antiretroviral treatment.
- Development of an animal (mouse) model of lipodystrophy.
- Development of in vitro models (adipocyte cultures) to study the adipose toxicity of antiretroviral drugs.
- Study of new manifestations of the lipodystrophy syndrome.
- Development of measurements for antiretroviral drug concentrations in adipose tissue.

- Exploration of the role of inflammation in the pathogenesis of lipodystrophy associated with HIV-1 and antiretroviral treatment.
- Metabolism of uridine and its role in the pathogenesis of lipodystrophy.

**Metabolic disorders associated with antiretroviral treatment:**

- In vivo assessment of metabolic toxicity associated with antiretroviral treatment.
- Development of in vitro models (adipocyte cultures) to study the adipose toxicity of antiretroviral drugs.
- Study of factors contributing factors to hepatic steatosis in patients receiving antiretroviral treatment.
- Study of the pathogenic role of FGF21 in insulin resistance in HIV-1 – infected patients.
- Study of role of FABP4 in metabolic disorders associated with antiretroviral treatment.

**Body composition:**

- Definition of normal fat distribution in the general population.
- Establishment of abnormal fat distribution patterns.
- Development of a definition of lipodystrophy associated with HIV-1 and antiretroviral treatment.

**New antiretroviral drugs:**

- Clinical trials of new antiretroviral drugs (phases 2 and 3).
- Ritonavir and non-ritonavir pharmacokinetic potentiation of antiretroviral drugs.

**Cardiovascular risk associated with antiretroviral treatment:**

- Establishment of a multicentre cardiovascular risk cohort.
- Study of antiretroviral treatment dependent and non-treatment dependent factors in multicentre cohorts.
- Development of in vitro models (adipose cultures) to study adipose toxicity for antiretroviral drugs.

**Comorbid conditions associated with HIV-1 infection:**

- Study of ageing in different tissues associated with HIV-1 infection and antiretroviral treatment.
- Study of fragility in patients with HIV-1 infection and the role of HAART.

- Evaluation of the neurocognitive function in patients with HIV-1 infection with and without antiretroviral treatment.
- Participation in multicentre cohort studies to determine the incidence of specific comorbidities (cancer, HCV, cardiovascular disease, osteogenesis/osteoporosis): EuroSIDA, ART Collaboration, Gesida, VACH, etc.
- Treatment of HCV in patients with HIV-1 and its prognostic significance.

**Pharmacogenetics (toxicogenetics):**

- Role of enzyme polymorphism of the pyrimidine pathways in the pathogenesis of lipodystrophy.
- Role of enzyme polymorphism of the pyrimidine pathways in the pathogenesis of clinical toxicity (neuropathy, pancreatitis).
- Role of IL28B polymorphism in spontaneous HCV clearance in the response to antiviral treatment based on interferon and ribavirin.

**Bacterial meningitis:**

- Identification of prognostic factors in adult bacterial meningitis.
- Continuation with a cohort study of adult bacterial meningitis.
- Identification of host-intrinsic factors in the pathogenesis and prognosis of adult bacterial meningitis and meningococcal disease.

**INFECTIOUS PATHOLOGY UNIT****Restricted-use antibiotic and antimicrobial agent policies:**

Suitable use of antimicrobial agents:

- To minimize the appearance of resistance.
- To reduce cost.
- To improve compliance with surgical prophylaxis (at the time of administration).

**Epidemic outbreaks and infections caused by multiresistant microorganisms and microorganisms requiring isolation:**

- To study epidemiology for our hospital.
- To reduce incidence.
- To prevent/contain epidemic outbreaks in the hospital and to work with the microbiology department in epidemiology and molecular studies.

# Microbiology and Infectious Diseases

## Challenges

### Infections associated with foreign bodies (joint prostheses, catheters, cardiac prostheses, pacemakers):

- To reduce incidence.
- To develop effective conservative treatment regimes.

### Infections in transplant patients (heart, haemopoietic progenitors):

- To study current epidemiology.
- To assess the efficacy of prophylaxis and other preventive measures.

### Tuberculosis:

- To cooperate with studies of resistance and with new treatment regimes for tuberculosis.

### Other care projects:

To continue with the government health department agreement regarding the development of support functions as follows:

- Epidemiological surveillance of nosocomial infections (VINCat).
- Tuberculosis control: Barcelona-Dreta Tuberculosis Operations Committee (Coordinator: Dr. Sambeat).
- New influenza control: Barcelona-Dreta Epidemiological Surveillance Operations Committee (Coordinator: Dr. López-Contreras).

## Active Grants

■ Coll P. Introduction of molecular biology techniques in CFGS Clinical Diagnostic Laboratory. MEC Grant. October 2011-June 2012. INNOVACIÓN APLICADA 2011. €21,366.32.

■ Coll P. Spanish Network for Research in Infectious Diseases (REIPI). Retics Project. January 2007-December 2011. RD06/0008/0013. €71,520.

■ De Benito N. Comparative study of the effectiveness of 'short' and 'long' doses for the rifampin-levofloxacin combination in the early postoperative staphylococcal infection and haematogenous infection of prosthetic joints. FIS Project. Carlos III Health Institute. January 2009-April 2013. EC08/00135.

■ Domingo P. Prospective observational study of polymorphisms in pyrimidinemetabolic enzymes in the pathogenesis of lipodystrophy associated with HIV-1 and HAARTbased on thymidine analogues. FIS Project. Carlos III Health Institute. January 2009-December 2011. EC08/00256.

■ Domingo P. AIDS Network. Retics Project. January 2007-December 2011. RD06/0006/0022.

■ Fernández I. Río Hortega Contract. February 2009-January 2012. CM08/00238.

■ Gurgui M. Spanish Network for Research in Infectious Diseases (REIPI). Clinical Group. Retics Project. January 2008-December 2011. RD06/0008/0007.

■ Navarro F. Study of the prevalence and epidemiology of betalactam resistance mediated by AmpCplasmidbetalactamases and by carbapenemases in enterobacteria in Spain. FIS Project. Carlos III Health Institute. January 2010-December 2012. PI09/0125. €82,279.

■ Sambeat MA. Observational study in women with HIV / AIDS. EVhA-3 Study. 2010-2011. Quality of life, neurocognitive function and clinical characteristics of HIV + in mature women in Spain. Compared to controls without HIV infection. EVhA stages. Part 3. ABB-TAR-2010-03. 2010-2011.

■ Sánchez F. Creation of a multilingual web-based device for interactive continuing education for health professionals performing basis haematological test. Leonardo Da Vinci European Grant 2009. EU. October 2009-December 2011. 2009-1-FR-LEOS-07397.

## Collaborations

### External Collaborations

■ Agreement to develop the evaluation of the Magicplex Sepsis Test of the manufacturer Seegene (2011). IZASA DISTRIBUCIONES TÉCNICAS SA.

■ Agreement to collaborate in the validation of reagents CMV IGM BIO-FLASH, FLASH CHAGAS BIO, BIO-FLASH SYPHILIS, BIO-FLASH HIV Ag / Ab, HAV IgG BIO-FLASH, FLASH BIO-HAV IgM, HBeAg BIO-FLASH, BIO-FLASH anti-HBe during the period R & D and subsequent Quality Control of reagents, all chemiluminescence immunoassays which run in the autoanalyzer BIO-FLASH (2011). Biokit SA.

\*TIF: 254.908 \*\*MIF: 4.395

## ISI Web of Knowledge Indexed Publications with IF

## CLINICAL MICROBIOLOGY UNIT

- 01 Alcaide F, Coll P. Advances in rapid diagnosis of tuberculosis disease and anti-tuberculous drug resistance. *Enfermedades Infecciosas y Microbiología Clínica*;29(SUPPL. 1):34-40.  
**IF: 1.491**
- 02 Palacios R, Polo R, Blanco J.L., Jose Ramon Blanco, Camino X., Cervero M., Dela Portilla F., Ena J., Fernandez C., Herranz P., Villar S., Bru F., Domingo P., Margall N., Sirera G., Soriano R., Viciano P. AIDS Study Group/Spanish AIDS Consensus Plan Document on sexually transmitted infections in HIV-infected patients [Documento de Consenso del Grupo de Estudio del Sida (GESIDA)/Plan Nacional sobre el Sida (PNS) sobre las infecciones de transmisión sexual en pacientes con infección por el VIH]. *Enfermedades Infecciosas y Microbiología Clínica*;29(4):286.e1-2863.e19.  
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- 03 Mata C., Miro E., Toleman M., Rivera M.A., Walsh T.R., Navarro F. Association of bla DHA-1 and qnrB genes carried by broad-host-range plasmids among isolates of Enterobacteriaceae at a Spanish hospital. *Clinical Microbiology and Infection*;17(10):1514-1517.  
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- 04 Soriano G., Esparcia O., Montemayor M., Guarner-Argente C., Pericas R., Torras X., Calvo N., Romn E., Navarro F., Guarner C., Coll P. Bacterial DNA in the diagnosis of spontaneous bacterial peritonitis. *Alimentary Pharmacology and Therapeutics*;33(2):275-284.  
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- 06 Peman J., Canton E., Camarena Minana J.J., Alcoba Florez J., Echeverria J., Navarro Ortega D., Martinez Alarcon J., Fontanals D., Gomila Sard B., Buendia Moreno B., Torroba L., Ayats J., Bratos Perez M.T., Alvarez Fernandez M., Sanchez Reus F., Fernandez Natal I., Royo Garcia G., Ezpeleta G., Martin-Mazuelos E., Iglesias I., Rezusta A., Ramirez de Ocariz I., Gomez Nieto A. Changes in the epidemiology of fungaemia and fluconazole susceptibility of blood isolates during the last 10 years in Spain: Results from the FUNGEMYCA study. [Variación de la epidemiología de las fungemias y de la sensibilidad al fluconazol de los aislamientos de hemocultivos en los últimos 10 años en España: resultados del estudio FUNGEMYCA]. *Revista Iberoamericana de Micología*;28(2):91-99.  
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- 07 Navarro F., Calvo J., Canton R., Fernandez-Cuenca F., Mirelis B. Detection of resistance phenotypes in gram-negative bacteria [Detección fenotípica de mecanismos de resistencia en microorganismos gramnegativos]. *Enfermedades Infecciosas y Microbiología Clínica*;29(7):524-534.  
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- 08 Esparcia O., Montemayor M., Ginovart G., Pomar V., Soriano G., Pericas R., Gurgui M., Sulleiro E., Prats G., Navarro F., Coll P. Diagnostic accuracy of a 16S ribosomal DNA gene-based molecular technique (RT-PCR, microarray, and sequencing) for bacterial meningitis, early-onset neonatal sepsis, and spontaneous bacterial peritonitis. *Diagnostic Microbiology and Infectious Disease*;69(2):153-160.  
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- 09 Sorli L., Miro E., Segura C., Navarro F., Grau S., Salvado M., Horcajada J.P. Intra- and inter-species spread of carbapenemase genes in a non-hospitalized patient. *European Journal of Clinical Microbiology and Infectious Diseases*;30(12):1551-1555.  
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- 10 Diestra K., Miro E., Marti C., Navarro D., Cuquet J., Coll P., Navarro F. Multiclonal epidemic of *Klebsiella pneumoniae* isolates producing DHA-1 in a Spanish hospital. *Clinical Microbiology and Infection*;17(7):1032-1036.  
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- 11 Gurgui M., Sanchez F., March F., Lopez-Contreras J., Martino R., Cotura A., Galvez M.L., Roig C., Coll P. Nosocomial outbreak of *Blastoschizomyces capitatus* associated with contaminated milk in a haematological unit. *Journal of Hospital Infection*;78(4):274-278.  
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- 12 Mata C., Navarro F., Miro E., Walsh T.R., Mirelis B., Toleman M. Prevalence of SXT/R391-like integrative and conjugative elements carrying blaC MY-2 in *Proteus mirabilis*. *Journal of Antimicrobial Chemotherapy*;66(10):2266-2270.  
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- 13 Romero A., Sued O., Puig T., Esteve A., Pumarola T., Casabona J., Gonzalez V., Matas L., Tural C., Rodrigo I., Margall N., Domingo P., Casanova A., Ferrer E., Caballero E., Ribera E., Farre J., Amengual M.J., Navarro G., Prat J.M., Masabeu A., Simo J.M., Villaverde C.A., Barrufet P., Saucá M.G., Ortin X., Orti A., Navarro R., Euras J.M., Vilario J., Villa M.C., Montull S., Vilanova C., Pujol F., Diaz O., Miro J.M. Prevalence of transmitted antiretroviral resistance and distribution of HIV-1 subtypes among patients with recent infection in Catalonia (Spain) between 2003 and 2005. *Enfermedades Infecciosas y Microbiología Clínica*;29(7):482-489.  
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- 14 Canton E., Peman J., Quindos G., Eraso E., Miranda-Zapico I., Alvarez M., Merino P., Campos-Herrero I., Marco F., De La Pedrosa E.G.G., Yague G., Guna R., Rubio C., Miranda C., Pazos C., Velasco D., Alcoba J., Ayats J., Borrell N., Bratos M.A., Buendia B., Camarena J.J., Echeverria J., Esperalba J., Ezpeleta G., Fernandez-Natal I., Fontanals D., Garcia J., Garcia-Garcia I., Garcia-Tapia A.M., Gomez-Nieto A., Gomila B., Guinea J., Iglesias I., Linares-Sicilia M.J., Martin-Mazuelos E., Martinez-Alarcon J., Navarro D., Del Molino L.P., Porras A., Ramirez I., Rezusta A., Rosello E.M., Royo G., De Pipaon M.T.R.-P., Sanchez-Reus F., Suarez A., Torroba L. Prospective multicenter study of the epidemiology, molecular identification, and antifungal susceptibility of *Candida parapsilosis*, *Candida orthopsilosis*, and *Candida metapsilosis* isolated from patients with candidemia. *Antimicrobial Agents and Chemotherapy*;55(12):5590-5596.  
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- 15 Ayats J., Martin-Mazuelos E., Peman J., Quindos G., Sanchez F., Garcia-Rodriguez J., Guarro J., Guinea J., Linares M.J., Ponton J., Rodriguez-Tudela J.L., Cuenca-Estrella M., Aguado J.M., Almirante B., Alvarez-Lerma F., Borges M., Carratala J., Cervera C., De La Camara R., De La Torre Cisneros J., Fortun J., Garnacho J., Gavalda J., Lassaletta A., Leon C., Lizasoain M., Madero L., Martin-Davila P., Mensa J., Moreno A., Munoz P., Amador J.T.R., Rovira M., Ruiz I., Ruiz-Contreras J., Salavert M., Sanz M.A., Vazquez L. Spanish Society of Clinical Microbiology and Infectious Diseases (SEIMC) guidelines for the diagnosis of invasive fungal infections. 2010 Update [Recomendaciones sobre el diagnóstico de la enfermedad fúngica invasora de la Sociedad Española de Enfermedades Infecciosas y Microbiología Clínica (SEIMC). Actualización 2010]. *Enfermedades Infecciosas y Microbiología Clínica*;29(1):39.e1-39.e15.

# Microbiology and Infectious Diseases

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- 16 Cobo J., Miguel L.G.S., Euba G., Rodriguez D., Garcia-Lechuz J.M., Riera M., Falgueras L., Palomino J., Benito N., del Toro M.D., Pigrau C., Ariza J. Early prosthetic joint infection: Outcomes with debridement and implant retention followed by antibiotic therapy. *Clinical Microbiology and Infection*;17(11):1632-1637.

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## HIV AND AIDS UNIT

- 01 Reekie J., Reiss P., Ledergerber B., Sedlacek D., Parczewski M., Gatell J., Katlama C., Fatkenheuer G., Lundgren J., Mocroft A., EuroSIDA study group (col. Domingo P.). A comparison of the long-term durability of nevirapine, efavirenz and lopinavir in routine clinical practice in Europe: A EuroSIDA study. *HIV Medicine*;12(5):259-268.

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- 02 Kowalska J.D., Mocroft A., Ledergerber B., Florence E., Ristola M., Begovac J., Sambatakou H., Pedersen C., Lundgren J.D., Kirk O., EuroSIDA Study Group (col. Domingo P.) A standardized algorithm for determining the underlying cause of death in HIV infection as AIDS or non-AIDS related: Results from the EuroSIDA study. *HIV Clinical Trials*;12(2):109-117.

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- 03 Escote X., Megia A., Lopez-Dupla M., Miranda M., Veloso S., Alba V., Domingo P., Pardo P., Vilades C., Peraire J., Giralt M., Richart C., Vendrell J., Vidal F. A study of fatty acid binding protein 4 in HIV-1 infection and in combination antiretroviral therapy-related metabolic disturbances and lipodystrophy. *HIV Medicine*;12(7):428-437.

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Kosmidis J., Gargalianos P., Xylomenos G., Perdios J., Panos G., Filandras A., Karabatsaki E., Sambatakou H., Banhegyi D., Mulcahy F., Yust I., Turner D., Burke M., Pollack S., Hassoun G., Maayan S., Vella S., Esposito R., Mazeu I., Mussini C., Arici C., Pristera R., Mazzotta F., Gabbuti A., Vullo V., Lichtner M., Chirianni A., Montesarchio E., Gargiulo M., Antonucci G., Iacomì F., Narciso P., Vlassi C., Zaccarelli M., Lazzarin A., Finazzi R., Galli M., Ridolfo A., D'Arminio Monforte A., Rozentale B., Aldins P., Chaplinskas S., Hemmer R., Staub T., Reiss P., Ormaasen V., Maeland A., Brunn J., Knysz B., Gasiorowski J., Horban A., Bakowska E., Prokopowicz D., Flisiak R., Boron-Kaczmarek A., Pynka M., Beniowski M., Mularska E., Trocha H., Jablonowska E., Malolepsza E., Wojcik K., Antunes F., Valadas E., Mansinho K., Maltez F., Duiculescu D., Rakhmanova A., Vinogradova E., Buzunova S., Jevtovic D., Mokras M., Stanekova D., Tomazic J., Gonzalez-Lahoz J., Soriano V., Martin-Carbonero L., Labarga P., Moreno S., Clotet B., Jou A., Paredes R., Tural C., Puig J., Bravo I., Gatell J.M., Miro J.M., Domingo P., Gutierrez M., Mateo G., Sambeat Ma, Karlsson A., Persson P.O., Flamholz L., Ledergerber B., Weber R., Francioli P., Cavassini M., Hirschel B., Boffi E., Furrer H., Bategay M., Elzi L., Kravchenko E., Chentsova N., Kutsyna G., Servitskiy S., Krasnov M., Barton S., Johnson A.M., Mercey D., Phillips A., Johnson M.A., Mocroft A., Murphy M., Weber J., Scullard G., Fisher M., Leen C., Gatell J., Gazzard B., Lundgren J., Kirk O., Cozzi-Lepri A., Grint D., Ellefson M., Podlekareva D., Kjaer J., Peters L., Reekie J., Kowalska J., Tverland J., Fischer A.H. A376s in the connection subdomain of HIV-1 reverse transcriptase confers increased risk of virological failure to nevirapine therapy. *Journal of Infectious Diseases*;204(5):741-752.

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- 07 Palacios R., Polo R., Blanco J.L., Jose Ramon Blanco, Camino X., Cervero M., Dela Portilla F., Ena J., Fernandez C., Herranz P., Villar S., Bru F., Domingo P., Margall N., Sirera G., Soriano R., Viciano P., Panel de expertos del Grupo de Estudio de Sida (GESIDA) y del Plan Nacional sobre el Sida (PNS) (col. Domingo P.) AIDS Study Group/Spanish AIDS Consensus Plan Document on sexually transmitted infections in HIV-infected patients [Documento de Consenso del Grupo de Estudio del Sida (GESIDA)/Plan Nacional sobre el Sida (PNS) sobre las infecciones de transmisión sexual en pacientes con infección por el VIH]. *Enfermedades Infecciosas y Microbiología Clínica*;29(4):286.e1-2863.e19.

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- 17 Berenguer J., von Wichmann M.A., Quereda C., Miralles P., Mallolas J., Lopez-Aldeguer J., Alvarez-Pellicer J., De Miguel J., Crespo M., Guardiola J.M., Tellez M.J., Galindo M.J., Arponen S., Barquilla E., Bellon J.M., Gonzalez-Garcia J., Miralles P., Cosin J., Lopez J.C., Padilla B., Conde M.S., Bellon J.M., Gutierrez I., Ramirez M., Carretero S., Aldamiz-Echevarria T., Tejerina F., Berenguer J., Alvarez-Pellicer J., Rodriguez E., Arribas J.R., Montes M.L., Bernardino I., Pascual J.F., Zamora F., Pena J.M., Arnalich F., Gonzalez-Garcia J., Bustinduy M.J., Iribarren J.A., Rodriguez-Arondo F., Von-Wichmann M.A., Blanes M., Cuellar S., Lacruz J., Montero M., Salavert M., Lopez-Aldeguer J., Callau P., Miro J.M., Gatell J.M., Mallolas J., Ferrer A., Galindo M.J., Van den Eynde E., Perez M., Ribera E., Crespo M., Vergas J., Tellez M.J., Casado J.L., Dronza F., Moreno A., Perez-Elias M.J., Sanfrutos M.A., Moreno S., Quereda C., Jou A., Tural C., Arranz J.L., Casas E., de Miguel J., Schroeder S., Sanz J., Condes E., Barros C., Sanz J., Santos I., Hernando A., Rodriguez V., Rubio R., Pulido F., Domingo P., Guardiola J.M., Ortiz L., Ortega E., Torres R., Cervero M., Jusdado J.J., Montes M.L., Perez G., Gaspar G., Barquilla E., Mahillo B., Moyano B., Cotarelo M., Aznar E., Esteban H. Effect of accompanying antiretroviral drugs on virological response to pegylated interferon and ribavirin in patients co-infected with HIV and hepatitis C virus. *Journal of Antimicrobial Chemotherapy*;66(12):2843-2849.  
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- 18 Fourie J., Flamm J., Rodriguez-French A., Kilby D., Domingo P., Lazzarin A., Ballesteros J., Sosa N., Van De Castele T., Demasi R., Spinosa-Guzman S., Lavreys L. Effect of baseline characteristics on the efficacy and safety of once-daily darunavir/ritonavir in HIV-1-infected, treatment-naïve ARTEMIS patients at week 96. *HIV Clinical Trials*;12(6):313-322.  
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- 22 Reekie J., Gatell J.M., Yust I., Bakowska E., Rakhmanova A., Losso M., Krasnov M., Francioli P., Kowalska J.D., Mocroft A., EuroSIDA in EuroCoord (col. Domingo P.). Fatal and nonfatal AIDS and non-AIDS events in HIV-1-positive individuals with high CD4 cell counts according to viral load strata. *AIDS*;25(18):2259-2268.  
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- 23 Ferrer E., Rio L.D., Martinez E., Curto J., Domingo P., Ribera E., Negro E., Rosales J., Saumoy M., Ordonez J., Gatell J.M., Podzamczar D. Impact of switching from lopinavir/ritonavir to atazanavir/ritonavir on body fat redistribution in virologically suppressed HIV-infected adults. *AIDS Research and Human Retroviruses*;27(10):1061-1065.  
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- T., Opravil M., Andrade-Villanueva J., Antunes F., Di Perri G., Podzamczar D., Taylor S., Domingo P., Gellermann H., De Rossi L. Nevirapine versus atazanavir/ritonavir, each combined with tenofovir disoproxil fumarate/emtricitabine, in antiretroviral-naïve HIV-1 patients: The ARTEN Trial. *Antiviral Therapy*;16(3):339-348.  
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- 31 Pett S.L., Carey C., Lin E., Wentworth D., Lazovski J., Miro J., Gordin F., Angus B., Rodriguez-Barradas M., Rubio R., Tambussi G., Cooper D., Emery S., INSIGHT-ESPRIT Study Group (col. Domingo P.) Predictors of bacterial pneumonia in Evaluation of Subcutaneous Interleukin-2 in a Randomized International Trial (ESPRIT). *HIV Medicine*;12(4):219-227.  
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- 01 Esparcia O., Montemayor M., Ginovart G., Pomar V., Soriano G., Pericas R., Gurgui M., Sulleiro E., Prats G., Navarro F., Coll P. Diagnostic accuracy of a 16S ribosomal DNA gene-based molecular technique (RT-PCR, microarray, and sequencing) for bacterial meningitis, early-onset neonatal sepsis, and spontaneous bacterial peritonitis. *Diagnostic Microbiology and Infectious Disease*;69(2):153-160. IF: 2,528
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- 04 Domínguez A., Alonso J., Astray J., Baricot M., Cantón R., Castilla J., Castro A., Delgado M., Godoy P., González-Candelas F., Martín V., Mayoral J.M., Quintana J.M., Perea E., Pumarola T., Soldevila N., Tamames S., Grupo de Trabajo del Proyecto CIBERESP de Casos y Controles sobre la Gripe Pandémica (col. López-Contreras J.). Risk factors of influenza (H1N1) 2009 hospitalization and effectiveness of pharmaceutical and nonpharmaceutical interventions in its prevention. A case-control study. *Rev Esp Salud Pública*;85(1):3-15.

## Other Publications

## Letter

- Romero A., Martró E., González V., Matas L., AERI Study group (col. Domingo P.). Comparison of two serological tests for the identification of recent HIV infection: Vironostika HIV-1 microelisa and BED capture enzyme immunoassay. *Enferm Infecc Microbiol Clin*;29(7):553-5.
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## Book Chapter

- Chapter: Gómez L., Miró E., Navarro F. Detection of beta-lactamase CTX-M type in enterobacteria by PCR (pp.199-200). Book: *Manual of molecular methods for microbiological studies (First edition)*. Editors: Merino L., Giusiano G. Buenos Aires: Asociación Argentina de Microbiología (2011).

# Multi-organ Damage

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## Main Lines of Research

### Bone metabolism and osteoporosis:

- Analysis of the genetic influence on osteoporosis by means of aggregation studies in families of 3 or more generations with a minimum of 15 members. Research on the influence of biological markers and the predictive capacity of whole body composition and bone mineral density of the hip and spine.
- Bone structure study with quantitative CT of hip and spine, analysing the contribution of trabecular and cortical components using HRCT.
- Study of biomechanical hip and spine resistance of hip and spine with HRCT using the QCT PRO software package.
- Study of bone resistance using the hip structural analysis system and DXA in members of different families.
- Development of normalization equations of fat measurement using three different DXA whole body composition scanners.
- Description of fat vales and percentages in a normal population (in collaboration with HIV Unit and CETIR Medical group).

### Hypertension and vascular risk:

- Hypertension and quality of life.
- 24 hour Ambulatory blood pressure monitors (ABPM).
- Refractory hypertension.

### Clinical management, general internal medicine and geriatrics:

- Health care quality indexes (mortality, re-admissions, etc).

### Rheumatology:

#### 1. Rheumatoid arthritis:

- Evaluation of lymphocyte (B) subpopulations and reactivation of disease after the depletion of B lymphocytes due to anti-CD20 (rituximab) treatment.
- Evaluation of innate immune and adaptive immune cell responses in rituximab treatment in the depletion and reactivation phases after depletion.
- Evaluation of serologic components in the reactivation of rheumatoid arthritis after reactivation with rituximab.

#### 2. Predictors of response to rituximab en rheumatoid arthritis patients:

- Study of the LIRB1 polymorphisms in rheumatoid arthritis with absence of a shared epitope.
- Evaluation in the prognosis for rheumatoid arthritis.
- Pharmacokinetics of methotrexate in collaboration with Héctor Corominas and Montserrat Baiget.

#### 3. Psoriasis:

- Evaluation of enthesitis by ECO-Doppler in collaboration with Lluís Puig and Carmen Moragues.

#### 4. Scleroderma:

- Capillaroscopy patterns and correlation with auto-antibodies.

#### 5. Gout:

- Epidemiology of hyperuricemia and gout.

#### 6. Other studies:

- Study of biomarkers in biopsies of several joint disorders in collaboration with Frank Pessler and Ralf Shumaker. Evaluation of C1q, antibodies anti-C1q, properdin and other auto-antibodies in relation to lupus nephropathy in collaboration with José Ballarín at the Puigvert Foundation.

Challenges

The core goal is to develop and coordinate research in several internal medicine areas. More specifically our aims are as follows:

- To merge the hypertension and lipids departments in the HSCSP and create a vascular risk unit. This is currently being considered as a model that would enable us to work jointly with the the Puigvert Foundation hypertension unit.
- To establish stable work relations between the HSCSP bone metabolism and complex disease genomics units and the bone metabolism unit of Hospital del Mar-Municipal Institute for Medical Research (IMIM) and the Faculty of Biology of the University of Barcelona.
- To strengthen the ties between the HSCSP rheumatology and immunology departments regarding the study of immunological diseases.

Active Grants

- Casademont J. Study of the genetic basis of osteoporosis and risk of hip fracture. Mutua Madrileña Foundation. July 2008-July 2011. 08/FMM.
- Casademont J. Identification of the genetic factors influencing the risk of developing osteoporosis. FIS Project. January 2009-December 2011. PI08/0667.
- Casademont J. Intermediate phenotypes in the risk of developing osteoporosis. The GAO project (Genetic Analysis of osteoporosis). FIS Project. 2012-2014. PI11/01175. €169,345.55.
- Torres O. Study on the misuse of drugs in elderly patients hospitalized in internal medicine from different Spanish hospitals. Spanish Ministry of Health. January 2011-December 2011. EC10-077.
- Díaz Torné C. studies of methotrexate in rheumatoid arthritis. Catalan Society of Rheumatology. June 2011. €6,000.

Awards

Clinical Management, General Internal Medicine and Geriatrics:

- 1st prize of 10th edition of the Mutuam Conviure Research Foundation Awards for the project "Predicting intrahospital mortality in geriatric patient at admission in Internal Medicine". Authors: Francia E., Torres O., Barceló M., Casademont J.

Hypertension and Vascular Risk:

- Prize to the best abstract of its session in the 21st European Meeting on Hypertension and Cardiovascular Prevention (Milano, 2011) to "Quality Of Life According To Blood Pressure And comorbidities in Spanish Hipertensive Patients". Authors: Roca-Cusachs A., Abellán J., Font B., Lahoz R., Salazar J., on behalf of the ALHAMBRA Study Group.

Collaborations

Collaborations with other IIB Sant Pau Groups

- Pituitary Gland Disorders Group.
- Digestive Diseases Group.

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Scientific Production

ISI Web of Knowledge Indexed Publications with IF

- 01 Navarro-Sarabia F., Coronel P., Collantes E., Navarro F.J., Rodriguez De La Serna A., Naranjo A., Gimeno M., Herrero-Beaumont G. A 40-month multicentre, randomised placebo-controlled study to assess the efficacy and carry-over effect of repeated intra-articular injections of hyaluronic acid in knee osteoarthritis: The AMELIA project. *Annals of the Rheumatic Diseases*;70(11):1957-1962. **IF: 8.727**
- 02 Bossini-Castillo L., Broen J.C.A., Simeon C.P., Beretta L., Vonk M.C., Ortego-Centeno N., Espinosa G., Carreira P., Camps M.T., Navarrete N., Gonzalez-Escribano M.F., Vicente-Rabareda E., Rodriguez L., Tolosa C., Roman-Ivorra J.A., Gomez-Garcia I., Garcia-Hernandez F.J., Castellvi I., Gallego M., Fernandez-Nebro A., Garcia-Portales R., Egurbide M.V., Fonollosa V., De La Pena P.G., Pros A., Gonzalez-Gay M.A., Hesselstrand R., Riemekasten G., Witte T., Coenen M.J.H., Koeleman B.P., Houssiau F., Smith V., De Keyser F., Westhovens R., De Langhe E., Voskuyl A.E., Schuerwegh A.J., Chee M.M., Madhok R., Shiels P., Fonseca C., Denton C., Claes K., Padykov L., Nordin A., Palm O., Lie B.A., Airo P., Scorza R., Van Laar J.M., Hunzelmann N., Kreuter A., Herrick A., Worthington J., Radstake T.R.D.J., Martin J., Rueda B. A replication study confirms the association of TNFSF4 (OX40L) polymorphisms with systemic sclerosis in a large European cohort. *Annals of the Rheumatic Diseases*;70(4):638-641. **IF: 8.727**
- 03 Diaz-Gallo L.M., Gourh P., Broen J., Simeon C., Fonollosa V., Ortego-Centeno N., Agarwal S., Vonk M.C., Coenen M., Riemekasten G., Hunzelmann N., Hesselstrand R., Tan F.K., Reveille J.D., Assassi S., Garcia-Hernandez F.J., Carreira P., Camps M.T., Fernandez-Nebro A., Garcia De La Pena P., Nearney T., Hilda D., Gonzalez-Gay M.A., Airo P., Beretta L., Scorza R., Herrick A., Worthington J., Pros A., Go-

# Multi-organ Damage

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- mez-Gracia I., Trapiella L., Espinosa G., Castellvi I., Witte T., De Keyser F., Vanthuyne M., Mayes M.D., Radstake T.R.D.J., Arnett F.C., Martin J., Rueda B. Analysis of the influence of PTPN22 gene polymorphisms in systemic sclerosis. *Annals of the Rheumatic Diseases*;70(3):454-462. **IF: 8.727**
- 04 Sosa M., Saavedra P., Gomez De Tejada M.J., Mosquera J., Perez-Cano R., Olmos J.M., Munoz-Torres M., Amerigo M.J., Moro M.J., Diaz-Curiel M., Alegre J., Malouf J., Del Pino J., Nogues X., Torrijos A., Castro A., Montoya Garcia M.J., Vazquez Gamez M.A., Valero C., Gonzalez Maclas J., Alonso G., Mao L., Nunez J.J., Pastor Palmas A., Garcia Arias M., Farrerons Minguella J., Diez Perez A., Quintana E., Hernandez Hernandez D. Beta-blocker use is associated with fragility fractures in postmenopausal women with coronary heart disease. *Aging – Clinical and Experimental Research*;23(2):112-117. **IF: 1.552**
- 05 Narvaez J., Diaz-Torne C., Ruiz J.M., Hernandez M.V., Torrente-Segarra V., Ros S., Rodriguez de la Serna A., Diaz-Lopez C., Sanmarti R., Nolla J.M. Comparative Effectiveness of Rituximab in Combination with Either Methotrexate or Leflunomide in the Treatment of Rheumatoid Arthritis. *Seminars in Arthritis and Rheumatism*;41(3):401-405. **IF: 4.969**
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- 07 Bossini-Castillo L., Simeon C.P., Beretta L., Vonk M.C., Callejas-Rubio J.L., Espinosa G., Carreira P., Camps M.T., Rodriguez-Rodriguez L., Rodriguez-Carballeira M., Garcia-Hernandez F.J., Lopez-Longo F.J., Hernandez-Hernandez V., Saez-Comet L., Egurbide M.V., Hesselstrand R., Nordin A., Hoffmann-Vold A.M., Vanthuyne M., Smith V., De Langhe E., Kreuter A., Riemekasten G., Witte T., Hunzelmann N., Voskuyl A.E., Schuerwegh A.J., Lunardi C., Airo P., Scorza R., Shiels P., van Laar J.M., Fonseca C., Denton C., Herrick A., Worthington J., Koeleman B.P., Rueda B., Radstake T.R., Martin J., Spanish Scleroderma Group (col. Castellvi I.) Confirmation of association of the macrophage migration inhibitory factor gene with systemic sclerosis in a large European population. *Rheumatology (Oxford, England)*;50(11):1976-1981. **IF: 4.058**
- 08 Porcel J.M., Casademont J., Conthe P., Pinilla B., Pujol R., Garcia-Alegria J. Core competencies in Internal Medicine [Competencias básicas de la medicina interna]. *Revista Clinica Espanola*;211(6):307-311. **IF: 2.008**
- 09 Casado E., Malouf J., Caamano MM., Salas E., Sanchez-Burson J.M., Rentero ML., Herrero-Beaumont G. Defining High Risk of Osteoporotic Fracture A Cross Talk Between Clinical Experience and Guidelines Recommendations. *JCR Journal of Clinical Rheumatology*;17(5):S59-S66. **IF: 1.364**
- 10 Casademont J. Do we need brain natriuretic peptide determinations in emergency care? *Emergencias*;23(3):164-166. **IF: 2.486**
- 11 Belen Ferro-Rey M., Roca-Cusachs A., Sicras-Mainar A., Alvarez-Martin C., De Salas-Cansado M. Fixed drug combinations in hypertension: A budget impact analysis for the spanish health system on the marketing of a fixed combination of olmesartan/amlodipine [Las combinaciones fijas en hipertensión: análisis de impacto presupuestario para el Sistema Nacional de Salud Español de la comercialización de la combinación fija de olmesartan/amlodipino]. *Atencion Primaria*;43(7):345-355. **IF: 0.627**
- 12 Naredo E., Moller I., de Miguel E., Balle-Gualda E., Acebes C., Brito E., Mayordomo L., Moragues C., Uson J., de Agustin J.J., Martinez A., Rejon E., Rodriguez A., Dauden E., Ultrasound School of the Spanish Society of Rheumatology and Spanish ECO-APs Group (col. Diaz-Torne C.) High prevalence of ultrasonographic synovitis and enthesopathy in patients with psoriasis without psoriatic arthritis: A prospective case-control study. *Rheumatology*;50(10):1838-1848. **IF: 4.058**
- 13 Gorlova O., Martin J.-E., Rueda B., Koeleman B.P.C., Ying J., Teruel M., Diaz-Gallo L.-M., Broen J.C., Vonk M.C., Simeon C.P., Alizadeh B.Z., Coenen M.J.H., Voskuyl A.E., Schuerwegh A.J., van Riel P.L.C.M., Vanthuyne M., van't Slot R., Italiaander A., Ophoff R.A., Hunzelmann N., Fonollosa V., Ortego-Centeno N., Gonzalez-Gay M.A., Garcia-Hernandez F.J., Gonzalez-Escribano Mari a.F., Airo P., van Laar J., Worthington J., Hesselstrand R., Smith V., de Keyser F., Houssiau F., Chee M.M., Madhok R., Shiels P.G., Westhovens R., Kreuter A., de Baere E., Witte T., Padyukov L., Nordin A., Scorza R., Lunardi C., Lie B.A., Hoffmann-Vold A.-M., Palm O., de la Pena Paloma G.P., Carreira P., Varga J., Hinchcliff M., Lee A.T., Gourh P., Amos C.I., Wigley F.M., Hummers L.K., Hummers J., Nelson J.L., Riemekasten G., Herrick A., Beretta L., Fonseca C., Denton C.P., Gregersen P.K., Agarwal S., Assassi S., Tan F.K., Arnett F.C., Radstake T.R.D.J., Mayes M.D., Martin J., Spanish Scleroderma Group (col. Castellvi I.) Identification of novel genetic markers associated with clinical phenotypes of systemic sclerosis through a genome-wide association strategy. *PLoS Genetics*;7(7). **IF: 8.694**
- 14 Narvaez J., Diaz-Torne C., Ruiz J.M., Hernandez M.V., Torrente-Segarra V., Ros S., De La Serna A.R., Diaz-Lopez C., Sanmarti R., Nolla J.M. Predictors of response to rituximab in patients with active rheumatoid arthritis and inadequate response to anti-TNF agents or traditional DMARDs. *Clinical and Experimental Rheumatology*;29(6):991-997. **IF: 2.148**
- 15 Armario P., Oliveras A., Hernandez Del Rey R., Ruilope L.M., De La Sierra A., Grupo de Investigadores del Registro de Hipertensión refractoria de la Sociedad Española de Hipertensión/Liga Española para la Lucha contra la Hipertensión Arterial (SEH-LELHA) (col. Roca-Cusachs A.) Prevalence of target organ damage and metabolic abnormalities in resistant hypertension [Prevalencia de lesión de órganos diana y alteraciones metabólicas en la hipertensión arterial refractoria]. *Medicina Clinica*;137(10):435-439. **IF: 1.385**
- 16 Boonen S., Adachi J.D., Man Z., Cummings S.R., Lippuner K., Topping O., Gallagher J.C., Farrerons J., Wang A., Franchimont N., San Martin J., Grauer A., McClung M. Treatment with denosumab reduces the incidence of new vertebral and hip fractures in postmenopausal women at high risk. *Journal of Clinical Endocrinology and Metabolism*;96(6):1727-1736. **IF: 5.967**
- 17 Oliveras A., Armario P., Martell-Claros N., Ruilope L.M., De La Sierra A., Spanish Society of Hypertension-Resistant Hypertension Registry (col. Roca-Cusachs A.) Urinary albumin excretion is associated with nocturnal systolic blood pressure in resistant hypertensives. *Hypertension*;57(3 PART 2):556-560. **IF: 6.207**

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- 01 Pou M.A., Díaz-Torné C., Azevedo V.F. Manolo Hugué: From sculpture to painting due to arthritis. *Reumatologia Clinica*;7(2):135-6.
- 02 Moya Alvarado P., Laiz A. Is DAS a profitable score to be used for rheumatoid arthritis patient follow up? *Reumatologia Clinica*;7(5):336-8.
- 03 Casado E., Caamaño M., Sánchez-Bursón J., Salas E., Malouf J., Rentero M.L., Herrero-Beaumont G. Management of the patient with a high risk of fracture in clinical practice. Results from a survey of 174 spanish rheumatologists (OSTEOPAR project). *Reumatologia Clinica*;7(5):305-13.
- 04 Bellido-Casado J., Plaza V., Díaz C., Geli C., Domínguez J., Margarit G., Torrejón M., Giner J. Bronchial inflammation, respiratory symptoms and lung function in primary sjögren's syndrome. *Arch Bronconeumol*;47(7):330-4.
- 05 Langley P., Pérez Hernández C., Margarit Ferri C., Ruiz Hidalgo D., Lubián López M. Pain, health related quality of life and health-care resource utilization in Spain. *Journal of Medical Economics*;14(5):628-38.
- 06 Torres Bonafonte O.H., Ruiz Hidalgo D. Is it appropriate to admit elderly patients with pneumonia to short-stay units? *Revista Española De Geriatria y Gerontologia*;46(4):181-2.

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## AREA 3

# Haematological and Oncological Diseases

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# Clinical Oncology

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## Main Lines of Research

### Clinical research:

- Development of new therapeutic strategies.
- Studies to improve tumour staging.
- Studies to detect residual disease.

### Translational research:

- Personalized anticancer therapy.
- Studies of predictive and prognostic molecular markers.

## Challenges

- Consolidate clinical research into cancer.
- Foster translational research into cancer in cooperation with other internal and external research groups.
- Consolidate the bank of tumours, DNA and serum for patients with cancer diagnosed and treated in our hospital.
- Develop new early-stage drugs (phase 0/1 studies).

## Active Grants

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# Oncogenesis and Antitumour Drug

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## Main Lines of Research

- Development of novel animal models of disseminated disease in solid tumors and hematological neoplasias.
- Study of the role of the oncogene K-ras in colorectal cancer metastasis.
- Development of an inhibitor of focal adhesion as an anticancer agent in acute myeloid leukaemia and non-Hodgkin B lymphoma and study of its mechanism of action.
- Development of molecular markers predictive of the response to genotoxic therapy in head and neck squamous cell carcinoma.
- Development of a nanoparticle for targeted drug delivery of antitumor drugs.

## Challenges

- Obtain funding to ensure stable employment of senior researchers and potentiate current collaborations with clinicians.
- To develop inhibitors of focal adhesion signaling as novel antitumor drugs.
- To develop molecular markers for therapeutic decision making in head and neck carcinomas.
- To demonstrate targeted drug delivery and improved therapeutic threshold of antitumor drugs using a nanoparticle vehicle.
- Increase the number of industrial contracts in the preclinical development of antitumor drugs.
- Potentiate international collaborations, and participation in EU projects.

## Active Grants

- Mangues R. Improved metastasis efficiency in a model of human colorectal cancer and the effect of the K-RAS oncogene in the transition from micro-to macro-metastases. FIS Project. Carlos III Health Institute. January 2010-December 2012. PI09/0965. €278,300.
- Mangues R. Biobank Network. FIS Project. Carlos III Health Institute. January 2011 – December 2011. RD09/0076/00081. €98,843.
- Mangues R. Oncogenesis by HTLV-1. Inhibition of focal adhesions as a therapeutic strategy. Spanish Ministry of Economy and Competitiveness. December 2010-December 2013. PIB2010BZ-00563. €90,000.
- Mangues R. Grants to support research groups in Catalonia. Oncogene and Antitumour Group. AGAUR Project. September 2009-December 2013. 2009SGR 1437. €69,680.
- Mangues R. Development of a high-affinity chimeric protein scaffold as a vehicle for gene therapy of metastatic colorectal cancer. AGAUR Project. January 2011-October 2011. 2010 CONP1 00076. €8,985.
- Mangues R. Preparation of a Grant Proposal to the 7WP, EU HEALTH.2011.1.4-3, Scafmet Project. Spanish Ministry of Economy and Competitiveness. September 2010-October 2011. SAF2010 11697E. €6,000.

## Collaborations

## Collaborations with other IIB Sant Pau Groups

- Oncology/Haematology Transplantation Group.
- Pharmacy Group.
- General and Digestive Surgery Group.
- Ear, Nose and Throat Cancers Group.
- Clinical Oncology Group.
- Haematological Diagnosis Group.

## External Collaborations

- Department of Applied Microbiology. Autonomous University of Barcelona (Spain).
- Biomedical Research Institute. Barcelona Research Park (Spain).
- Institute for Cancer Research and Treatment (Candiolo, Italy).
- Department of Pathology. Karolinska Institutet (Stockholm, Sweden).
- Conselho Nacional de Desenvolvimento Científico e Tecnológico (Bahia, Brasil).

## Patents

- Title: Methods and reagents for efficient and targeted delivery of therapeutic molecules to CXCR4 cells. Inventors: Vazquez E., Unzueta U., Ferrer N., Villaverde A.P., Céspedes M.V., Casanova I., Mangues R. Organizations: HSCSP Research Institute, Autonomous University of Barcelona and CIBERBBN. Application number: PCT/EP2012/050513. Publication Date: March 3, 2011.

## Technology Transfer Agreement

- Title: Antitumor 1,2-diphenylpyrrole compounds and their preparation process. Inventors: Mangues R., Casanova I., Albericio F., Alvarez M., Savina S. Organization: Argon Pharma. Application number: PCT/EP2010/060983. Publication Date: January 29, 2011.

\*TIF: 40.162 \*\*MIF: 13.387

## Scientific Production

## ISI Web of Knowledge Indexed Publications with IF

- 01 Bosch R., Dieguez-Gonzalez R., Céspedes M.V., Parreno M., Pavon M.A., Granena A., Sierra J., Mangues R., Casanova I. A novel inhibitor of focal adhesion signaling induces caspase-independent cell death in diffuse large B-cell lymphoma. *Blood*;118(16):4411-4420.  
**IF: 9.898**
- 02 De Atauri P., Benito A., Vizan P., Zanuy M., Mangues R., Marin S., Cascante M. Carbon metabolism and the sign of control coefficients in metabolic adaptations underlying K-ras transformation. *Biochimica et Biophysica Acta – Bioenergetics*;1807(6):746-754.  
**IF: 4.843**

- 03 Merlos-Suarez A., Barriga F.M., Jung P., Iglesias M., Céspedes M.V., Rossell D., Sevillano M., Hernando-Momblona X., Da Silva-Diz V., Munoz P., Clevers H., Sancho E., Mangues R., Batlle E. The intestinal stem cell signature identifies colorectal cancer stem cells and predicts disease relapse. *Cell Stem Cell*;8(5):511-524.  
**IF: 25.421**

# Haematological Diagnosis

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## Main Lines of Research

### Malignant haemopathies:

- Diagnosis and morphological, immunophenotyping, cytogenetic and molecular characterization of malignant haemopathies, particularly acute leukaemias.
- Impact of biological characteristics in response to treatment.
- Studies of new treatments aimed at molecular targets using cell line models.
- Application of the genomic platform (microarrays) and proteomic platform to the diagnosis of malignant haemopathies.

### Non-neoplastic haemopathies:

- Diagnosis and characterization of thrombocytopenias, thrombocytopathies and other platelet pathologies, especially complex pathologies (of genetic, mixed or unknown origin) and including unusual presentations of common diseases.
- Study of the relationship between platelets and thrombotic phenomena, including clinical, diagnostic and therapeutic aspects.
- In the framework of the GAIT-2 (genetic analysis of idiopathic thrombophilia, phase 2) project, to seek new phenotypes that favour the development of thrombosis, specifically related to the structure and function of platelets and other blood cells.

## Challenges

- Consolidate the functional structure of the group that characterizes haematological tumours and complex, rare and genetic nonneoplastic haematopathologies.
- Include the results of mass-analysis genomic and proteomic platforms in diagnostic algorithms and establish prognostic factors for haematological disorders, preferably complex or genetic neoplastic and non-neoplastic pathologies.
- Develop functional models: cell cultures and simple animal models.
- Consolidate cooperation with the GAIT-2 project, especially regarding platelet and other blood cell participation in the generation of thrombosis.
- Promote interaction with other hospital groups (clinical haematology, pathology, gastrointestinal, haemostasis and thrombosis, complex disease genomics) and with other centres in Spain and abroad, especially those with complementary technologies and groups with which stable links can be established.

## Active Grants

- Nomdedéu J. Mutational analysis of WT-1 in acute leukaemia: prognostic impact and association with other genetic lesions. Mutua Madrileña Foundation. July 2008-July 2011. 08/FMM.
- Nomdedéu J. New mutations in myeloid neoplasms: application in the diagnosis and prognosis. FIS Project. Carlos III Health Institute. January 2011-December 2013. PI10/01739.
- Pujol N. Identification of the genetic factors that determine fibrinogen levels in the Spanish population. FIS Project. Carlos III Health Institute. January 2010. December 2011. PI08/0756.

## Collaborations with other IIB Sant Pau Groups

- Oncology/Haematology Transplantation Group.
- Oncogenes and Antitumour Drugs Group.
- Genetic Diseases Group.
- Translational Molecular Oncology Group.
- Molecular Bases of Disease Group.

## External Collaborations

- Luciano di Croce and Anna Bigas. Centre for Genomic Regulation (Barcelona, Spain).
- Dr. G. Saglio. Torino University (Italy).

\*TIF: 55.541 \*\*MIF: 6.943

## ISI Web of Knowledge Indexed Publications with IF

- 01 Uribesalgo I., Buschbeck M., Gutierrez A., Teichmann S., Demajo S., Kuebler B., Nomdedeu J.F., Marte-N-Caballero J., Roma G., Benitah S.A., Di Croce L. E-box-independent regulation of transcription and differentiation by MYC. *Nature Cell Biology*;13(12):1443-1449. **IF: 19.488**
- 02 Dos Santos R.G., Valle M., Bouso J.C., Nomdedeu J.F., Rodriguez-Espinosa J., McIlhenny E.H., Barker S.A., Barbanoj M.J., Riba J. Autonomic, neuroendocrine, and immunological effects of ayahuasca: A comparative study with d-amphetamine. *Journal of Clinical Psychopharmacology*;31(6):717-726. **IF: 4.098**
- 03 Chigrinova E., Mian M., Scandurra M., Greiner T.C., Chan W.C., Vose J.M., Inghirami G., Chiappella A., Baldini L., Ponzoni M., Ferreri A.J., Franceschetti S., Gaidano G., Tucci A., Facchetti F., Lazure T., Lambotte O., Montes-Moreno S., Piris M.A., Nomdedeu J.F., Uccella S., Rancoita P.M., Kwee I., Zucca E., Bertoni F. Diffuse large B-cell lymphoma with concordant bone marrow involvement has peculiar genomic profile and poor clinical outcome. *Hematological Oncology*;29(1):38-41. **IF: 2.475**
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- 05 Florensa L., Navarro J.T., Perez Vila M.E., Domingo A., De La Banda E., Rozman M., Camos M., Milla F., Perea G., Alonso E., Ayats R., Aventin A., Cabezudo E., Espinet B., Merino A., Romero P., Sanchez C., Tuset E., Sole F., Feliu E., Fernandez C., Gallart M., Vallespi T., Woessner S. Persistent polyclonal B-cell lymphocytosis: Study of 35 cases [Linfocitosis B policlonal persistente: estudio de 35 casos]. *Medicina Clinica*;136(13):565-573. **IF: 1.385**
- 06 Roca M., Muniz-Diaz E., Mora J., Romero-Zayas I., Ramon O., Roig I., Pujol-Moix N. The scintigraphic index spleen/liver at 30 minutes predicts the success of splenectomy in persistent and chronic primary immune thrombocytopenia. *American Journal of Hematology*;86(11):909-913. **IF: 4.671**
- 07 Noris P., Perrotta S., Seri M., Pecci A., Gnan C., Loffredo G., Pujol-Moix N., Zecca M., Scognamiglio F., De Rocco D., Punzo F., Melazzini F., Scianguetta S., Casale M., Marconi C., Pippucci T., Amendola G., Notarangelo L.D., Klersy C., Civaschi E., Balduini C.L., Savoia A. Mutations in ANKRD26 are responsible for a frequent form of inherited thrombocytopenia: Analysis of 78 patients from 21 families. *Blood*;117(24):6673-6680. **IF: 9.898**
- 08 Pippucci T., Savoia A., Perrotta S., Pujol-Moix N., Noris P., Castegnaro G., Pecci A., Gnan C., Punzo F., Marconi C., Gherardi S., Loffredo G., De Rocco D., Scianguetta S., Barozzi S., Magini P., Bozzi V., Dezzani L., Di Stazio M., Ferraro M., Perini G., Seri M., Balduini C.L. Mutations in the 5' UTR of ANKRD26, the ankirin repeat domain 26 gene, cause an autosomal-dominant form of inherited thrombocytopenia, THC2. *American Journal of Human Genetics*;88(1):115-120. **IF: 10.603**

# Molecular Pathology of Gynaecologic Cancer

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## Main Lines of Research

- Pathogenic mechanisms of endometrial/ovarian cancer.
- Clinical application of prognostic factors in common cancers (endometrial, ovarian, etc.).
- Clinical application of tumour markers.
- Molecular biology of uterine and extra-uterine sarcomas.

## Challenges

- Progress as a productive translational gynaecological cancer research group capable of competing with other highly visible groups in Barcelona that publish regular articles in reputable journals and cooperate with other groups at the national and international levels.

## Active Grants

- Prat J. Role of epithelial-mesenchymal transition (EMT) in endometrial carcinoma. FIS Project. Carlos III Health Institute. January 2009-December 2011. PI08/0410. €68,002.
- Prat J. Role of CDC42-macrophages in the development of clear cell carcinoma and endometrioid carcinoma in endometriosis. Mutua Madrileña Foundation. July 2011-July 2013. 9438/2011. €16,000.
- Prat J. Agreement between the Department of Health and Farmaindustria. Farmaindustria. September 2010-June 2012. CAT-BIO-03. €44,694.
- Prat J. Cancer Cooperative Research Thematic Network (RTICC). Retics Project. January 2007-December 2012. RD06/0020/0015. €400,472.
- Prat J. Stable Research Groups: Molecular Alterations related with progression in endometrial cancer. Spanish Association Against Cancer (AECC). September 2011-September 2016. AECC 2011. €1,200,000.
- Catasús L. Prognostic value of CpG island methylator phenotype (CIMP) in endometrioid endometrial cancer: study of the degree of methylation of the MLH1, P16, APC, E-cadherin, MGMT, RASSF1A, RASF2A, DAPK and SFRP gene promoters. FIS Project. Carlos III Health Institute. January 2008-March 2011. PI07/0899. €67,760.
- Espinosa I. Desmoid tumour (fibromatosis): mutational and immunohistochemical study of beta-catenin and analysis of gene expression with clinicopathological correlation. Spanish Group of Sarcoma Research (GEIS). March 2009-March 2011. 09/GEIS. €9,000.

## Collaborations

### External Collaborations

#### Spanish Association Against Cancer (AECC). Molecular alterations related with progression in Endometrial Cancer:

- Dr. Jaume Reventós. Vall d'Hebron Hospital Research Institute (VHIR, Barcelona, Spain).

- Dr. Xavier Matias-Guiu. Institute for Biomedical Research Lleida (IRBLleida, Spain).
- Dr. Miguel Abal. Santiago de Compostela University Hospital Complex (CHUS, Spain).
- Dra. Gema Moreno. Fundación MD Anderson Internacional España (FMDAIE).



\*TIF: 76.068 \*\*MIF: 4.226

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- 01 Espinosa I., Edris B., Lee C.-H., Cheng H.W., Gilks C.B., Wang Y., Montgomery K.D., Varma S., Li R., Marinelli R.J., West R.B., Nielsen T., Beck A.H., Van De Rijn M. CSF1 expression in nongynecological leiomyosarcoma is associated with increased tumor angiogenesis. *American Journal of Pathology*;179(4):2100-2107. **IF: 4.89**
- 02 Mills A.M., Beck A.H., Montgomery K.D., Zhu S.X., Espinosa I., Lee C.-H., Subramanian S., Fletcher C.D., Van De Rijn M., West R.B. Expression of subtype-specific group 1 leiomyosarcoma markers in a wide variety of sarcomas by gene expression analysis and immunohistochemistry. *American Journal of Surgical Pathology*;35(4):583-589. **IF: 4.352**
- 03 Gatus S., Velasco A., Azueta A., Santacana M., Pallares J., Valls J., Dolcet X., Prat J., Matias-Guiu X. FGFR2 alterations in endometrial carcinoma. *Modern Pathology*;24(11):1500-1510. **IF: 4.792**
- 04 Lee A.F., Hayes M.M., Lebrun D., Espinosa I., Nielsen G.P., Rosenberg A.E., Lee C.-H. FLI-1 distinguishes ewing sarcoma from small cell osteosarcoma and mesenchymal chondrosarcoma. *Applied Immunohistochemistry and Molecular Morphology*;19(3):233-238. **IF: 1.63**
- 05 Espinosa I., Catusus L., Canet B., D'Angelo E., Muoz J., Prat J. Gene expression analysis identifies two groups of ovarian high-grade serous carcinomas with different prognosis. *Modern Pathology*;24(6):846-854. **IF: 4.792**
- 06 Bermudo R., Abia D., Mozos A., Garcia-Cruz E., Alcaraz A., Ortiz A.R., Thomson T.M., Fernandez P.L. Highly sensitive molecular diagnosis of prostate cancer using surplus material washed off from biopsy needles. *British Journal of Cancer*;105(10):1600-1607.

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- 07 Catusus L., Gallardo A., Llorente-Cortes V., Escuin D., Munoz J., Tibau A., Peiro G., Barnadas A., Lerma E. Low-density lipoprotein receptor-related protein 1 is associated with proliferation and invasiveness in Her-2/neu and triple-negative breast carcinomas. *Human Pathology*;42(11):1581-1588. **IF: 2.876**
- 08 Diaz A., Garcia F., Mozos A., Caballero M., Leon A., Martinez A., Gil C., Plana M., Gallart T., Gatell J.M., Alos L. Lymphoid tissue collagen deposition in HIV-infected patients correlates with the imbalance between matrix metalloproteinases and their inhibitors. *Journal of Infectious Diseases*;203(6):810-813. **IF: 6.41**
- 09 Castilla M.A., Moreno-Bueno G., Romero-Perez L., De Vijver K.V., Biscuola M., Lopez-Garcia M.A., Prat J., Matias-Guiu X., Cano A., Oliva E., Palacios J. Micro-RNA signature of the epithelial-mesenchymal transition in endometrial carcinosarcoma. *Journal of Pathology*;223(1):72-80. **IF: 6.318**
- 10 Canet B., Pons C., Espinosa I., Prat J. Ovarian clear cell carcinomas: RHO GTPases may contribute to explain their singular biologic behavior. *Human Pathology*;42(6):833-839. **IF: 2.876**
- 11 D'Angelo E., Prat J. Pathology of mixed Müllerian tumours. *Best Practice and Research: Clinical Obstetrics and Gynaecology*;25(6):705-718. **IF: 1.731**
- 12 D'Angelo E., Mozos A., Nakayama D., Espinosa I., Catusus L., Muoz J., Prat J. Prognostic significance of FOXL2 mutation and mRNA expression in adult and juvenile granulosa cell tumors of the ovary. *Modern Pathology*;24(10):1360-1367. **IF: 4.792**
- 13 Montserrat N., Gallardo A., Escuin D., Catusus L., Prat J., Gutierrez-Avigno F.J., Peiro G., Barnadas A., Lerma E. Repres-

sion of E-cadherin by SNAIL, ZEB1, and TWIST in invasive ductal carcinomas of the breast: A cooperative effort? *Human Pathology*;42(1):103-110.

**IF: 2.876**

- 14 Ramon y Cajal T., Torres A., Alonso C., Fisas D., Ojeda B., Boguna I., Prat J., Baiget M., Barnadas A. Risk factors associated with the occurrence of breast cancer after bilateral salpingo-oophorectomy in high-risk women. *Cancer Epidemiology*;35(1):78-82. **IF: 2.01**
- 15 Mozos A., Roue G., Lopez-Guillermo A., Jares P., Campo E., Colomer D., Martinez A. The expression of the endoplasmic reticulum stress sensor BiP/GRP78 predicts response to chemotherapy and determines the efficacy of proteasome inhibitors in diffuse large B-cell lymphoma. *American Journal of Pathology*;179(5):2601-2610. **IF: 4.89**
- 16 Roue G., Perez-Galan P., Mozos A., Lopez-Guerra M., Xargay-Torrent S., Rosich L., Saborit-Villarroya I., Normant E., Campo E., Colomer D. The Hsp90 inhibitor IPI-504 overcomes bortezomib resistance in mantle cell lymphoma in vitro and in vivo by down-regulation of the prosurvival ER chaperone BiP/Grp78. *Blood*;117(4):1270-1279. **IF: 9.898**
- 17 Ganjoo K.N., Witten D., Patel M., Espinosa I., La T., Tibshirani R., Van De Rijn M., Jacobs C., West R.B. The prognostic value of tumor-associated macrophages in leiomyosarcoma: A single institution study. *American Journal of Clinical Oncology: Cancer Clinical Trials*;34(1):82-86. **IF: 2.005**
- 18 D'Angelo E., Espinosa I., Ali R., Gilks C.B., Rijn M.V.D., Lee C.-H., Prat J. Uterine leiomyosarcomas: Tumor size, mitotic index, and biomarkers Ki67, and Bcl-2 identify two groups with different prognosis. *Gynecologic Oncology*;121(2):328-333. **IF: 3.888**

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- 01 Mozos A., Caballero M., Solé M., Cardesa A. Amyloidosis of the external auditory canal. *Acta Otorrinolaringol Esp*;62(5):392-4.

### Letter

- Catusus L., Llorente-Cortés V., Cuatrecasas M., Pons C., Espinosa I., Prat J. Low-density lipoprotein receptor-related protein 1 (LRP-1) is associated with highgrade, advanced stage and p53 and p16 alterations in endometrial carcinomas. *Histopathology*;59(3):567-71.

# Ear, Nose, Throat Cancer

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## Main Lines of Research

- Genetic and molecular predictors of response to head and neck cancer: collaboration with the Oncogene and Antitumour Drug Group.
- Molecular mechanisms of inflammation in head and neck cancer: collaboration with the inflammation laboratory.
- Nasosinal endoscopic surgery: innovations in skull base techniques.
- Internal ear: aspects related to severe deafness, cochlear implants and otoneurological surgery of tumours.

## Challenges

- Promote clinical and translational research in the field of head and neck cancer with a database containing a very large series of head and neck cancers. We aim to study relevant clinical issues in depth (second-third neoplasms, staging concerns, prognostic factors, etc.) and investigate translational aspects such as genetic and molecular predictors.

## Active Grants

- León X. Study of PGE-synthetase isoenzymes in head and neck lines of squamous cell carcinoma and their role in regulating gene expression of tumour progression. FIS Project. Carlos III Health Institute. €70.000. January 2009-December 2011. PI08/0537.

## Collaborations

### Collaborations with other IIB Sant Pau Groups

- Angiology, Vascular Biology and Inflammation Group.
- Oncogenes and Antitumour Drugs Group.

\*TIF: 11.679 \*\*MIF: 1.947

## ISI Web of Knowledge Indexed Publications with IF

- 01 Vega C., Leon X., Cervelli D., Pons G., Lopez S., Fernandez M., Quer M., Masia J. Total or subtotal glossectomy with microsurgical reconstruction: Functional and oncological results. *Microsurgery*;31(7):517-523.  
IF: 1.605
- 02 Esteller E., Vega M.C., Lopez M., Quer M., Leon X. Salvage surgery after locoregional failure in head and neck carcinoma patients treated with chemoradiotherapy. *European Archives of Oto-Rhino-Laryngology*;268(2):295-301.  
IF: 1.287
- 03 Masia J., Sommaro M., Cervelli D., Vega C., Leon X., Pons G. Extended deep inferior epigastric artery perforator flap for head and neck reconstruction: A clinical experience with 100 patients. *Head and Neck*;33(9):1328-1334.  
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- 04 Casos K., Siguero L., Fernandez-Figueras M.-T., Leon X., Sarda M.-P., Vila L., Camacho M. Tumor cells induce COX-2 and mPGES-1 expression in microvascular endothelial cells mainly by means of IL-1 receptor activation. *Microvascular Research*;81(3):261-268.  
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- 05 Gras-Cabrerizo J.R., Massegur-Solench H., Pujol-Olmo A., Montserrat-Gili J.R., Adema-Alcover J.M., Zarranonandia-Andraca I. Endoscopic medial maxillectomy with preservation of inferior turbinate: How do we do it?. *European Archives of Oto-Rhino-Laryngology*;268(3):389-392.  
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- 06 Alobid I., Anton E., Armengot M., Chao J., Colas C., del Cuvillo A., Davila I., Dordal M.T., Escobar C., Fernandez-Parra B., Gras-Cabrerizo J.R., Ibanez M.D., Lluch M., Mateu V., Montoro J., Gili J.R., Mullol J., Navarro A.M., Pumarola F., Rondon C., Sanchez-Hernandez M.C., Sarandeses A., Soler R., Valero A.L., Rhinconjunctivitis Committee, Spanish Society of Allergy and Clinical Immunology, Rhinology and Allergy Commission, Spanish Society of Otorhinolaryngology SEAC-SEORL. Consensus Document on Nasal Polyposis. POLINA Project. *Journal of investigational allergology & clinical immunology : official organ of the International Association of Asthmology (INTERASMA) and Sociedad Latinoamericana de Alergia e Inmunología*;21 Suppl 1:1-58.  
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- 01 Villatoro J.C., Krakowiak-Gómez R., López M., Quer M. Two cases of intraparotid facial nerve schwannoma. *Acta Otorrinolaringol Esp*;62(6):469-71.
- 02 Piñeiro Aguín Z., León Vintró X., García Lorenzo J., Sancho F.J., López Pousa A., Quer Agustí M. Head and neck sarcomas. Our experience. *Acta Otorrinolaringol Esp*;62(6):436-42.

# Oncology/Haematology Transplantation

## Coordinator

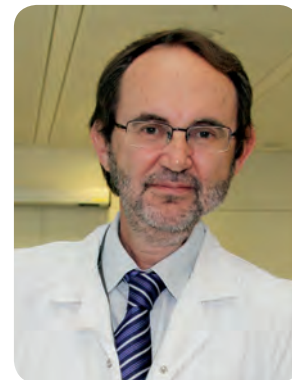
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## Main Lines of Research

- Study of molecular and cellular physiopathology of haematological cancers.
- Study of the prognostic value of clinical and biological parameters in hematologic malignancies.
- Design of new modalities of chemotherapy, biotherapy and drug treatment to target molecular mechanisms.
- Biological diagnosis and innovation in infectious complications related to immunodepression.
- New forms of haematopoietic stem-cell transplantation and cell therapy.
- Psychological intervention and quality of life in patients with haematological malignancies.

## Challenges

- Identifying new prognostic parameters for risk and therapeutic stratification.
- Evaluation of targeted therapy in cell lines and animal models.
- Reduce toxicity of allogeneic transplants.
- Dissect graft vs tumor effect from graft versus host disease.
- Molecular characterization of AML. Determination of the prognostic value of known genes and other genes of uncertain significance (in cooperation with the Haematology Laboratory).
- Animal modelling of leukaemia and lymphoma (in cooperation with the Oncogene and Antitumour Laboratory) so as to better understand the cell physiopathology of these diseases and to test new drugs (in cooperation with the oncogenesis and antitumour programme).
- Cell athophysiology and immunotherapy for lymphoproliferative diseases. Molecular characterization and prognostic significance. Evaluation of antitumour immunotherapy in animals and humans.
- Genomic, proteomic and animal models of transplantation. Exploration of predictive indicators of complications, particularly in graft-versus-host disease and infections. Early therapeutic intervention.

## Collaborations

### Collaborations with other IIB Sant Pau Groups

- Oncogenes and Antitumour Drugs Group.
- Inflammatory Diseases Group.

### External Collaborations

- National and international cooperative groups (Stanford University, USA).
- RTICC cancer.

- Sierra J. European Leukemia Network. Network of Excellence del Programme on Research, Technological Development and Demonstratos. European Commission. 2004-2011. LS-HC-CT-2004-503216. €5,700.
- Sierra J. Cooperative research network in cancer (RTICC) ISCIII: Group of Hematology and Transplantation. Carlos III Health Institute. January 2007-December 2011. RD06/0020/0101.
- Sierra J. Treatment of de novo acute myeloid leukaemia with the ibarubicin-cytarabine-gemtuzumab ozogamicin (Mylotarg) combination with or without G-CSF priming. Prospective study of efficacy and toxicity. FIS Project. Carlos III Health Institute. October 2007-June 2011. EC07/90065. €281,325.
- Sierra J. Focal adhesion signalling in human acute myeloid leukaemia. Prognostic significance and preclinical development of a new pyrazoline derivative with inhibitory effects. FIS Project. Carlos III Health Institute. September 2009-March 2012. PI080672. €341,220.
- Sierra J. Grants to support research groups in Catalonia. Oncohaematology and Trasplantation. Grupo de diagnóstico y tratamiento de las neoplasias hematológicas. AGAUR Project. 2009-2013. 20095GR 1246. €46,800.
- Sierra J. Evaluation of focal adhesions as a new therapeutic target in acute myeloid leukemia. La Marató de TV3. 2011-2013. 100830/31/32. €403,750.

\*TIF: 188.928 \*\*MIF: 6.298

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- 01 Bosch R, Dieguez-Gonzalez R, Cespedes M.V., Parreno M., Pavon M.A., Granena A, Sierra J, Mangues R., Casanova I. A novel inhibitor of focal adhesion signaling induces caspase-independent cell death in diffuse large B-cell lymphoma. *Blood*;118(16):4411-4420. **IF: 9.898**
- 02 Halter J., Schupbach W.M.M., Casali C., Elhasid R., Fay K., Hammans S., Illa I., Kappeler L., Krahenbuhl S., Lehmann T., Mandel H., Marti R., Mattle H., Orchard K., Savage D., Sue C.M., Valcarcel D., Gratwohl A., Hirano M. Allogeneic hematopoietic SCT as treatment option for patients with mitochondrial neurogastrointestinal encephalomyopathy (MNGIE): A consensus conference proposal for a standardized approach. *Bone Marrow Transplantation*;46(3):330-337. **IF: 3.746**
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- 05 Hodgson K., Ferrer G., Montserrat E., Moreno C. Chronic lymphocytic leukemia and autoimmunity: A systematic review. *Haematologica*;96(5):752-761. **IF: 6.424**
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- 11 Maffioli M., Camos M., Gaya A., Hernandez-Boluda J.-C., Alvarez-Larran A., Domingo A., Granell M., Guillem V., Vallansot R., Costa D., Bellosillo B., Colomer D., Cervantes F. Correlation between genetic polymorphisms of the hOCT1 and MDR1 genes and the response to imatinib in patients newly diagnosed with chronic-phase chronic myeloid leukemia. *Leukemia Research*;35(8):1014-1019. **IF: 2.923**
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# Oncology/Haematology Transplantation

\*TIF: 188.928 \*\*MIF: 6.298

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- 16 Martinez-Lopez J., Blade J., Mateos M.-V., Grande C., Alegre A., Garcia-Larana J., Sureda A., De La Rubia J., Conde E., Martinez R., De Arriba F., Viguria M.C., Besalduch J., Cabrera R., Gonzalez-San Miguel J.D., Guzman-Zamudio J.L., Gomez Del Castillo Ma.C., Moraleda J.Ma., Garcia-Ruiz J.C., San Miguel J., Lahuerta J.J. Long-term prognostic significance of response in multiple myeloma after stem cell transplantation. *Blood*;118(3):529-534.  
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- 17 Alencar A.J., Malumbres R., Kozloski G.A., Advani R., Talreja N., Chinichian S., Briones J., Natkunam Y., Sehn L.H., Gascoyne R.D., Tibshirani R., Lossos I.S. MicroRNAs are independent predictors of outcome in diffuse large B-cell lymphoma patients treated with R-CHOP. *Clinical Cancer Research*;17(12):4125-4135.  
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- 21 Ljungman P, de la Camara R., Perez-Bercoff L., Abecasis M., Campuzano J.B.N., Cannata-Ortiz M.J., Cordonnier C., Einsele H., Gonzalez-Vicent M., Espigado I., Halter J., Martino R., Mohty B., Sucak G., Ullmann A.J., Vazquez L., Ward K.N., Engelhard D. Outcome of pandemic H1N1 infections in hematopoietic stem cell transplant recipients. *Haematologica*;96(8):1231-1235.  
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**IF: 3.873**
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**IF: 18.372**
- 28 Martino R., Kerguelen A., Valcarcel D., Sureda A., Fachini L., Pinana J.L., Briones J., Delgado J., Brunet S., Sierra J. Reduction of infection-related mortality after allogeneic PBSCT from HLA-identical siblings: Longitudinal analysis from 1994 to 2008 at a single institution. *Bone Marrow Transplantation*;46(5):690-701.  
**IF: 3.746**
- 29 Ortin M., Sierra J. Use of mesenchymal stem cells as treatment for graft-versus-host disease: Current knowledge and controversies. *Immunotherapy*;3(6):701-704.  
**IF: 1.854**
- 30 Ruiz-Camps I., Len O., De La Camara R., Gurgui M., Martino R., Jarque I., Barrenetxea C., Diaz De Heredia C., Batlle M., Rovira M., De La Torre J., Torres A., Aguilar M., Espigado I., Martin-Davila P., Bou G., Borrell N., Aguado J.M., Pahissa A. Valganciclovir as pre-emptive therapy for cytomegalovirus infection in allogeneic hematopoietic stem cell transplant recipients. *Antiviral Therapy*;16(7):951-957.  
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Scientific  
Production

## ISI Web of Knowledge Indexed Publications without IF

- 01 Briones J., Novelli S., Sierra J. T-cell costimulatory molecules in acute-graft-versus host disease: therapeutic implications. Bone marrow research;2011.

Other  
Publications

## Letter

- Delgado J., Canals C., Attal M., Thomson K., Campos A., Martino R., Littlewood T., Jackson G., Milpied N., Boogaerts M., Hunter A., Janssen J.J.W.M., Montoto S., Sureda A. The role of in vivo T-cell depletion on reduced-intensity conditioning allogeneic stem cell transplantation from HLA-identical siblings in patients with follicular lymphoma. *Leukemia*;25(3):551-5.

## Book Chapter

- Chapter: Moreno C. Spanish Haemathology. Advances in the treatment of CLL. Book: White Book of Haemathology.

# Breast Cancer

## Coordinator

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## Researchers

Laura Lopez HSCSP RI

## Technicians

Maitane Pérez HSCSP RI  
Tania Vázquez HSCSP RI



## Main Lines of Research

- Pathogenic mechanisms of breast cancer.
- Identification and validation of therapeutic targets derived from previous studies.
- Mechanisms of response to chemotherapy treatment.

## Challenges

- Progress as a breast cancer research group publishing regular articles and cooperating with other groups in our centre and at the national and international levels.

## Active Grants

- Lerma E. The epithelial-mesenchymal transition and membrane receptors in breast carcinoma invasion. Comparative study on invasive and noninvasive neoplastic foci by microarray gene expression RT-PCR and immunohistochemistry. Mutua Madrileña Foundation. September 2008-December 2011. 08/FMM.

\*TIF: 11.032 \*\*MIF: 2.758

## Scientific Production

### ISI Web of Knowledge Indexed Publications with IF

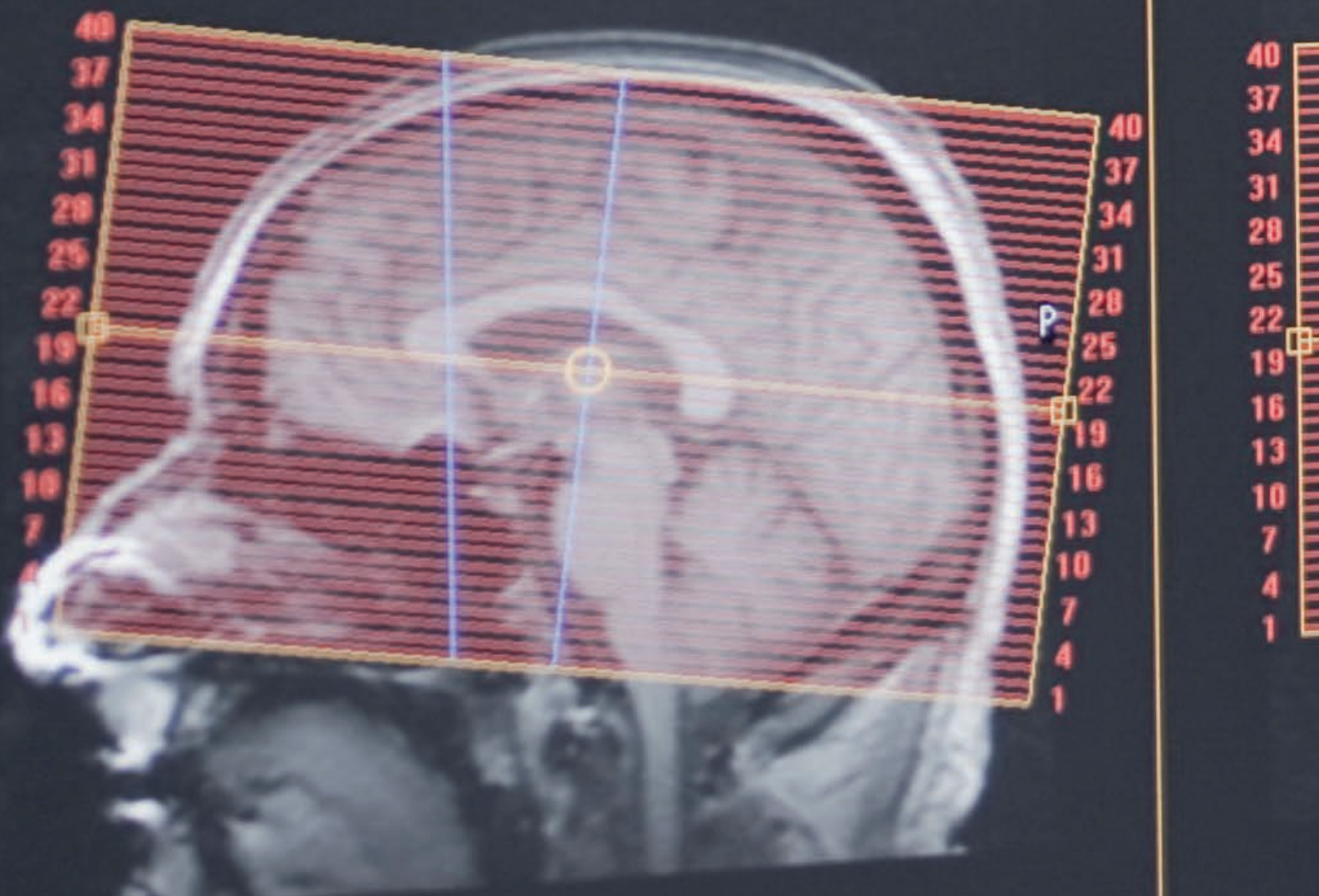
- 01 Lerma Puertas E., Otal Salaverri C., Rios Martin J.J., Sanchez Gomez A., Jimenez Caraballo A., Gonzalez-Campora R. Human papillomavirus detection by PCR assay in a large series of high-grade squamous intraepithelial lesions with cytohistological correlation and follow-up. *Acta Cytologica*;55(5):426-432. **IF: 0.488**
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- 03 Catusus L., Gallardo A., Llorente-Cortes V., Escuin D., Munoz J., Tibau A., Peiro G., Barnadas A., Lerma E. Low-density lipoprotein receptor-related protein 1 is associated with proliferation and invasiveness in Her-2/neu and triple-negative breast carcinomas. *Human Pathology*;42(11):1581-1588. **IF: 2.876**
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Survey

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Navigation and patient information panel:

- Icons for navigation and search.
- Buttons for "Philips" and "Hospital".
- Folder icons for "Cabeza" and "Orbit".
- Text "Cabeza" and "Orbit" next to folder icons.
- Text "HOSPITAL" and "CABEZA" at the bottom.



## AREA 4

# Neurological and Mental Disorders

- 116 Cerebrovascular Diseases
- 118 Dementias
- 120 Neuromuscular Diseases
- 122 Parkinson's Disease and Movement Disorders
- 126 Molecular Neuropharmacology
- 128 Pharmacological Research in Humans
- 130 Clinical Psychiatry
- 134 Genetics in Neurodegenerative Diseases
- 136 Human Experimental Neuropsychopharmacology
- 138 Neurobiology of Dementia
- 140 Neuroradiology
- 142 Ageing Institute
- 144 Addictive Behaviours

# Cerebrovascular Diseases

## Coordinator

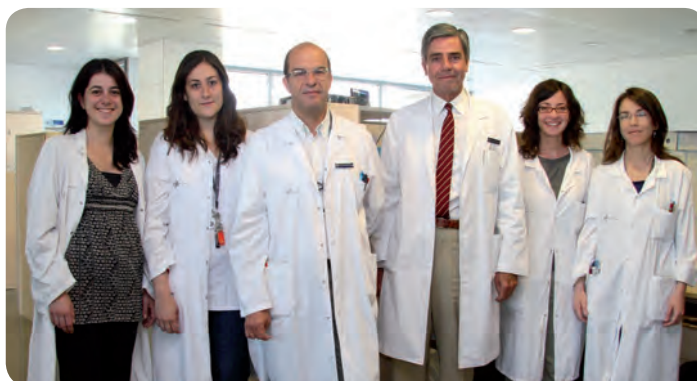
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## Researchers

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Lavinia Dinia HSCSP RI  
Josep Lluís Martí HSCSP

## Technicians

Elena Jiménez HSCSP RI  
Rebeca Marín HSCSP RI



## Main Lines of Research

- Neurogenesis and neurorepair after ischaemic stroke.
- Growth of haematoma in the acute phase of spontaneous brain haemorrhage.
- Endothelial progenitor cells in ischaemic stroke.
- Monitoring the effect of thrombolysis in acute ischaemic stroke.
- Benefit and risk of thrombolysis in acute ischaemic stroke.
- Beta-amyloid and cerebral haemorrhage: diagnostic and prognostic studies
- Risk of cerebral hemorrhage in patients receiving oral anticoagulant therapy.
- Sonothrombolysis.

## Challenges

- Enhance cooperation with other groups in the framework of the Spanish Stroke Research Network (RETICS/RENEVAS) and also intrahospital cooperation (the Catalan Institute of Cardiovascular Sciences and the Haemostasis-Thrombosis Unit) and extra-hospital cooperation (with groups managed by Dr. García-Verdugo in Valencia, Dr. Arús at the Autonomous University of Barcelona, Dr. Anna Planas at Clinic Hospital, Dr. Turgut Durduran at ICFO). To obtain funding from FIS, regional authorities and private companies.
- Increase the number of contracted and grant-aided researchers and professionally develop existing researchers.

## Active Grants

- Delgado R. Development of multiscale and multiparameter optical monitoring for the study of acute cerebral ischaemia: from animal model to the patient. FIS Project. Carlos III Health Institute. January 2010-December 2012. PI09/0557. €104,665.
- Martí J. RENEVAS Neurovascular Network, RETICS (Redes Temáticas de Investigación Cooperativa). FIS Project. Carlos III Health Institute. January 2007-December 2011. RD06/0026/0019.
- Martí J. Sonotrombolysis enhanced with microbubbles as a new treatment for acute ischemic stroke: a pilot study, prospective and randomized. La Marató de TV3. 2011-2013. €199,924.
- Martí J. Cerebral hemorrhage with anticoagulant therapy in the secondary prevention of stroke: predictive value of leukoaraiosis and microbleedings detected by MRI. FIS Project. Carlos III Health Institute. FI12/00296. €37,741.11.
- Martí J. Diffuse-Optical monitor of cerebral hemodynamics after rtPA administration in acute ischemic stroke. Beca Marie Curie FP-PEOPLE (Comunidad Europea). 2008-2012. €100,000.

## Awards

- Award to the best communication for the job "Endothelial progenitor cell count in patients treated with statins". Congress of the Catalan Society of Neurology (Vic, Spain, 2011).
- Grupo Ferrer Award for best paper published on cerebrovascular diseases "Proliferation in the human ipsilateral subventricular zone after ischemic stroke". Spanish Society of Neurology (Madrid, Spain, 2011).

Collaborations

Collaborations with other IIB Sant Pau Groups

- Molecular Pathology and Therapeutic of Ischaemic and Atherothrombotic Diseases Group.
- Thrombosis and Haemostasis Group.

External Collaborations

- RETICS (RENEVAS).

- PROMAPA Study. Arnau de Vilanova Hospital (Lleida, Spain).
- Intrahospital Stroke (Stroke Project).
- CAOS (Study carotid subocclusions. Stroke Project).
- GLIA study (glucose acute phase stroke, Stroke Project).
- ROPE study (international multicenter study on stroke and permeable foramen ovale).
- Meta-analysis effect of statins in stroke.

\*TIF: 14.373 \*\*MIF: 2.396

Scientific Production

ISI Web of Knowledge Indexed Publications with IF

- 01 Cocho D., Marti-Fabregas J., Baiget M., Gallardo E., Rio E., Arboix A., Rusalleda J., Marti-Vilalta J.L. Diagnosis of CADASIL disease in normotensive and non-diabetics with lacunar infarct [Diagnóstico de la enfermedad de CADASIL en pacientes normotensos y no diabéticos con infarto lacunar]. *Neurologia*;26(6):325-330. **IF: 0.79**
- 02 Vera R., Lago A., Fuentes B., Gallego J., Tejada J., Casado I., Purroy F., Delgado P., Simal P., Marti-Fabregas J., Vivancos J., Diaz-Otero F., Freijo M., Diez-Tejedor E., Gil-Nunez A., Egido J., Reig G., Calle M.L., De Lecinana M.A., Masjuan J. In-hospital ischemic strokes in patients admitted to Cardiology and Cardiac Surgery departments. Multi-centre registry [Infartos

cerebrales intrahospitalarios: datos del registro multicéntrico de pacientes con infarto cerebral ingresados en Cardiología y Cirugía Cardíaca]. *Medicina Clínica*;137(11):479-483. **IF: 1.385**

- 03 Vera R., Lago A., Fuentes B., Gallego J., Tejada J., Casado I., Purroy F., Delgado P., Simal P., Marti-Fabregas J., Vivancos J., Diaz-Otero F., Freijo M., Masjuan J. In-hospital stroke: A multi-centre prospective registry. *European Journal of Neurology*;18(1):170-176. **IF: 3.692**

- 04 Pagola J., Ribo M., Alvarez-Sabin J., Rubiera M., Santamarina E., Maisterra O., Delgado-Mederos R., Ortega G., Quintana M., Molina C.A. Thrombolysis in Anterior Versus Posterior Circulation Strokes: Timing of Recanalization, Ischemic Tolerance, and Other Differences. *Journal of Neuroimaging*;21(2):108-112.

**IF: 1.509**

- 05 Remacha A.F., Souto J.C., Pinana J.L., Sarda M.P., Queralto J.M., Marti-Fabregas J., Garcia-Moll X., Fernandez C., Rodriguez A., Cuesta J. Vitamin B12 deficiency, hyperhomocysteinemia and thrombosis: A case and control study. *International Journal of Hematology*;93(4):458-464. **IF: 1.268**

- 06 Abilleira S., Davalos A., Chamorro A., Alvarez-Sabin J., Ribera A., Gallofre M., Catalan Stroke Code and Thrombolysis Study Group (col. Martí Fàbregas J.) Outcomes of intravenous thrombolysis after dissemination of the stroke code and designation of new referral hospitals in catalonia: The catalan stroke code and thrombolysis (Cat-SCT) monitored study. *Stroke*;42(7):2001-2006. **IF: 5.729**

Scientific Production

Scopus Indexed Publications

- 01 Martínez Ramírez S., Delgado-Mederos R., Marti-Fabregas J. Treatment of acute brain ischemia. Indications for thrombolysis. *Medicine*;10(72):4924-8.

Other Publications

Book Chapters

- Chapter: Martí Vilalta J.L., Martí Fàbregas J., Delgado Mederos R., Martínez Ramírez S. Lluís Baraquer i Roviralta. Founder of Catalan neurology (pp.79-86). Book: Catalan History of neurology. Editors: Arboix A., Gironell A., De Fàbregues O., Font M.A., Izquierdo J., Krupinsky J., Martínez S., Fabregat N. (Catalan Society of Neurology). Editorial: CPM Associados, SL. ISBN 978-84-694-0754-7. Legal Deposit B-5886-2011.
- Chapter: Martí Vilalta J.L., Martí Fàbregas J., Delgado Mederos R., Martínez Ramírez S. Cerebrovascular diseases. Evolution of

their care (pp.95-104). Book: Catalan History of neurology. Editors: Arboix A., Gironell A., De Fàbregues O., Font M.A., Izquierdo J., Krupinsky J., Martínez S., Fabregat N. (Catalan Society of Neurology). Editorial: CPM Associados, SL. ISBN 978-84-694-0754-7. Legal Deposit B-5886-2011.

- Chapter: Martí-Fàbregas J., Delgado-Mederos R., Dinya L. Detection of microemboli (pp.177-194). Book: Neurosonology. Diagnostic applications for clinical practice. Editors: Irimia P., Segura T., Serena J., Moltó J.M. Editorial Médica Panamericana (2011). ISBN 978-84-9835-398-3.
- Chapter: Martí-Vilalta J.L., Arboix A., Mohr

J.P. Microangiopathies. Lacunes (pp. 485-515). Book: Stroke. Pathophysiology, Diagnosis, and Management. Fifth Edition. Editors: JP Mohr, PhA Wolf, JC Grotta, B. MA Moskowitz, MR Mayberg, R von Kummer. Editorial: Elsevier Saunders (Philadelphia, USA, 2011).

Book

- Martí-Vilalta J.L., Martí-Fàbregas J., Martínez S., Jimenez E., Marín R. Clinical Advances. Cerebral Vascular Disease. Catalan Society of Neurology (2011).

# Dementias

## Coordinator

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## NOTE:

In 2011, Dr. Gomez-Isla developed only 10% of her work in the HSCSP. Most of the content of her publications has been developed from the Massachusetts General Hospital (Boston, USA).



## Main Lines of Research

- Development and characterization of new in vitro models of Alzheimer disease.
- Development and characterization of new in vivo models of Alzheimer and other neurodegenerative diseases.
- Identification of signalling pathways and molecular mechanisms involved in neurotoxicity mediated by beta amyloid.
- Study of mechanisms involved in neuron and synapsis resistance in the Alzheimer pathology in human brains.
- Testing of new therapeutic strategies in Alzheimer disease.

## Challenges

- Development of new in vitro, mouse and human disease models recapitulating the main aberrant features of Alzheimer disease. We are investigating the usefulness of these models for understanding the pathophysiology of the disease and for testing new neuroprotective strategies and evaluating individual susceptibility to the disease.
- Development and characterization of new mouse disease models for the testing of new therapeutic strategies in Alzheimer disease and for molecular imaging in vivo.
- Study of the brains of individuals who meet Alzheimer histopathology criteria but who never developed symptoms in life, designed to identify the molecular pathways responsible for disease resistance and new potentially useful therapeutic targets for Alzheimer and other neurodegenerative diseases.
- Exchange and training of basic and clinical research personnel and collaborative projects between the HSCSP and Massachusetts General Hospital attached to Harvard University (Boston, MA, USA).

## Active Grants

- Gómez-Isla T. Study of molecular neurodegeneration mechanisms and testing of a new therapeutic strategy in a double transgenic mouse model of Alzheimer disease. FIS Project. Carlos III Health Institute. October 2007-September 2011. PI07/1057.

\*TIF: 26.764 \*\*MIF: 4.461

## ISI Web of Knowledge Indexed Publications with IF

- 01 Darocha-Souto B, Scotton T.C., Coma M, Serrano-Pozo A., Hashimoto T., Sereno L., Rodriguez M., Sanchez B., Hyman B.T., Gomez-Isla T. Brain oligomeric  $\beta$ -amyloid but not total amyloid plaque burden correlates with neuronal loss and astrocyte inflammatory response in amyloid precursor protein/tau transgenic mice. *Journal of Neuropathology and Experimental Neurology*;70(5):360-376. **IF: 4.258**
- 02 Camacho Marti V, Marquie M., Lleo A., Alves L., Artigas C., Flotats A., Duch J., Blesa R., Gomez-Isla T., Carrio I., Estorch M. Cardiac sympathetic impairment parallels nigrostriatal degeneration in Probable Dementia with Lewy Bodies. *Quarterly Journal of Nuclear Medicine and Molecular Imaging*;55(4):476-485. **IF: 2.256**
- 03 Seto-Salvia N., Clarimon J., Pagonabarraga J., Pascual-Sedano B., Campolongo A., Combarros O., Mateo J.I., Regana D., Martinez-Corral M., Marquie M., Alcolea D., Suarez-Calvet M., Molina-Porcel L., Dols O., Gomez-Isla T., Blesa R., Lleo A., Kulisevsky J. Dementia risk in parkinson disease: Disentangling the role of MAPT Haplotypes. *Archives of Neurology*;68(3):359-364. **IF: 7.584**
- 04 Calero O., Bullido M.J., Clarimon J., Frank-Garcia A., Martinez-Martin P., Lleo A., Rey M.J., Rabano A., Blesa R., Gomez-Isla T., Valdivieso F., de Pedro-Cuesta J., Ferrer I., Calero M. Genetic cross-interaction between apoe and prnp in sporadic alzheimer's and creutzfeldt-jakob diseases. *PLoS ONE*;6(7). **IF: 4.092**
- 05 Vargas T., Martinez-Garcia A., Antequera D., Vilella E., Clarimon J., Mateo I., Sanchez-Juan P., Rodriguez-Rodriguez E., Frank A., Rosich-Estrago M., Lleo A., Molina-Porcel L., Blesa R., Gomez-Isla T., Combarros O., Bermejo-Pareja F., Valdivieso F., Bullido M.J., Carro E. IGF-I gene variability is associated with an increased risk for AD. *Neurobiology of Aging*;32(3):556.e3-556.e11. **IF: 6.189**
- 06 Ihl R., Frolich L., Winblad B., Schneider L., Burns A., Moller H.-J. World Federation of Societies of Biological Psychiatry (WFSBP) guidelines for the biological treatment of Alzheimer's disease and other dementias. *World Journal of Biological Psychiatry*;12(1):2-32. **IF: 2.385**

# Neuromuscular Diseases

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## Main Lines of Research

### Immune-mediated neuromuscular diseases:

- Immunopathogenesis studies, with characterization of new targets, and innate immunity studies in immune-mediated neuromuscular diseases.
- Analysis of the effect of new immuno-modulating therapies on functional aspects of immune system cells (response to ligands, production of antibodies, etc.).

### Muscular dystrophy, dysferlinopathy and distal myopathies:

- Clinical characterization, new diagnostic tests for dysferlinopathy and distal myopathies, and study of molecular pathways involved in differentiation and molecular and functional interactions of dysferlin.
- Functional analysis of truncated forms of dysferlin with possible therapeutic implications.

### New therapies in genetic diseases:

- Allogeneic transplantation in mitochondrial neurogastrointestinal encephalopathy.
- Bone marrow transplant in dysferlinopathy (animal model).
- Advanced therapy with stem cells and mesoangioblasts.

## Challenges

- Advance knowledge of the immunological mechanisms involved in the pathogenesis of immune-mediated neuromuscular diseases.
- Search for new antigens and development of diagnostic tests.
- Implement new diagnostic methods for muscular dystrophies resulting from dysferlinopathy and distal myopathies.
- Advance knowledge of the pathogenetic mechanisms involved in muscular dystrophy resulting from a dysferlin deficiency.
- Implement cell therapy in mouse models of muscular dystrophy using mesoangioblasts and bone marrow, to study possible applications in humans, and to study immune system response to cell therapy in mouse models of human disease.
- Cleanroom access to manipulate cells for use in humans.
- Evaluate the effects of treatment with lithium in patients with amyotrophic lateral sclerosis.
- Evaluate the effects of treatment with vitamin D in carriers of a DYSF gene mutation.



## Active Grants

- Gallardo E. Grants to support research groups in Catalonia. Neuromuscular Disease Group. AGAUR Project. September 2009-December 2013. 2009SGR 1004.
- Gallardo E. Study of the physical pathogenesis of muscular dystrophies caused by mutations in the DYSF gene by analysing interactome and the signalling pathways involving dysferlin. FIS Project. Carlos III Health Institute. January 2010-December 2012. PI09/1944.
- Illa I. Immunology studies relevant to the development of therapeutic strategies in neuromuscular diseases. FIS Project. Carlos III Health Institute. January 2010-December 2013. PI09/1964.
- Rojas R. Multicentre randomized controlled trial to evaluate the efficacy of lithium carbonate in patients with amyotrophic lateral sclerosis. FIS Project. Carlos III Health Institute. January 2009-December 2011. EC08/00077.

\*TIF: 34.809 \*\*MIF: 3.868

## Scientific Production

## ISI Web of Knowledge Indexed Publications with IF

- 01 Krahn M., Illa I., Levy N., Bushby K. 172nd ENMC International workshop: Dysferlinopathies 29-31 January 2010, Naarden, the Netherlands. *Neuromuscular Disorders*;21(7):503-512.  
**IF: 2.797**
- 02 Pinos T., Marotta M., Gallardo E., Illa I., Diaz-Manera J., Gonzalez-Vioque E., Garcia-Arumi E., Andreu A.L., Marti R. A novel mutation in the mitochondrial tRNA Ala gene (m.5636T>C) in a patient with progressive external ophthalmoplegia. *Mitochondrion*;11(1):228-233.  
**IF: 3.615**
- 03 Meznaric M., Gonzalez-Quereda L., Gallardo E., de Luna N., Gallano P., Fanin M., Angelini C., Peterlin B., Zidar J. Abnormal expression of dysferlin in skeletal muscle and monocytes supports primary dysferlinopathy in patients with one mutated allele. *European Journal of Neurology*;18(7):1021-1023.  
**IF: 3.692**
- 04 Halter J., Schupbach W.M.M., Casali C., Elhasid R., Fay K., Hammans S., Illa I., Kappeler L., Krahenbuhl S., Lehmann T., Mandel H., Marti R., Mattle H., Orchard K., Savage D., Sue C.M., Valcarcel D., Gratwohl A., Hirano M. Allogeneic hematopoietic SCT as treatment option for patients with mitochondrial neurogastrointestinal encephalomyopathy (MNGIE): A consensus conference proposal for a standardized approach. *Bone Marrow Transplantation*;46(3):330-337.  
**IF: 3.746**
- 05 Gallardo E., de Luna N., Diaz-Manera J., Rojas-Garcia R., Gonzalez-Quereda L., Flix B., de Morree A., van der Maarel S., Illa I. Comparison of dysferlin expression in human skeletal muscle with that in monocytes for the diagnosis of dysferlin myopathy. *PLoS ONE*;6(12):-.  
**IF: 4.092**
- 06 Cocho D., Marti-Fabregas J., Baiget M., Gallardo E., Rio E., Arboix A., Rusalleda J., Marti-Vilalta J.L. Diagnosis of CADASIL disease in normotensive and non-diabetics with lacunar infarct [Diagnóstico de la enfermedad de CADASIL en pacientes normotensos y no diabéticos con infarto lacunar]. *Neurologia*;26(6):325-330.  
**IF: 0.79**
- 07 Resmini E., Morte B., Soriano E., Gallardo E., De Luna N., Illa I., Zorzano A., Bernal J., Webb S.M. Identification of novel GH-regulated genes in C2C12 cells. *Hormone and Metabolic Research*;43(13):919-930.  
**IF: 2.188**
- 08 Lancaster E., Huijbers M.G.M., Bar V., Boronat A., Wong A., Martinez-Hernandez E., Wilson C., Jacobs D., Lai M., Walker R.W., Graus F., Bataller L., Illa I., Marx S., Strauss K.A., Peles E., Scherer S.S., Dalmau J. Investigations of caspr2, an autoantigen of encephalitis and neuromyotonia. *Annals of Neurology*;69(2):303-311.  
**IF: 11.089**
- 09 Peters M.J.H., Van Nes S.I., Vanhoutte E.K., Bakkers M., Van Doorn P.A., Merckies I.S.J., Faber C.G., PeriNomS Study group (col. Illa I.) Revised normative values for grip strength with the Jamar dynamometer. *Journal of the Peripheral Nervous System*;16(1):47-50.  
**IF: 2.8**

## Other Publications

## Letters

- Diaz-Manera J., Querol L., Clarimón J., Yagüe S., Illa I. Unique post-exercise electrophysiological test results in a new andersen-tawil syndrome mutation. *Clinical Neurophysiology*;122(12):2537-9.
- Paradas C., Morgado Y., Gallardo E., Juarez C., Rojas-García R. Prednisone can worsen ATAXIC neuropathy with anti-disialosyl IgM antibodies. *Muscle and Nerve*;44(5):839-41.

# Parkinson Disease and Movement Disorders

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## Nursing Researchers

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## Main Lines of Research

### Cognitive impairment and behavioural dysfunctions in Parkinson disease:

- Knowledge and detection of the neural correlates of cognitive performance in Parkinson disease using neurophysiological techniques (event-related brain cognitive potentials) and structural and functional neuroimaging (voxel-based morphometry, cortical thickness and spectroscopy).
- Development of more sensitive tools for cognitive and functional assessment in Parkinson disease that will allow detection of subtle changes in cognitive performance and treatment response.
- Surgery and treatments of continuous infusion in Parkinson's disease.
- Prospective follow-up analysis of cognition and mood in patients with deep brain stimulation of the subthalamic nucleus.
- Follow-up and etiologic study of weight loss in patients treated with continuous infusion of intraduodenal levodopa.

### Essential tremor and other movement disorders:

- Molecular neuroimaging in essential tremor.
- Clinical, neurophysiological and neuroimaging assessment of patients with FX-TAS (fragile X-associated tremor/ataxia syndrome).
- Physiological correlates and pharmacological approach to apathy in Parkinson disease and other movement disorders.

### Translational research – Parkinsonian animal models:

- Assessment of behavioural and cognitive modulations exerted by distinct antiparkinsonian drugs in murine models of Parkinson disease with lesions in particular neurotransmitter systems (dopaminergic and noradrenergic lesions).

### Huntington Disease:

- Creating a specialized unit of Huntington Disease oriented to the diagnosis, monitoring and comprehensive treatment of patients with the disease and their families. The team consists of an interdisciplinary group of neurologists, neuropsychologists and nurses working in synergy with the dietary, rehabilitation and psychiatry services of the Hospital. The current research lines are:
  - Registry Study: Active participation in the Registry study of the European Network for the Study of Huntington's Disease (EHDN) with the inclusion, to date, of 51 new participants.
  - Participation in two multicenter sub-projects of EHDN in Spain: 1) Study on Nutrition in Huntington's disease (PI: Ester Cubo, Burgos, Spain), 2) Validation Study of the PBA-S scale in the Spanish (PI: Jesús Idiago, Barcelona, Spain).
  - Development of instruments to evaluate cognitive state of patients: 1) Development of a neuropsychological rating scale specific to pre-symptomatic patients (preHD-CRS), 2) Validation of the PD-CRS scale in Huntington disease for diagnosing mild cognitive impairment and dementia.
  - Study of the prevalence of hallucinations in Huntington's disease.

Active Grants

- Arenas F. Juan de la Cierva Contract. MINECO. 2011. Juan de la Cierva Contract. December 2011-December 2014. JCI-2011-08810. €96,000.
- García C. Early implementation of music therapy in rehabilitation of Aphasic patients alter acute adquired brain injury. La Marató de TV3. October 2011-May 2015. Telemarató 2011 Lesiones Medulares y Cerebrales. €105,091.25.
- Gironell A. Deep brain stimulation: functional neuroimaging studies, optimization of stimulation parameters and new directions in affective disorders. FIS Project. Carlos III Health Institute. PS09/00580. €92,565.
- Kulisevsky J. Cognitive and motor response associated with dopaminergic/serotonergic activity in an animal model of parkinsonism, which includes the combined injury of the pars compacta of the substantia nigra and the locus coeruleus. FIS Project. Carlos III Health Institute. January 2009-December 2011. PI08/1598. €42,592.
- Kulisevsky J. Expert integrated telecare and telemedicine system for the prevention of dependency and the empowerment of elderly people at home. E-Health platform for healthy ageing. Spanish Ministry of Industry, Energy and Tourism (Plan Avanza). May 2009-December 2011. TSI-020110-2009-444. €60,848.55.
- Kulisevsky J. Subproject 1. Farmaindustria. September 2009-December 2011. CAT-IIS-06. €587,299.
- Kulisevsky J. Prepared Food Agreement, SA (Henufood). CE-NIT. October 2010- December 2013. €375,000.
- Pagonabarraga J. Definition and longitudinal study of mild cognitive impairment in Parkinson's disease: operational clinical criteria definition and progression to dementia. FIS Project. Carlos III Health Institute. January 2011-December 2013. PI10/01498. €88,330.
- Ribosa R. AGAUR Contract 2010 FI-DGR 2001. January 2011-January 2014. 2011 FI-DGR. €40,030.80.

Challenges

**Cognitive and behavioural dysfunctions in Parkinson disease:**

- Study and understanding of the neural substrates of cognitive impairment in Parkinson disease so as to improve diagnostic and therapeutic approaches.
- Development of specific tools to assess and track cognitive changes in Parkinson disease.

**Essential tremor and other movement disorders:**

- Genetic studies and genotype-phenotype correlations in essential tremor.
- Development of new therapeutic interventions in essential

tremor.

- Neurochemical and structural neuroimaging studies on the pathophysiological bases of essential tremor.

**Translational research – Animal models of parkinsonism:**

- Behavioural, physiological and pharmacological characterization of animal models of parkinsonism with combined dopaminergic and noradrenergic lesions.
- Physiopathology of motor, cognitive and behavioural complications linked to antiparkinsonian drugs in animal models of parkinsonism.

Collaborations

**Collaborations with other IIB Sant Pau Groups**

- Genetics in Neurodegenerative Diseases Group.
- Neurobiology of Dementia Group.
- Digestive Diseases Group.
- Molecular Bases of Disease Group.

**External Collaborations**

- Movement Disorders Task Force on Mild Cognitive Impairment in Parkinson's Disease.
- Michael J. Fox Foundation for Parkinson's Research.

# Parkinson Disease and Movement Disorders

## Awards

- Scientific Award 2010. Parkinson. Spanish Society of Neurology.

\*TIF: 24.919 \*\*MIF: 3.115

## Scientific Production

### ISI Web of Knowledge Indexed Publications with IF

- 01 Barone P, Aarsland D, Burn D, Emre M., Kulisevsky J, Weintraub D. Cognitive impairment in nondemented Parkinson's disease. *Movement Disorders*;26(14):2483-2495.  
**IF: 4.505**
- 02 Seto-Salvia N., Clarimon J., Pagonabarraga J., Pascual-Sedano B., Campolongo A., Combarros O., Mateo J.I., Regana D., Martinez-Corral M., Marquie M., Alcolea D., Suarez-Calvet M., Molina-Porcel L., Dols O., Gomez-Isla T., Blesa R., Lleo A., Kulisevsky J. Dementia risk in parkinson disease: Disentangling the role of MAPT Haplotypes. *Archives of Neurology*;68(3):359-364.  
**IF: 7.584**
- 03 Kulisevsky J., Pagonabarraga J., Llebaria G., Hernandez B., Arranz J. Evaluation of doctor/patient satisfaction with the use of the Parkinson's Disease Dementia-Short-Screen (PDD-SS): A screening test for dementia in Parkinson's disease (DIFFUSION study). [Evaluación de la satisfacción médico/paciente con el uso del "Parkinson's Disease Dementia-Short-Screen" (PDD-SS): Un test de cribado para la demencia en la enfermedad de Parkinson (estudio DIFUSION)]. *Neurologia*;26(8):461-467.  
**IF: 0.79**
- 04 Villa C., Pascual-Sedano B., Pagonabarraga J., Kulisevsky J. Impulse control disorders and dopaminergic treatments in Parkinson's disease. *Revue Neurologique*;167(11):827-832.  
**IF: 0.488**
- 05 Martinez-Horta S., Kulisevsky J. Is all cognitive impairment in Parkinson's disease "mild cognitive impairment"? *Journal of Neural Transmission*;118(8):1185-1190.  
**IF: 2.73**
- 06 Litvan I., Aarsland D., Adler C.H., Goldman J.G., Kulisevsky J., Mollenhauer B., Rodriguez-Oroz M.C., Troster A.I., Weintraub D. MDS task force on mild cognitive impairment in Parkinson's disease: Critical review of PD-MCI. *Movement Disorders*;26(10):1814-1824.  
**IF: 4.505**
- 07 Herrero M.T., Pagonabarraga J., Linazasoro G. Neuroprotective role of dopamine agonists: Evidence from animal models and clinical studies. *Neurologist*;17(6 SUPPL.):S54-S66.  
**IF: 1.261**
- 08 Lucas-Carrasco R., Pascual-Sedano B., Galan I., Kulisevsky J., Sastre-Garriga J., Gomez-Benito J. Using the WHO-QOL-DIS to measure quality of life in persons with physical disabilities caused by neurodegenerative disorders. *Neurodegenerative Diseases*;8(4):178-186.  
**IF: 3.056**

### Letters

- Pagonabarraga J., Kulisevsky J. Brief cognitive tests in the screening of dementia in parkinson's disease. *Movement Disorders*;26(9):1763.
- Gironell A., Pagonabarraga J., Pascual-Sedano B., Kulisevsky J. Lacosamide, another therapeutic failure in essential tremor: An open-label trial. *Movement Disorders*;26(1):183-4.

### Guide

- Clinical practice guideline on the comprehensive approach to care for people with Alzheimer's disease and other dementias.

### Books

- Book Chapter: Gironell A. Catalan History of Neurology. Book: Arboix A, Gironell A, De Fàbregues O, et al. Book: Brief history of movement disorders in Catalonia. Editorial SCN (Barcelona, 2011).
- Gironell A, De Fàbregues O. (scientific coordinator). Official guide to diagnosis and treatment of Parkinson's disease of the Catalan Society of Neurology. Editorial SCN (Barcelona, 2011).
- Rodriguez MG, Espallargues M, Fité A, Gironell A, Rocamora R, Rumia J, Toledo M, Montalban X. Parkinson's disease and epilepsy: criteria and surgical indication. *Agència d'Informació, Avaluació i Qualitat en Salut. Servei Català de la Salut. Departament de Salut. Generalitat de Catalunya* (2011).

# Molecular Neuropharmacology

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## Main Lines of Research

- Molecular and behavioral characterization of opioid and cannabinoid receptors during chronic pain.
- The role of nitric oxide and carbon monoxide on the development and expression of neuropathic or inflammatory pain.
- The involvement of nitric oxide-carbon monoxide/CG/PKG pathway on the effects and expression of opioid and cannabinoid receptors during chronic pain.

## Challenges

- Identify new therapeutic strategies for the treatment of chronic pain.
- Determine the main genes involved in the regulation of inflammatory and neuropathic pain.
- Study the mechanisms implicated in the regulation of opioid and cannabinoid receptors gene expression in different pain models.
- Evaluate the possible interactions between nitric oxide and carbon monoxide during acute and chronic pain.
- Investigate the prevention/reversion of opioid tolerance in several animal chronic pain models.

## Active Grants

- Pol O. New strategies in the treatment of chronic inflammatory and neuropathic pain. La Marató de TV3. February 2008-February 2012. 07/0810. €184,746.
- Pol O. Study of new therapeutic targets in the treatment of chronic pain. FIS Project. Carlos III Health Institute. January 2010-December 2012. PI09/0968. €67,155.
- Pol O. Peripheral effects of morphine and expression of mu-opioid receptors in the dorsal ganglia during neuropathic pain: nitric oxide signaling. Autonomous University of Barcelona (Spain). January 2011-December 2011. PAO2010-07. €725.

## Collaborations

## Collaborations with other IIB Sant Pau Groups

- Metabolic Bases of Cardiovascular Risk Group.

## Awards

- 1st Gemma Rosell i Romero Research Award.

\*TIF: 7.618 \*\*MIF: 3.809

## Scientific Production

## ISI Web of Knowledge Indexed Publications with IF

- Negrete R., Hervera A., Leanez S., Martin-Campos J.M., Pol O. The antinociceptive effects of JWH-015 in chronic inflammatory pain are produced by nitric oxide-cGMP-PKG-KATP pathway activation mediated by opioids. PLoS ONE;6(10).  
IF: 4.092
- Hervera A., Negrete R., Leanez S., Martin-Campos J.M., Pol O. Peripheral effects of morphine and expression of  $\mu$ -opioid receptors in the dorsal root ganglia during neuropathic pain: Nitric oxide signaling. Molecular Pain;7.  
IF: 3.526

## Other Publications

## Journal

- Negrete R., Hervera A., Leanez S., Martín-Campos J.M., Pol O. New strategies in treatment of pain: Action mechanism of a cannabiod agonist during chronic inflammatory pain. Omnis Cellula;27:34-37.

# Pharmacological Research in Humans

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## Main Lines of Research

### Clinical trials that offer no therapeutic benefits to volunteer participants:

- Phase I clinical trials (healthy volunteers) whose main objectives include: first-time-in-humans, safety and tolerability (local and systemic – dermatological, ophthalmological, vaginal), pharmacokinetics, bioavailability and bioequivalence (generic drugs), pharmacodynamics, interactions (drug-drug, drug-food), evaluation and characterization of biomarkers, proofs of concept, acceptability and preference studies.
- Follow-up studies in populations with same or different characteristics: the elderly, obese volunteers, postmenopausal volunteers, patients with liver or kidney failure.
- Collaboration with clinical services to conduct phase II or phase III studies.

### Neuro-physio-pharmacology of sleep/wake states:

- Investigate human brain activity in sleep and wakefulness, mechanisms involved in these two states, problems derived from sleep disturbances and possible interventions to treat these.
- Approach the phenomenon as a continuum, that is, that appropriate interpretation of the impact of a certain intervention, whether pharmacological or not, should take into account the complementarity of evaluations performed during sleep and during wakefulness. The phenomenon under study cannot be evaluated without taking this interactivity into account: develop studies that consider the 24-hour day/night cycle.
- Use psychomotor performance tests, subjective evaluation scales, neurophysiologic recordings (quantitative EEG, evoked-sensorial potentials and polysomnography), psychophysiological tests and pupillometric tests.

## Challenges

- Consolidate and strengthen leadership in this field in Spain, conserve relationships with the pharmaceutical industry on a national level and strengthen and extend relations abroad with multinational enterprises and industries from other sectors.
- Broaden the range of questions to address in research projects along the lines of neuro-physio-pharmacology of sleep/wake states, not focusing only on pharmacotherapeutic objectives but also on physiopathologic objectives in related fields, such as dreams.
- Develop the performance of neurophysiologic recordings in ambulatory conditions, simplifying participation of volunteers but not lowering the quality of data obtained (non-negotiable element of their application as a research variable).
- Promote dissemination of our activity with a double objective: to return the knowledge generated to the society and to demystify research in humans, bringing it closer to the community so as to foster participation in clinical trials (particularly in specific sectors of the populations, such as the elderly).
- Set up educational activities related to the two main research lines, i.e., the application of good clinical practices (GCPs) in clinical research sleep medicine and its medical (pathology and treatment) and social (quality of life, prevention of accident risk) consequences.



## Active Grants

- Antonijoan R. Collaboration agreement for the creation of the consortium to support biomedical research network (CAIB) Sub-program of revitalization actions of the research and technological environment of the SNS. FIS Project. Carlos III Health Institute. January 2009-December 2012. CAIB08/01/0019.
- Gich I. Assessing the quality and scientific impact of cancer clinical trials conducted in Spain. FIS Project. Carlos III Health Institute. January 2007-June 2011. PI06/0649.

\*TIF: 20.252 \*\*MIF: 2.893

## Scientific Production

## ISI Web of Knowledge Indexed Publications with IF

- 01 Antonijoan R.M., Gich I., Azaro A., Sainz S., Balanzo J., Izquierdo I., Borja J., Donado E., Blanch I., Barbanoj M.J. Gastrointestinal safety of triflusal solution in healthy volunteers: A proof of concept endoscopic study. *European Journal of Clinical Pharmacology*;67(7):663-669. **IF: 2.845**
- 02 Rico S., Antonijoan R.M., Gich I., Borrell M., Fontcuberta J., Monreal M., Martinez-Gonzalez J., Barbanoj M.J. Safety assessment and pharmacodynamics of a novel ultra low molecular weight heparin (RO-14) in healthy volunteers – A first-time-in-human single ascending dose study. *Thrombosis Research*;127(4):292-298. **IF: 2.44**
- 03 Montiel Dacosta J.A., Santalo I Bel M., Balaguer Martinez J.V., Tembory Ruiz F., Povar Marco J., Gich Saladich I. Short-term prognostic factors in elderly patients treated in emergency departments for acute coronary syndrome with ST segment elevation [Factores pronóstico a corto plazo en los ancianos atendidos en urgencias por síndrome coronario agudo con elevación del segmento ST]. *Emergencias*;23(6):455-460. **IF: 2.486**
- 04 Gimenez S., Romero S., Gich I., Clos S., Grasa E., Rosa-Mariaa A., Barbanoj M.-J. Sex differences in sleep after a single oral morning dose of olanzapine in healthy volunteers. *Human Psychopharmacology*;26(7):498-507. **IF: 2.476**
- 05 Zapata L., Vera P., Roglan A., Gich I., Ordonez-Llanos J., Betbese A.J. B-type natriuretic peptides for prediction and diagnosis of weaning failure from cardiac origin. *Intensive Care Medicine*;37(3):477-485. **IF: 5.399**
- 06 Gimenez S., Romero S., Mananas M.A., Barbanoj M.-J. Waking and sleep electroencephalogram variables as human sleep homeostatic process biomarkers after drug administration. *Neuropsychobiology*;63(4):252-260. **IF: 2.675**
- 07 Blanco C.G., Ballesteros A.C., Saladich I.G., Pla R.C. Glycemic control and pregnancy outcomes in women with type 1 diabetes mellitus using lispro versus regular insulin: A systematic review and meta-analysis. *Diabetes Technology and Therapeutics*;13(9):907-911. **IF: 1.931**

# Clinical Psychiatry

## Coordinator

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## Administrative Staff

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## Main Lines of Research

- Psychotic disorders (first episodes).
- Affective disorders (major depression).
- Borderline personality disorder.
- Mental health therapy.

## Challenges

- Foster research that reduces the healthcare, social and personal costs of mental illness by exploring areas such as epidemiology, etiopathogenesis, physiopathology, prevention and treatment.
- Foster research into mental health therapies.
- Foster research to improve quality of life of patients with mental disorders.

### Research into psychotic disorders:

- Neuroimaging studies in early psychotic episodes.
- Study of environmental, biological and genetic factors in psychosis.
- Efficacy and effectiveness studies of anti-psychotic drugs.
- Efficacy and effectiveness study of psychotherapy for hallucinations.

### Research into affective disorders:

- Identification and evaluation of new therapeutic targets in depression.

- Neuroimaging studies in early psychotic episodes.
- Biological and genetic markers in affective disorders.
- Implementation of new therapeutic programmes, depression evaluation and social aspects of depression.

### Research into personality disorders:

- Clinical trials regarding the usefulness of mixed treatment in patients with borderline personality disorder and validation of diagnostic instruments.
- Genetic-neuroimaging studies of borderline personality disorder.
- Efficacy and effectiveness studies of psychotherapy for treating BPD.

### Mental health therapy research:

- Efficacy and treatment resistance.
- Systematic reviews.
- Validation of diagnostic and assessment scales.

## Active Grants

- Álvarez E. Grants to support research groups. Clinical Psychiatry Group. AGAUR Project. September 2009-December 2013. 2009SGR 179. €42,640.
- Álvarez E. Prevention of relapse in major depressive disorder using a cognitive-behaviour therapy group format. FIS Project. Carlos III Health Institute. October 2007-December 2011. PI07/1236. €38,744.
- Corripio I. Expression of glycine transporter type 1 in patients diagnosed with schizophrenia: a study with [<sup>11</sup>C]GSK931145 PET. La Marató de TV3. March 2010-March 2013. 90531. €348,795.
- Corripio I. Double-blind, placebo-controlled study of the efficacy of reboxetine and citalopram as adjunctive therapy to second-generation antipsychotics in treating the negative symptoms of schizophrenia. FIS Project. Carlos III Health Institute. October 2007-December 2011. EC07/90632. €25,620.
- Corripio I. Genotype-phenotype and environment interaction. Application to a predictive model in first-episode psychosis. FIS Project. Carlos III Health Institute. January 2009-December 2011. PI08/0705. €53,500.
- Pascual J. Study of the effectiveness of neurocognitive rehabilitation in borderline personality disorder. FIS Project. Carlos III Health Institute. October 2010-December 2011. PI09/90751. €57,838.
- Pascual J. Study of genetic sensitivity to the environment in patients with borderline personality disorder: case-control study of gene-environment interaction. FIS Project. Carlos III Health Institute. January 2011-December 2013. PI10/00253. €150,040.
- Pérez V. Therapeutic strategies for major depressive disorder resistant to treatment with selective serotonin reuptake inhibitors. Pragmatic, parallel, randomized trial with masked evaluation. FIS Project. Carlos III Health Institute. October 2007-December 2011. EC07/90244. €130,680.
- Pérez V. Deep brain stimulation: functional neuroimaging studies, optimization of stimulation parameters and new indications in affective disorders. FIS Project. Carlos III Health Institute. January 2010-December 2012. PI09/0580. €92,565.
- Portella M. Study of structural and functional brain changes after deep brain stimulation of treatment resistant depression: Biomarkers of DBS antidepressant effects and optimization of parameters. FIS Project. Carlos III Health Institute. January 2011-December 2013. CP10/00393. €121,300.

## Individual projects managed by CIBERSAM

- Portella M. Neurotoxicity of depressive illness. Longitudinal study of neuroimaging, neurocognitive and biological markers. FIS Project. Carlos III Health Institute. 2011-2013. PI10/00372. €168,000.
- Alvarez E. Spanish Validation of films to induce emotions. CIBERSAM, Banco de Instrumentos. 2011-2012. 11BI09. €12,000.
- Soler J. Psychometric properties of the Spanish version of the Clinically Useful Depression Outcome Scale (CUDOS). CIBERSAM, Banco de Instrumentos. 2010-2012. BI03. €9,000.

## Collaborations

## Collaborations with other IIB Sant Pau Groups

- Addictive Behaviours Group.
- Neuroradiology Group.

## External Collaborations

- Pérez V., Hegerl U. (University of Leipzig, Germany). PREDI-NU: Preventing Depression and Improving Awareness through Networking in the EU. 2011-2013. PREDI-NU. 1,099,305.
- Pérez V., Hegerl U. (Leipzig University, Germany), Ayuso J.L. (De la Princesa Hospital, Madrid, Spain). Immediate-release methylphenidate in symptomatic improvement of acute mania. Spanish Ministry of Health, Social Services and Equality. 2011-2012. EC10-297. €48,000.
- Pérez V., Ayuso J.L. (De la Princesa Hospital, Madrid, Spain). Use of antidepressants in the last decade and its relation to mortality and suicide-related events, with special focus on children and adolescents. CIBERSAM, Proyectos Intramurales. 2011-2012. 11INT1. €55,000.
- Corripio I., Sanjuan J. (Clinic Hospital of Valencia, Spain). Cortical activity in schizophrenia: a translational study on the pharmacological response to hallucinations. CIBERSAM, Proyectos Intramurales. 2011-2012. 11INT3. €39,000.
- Pérez V., Ayuso J.L. (De la Princesa Hospital, Madrid, Spain). Methylphenidate immediate release in the initial treatment of symptoms of acute mania. CIBERSAM, Proyectos Intramurales. 2011-2012. 11INT2. €53,000.
- De Diego F.J., Leza J.C. (Autonomous University of Madrid, Spain). Origin and consequences of inflammation in depression: a translational study. FIS Project. Carlos III Health Institute. 2011-2013. PI10/00123. €130,000.
- Grasa E., Aguilar E. (Universidad de Valencia, Spain). Efficacy of cognitive behavioral therapy in antipsychotics treatment resistant auditory hallucinations patients with non-affective psychosis. FIS Project. Carlos III Health Institute. 2010-2011. PI09/91030. €53,240.
- Alvarez E., Cañete. Multicenter study controlled and randomized on the effectiveness of polyunsaturated fatty acids-Omacor in the clinical improvement and prevention of metabolic syndrome in patients with schizophrenia. Agència d'Avaluació de Tecnologia i Recerca Mèdiques. 2010-2012. 091/20/2006. €70,000.
- Pascual J.C., San Carlos Hospital (Madrid, Spain). Psychometric Properties of the Spanish version of the Borderline Symptom List. CIBERSAM, Banco de Instrumentos. 2010-2012. BI109. €12,000.
- Pérez V., University of Cádiz (Spain). Deep brain stimulation in patients with resistant major depressive disorder. Mechanisms of action, clinical and preclinical studies. CIBERSAM, Proyectos Intramurales. 2009-2012. P91G. €37,000.
- Pascual J.C., González Piqueras J.C. (Hospital Clínico de Valencia, Spain). Analysis of risk polymorphisms in association studies of wide range (WGAS) in psychosis. FIS Project. Carlos III Health Institute. 2009-2011. PI08/1536. €78,892.
- Corripio I., Arango C. (Gregorio Marañón Hospital, Madrid, Spain). Identification of candidate genes as markers of risk for weight gain in patients with second generation antipsychotics. CIBERSAM, Proyectos Intramurales. 2009-2011. P91A. €98,000 €.

# Clinical Psychiatry

## Awards

- XIV Prizes for the best clinical cases of residents in Psychiatry. National Congress of Psychiatry (Oviedo, Spain, noviembre 2011). First Prize to Laia Villalta. Job Title: A grandmother "ahead of fashion".
- III Prize for the best posters in Neuropsychopharmacology. National Congress of Psychiatry (Oviedo, Spain, noviembre 2011).
- 2nd Prize to Rosa Blanca Sauras Quetcuti, Iluminada Corripio, Gemma Safont, M<sup>a</sup> Jose Escartí, Anna Alonso, Eva Grasa, Maria Portella, Victor Pérez Sola, Belen Arranz, Enric Alvarez. Job Title: striatal D2 receptor density and cannabis use in untreated first episode psychosis: IBZM SPECT study.
- X Prize for the best posters in Neuroscience to María del Mar Carceller Sindreu (Barcelona, Spain). Category "severe mental disorders". National Congress of Psychiatry (Oviedo, Spain, 2011). Job Title: Spectroscopic alterations in the hippocampal region in the course of depression: comparison of early episodes, recurrent asymptomatic and chronic.
- I Esteve Cirera Award for best poster. III Symposium on Borderline Personality Disorder: "From etiopathogenesis to therapy." Albert Feliu, Ana Valdepérez, Ana Martín-Blanco, Juan Carlos Pascual, Joaquim Soler. Job Title: Effects of mindfulness training in patients with borderline personality disorder.
- ECNP Travel Awards, 24th ECNP Congress 2011 (Paris, France). Category: Affective disorders and antidepressants. Perez-Caballero L., Pérez-Egea R., Puigdemont D., Molet J., Mico J.A., Pérez V., Berrocoso E. Job Title: Early antidepressant response of deep brain stimulation for depression treatment: a translational study.

## Other Publications

### Guides

- Clinical Practice Guidelines for the Prevention and Treatment of Suicidal Behaviour. Clinical practice guidelines for the NH, Spanish Ministry of Health, Social Services and Equality (2011).
- Clinical Practice Guideline on Borderline Personality Disorder. Agència d'Informació, Avaluació i Qualitat en Salut. Servei Català de la Salut. Plan Mental Health and Addictions. Departament de Salut. Generalitat de Catalunya (2011).

\*TIF: 37.846 \*\*MIF: 3.154

## Scientific Production

### ISI Web of Knowledge Indexed Publications with IF

- 01 Barrachina J., Pascual J.C., Ferrer M., Soler J., Rufat M.J., Andion O., Tiana T., Martín-Blanco A., Casas M., Perez V. Axis II comorbidity in borderline personality disorder is influenced by sex, age, and clinical severity. *Comprehensive Psychiatry*;52(6):725-730. **IF: 2.257**
- 02 Portella M.J., De Diego-Adelino J., Ballesteros J., Puigdemont D., Oller S., Santos B., Alvarez E., Artigas F., Perez V. Can we really accelerate and enhance the selective serotonin reuptake inhibitor antidepressant effect? A randomized clinical trial and a meta-analysis of pindolol in nonresistant depression. *Journal of Clinical Psychiatry*;72(7):962-969. **IF: 5.799**
- 03 Safont G., Corripio I., Escartí M.J., Portella M.J., Perez V., Ferrer M., Camacho V., Sauras R.B., Alonso A., Grasa E.M., Arranz B., San L., Duenas R., Carrio I., Alvarez E. Cannabis use and striatal D2 receptor density in untreated first-episode psychosis: An in vivo SPECT study. *Schizophrenia Research*;129(2-3):169-171. **IF: 4.748**
- 04 Ciudad A., Bobes J., Alvarez E., San L., Novick D., Gilaberte I. Clinical meaningful outcomes in schizophrenia: Remission and recovery [Resultados clínicos relevantes en esquizofrenia: remisión y recuperación]. *Revista de Psiquiatria y Salud Mental*;4(1):53-65. **IF: 0.308**
- 05 Corripio I., Escartí M.J., Portella M.J., Perez V., Grasa E., Sauras R.B., Alonso A., Safont G., Camacho M.V., Duenas R., Arranz B., San L., Catafau A.M., Carrio I., Alvarez E. Density of striatal D2 receptors in untreated first-episode psychosis: An I 123-IBZM SPECT study. *European Neuropsychopharmacology*;21(12):866. **IF: 4.046**
- 06 Romera I., Perez V., Menchon J.M., Polavieja P., Gilaberte I. Optimal cutoff point of the Hamilton Rating Scale for Depression according to normal levels of social and occupational functioning. *Psychiatry Research*;186(1):133-137. **IF: 2.524**
- 07 Tejedor C., Diaz A., Faus G., Perez V., Sola I. Outcomes of a suicide prevention program in the general population. Barcelona dreia eixample district. *Actas Espanolas de Psiquiatria*;39(5):280-287. **IF: 0.589**
- 08 Portella M.J., Soler J., Tiana T., Barrachina J., Pascual J.C., Tejero A., Alvarez E., Perez V. Slow processing in borderline personality disorder: The emotional Stroop paradigm [Lentificación del procesamiento de la información en el trastorno límite de la personalidad: El paradigma de Stroop emocional]. *Actas Espanolas de Psiquiatria*;39(6):356-362. **IF: 0.589**
- 09 Portella M.J., de Diego-Adelino J., Gomez-Anson B., Morgan-Ferrando R., Vives Y., Puigdemont D., Perez-Egea R., Ruscalleda J., Enric Alvarez, Perez V. Ventromedial prefrontal spectroscopic abnormalities over the course of depression: A comparison among first

\*TIF: 37.846 \*\*MIF: 3.154

- episode, remitted recurrent and chronic patients. *Journal of Psychiatric Research*;45(4):427-434.  
**IF: 4.664**
- 10 Van Der Loos M.L.M., Mulder P., GThM Hartong E., Blom M.B.J., Vergouwen A.C., Van Noorden M.S., Timmermans M.A., Vieta E., Nolen W.A., LamLit Study Group (col. Alvarez E.) Long-term outcome of bipolar depressed patients receiving lamotrigine as add-on to lithium with the possibility of the addition of paroxetine in nonresponders: A randomized, placebo-controlled trial with a novel design. *Bipolar Disorders*;13(1):111-117.  
**IF: 5.289**
- 11 Catafau A.M., Bullich S., Nucci G., Burgess C., Gray F., Merlo-Pich E., Barcelona Clinical Imaging in Psychiatry Group (Alvarez E.) Contribution of SPECT measurements of D 2 and 5-HT 2A occupancy to the clinical development of the antipsychotic SB-773812. *Journal of Nuclear Medicine*;52(4):534.  
**IF: 6.381**
- 12 Proal E., Alvarez-Segura M., de la Iglesia-Vaya M., Marti-Bonmati L., Castellanos F.X., Spanish Resting State Network (col. Corripio I.) Functional cerebral activity in a state of rest: connectivity networks. *Revista de neurologia*;52 Suppl 1():S3-10.  
**IF: 0.652**

# Genetics in Neurodegenerative Diseases

## Coordinator

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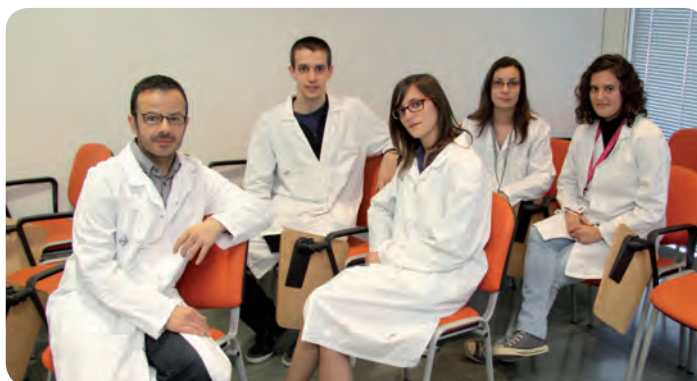
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## Collaborators

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Maite Sampedro URV



## Main Lines of Research

### Genetics in presenile Alzheimer disease:

- A multicentre project compiling genetic samples from over 200 presenile patients with Alzheimer (disease onset before 65 years), already giving rise to several international papers. A new project is now underway with these samples to investigate new genes involved in presenile forms without APP or presenilin gene mutations (FIS 529/766).

### Genetic alterations in familial and sporadic Lewy body disease:

- This line of investigation studies genetic alterations that may be related to dementias with familial and/or sporadic Lewy body disease. Several papers on results have been published to date. We are presently studying sporadic forms: we have requested brain tissue samples from the Barcelona University Neurological Tissue Bank and we are recruiting Neurology Service Memory Clinic patients with a clinical probability of Lewy body dementia. Mutations in genes related to this illness have been ruled out in about 55 samples (half confirmed by pathological diagnosis). In samples without mutations we will study the genotype of the genome to detect possible presence of genomic anomalies associated with the disease.

### Genetic risk factors of dementia in Parkinson disease:

- In collaboration with the Movement Disorders Unit we are collecting samples from patients with Parkinson disease. All patients undergo specific tests to detect dementia associated with the disorder. We will conduct sequencing of genes related to familial or sporadic Parkinson disease, and genetic variants related to neurodegenerative dementias will be genotyped. The objective is to find genetic risk factors for dementia in patients with Parkinson.

### Prevalence of mutations in genes related to amyotrophic lateral sclerosis (ALS):

- In collaboration with the Neurology Service Neuromuscular Nursing Unit we are creating a gene bank of patients with ALS in order to study mutations in genes that promote familial and sporadic forms of the disease.

## Challenges

### Genetic architecture of complex diseases caused by neurodegenerative processes:

- Research into familial aggregation for specific diseases to determine genetic links and clone new genes.
- Genetic association studies to establish genetic and genomic risk factors for different diseases.

- Study of the prevalence of genetic mutations in the Spanish population.
- Expansion of the genetic library already consisting of over 1,500 DNA samples.
- To continue to expand the DNA bank to achieve a numerous, well-characterized, homogenous sample of patients and their relatives. This will provide invaluable potential for high-level genetic research into diseases of this nature.

Active Grants

- Clarimon J. Genetics of alpha-synucleinopathies: the continuum approach to Parkinson disease-Parkinson disease with dementia-dementia with Lewy bodies. FIS Project. Carlos III Health Institute. January 2010-December 2012. PI09/0098.
- Clarimon J. Genetic factors in neurodegenerative diseases: Parkinson's, Alzheimer's and disferlinopathies. FIS Project. Carlos III Health Institute. October 2007-September 2011. CP07/00010.
- Clarimon J. Genetic study in early Alzheimer's disease. Caja Navarra. January 2010-June 2011. 16771-CAN.

Collaborations

Collaborations with other IIB Sant Pau Groups

- Neurobiology of Dementia Group.
- Parkinson Disease and Movement Disorders Group.
- Neuromuscular Diseases Group.

External Collaborations

- Dr. Hardy. Department of Molecular Neuroscience and Reta Lila Weston Laboratories. Institute of Neurology. University College of London (United Kingdom).
- Dr. Combarros. Department of Neurology. Marqués de Valdecillas University Hospital (Santander, Spain).
- Dr. Muñoz. Department of Health and Life Sciences. Pompeu Fabra University (Barcelona, Spain).

Awards

- Novartis Award for the best work published on movement disorders. Article: Dementia risk in parkinson disease: Disentangling the role of MAPT haplotypes. Arch Neurol;68(3):359-64.

\*TIF: 39.217 \*\*MIF: 4.902

Scientific Production

ISI Web of Knowledge Indexed Publications with IF

- |  |  |   |
|--|--|---|
| <p>01 Activation of PKR causes amyloid <math>\beta</math>-peptide accumulation via De-Repression of Bace1 expression 2011. PLoS ONE;6(6): e21456.<br/><b>IF: 4.092</b></p> <p>02 Dementia risk in parkinson disease: Disentangling the role of MAPT Haplotypes 2011. Archives of Neurology;68(3):359.<br/><b>IF: 7.584</b></p> <p>03 Genetic cross-interaction between apoe and prnp in sporadic alzheimer's and creutzfeldt-jakob diseases 2011. PLoS</p> | <p>ONE;6(7): e22090.<br/><b>IF: 4.092</b></p> <p>04 Genetic variation in APOE cluster region and Alzheimer's disease risk 2011. Neurobiology of Aging;32(11):2107.e7.<br/><b>IF: 6.189</b></p> <p>05 GSK3<math>\beta</math> polymorphisms, MAPT H1 haplotype and Parkinson's disease in a Greek cohort 2011. Neurobiology of Aging;32(3): 546.e1.<br/><b>IF: 6.189</b></p> <p>06 IGF-I gene variability is associated with an increased risk for AD 2011. Neurobiology of Aging;32(3):556.e3.<br/><b>IF: 6.189</b></p> | <p>07 PICOGEN: Five years experience with a genetic counselling program for dementia [PICOGEN: experiencia de 5 años de un programa de asesoramiento genético en demencia] 2011. Neurologia;26(3):143.<br/><b>IF: 0.79</b></p> <p>08 Tau enhances <math>\alpha</math>-synuclein aggregation and toxicity in cellular models of synucleinopathy 2011. PLoS ONE;6(10): e26609.<br/><b>IF: 4.092</b></p> |
|--|--|---|

Other Publications

Letter

- Díaz-Manera J., Querol L., Clarimón J., Yagüe S., Illa I. Unique post-exercise electrophysiological test results in a new andersen-tawil syndrome mutation. Clinical Neurophysiology;122(12):2537-9.

# Human Experimental Neuropsychopharmacology

## Coordinator

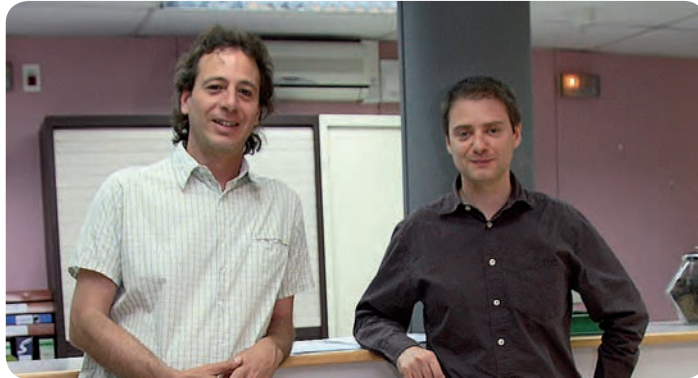
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## Collaborators

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HSCSP RI  
UAB



## Main Lines of Research

### General neuropsychopharmacology:

- Pharmacological modulation of the different neurotransmission systems so as to study the role of these systems in advanced cognitive functions (executive control) and emotion.

### Neuropsychopharmacology of abused substances:

- Study of the effects on the central nervous system of psychodysleptic drugs such as ayahuasca, salvinorin A, dimethyltryptamine and THC. Assessment of the impact of long-term drug use.

## Challenges

- Consolidate existing research lines and extend them through possible cooperation agreements with other groups and according to the growth of the group itself.
- Obtain emerging-group recognition for the Experimental Human Neuropsychopharmacology.
- Obtain stable funding for the group and support in terms of technical staff.
- Communicate our activities.
- Maintain existing external cooperation agreements.
- Establish new cooperation agreements within the HSCSP Research Institute.

## Active Grants

- Riba, J. Evaluation of reward processing and executive functions in cocaine-dependent subjects using MRI. FIS Project. Carlos III Health Institute. January 2008-December 2011. PI07/0952. €80,102.



## Collaborations

## Collaborations with other IIB Sant Pau Groups

- Pharmacokinetic/Pharmacodynamic Modelling and Simulation Group.
- Parkinson Disease and Movement Disorders Group.
- Clinical Psychiatry Group.

## External Collaborations

- Cognition and Brain Plasticity Group. Hospital de Bellvitge (Barcelona, Spain).
- Clinic for Neurology (Lübeck, Germany).
- Department of Comparative Biomedical Sciences (Louisiana State University, Baton Rouge, USA).

\*TIF: 13.327 \*\*MIF: 2.665

## Scientific Production

## ISI Web of Knowledge Indexed Publications with IF

- 01 Kramer U.M., Riba J., Richter S., Munte T.F. An fMRI study on the role of serotonin in reactive aggression. *PLoS ONE*;6(11).  
**IF: 4.092**
- 02 Dos Santos R.G., Valle M., Bouso J.C., Nomdedeu J.F., Rodriguez-Espinosa J., McIlhenny E.H., Barker S.A., Barbanoj M.J., Riba J. Autonomic, neuroendocrine, and immunological effects of ayahuasca: A comparative study with d-amphetamine. *Journal of Clinical*

*Psychopharmacology*;31(6):717-726.  
**IF: 4.098**

- 03 Claria F., Vallverdu M., Riba J., Romero S., Barbanoj M.J., Caminal P. Characterization of the cerebral activity by time-frequency representation of evoked EEG potentials. *Physiological Measurement*;32(8):1327-1346.  
**IF: 1.677**

- 04 McIlhenny E.H., Riba J., Barbanoj M.J., Strassman R., Barker S.A. Methodology for and the determination of the major constituents and metabolites of the amazonian botanical medicine ayahuasca in human urine. *Biomedical Chromatog-*

*raphy*;25(9):970-984.  
**IF: 1.966**

- 05 Riba J.R., Canals T., Cantero R., Iturriaga H. Potential of infrared spectroscopy in combination with extended canonical variate analysis for identifying different paper types. *Measurement Science and Technology*;22(2).  
**IF: 1.494**

## Other Publications

## Book Chapters

- Chapter: Bouso J.C., Riba J. Notes on the neurobiology of cocaine and cocaine addiction. Book: *Pioneers of coca and cocaine*. El Peón Espía, Paiporta (Valencia, Spain, 2011).
- Chapter: Riba J., Barbanoj M.J. Pharmacology of ayahuasca: clinical trials in healthy volunteers. Book: *The internacionalizaton of ayahuasca*. Editors: Labate B.C., Jungaberle H. Lit Verlag (Münster, Germany, 2011).
- Chapter: Bouso J.C., Riba J. An overview of the literature on the pharmacology and neuropsychiatric long term effects of ayahuasca. Book: *The Ethnopharmacology of Ayahuasca*. Editor: Santos R.G. Research Signpost, Trivandrum (India, 2011).

# Neurobiology of Dementia

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Marta Pera HSCSP RI  
Marc Suárez HSCSP RI

## Technicians

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Laia Muñoz HSCSP RI



## Main Lines of Research

### Identification of new biochemical markers in cerebrospinal fluid in Alzheimer disease and other neurodegenerative dementias:

- CSF biomarkers in Alzheimer disease and frontotemporal dementia.
- Amyloid imaging in neurodegenerative dementias.
- Novel MRI markers in preclinical Alzheimer

disease.

- Integral molecular characterization of the gamma-secretase complex in Alzheimer disease.
- Interaction and synergic effects between the tau protein and alphasynuclein in Lewy body disease.
- Role of progranulin and TDP-43 in fronto-temporal dementia.

## Challenges

- Maintain and increase scientific production and funding in the next 5 years.
- Develop a training plan for researchers entering the group while maintaining its translational nature.
- Establish new cooperation agreements

that support applications for European and international projects.

- Establish links with technological innovation groups and companies to foster patent applications and set up contracts.

## Active Grants

- Blesa R. Cerebral amyloid deposits in Alzheimer's disease: role of genetic risk factors and genes involved in neuroplasticity and synaptogenesis. FIS Project. Carlos III Health Institute. January 2011-December 2013. PI10/01878.
- Lleó A. Gamma-secretase complex: interactions and therapeutic implications in Alzheimer disease. FIS Project. Carlos III Health Institute. October 2007-June 2011. PI07/1137.
- Lleó A. Gamma-secretase complex: effect of genetic mutations and role as a therapeutic target in Alzheimer's disease. FIS Project.

Carlos III Health Institute. January 2011-December 2013. PI10/00018. €260,936.

- Fortea J. Multimodal studies of cerebrospinal fluid and MRI in preclinical Alzheimer's disease. FIS Project. Carlos III Health Institute. 2011-2013. PI11/02425. €112,000.
- Lleó A. Multicenter study of CSF biomarkers and neuroimaging in the continuum of pre-clinical and prodromal Alzheimer disease (SIGNAL Study). CIBERNED Project. October 2011-September 2013. €70,00. €
- Lleó A. MIA Grant in the Massachusetts General Hospital (EUA). July 2011.

## Awards

- Spanish Society of Neurology. Award for the best young neurologist to Juan Fortea.

### Collaborations with other IIB Sant Pau Groups

- Genetics in Neurodegenerative Diseases Group.
- Neuroradiology Group.

### External Collaborations

- Joint Programming on biomarkers for Alzheimer's disease and Parkinson's disease Project.
- EDAR study on novel biomarkers in Al-

zheimer's disease.

- QC (Quality Control for Cerebrospinal Fluid in Alzheimer's disease) program on Alzheimer's disease biomarkers.

\*TIF: 65.869 \*\*MIF: 3.659

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- 01 Rami L., Fortea J., Bosch B., Sole-Padullés C., Llado A., Iranzo A., Sanchez-Valle R., Molinuevo J.L. Cerebrospinal fluid biomarkers and memory present distinct associations along the continuum from healthy subjects to AD patients. *Journal of Alzheimer's Disease*;23(2):319-326.  
**IF: 3.745**
- 02 Camacho Martí V., Marquie M., Lleo A., Alves L., Artigas C., Flotats A., Duch J., Blesa R., Gomez-Isla T., Carrio I., Estorch M. Cardiac sympathetic impairment parallels nigrostriatal degeneration in Probable Dementia with Lewy Bodies. *Quarterly Journal of Nuclear Medicine and Molecular Imaging*;55(4):476-485.  
**IF: 2.256**
- 03 Antonell A., Fortea J., Rami L., Bosch B., Balasa M., Sanchez-Valle R., Iranzo A., Molinuevo J.L., Llado A. Different profiles of Alzheimer's disease cerebrospinal fluid biomarkers in controls and subjects with subjective memory complaints. *Journal of Neural Transmission*;118(2):259-262.  
**IF: 2.73**
- 04 Vargas T., Martinez-Garcia A., Antequera D., Vilella E., Clarimon J., Mateo I., Sanchez-Juan P., Rodriguez-Rodriguez E., Frank A., Rosich-Estrago M., Lleo A., Molina-Porcel L., Blesa R., Gomez-Isla T., Combarros O., Bermejo-Pareja F., Valdivieso F., Bullido M.J., Carro E. IGF-1 gene variability is associated with an increased risk for AD. *Neurobiology of Aging*;32(3):556.e3-556.e11.  
**IF: 6.189**
- 05 Fortea J., Llado A., Bosch B., Antonell A., Oliva R., Molinuevo J.L., Sanchez-Valle R. Cerebrospinal fluid biomarkers in Alzheimer's disease families with PSEN1 mutations. *Neurodegenerative Diseases*;8(4):202-207.  
**IF: 3.056**
- 06 Seto-Salvia N., Clarimon J., Pagonabarraga J., Pascual-Sedano B., Campolongo A., Combarros O., Mateo J.I., Regana D., Martinez-Corral M., Marquie M., Alcolea D., Suarez-Calvet M., Molina-Porcel L., Dols O., Gomez-Isla T., Blesa R., Lleo A., Kulisevsky J. Dementia risk in parkinson disease: Disentangling the role of MAPT Haplotypes. *Archives of Neurology*;68(3):359-364.  
**IF: 7.584**
- 07 Antonell A., Balasa M., Oliva R., Llado A., Bosch B., Fabregat N., Fortea J., Molinuevo J.L., Sanchez-Valle R. A novel PSEN1 gene mutation (L235R) associated with familial early-onset Alzheimer's disease. *Neuroscience Letters*;496(1):40-42.  
**IF: 2.105**
- 08 Lleo A., Saura C.A.  $\gamma$ -secretase substrates and their implications for drug development in Alzheimer's disease. *Current Topics in Medicinal Chemistry*;11(12):1513-1527.  
**IF: 4.174**
- 09 Fortea J., Sala-Llonch R., Bartres-Faz D., Llado A., Sole-Padullés C., Bosch B., Antonell A., Olives J., Sanchez-Valle R., Molinuevo J.L., Rami L. Cognitively preserved subjects with transitional cerebrospinal fluid  $\beta$ -amyloid 1-42 values have thicker cortex in Alzheimer's disease vulnerable areas. *Biological Psychiatry*;70(2):183-190.  
**IF: 8.283**
- 10 Sole-Padullés C., Llado A., Bartres-Faz D., Fortea J., Sanchez-Valle R., Bosch B., Antonell A., Molinuevo J.L., Rami L. Association between cerebrospinal fluid tau and brain atrophy is not related to clinical severity in the Alzheimer's disease continuum. *Psychiatry Research - Neuroimaging*;192(3):140-146.  
**IF: 2.964**
- 11 Cervantes S., Samaranch L., Vidal-Taboada J.M., Lamet I., Bullido M.J., Frank-Garcia A., Coria F., Lleo A., Clarimon J., Lorenzo E., Alonso E., Sanchez-Juan P., Rodriguez-Rodriguez E., Combarros O., Rosich M., Vilella E., Pastor P. Genetic variation in APOE cluster region and Alzheimer's disease risk. *Neurobiology of Aging*;32(11):2107.e7-2107.e17.  
**IF: 6.189**
- 12 Badiola N., de Oliveira R.M., Herrera F., Guardia-Laguarta C., Goncalves S.A., Pera M., Suarez-Calvet M., Clarimon J., Outeiro T.F., Lleo A. Tau enhances  $\alpha$ -synuclein aggregation and toxicity in cellular models of synucleinopathy. *PLoS ONE*;6(10).  
**IF: 4.092**
- 13 Calero O., Bullido M.J., Clarimon J., Frank-Garcia A., Martinez-Martin P., Lleo A., Rey M.J., Rabano A., Blesa R., Gomez-Isla T., Valdivieso F., de Pedro-Cuesta J., Ferrer I., Calero M. Genetic cross-interaction between apoE and prnp in sporadic alzheimer's and creutzfeldt-jakob diseases. *PLoS ONE*;6(7).  
**IF: 4.092**
- 14 Fortea J., Llado A., Clarimon J., Lleo A., Oliva R., Peri J., Pintor L., Yague J., Blesa R., Molinuevo J.L., Sanchez-Valle R. PICOGEN: Five years experience with a genetic counseling program for dementia [PICOGEN: experiencia de 5 años de un programa de asesoramiento genético en demencia]. *Neurologia*;26(3):143-149.  
**IF: 0.79**
- 15 Buñill E., Agusti J., Blesa R. Human neoteny revisited: The case of synaptic plasticity. *American Journal of Human Biology*;23(6):729-739.  
**IF: 2.267**
- 16 Blesa Gonzalez R., Boada Rovira M., Martinez Parra C., Gil-Saladie D., Almagro C.A., Gobartt Vazquez A.L. Evaluation of the convenience of changing the rivastigmine administration route in patients with Alzheimer disease [Evaluación de la conveniencia del cambio de vía de administración de rivastigmina en pacientes con enfermedad de Alzheimer]. *Neurologia*;26(5):262-271.  
**IF: 0.79**
- 17 Quintana M., Pena-Casanova J., Sanchez-Benavides G., Langohr K., Manero R.M., Aguilar M., Badenes D., Molinuevo J.L., Robles A., Barquero M.S., Antunez C., Martinez-Parra C., Frank-Garcia A., Fernandez M., Blesa R. Spanish multicenter normative studies (neuronorma project): Norms for the abbreviated barcelona test. *Archives of Clinical Neuropsychology*;26(2):144-157.  
**IF: 2.178**
- 18 Ihl R., Frolich L., Winblad B., Schneider L., Burns A., Moller H.-J. World Federation of Societies of Biological Psychiatry (WFSBP) guidelines for the biological treatment of Alzheimer's disease and other dementias. *World Journal of Biological Psychiatry*;12(1):2-32.  
**IF: 2.385**

# Neuroradiology

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## Main Lines of Research

- Ours is a multidisciplinary research group, which has the added value of joining clinical neuroimaging skills from the members of the Clinical Unit of Neuroradiology at Hospital Sant Pau, and technological knowledge from investigators at the PIC/FAE of the Autonomous University of Barcelona (Spain).
- The main focus is the search for neuroimaging biomarkers in diseases involving the central nervous system, such as neurodegenerative and neuropsychiatric conditions, among others.
- A second research line is the implementation of automatic procedures, and software tools to improve neuroradiological practice.

## Active Grants

- Gómez B. Predicting response to cognitive behaviour therapy in schizophrenic patients with persistent auditory hallucination using fMRI. La Marató de TV3. May 2010-May 2013. 91230. €173,241.
- De Juan M. Presenile dementia characterization by means of high-field MRI (3T) (structural and diffusion tensor). Spanish Society of Medical Radiology. November 2009-October 2011. 08/SERAM.

\*TIF: 32.592 \*\*MIF: 3.259

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- 01 Ng S.A., Corcuera-Solano I., Gurudutt V.V., Som P.M. A rare case of Reidel thyroiditis with associated vocal cord paralysis: CT and MR imaging features. *American Journal of Neuroradiology*;32(11):E201-E202. **IF: 2.928**
- 02 Safont G., Corripio I., Escarti M.J., Portella M.J., Perez V., Ferrer M., Camacho V., Sauras R.B., Alonso A., Grasa E.M., Arranz B., San L., Duenas R., Carrio I., Alvarez E. Cannabis use and striatal D2 receptor density in untreated first-episode psychosis: An in vivo SPECT study. *Schizophrenia Research*;129(2-3):169-171. **IF: 4.748**
- 03 Guevara M., Baccaro M.E., Gomez-Anson B., Frisoni G., Testa C., Torre A., Molinuevo J.L., Rami L., Pereira G., Sotil E.U., Cordoba J., Arroyo V., Gins P. Cerebral magnetic resonance imaging reveals marked abnormalities of brain tissue density in patients with cirrhosis without overt hepatic encephalopathy. *Journal of Hepatology*;55(3):564-573. **IF: 9.264**
- 04 Molinuevo J.L., Gomez-Anson B., Monte G.C., Bosch B., Sanchez-Valle R., Rami L. Neuropsychological profile of prodromal Alzheimer's disease (Prd-AD) and their radiological correlates. *Archives of Gerontology and Geriatrics*;52(2):190-196. **IF: 1.452**
- 05 Portella M.J., de Diego-Adelino J., Gomez-Anson B., Morgan-Ferrando R., Vives Y., Puigdemont D., Perez-Egea R., Ruscalleda J., Enric Alvarez, Perez V. Ventromedial prefrontal spectroscopic abnormalities over the course of depression: A comparison among first episode, remitted recurrent and chronic patients. *Journal of Psychiatric Research*;45(4):427-434. **IF: 4.664**
- 06 Surez-Calvet M., Rojas-Garca R., Lpez-Contreras J., Gmez-Ansn B., Roig-Arnall C. Pachymeningitis, painful ophthalmoplegia, and multiple cranial neuropathy of presumed tuberculous origin. *Neuro-Ophthalmology*;35(5-6):289-292. **IF: 0.256**
- 07 Camacho Marti V., Marquie M., Lleo A., Alves L., Artigas C., Flotats A., Duch J., Blesa R., Gomez-Isla T., Carrio I., Estorch M. Cardiac sympathetic impairment parallels nigrostriatal degeneration in Probable Dementia with Lewy Bodies. *Quarterly Journal of Nuclear Medicine and Molecular Imaging*;55(4):476-485. **IF: 2.256**
- 08 Corripio I., Escarti M.J., Portella M.J., Perez V., Grasa E., Sauras R.B., Alonso A., Safont G., Camacho M.V., Duenas R., Arranz B., San L., Catafau A.M., Carrio I., Alvarez E. Density of striatal D2 receptors in untreated first-episode psychosis: An I 123-IBZM SPECT study. *European neuropsychopharmacology*;21(12):861-866. **IF: 4.046**
- 09 Guardia-Serecigni J., Estorch M., Surkov S., del Valle Camacho M., Ribas G.G. Multidimensional alcohol craving scale and [123I] Iodobenzamide SPECT as predictors of early relapse in alcohol-dependent patients [La Escala Multidimensional de Craving de Alcohol y el SPECT con yodobenzamida[123I] como predictores de recaída precoz en pacientes que presentan dependencia del alcohol]. *Adicciones*;23(2):157-164. **IF: 0.8**
- 10 Quintana M., Pena-Casanova J., Sanchez-Benavides G., Langohr K., Manero R.M., Aguilar M., Badenes D., Molinuevo J.L., Robles A., Barquero M.S., Antunez C., Martinez-Parra C., Frank-Garcia A., Fernandez M., Blesa R. Spanish multicenter normative studies (neuronorma project): Norms for the abbreviated barcelona test. *Archives of Clinical Neuropsychology*;26(2):144-157. **IF: 2.178**

Scientific Production

### Book Chapters

- Chapter: Rodriguez-Revenga L., Gómez-Ansón B., Granell E., Pagonabarraga J., Mila M. Neuroimaging in Fragile X-Associated. Book: Neuroimaging – Clinical Applications. Editor: Prof. Peter Bright. ISBN: 978-953-51-0200-7.
- De Juan M. (coordinator and author of two chapters). Monograph SERAM updates: Head and Neck Radiology. Editorial Médica Panamericana.
- De Juan M., León X. Anatomy and pathology of the larynx. Medical and surgical treatment of neoplasms of the larynx (pp.69-80).
- De Juan M., Orus C. Middle ear inflammatory pathology. Diagnosis and treatment (pp.81-92).

Other Publications

# Ageing Institute

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Eva Julià IE-UAB



## Main Lines of Research

- Health research on ageing:
  - Healthy ageing: physical activity, nutrition and cognition.
  - Frequent health problems among older adults: falls, frailty and sarcopenia, functional loss, Alzheimer and other dementias, malnutrition and other geriatric syndromes.
  - Epidemiological studies.
- Health and social services research.
- Research on caregivers of older adults.
- Promotion of active ageing among older people.
- ICT application on health and social services and active ageing.

## Challenges

### Health research area:

- The health research area is mainly aimed at health promotion and disability prevention in order to improve quality of life among older people.
- The clinical and epidemiological research that we undertake includes both observational and intervention studies. Our main topics of interest include lines of research on mobility, nutrition and cognition.
- Health and Social Services research: Social and health care are key for the maintenance of autonomy. Our interest in health and social services focuses mainly on the following topics:
  - Models of social and health care.
  - The organization of health and social services.
  - Comprehensive needs assessment.
  - Quality of care.
- Good caregiving practices.
- Assessment of dependence.
- Home care services.
- Analysis of economic costs.
- Research on application of ICT (Information and Communication Technologies) in the field of Health, Social Services and active aging:
  - ICT are making a great development to create new resources that are useful and easy to use for the elderly, their families, caregivers and professionals. We work with technology companies to develop systems aimed at monitoring health, facilitate participation and ensure safety.
- Our interest in this area mainly focuses on the following topics:
  - Social appropriation of ICTs.
  - E-Health development.
  - Development of new technological products to promote active aging.

## Collaborations

### Collaborations with other IIB Sant Pau Groups

- FIS Memory Workshops. Public Health Agency of Barcelona and EAP Sardenya.
- CAMINS. EAP Sardenya.

### External Collaborations

- Secure Active Aging: Participation and Health for the Old (SAAPHO). External Collaborations: Fundació Privada Barcelona

Digital Centre Tecnològic, Technosite, AIBIS, Touchtech, Cypak, Fraunhofer IZM, ZDUS.

- CLEAR. Signo Motus Istituto Superiore Di Sanita', Roessingh Research And Development, Universidad Politecnica De Madrid, Stichting Revalidatiecentrum Het Roessingh, Warszawski Uniwersytet Medyczny, Institut Guttmann, Azienda Unita Sanitaria Locale, Regione Toscana, Menzis, Centrum Systemow Informacyjnych Ochrony Zdrowia, TicSalut.

Active Grants

- Coll-Planas L. CAMINS (from loneliness to participation). Catalunya Caixa Foundation. 2011-2012. €20,000.
- Rivero A. Paired Quality Indicators. Diputació de Barcelona (DIBA). 2011. €7,250.
- Rivero A. SAD social. Diputació de Barcelona (DIBA). 2011. €7,840.
- Salvà A. Study measuring the risk of falls aimed at intervention in residences (EMeRCOI-R). FIS Project (€47,190). Premio Sociedad Española de Geriatria y Gerontología (€18,000). 2008-2012. 08/90162.
- Salvà A. Study of the prescription of enteral nutritional support in residences (PRESNER). Nestle. 2010-2012. €60,000.
- Salvà A. Expert integrated tele-assistance and telemedicine e-system for the prevention of dependency and the promotion of personal autonomy for elderly people at home. E-Health Platform for healthy ageing. Plan AVANZA. Spanish Ministry of Industry, Energy and Tourism. 2010-2012. TSI-020110-2009-444. €23,145.
- Salvà A. CLEAR. European Comission. 2008-2012. CIP-ICT-PSP-224985 – 2007-1. 5,615.722.
- Salvà A. Secure Active Aging: Participation and Health for the Old (SAAPHO). European Comisión. 2011-2014. AAL-010000-2011-12. 3,078.799.34.
- Salvà A. Bibliographic Report. Spanish Society of Geriatrics and Gerontology (SEGG). 2011. €18,886.
- Salvà A. Resources long stay in Catalonia. Master Plan for Social Health, Department of Health. Government of Catalonia. Generalitat de Catalunya. 2011. €50,000.

\*TIF: 13.898 \*\*MIF: 2.779

Scientific Production

ISI Web of Knowledge Indexed Publications with IF

- 01 Brugulat-Guiteras P, Puig-Oriol X, Mompart-Penina A., Seculi-Sanchez E., Salva-Casanovas A. Dependency for activities of daily living in the elderly in Catalonia, Spain [Dependencia para la realización de actividades de la vida diaria en las personas mayores de Cataluña.]. *Medicina clínica*;137 Suppl 2():32-36. **IF: 1.385**
- 02 Salva A., Andrieu S., Fernandez E., Schiffrin E.J., Moulin J., Decarli B., Rojano-I-Luque X., Guigoz Y., Vellas B. Health and nutrition promotion program for patients with dementia (NutriAlz): Cluster randomized trial. *Journal of Nutrition, Health and Aging*;15(10):822-830. **IF: 2.686**
- 03 Tolson D., Rolland Y., Andrieu S., Aquino J.-P., Beard J., Benetos A., Berrut G., Coll-Planas L., Dong B., Forette F., Franco A., Franzoni S., Salva A., Swagerty D., Trabucchi M., Vellas B., Volicer L., Morley J.E. International Association of Gerontology and Geriatrics: A Global Agenda for Clinical Research and Quality of Care in Nursing Homes. *Journal of the American Medical Directors Association*;12(3):184-189. **IF: 4.645**
- 04 Inzitari M., Doets E., Bartali B., Benetou V., Di Bari M., Visser M., Volpato S., Gambassi G., Topinkova E., De Groot L., Salva A. Nutrition in the age-related disablement process. *Journal of Nutrition, Health and Aging*;15(8):599-604. **IF: 2.686**
- 05 Lamb S.E., Becker C., Gillespie L.D., Smith J.L., Finnegan S., Potter R., Pfeiffer K. Reporting of complex interventions in clinical trials: Development of a taxonomy to classify and describe fall-prevention interventions. *Trials*;12. **IF: 2.496**

Scientific Production

ISI Web of Knowledge Indexed Publications without IF

- 01 Rolland Y., Aquino J., Andrieu S., Beard J., Benetos A., Berrut G., Coll-Planas L., Dartigues J., Dong B.R., Forette F., Franco A., Franzoni S., Hornez T., Metais P., Ruault G., Stephan E., Swagerty D., Tolson D., Volicer L., Vellas B., Morley J. IAGG workshop: Identification of the main domains for quality of care and clinical research in nursing homes. *Journal of Nutrition, Health and Aging*;15(5):410-24.

Other Publications

- 01 Duaso E, Casas Á, Formiga F, Lázaro del Nogal M, Salvà A, Marcellán T, Navarro C. Falls and osteoporotic fractures prevention units. proposed osteoporosis, falls and fractures group of the spanish society of geriatrics and gerontology. *Revista Espanola De Geriatria y Gerontologia*;46(5):268-74.
- 02 Cruz-Jentoft AJ, Triana FC, Gómez-Cabrera MC, López-Soto A, Masanés F, Martín PM, Rexach JAS, Hidalgo DR, Salvà A, Viña J, Formiga F. The emergent role of sarcopenia: Preliminary report of the observatory of sarcopenia of the spanish society of geriatrics and gerontology. *Revista Espanola De Geriatria y Gerontologia*;46(2):100-10.

# Addictive Behaviours

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## Main Lines of Research

### Alcohol:

- Study of the usefulness of the EMCA, IRISA and SPECT scales with IBZM as possible predictors of outcome in alcohol-dependent patients during the first 12 weeks of recovery.
- Clinical study with escitalopram for treatment of depression and anxiety associated with alcoholism.
- Randomized, double-blind, parallel, placebo-controlled study on the efficacy of nalmefene in alcohol-dependent patients.

### Cocaine:

- Evaluation of cocaine craving during hospitalization conditions.

### Smoking:

- Multicentre, open, randomized clinical trial to measure the efficacy of proactive telephonic follow up as an aid to smoking cessation in comparison with in situ methods.
- Multicentre interventional project on smoking in psychiatric patients. Treatment of tobacco smoking with varenicline in psychiatric patients.

### Opiates:

- Patient satisfaction concerning maintenance treatment with opioid agonists.
- Satisfaction of the heroin-dependent patient regarding methadone and methadone pharmacogenetics.

## Challenges

- Establish bidirectional links between clinical practice and investigation both to suggest hypotheses and to incorporate recent advances.
- Participate in controlled clinical trials on the treatment of addictive disorders.
- Develop clinical research studies into the perspective of patients with addictions.
- Integrate clinical research in routine medical practice to assess the effectiveness of procedures.
- Evaluate the validity and reliability of frequently used clinical evaluation procedures.

## Collaborations

### External Collaborations

- Factor structure, reliability, convergent validity, discriminating power and sensitivity to change of the Spanish version of Remission from Depression Questionnaire (RDQ). 11BI02. Financing Entity: Banco de Instrumentos CIBERSAM. PI: Víctor Pérez Sola (Department of Psychiatry).
- Psychometric properties of the Spanish version of the Clinically Useful Depression

Outcome Scale (CUDOS). BI03. Financing Entity: Banco de Instrumentos CIBERSAM. PI: Joaquín Soler (Department of Psychiatry). 2009-2011.

- Psychometric properties of the Spanish version of the Borderline Symptom List (short Version). BSL-23. BI109. Financing Entity: Banco de Instrumentos CIBERSAM. PI: Juan Carlos Pascual (Department of Psychiatry). 2010-2012.



Active Grants

- Pérez de los Cobos J. Case-control study to assess the association between heroin-dependent patient satisfaction with methadone maintenance treatment and methadone pharmacogenetics. FIS Project. January 2010-December 2012. PI09/1072. €61,710.
- Trujols J. The perspective of patients with schizophrenia in the identification, prioritization and measurement of pragmatic outcome variables: meta-synthesis and systematic review of studies evaluating preferences. FIS Project. January 2010-December 2011. PI09/90034. €12,000.

\*TIF: 17.299 \*\*MIF: 1.922

ISI Web of Knowledge Indexed Publications with IF

- 01 Trujols J., Sinol N., Iraurgi I., Batlle F., Guardia J., Perez de los Cobos J. Patient and clinician's ratings of improvement in methadone-maintained patients: Differing perspectives?. *Harm Reduction Journal*;8. **IF: 1.258**
- 02 De Los Cobos J.P., Sinol N., Trujols J., Banuls E., Batlle F., Tejero A. Drug-dependent inpatients reporting continuous absence of spontaneous drug craving for the main substance throughout detoxification treatment. *Drug and Alcohol Review*;30(4):403-410. **IF: 1.547**
- 03 Guardia-Serecigni J. A change of paradigm in the treatment of low-severity alcoholdependent patients [Cambio de paradigma en el tratamiento del alcoholismo de baja gravedad]. *Adicciones*;23(4):299-316. **IF: 0.8**
- 04 Guardia-Serecigni J., Estorch M., Surkov S., del Valle Camacho M., Ribas G.G. Multidimensional alcohol craving scale and [123I] Iodobenzamide SPECT as predictors of early relapse in alcohol-dependent patients [La Escala Multidimensional de Craving de Alcohol y el SPECT con yodobenzamida[123I] como predictores de recaída precoz en pacientes que presentan dependencia del alcohol]. *Adicciones*;23(2):157-164. **IF: 0.8**
- 05 Guardia J., Roncero C., Galan J., Gonzalez B., Burguete T., Casas M. A double-blind, placebo-controlled, randomized pilot study comparing quetiapine with placebo, associated to naltrexone, in the treatment of alcohol-dependent patients. *Addictive Behaviors*;36(3):265-269. **IF: 2.085**
- 06 Perez de los Cobos J., Sinol N., Puerta C., Cantillano V., Lopez Zurita C., Trujols J. Features and prevalence of patients with probable adult attention deficit hyperactivity disorder who request treatment for cocaine use disorders. *Psychiatry Research*;185(1-2):205-210. **IF: 2.524**
- 07 Portella M.J., Soler J., Tiana T., Barrachina J., Pascual J.C., Tejero A., Alvarez E., Perez V. Slow processing in borderline personality disorder: The emotional Stroop paradigm [Lentificación del procesamiento de la información en el trastorno límite de la personalidad: El paradigma de Stroop emocional]. *Actas Espanolas de Psiquiatria*;39(6):356-362. **IF: 0.589**
- 08 Lopez-Quintero C., Hasin D.S., De Los Cobos J.P., Pines A., Wang S., Grant B.F., Blanco C. Probability and predictors of remission from life-time nicotine, alcohol, cannabis or cocaine dependence: Results from the National Epidemiologic Survey on Alcohol and Related Conditions. *Addiction*;106(3):657-669. **IF: 4.313**
- 09 Lopez-Quintero C., Cobos J.P.D.L., Hasin D.S., Okuda M., Wang S., Grant B.F., Blanco C. Probability and predictors of transition from first use to dependence on nicotine, alcohol, cannabis, and cocaine: Results of the National Epidemiologic Survey on Alcohol and Related Conditions (NESARC). *Drug and Alcohol Dependence*;115(1-2):120-130. **IF: 3.383**

Scientific Production

Scientific Production

Scopus Indexed Publications

- 01 Torrents O., Mora A., Massana L., Robert A., Tejero A. Effectiveness of the application of a coping behaviour group in addicts in an out-patient day hospital environment. *Trastornos Adictivos*;13(4):135-43.

Book Chapters

- Book: Handbook of Addictive Disorders (2nd edition). Editors: Bobes J., Casas M., Gutiérrez M. ADAMED Laboratories (2011). Book Chapters:
  - Casas M., Bruguera E., Duro P., Pinet C. Basic concepts in addictive disorders (pp.17-26).
  - Guàrdia J., Surkov S.I., Cardús M. Neurobiological basis of addiction (pp.27-33).
  - Iraurgi, J. Trujols, J.M. Jiménez-Lerma, M. Landabaso. Health impact assessment of addictions: Proposed quality of life as an indicator for the evaluation of results (p.205-214).
  - Bruguera E., Pinet C. Addictive disorders with Substances: tobacco. biological treatments (pp.397-407).
  - Guàrdia J. Clinic and alcohol treatment (pp.398-407).
- Chapter: Iraurgi I., Trujols J. Outcomes reported by patients (MRIP) in evaluating the effectiveness of care. Book: Iraurgi I., Laespada M.T. New approaches in the treatment of drug addiction (pp.33-49). Deusto University (Bilbao, Spain).

Guides

- Colom J., Solà I., Duro P., Coronado M., Gual A., Ilundain E., Llarger F., López E., Martí T., Ortega R., Sesmiló M., Del Río M., Roncero C., Rueda J., Tejero A., Torrens M. Guia de Clinical Practice Guidelines for the treatment of cocaine dependence. Departament de Salut. Generalitat de Catalunya.

Other Publications





AREA 5

# Uronephrology and Experimental Surgery

**148** General and Digestive Surgery

**151** Neurosurgery

**153** Nephrology

# General and Digestive Surgery

## Coordinator

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Manuel Rodríguez HSCSP  
Eduard Targarona HSCSP

## Collaborators

José Lluís Pallarés HSCSP RI



## Main Lines of Research

### Gastrointestinal surgery:

- Application of laparoscopic surgery in diseases of the spleen.
- Application of laparoscopic surgery in disorders of the oesophagogastric junction.
- Advanced application of colorectal laparoscopy.
- New stratification and treatment options in colorectal cancer.

### Oncological and hepatobiliopancreatic surgery:

- Surgery for liver metastasis in colorectal cancer.
- Development of diagnostic and therapeutic techniques in the global context of treatment for liver metastasis in colorectal carcinoma.

- Surgery for primary hepatic tumours: determination of efficient prognostic parameters for surgical resection of hepatocarcinoma and likelihood of tumour recurrence after resection.
- Introduction of the laparoscopic methodology in biliary lithiasis.
- Surgery for sarcomas: participation in GIST research through GEIS (Spanish Sarcoma Research Group) and other entities.
- Surgery for sarcomas: participation in the development and results of surgery for retroperitoneal tumours.

### Emergency care:

- Collaborative project on clinical safety for the introduction of safe practices in polytraumatized patients.

## Collaborations

### Collaborations with other IIB Sant Pau Groups

- Metabolic Bases of Cardiovascular Risk Group.
- Endocrinology, Diabetes and Nutrition Group.
- Angiology, Vascular Biology and Inflammation Group.
- Clinical and Translational Cardiology Group.

### External Collaborations

- At the National level the group has participated in a CNIC-financed project in collaboration with Jiménez Díaz Fundación, Family Hypercholesterolemia Foundation (Madrid, Spain) and Reina Sofía Hospital (Córdoba, Spain).
- At the international level Dr. Teresa Padró participates in IMI-collaborative project based in academic, SMEs, and pharmaceutical comp

## Challenges

**Gastrointestinal surgery:**

- Design, develop and manage a dry laboratory for endoscopic surgery, creating a multifunctional research and teaching space to conduct applied technological research in minimally invasive surgery.

**Hepatobiliopancreatic surgery for cancer:**

- Development of techniques to study liver volume and function.
- Development of experimental studies on the function and healing of bilio-intestinal sutures.
- Studies of the value of nutrition in patients undergoing aggressive surgery for highly debilitating cancer.
- Suitable stratification of GIST tumours in accordance with an anatomopathological classification.
- Viability of surgical interventions considering the likelihood of disease recurrence.

**Emergency surgery:**

- Consolidation of a multidisciplinary group for polytraumatized patient care.

**Breast surgery:**

- Technological innovations in surgery.
- Possible role of genetic studies in diagnosis and follow-up.

**Endocrinal and cervical surgery:**

- Technical innovations in surgery.

## Active Grants

- Balagué C, Targarona E, Trias M. Bariatric Surgery project: virtual reality platform to control the evolution, simulation and prediction of bariatric surgery. Sub INNPACTO, National Plan for Scientific Research, Development and Technological Innovation. 2008-2011. IPT-2011-1377-900000.
- Martínez C. Study of the stress response after colon surgery comparing conventional treatment and the fast-track method (FT) in open and laparoscopic surgery. The preparation method will not objectify FT advantages of laparoscopy. FIS Project. January 2009-December 2011. PI08/0437.
- Targarona E. Prediction of pathological features of the mesorectum after laparoscopic resection of low rectal cancer, based on preoperative pelvimetry and volume analysis after 3D reconstruction of the pelvis and its contents. FIS Project. January 2010-December 2012. PI09/1437.
- Trias M. Development of nanomedicines for substitute enzymatic replacement therapy on Fabry disease. La Marató de TV3. March 2011-March 2014. 101233.

# General and Digestive Surgery

\*TIF: 21.557 \*\*MIF: 2.695

## Scientific Production

### ISI Web of Knowledge Indexed Publications with IF

- 01 Marinello F.G., Targarona E.M., Luppi C.R.-O., Boguna I., Molet J., Trias M. Laparoscopic approach to retrorectal tumors: Review of the literature and report of 4 cases. *Surgical Laparoscopy, Endoscopy and Percutaneous Techniques*;21(1):10-13. **IF: 1.227**
- 02 Targarona E.M., Balague C., Martinez C., Hernandez M.P., Segade M., Franco L., Garriga J., Trias M. Medium term results on introducing colorrectal laparoscopic surgery into clinical practice after having an intensive training course [Resultados a medio plazo en la implementación de la cirugía laparoscópica colorrectal en la práctica clínica tras la realización de un curso intensivo]. *Cirugia Espanola*;89(5):282-289. **IF: 0.874**
- 03 Castellvi J., Pi F., Sueiras A., Vallet J., Bollo J., Tomas A., Verge J., Caballero F., Iglesias C., De Castro J. Colonoscopic perforation:

Useful parameters for early diagnosis and conservative treatment. *International Journal of Colorectal Disease*;26(9):1183-1190.

**IF: 2.385**

- 04 Rodriguez-Otero C., Targarona E.M., Estalella L., Martinez C. Colocolic intussusception due to an anastomotic lipoma [Invaginación colocolica por lipoma a nivel de anastomosis Colocolic intussusception due to an anastomotic lipoma]. *Cirugia Espanola*;89(9).

**IF: 0.874**

- 05 Paez D., Salazar J., Pare L., Pertriz L., Targarona E., Del Rio E., Barnadas A., Marcuello E., Baiget M. Pharmacogenetic study in rectal cancer patients treated with preoperative chemoradiotherapy: Polymorphisms in thymidylate synthase, epidermal growth factor receptor, GSTP1, and DNA repair genes. *International Journal of Radiation Oncology Biology Physics*;81(5):1319-1327.

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- 06 Manchon-Walsh P., Borrás J.M., Espinas

J.A., Aliste L., Catalanian Rectal Cancer Group (col. Targarona E.) Variability in the quality of rectal cancer care in public hospitals in Catalonia (Spain): Clinical audit as a basis for action. *European Journal of Surgical Oncology*;37(4):325-333.

**IF: 2.499**

- 07 Manchon-Walsh P., Borrás J.M., Espinas J.A., Aliste L. Assessing the effectiveness of a guideline recommendation for preoperative radiochemotherapy in rectal cancer. *Radiotherapy and Oncology*;99(2):142-147.

**IF: 5.58**

- 08 Siegel R., Cuesta M.A., Targarona E., Bader F.G., Morino M., Corcelles R., Lacy A.M., Pahlman L., Haglind E., Bujko K., Bruch H.P., Heiss M.M., Eikermann M., Neugebauer E.A.M. Laparoscopic extraperitoneal rectal cancer surgery: The clinical practice guidelines of the European Association for Endoscopic Surgery (EAES). *Surgical Endoscopy and Other Interventional Techniques*;25(8):2423-2440.

**IF: 4.013**

## Scientific Production

### ISI Web of Knowledge Indexed Publications without IF

- 01 Targarona E.M. Hand-assisted endoscopic surgery: Lights and shadows. *Saudi Journal of Gastroenterology*;17(1):4-5.
- 02 Loinaz C., Hernández T., Mitjavila M., Martín J., Ochando F., Madariaga M.L., Fernández B., Hernández P., Rueda J., Ramos M., Jiménez P., Vorwald P., Fernández J.M., Quintans A. Biliobronchial fistula after liver surgery for giant hydatid cyst. *HPB Surgery*;2011.
- 03 Targarona E.M., Lima M.B., Balague C., Trias M. Single-port splenectomy: Current update and controversies. *Journal of Minimal Access Surgery*;7(1):61-4.

### Scopus Indexed Publications

- Varas M., Gornals J., Ponseti J.M., Alastrué A., Durán C., Llevaria C., Ballesta C., Díez-Caballero A., Artigas V. Pancreatic endocrine tumors or apudomas. *Revista Espanola De Enfermedades Digestivas*;103(4):184-90.

## Other Publications

### Book

- Targarona E., Trias M. Laparoscopic surgery through single incision. Editorial: Marge Medica Books (Barcelona, 2011). ISBN: 978-84-15340-02-7.

### Book Chapters

- Chapter: Targarona E., Balagué C., Martínez C., Hernández M.P., Trias M. Solid organ surgery through single incision (pp.35-39). Book: Targarona E., Trias M. Laparoscopic surgery through single incision. Editorial: Marge Medica Book (Barcelona, 2011).

- Chapter: Targarona E. et al. Laparoscopic surgery through single incision in Spain. Preliminary results from the national registry (pp.58-62). Book: Laparoscopic surgery through single incision. Targarona E., Trias M. Editorial: Marge Medica Book (Barcelona, 2011).

- Chapter: Trias M., Targarona E., Balagué C. Spleen-hematological disorders. Book: Matteotti R., Becker J.M., Ashley S.M. Minimally Invasive Surgical Oncology. State-of - the-Art Cancer Management. Editorial: Springer Verlag (2011).

# Neurosurgery

## Coordinator

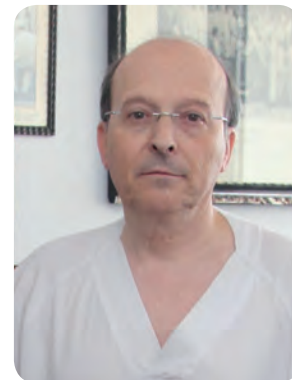
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## Technicians

Xavier Vilana HSCSP RI



## Main Lines of Research

- Study of biomaterials.
- Tumour biology: gliomas, hypophysis adenomas.
- Anatomy of the skull base.
- Clinical evaluation of neurostimulation techniques in different neurological entities (treatment-resistant depression and neuropathic pain).

## Challenges

- Monitor the clinical trial on treatment for treatment-resistant depression using deep brain stimulation techniques, jointly with the psychiatric department.
- Evaluate neurostimulation for other disorders: cluster headache.

### Cooperation with research into gliomas:

- Oncogenesis and Antitumour Group (GOA-HSCSP. PI: Dr. R. Manges) in cooperation with the HSCSP Neurosurgery Department.
- Cooperation with the Cardiovascular Research Institute (managed by Drs. J. Blanco and N. Rubio) investigating the development of antitumour cell therapy strategies for the treatment of malignant gliomas.
- Cooperation with the endocrinology group regarding hypophyseal tumour biology.
- Cooperation with CREAL in a multicenter study on incidence of intracranial gliomas and use of mobile phones. European Study ENV 2008. Risk of brain cancer from exposure to radiofrequency fields in childhood and adolescence.
- Anatomical studies to develop new surgical approaches to skull base tumours in cooperation with the University of Barcelona-Clínic Hospital anatomy professor.

### 2 cerebrovascular disease multicentre clinical trial projects (jointly with the HSCSP Neurology Department):

- Impact-24 study of the effects of stimulation of the sphenopalatine ganglion on cerebral perfusion in patients with CVA.
- Clear III study of intraventricular fibrinolysis to treat cerebral intraventricular haemorrhaging.

# Neurosurgery

\*TIF: 3.499 \*\*MIF: 0.699

## Scientific Production

### ISI Web of Knowledge Indexed Publications with IF

- 01 Munoz F, Tresserras P, Montserrat J.R., Sancho F.J., Bartumeus F. A retrospective study about 11 cases of esthesioneuroblastomas treated in hospital Santa Creu i Sant Pau between 2000 and 2008 and literature review [Estudio retrospectivo de 11 casos de esthesioneuroblastomas tratados en el hospital Santa Creu i Sant Pau entre los años 2000 y 2008 más revisión de la literatura]. *Neurocirugía*;22(5):401-418. **IF: 0.54**
- 02 Catala-Antunez I, de Quintana-Schmidt C., Clavel-Laria P, Montes-Graciano G., Molet-Teixido J. Abducens nerve palsy due to posttraumatic retroclival and spinal subdural hematoma: Case report and literature review [Paresia VI par craneal por hematoma subdural retroclival y espinal postraumático: Presentación de un caso y revisión de la literatura]. *Neurocirugía*;22(4):337-341. **IF: 0.54**
- 03 Marinello F.G., Targarona E.M., Luppi C.R.-O., Boguna I., Molet J., Trias M. Laparoscopic approach to retrorectal tumors: Review of the literature and report of 4 cases. *Surgical Laparoscopy, Endoscopy and Percutaneous Techniques*;21(1):10-13. **IF: 1.227**
- 04 de Quintana-Schmidt C., Clavel-Laria P, Asencio-Cortes C., Vendrell-Brucet J.M., Molet-Teixido J. Sinking skin flap syndrome [Síndrome del colgajo hundido]. *Revista de Neurología*;52(11):661-664. **IF: 0.652**
- 05 de Quintana-Schmidt C., Clavel-Laria P, Bartumeus-Jene F. Ureteral injury after posterior lumbar surgery. Case report [Lesión del uréter tras una cirugía lumbar posterior. Caso clínico]. *Neurocirugía*;22(2):162-166. **IF: 0.54**

## Other Publications

### Book

- Tresserras P, Muñoz F. Skull base approaches: Approaches to the anterior fossa. Editorial: Publicaciones Permanyer (2011).

### Book Chapter

- Chapter: Molet J. Cluster headache (pp.397-401). Book: García de Sola R., García Navarrete E. Stereotactic and Functional Neurosurgery. Editorial: Viguera Editores SL (2011).



# Nephrology

## Coordinator

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## Researchers

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Elena Guillén  
Lluís Guirado  
Arantxa Maderuelo  
Olga Sancho  
Sheila Santín  
Irene Silva  
Roser Torra



## Main Lines of Research

- Proteomics applied to nephrology and hypertension induced by anti-calceineurin agents.
- Hereditary kidney diseases: genetic and clinical studies in disorders such as polycystic kidneys, Alport disorder, corticoid-resistant nephrotic syndrome.
- Fabry disease and treatment of angioliopomas with rapamycin.
- Glomerular disorders: molecular and clinical studies in disorders such as Sjögren's syndrome, membranous glomerulopathy and vasculitis with renal involvement.
- Kidney transplant: cardiovascular risk factors, chronic nephropathy of renal graft, pharmacogenetic and genomic studies.
- Chronic kidney disease and cardiovascular risk: early diagnosis, studies of genetic damage in patients with chronic renal insufficiency, epidemiological studies, clinical studies of chronic renal insufficiency, hyperparathyroidism, renal anemia, renal osteodystrophy and haemodialysis techniques.
- Mechanisms of epythelial mesenchymal transition and renal fibrosis.

## Challenges

- To maintain the level of national and international publications.
- To continue with clinical and basic research in all previously described areas both in clinical and basic research.
- To actively participate in the elaboration of most important Clinical Nephrology Guidelines.
- To continue with active collection of research samples in CKD and transplant patients.

## Active Grants

- Ars E. Biobanks Network. Carlos III Health Institute. January 2010-December 2012. RD09/0076/00064. €103,500.
- Ballarín J. Consolidated Nephrology Research Group. AGAUR. January 2010-December 2014. 2009 SGR 1116. €46,800.
- Ballarín J. RedinRen. Carlos III Health Institute. January 2007-December 2011. R06/0016/0001. €33,590.
- Díaz J.M.. Optimal immunosuppression in patients at high risk of de novo diabetes after kidney transplantation: a prospective, multicentre, controlled trial. Carlos III Health Institute. January 2009-December 2011. EC 08/00270. €66,550.
- Fernández-Llama P. Carlos III Health Institute. January 2011 – December 2013. PI10/01261. €181,742.
- Torra R. Implication of genetic variants and podocyte damage in primary nephrotic syndrome. Carlos III Health Institute. January 2010-December 2012. PS09/01506. €145,200.
- Torra R. Clinical trial to evaluate the efficacy and safety of rapamycin in angiomyolipomas in patients with tuberous sclerosis. Carlos III Health Institute. January 2008-December 2011. EC07/90025. €405,955.
- Torra R. Clinical trial to evaluate the efficacy and safety of rapamycin in angiomyolipomas in patients with tuberous sclerosis. DGFPs. January 2010 – December 2011. TRA 092. €204,000.

# Nephrology

## Collaborations

### External Collaborations

- Active collaboration as associate group in REDINREN. 06/0016/0001. PI: Dr. Ballarín.
- Biobanc Network. RD09/0076/00064. PI: Dr. Ars.

## Awards

- First prize Manolo Luque. XI Edition of clinical cases of hypertension and cardiovascular risk Manolo Luque. Title: The use of new techniques for the diagnosis of pheochromocytoma recurrence. Authors: Reyes J., Estorch M., Calero F., Ballarín J., Fernández-Llama P. XVI National Meeting of SEH-LELHA (Barcelona, Spain, March 2011).

\*TIF: 63.737 \*\*MIF: 3.035

## Scientific Production

### ISI Web of Knowledge Indexed Publications with IF

- 01 Bosch R.J., Ortega A., Izquierdo A., Arribas I., Bover J., Esbrit P. A transgenic mouse model for studying the role of the parathyroid hormone-related protein system in renal injury. *Journal of Biomedicine and Biotechnology*;2011. **IF: 2.436**
- 02 Ballarín J., Arce Y., Torra R., Diaz M., Manzarbeitia F., Ortiz A., Egido J., Moreno JA. Acute renal failure associated to paroxysmal nocturnal haemoglobinuria leads to intratubular haemosiderin accumulation and CD163 expression. *Nephrology Dialysis Transplantation*;26(10):3408-3411. **IF: 3.396**
- 03 Bover J., Perez R., Molina M., Benavides B., Ariza F., Miguel J.L., Tornero F., Torregrosa J.V. Cinacalcet treatment for secondary hyperparathyroidism in dialysis patients: An observational study in routine clinical practice. *Nephron – Clinical Practice*;118(2):c109-c121. **IF: 2.038**
- 04 Santin S., Bullich G., Tazon-Vega B., Garcia-Maset R., Gimenez I., Silva I., Ruiz P., Ballarín J., Torra R., Ars E. Clinical utility of genetic testing in children and adults with steroid-resistant nephrotic syndrome. *Clinical Journal of the American Society of Nephrology*;6(5):1139-1148. **IF: 5.227**
- 05 Santin S., Tazon-Vega B., Silva I., Cobo M.A., Gimenez I., Ruiz P., Garcia-Maset R., Ballarín J., Torra R., Ars E. Clinical value of NPHS2 analysis in early – and adult-onset steroid-resistant nephrotic syndrome. *Clinical Journal of the American Society of Nephrology*;6(2):344-354. **IF: 5.227**
- 06 Lopez C.C., Marti T., Catala V., Torres F., Mateu S., Castan J.B., Balcells R.T. Effects of rapamycin on angiomyolipomas in patients with tuberous sclerosis [Efectos de la rapamicina en los angiomiolipomas de pacientes con esclerosis tuberosa]. *Nefrologia*;31(3):292-298. **IF: 1**
- 07 Guirado L., Cantarell C., Franco A., Huertas E.G., Fructuoso A.S., Fernandez A., Gentil M.A., Rodriguez A., Paul J., Torregrossa J.V., Rodriguez A., Alonso A., Hernandez D., Burgos D., Jimenez C., Jimeno L., Lauzurica R., Mazuecos A., Osuna A., Plumed J.S., Ruiz J.C., Zarraga S. Efficacy and safety of conversion from twice-daily to once-daily tacrolimus in a large cohort of stable kidney transplant recipients. *American Journal of Transplantation*;11(9):1965-1971. **IF: 6.394**
- 08 Torregrosa J.-V., Fuster D., Monegal A., Gentil M.A., Bravo J., Guirado L., Muxi A., Cubero J. Efficacy of low doses of pamidronate in osteopenic patients administered in the early post-renal transplant. *Osteoporosis International*;22(1):281-287. **IF: 4.58**
- 09 Lo Giacco D., Ars E., Bassas L., Galan J.J., Rajmil O., Ruiz P., Caffaratti J., Guarducci E., Ruiz-Castane E., Krausz C. ESR1 promoter polymorphism is not associated with nonsyndromic cryptorchidism. *Fertility and Sterility*;95(1):369-371.e2. **IF: 3.775**
- 10 Barba-Romero M.-A., Rivera-Gallego A., Pintos-Morell G., Spanish FOS-Study Group (col. Torra R.) Fabry disease in Spain: Description of Spanish patients and a comparison with other European countries using data from the Fabry Outcome Survey (FOS). *International Journal of Clinical Practice*;65(8):903-910. **IF: 2.415**
- 11 Ars E., Lo Giacco D., Bassas L., Nuti F., Rajmil O., Ruiz P., Garat J.M., Ruiz-Castane E., Krausz C. Further insights into the role of t222p variant of rxfp2 in non-syndromic cryptorchidism in two mediterranean populations. *International Journal of Andrology*;34(4 PART 1):333-338. **IF: 3.591**
- 12 Tavira B., Coto Garcia E., Diaz-Corte C., Ortega F., Arias M., Torres A., Diaz J.M., Selgas R., Lopez-Larrea C., Campistol J.M., Ruiz-Ortega M., Alvarez V. KCNQ1 gene variants and risk of new-onset diabetes in tacrolimus-treated renal-transplanted patients. *Clinical Transplantation*;25(3):E284-E291. **IF: 1.667**
- 13 Cruzado J.M., Poveda R., Ibernón M., Diaz M., Fulladosa X., Carrera M., Torras J., Bestard O., Navarro I., Ballarín J., Romero R., Grinyo J.M. Low-dose sirolimus combined with angiotensin-converting enzyme inhibitor and statin stabilizes renal function and reduces glomerular proliferation in poor prognosis IgA nephropathy. *Nephrology Dialysis Transplantation*;26(11):3596-3602. **IF: 3.396**

\*TIF: 63.737 \*\*MIF: 3.035

## Scientific Production

- 14 Torra Balcells R., Ars Criach E. Molecular diagnosis of autosomal dominant polycystic kidney disease [Diagnóstico molecular de la poliquistosis renal autosómica dominante]. *Nefrologia*;31(1):35-43. **IF: 1**
- 15 Tavira B., García E.C., Díaz-Corte C., Ortega F., Arias M., Torres A., Díaz J.M., Selgas R., Lopez-Larrea C., Campistol J.M., Alvarezca V. Pharmacogenetics of tacrolimus after renal transplantation: Analysis of polymorphisms in genes encoding 16 drug metabolizing enzymes. *Clinical Chemistry and Laboratory Medicine*;49(5):825-833. **IF: 2.15**
- 16 Armario P., Oliveras A., Hernandez Del Rey R., Ruilope L.M., De La Sierra A., Grupo de Investigadores del Registro de Hipertensión refractaria de la Sociedad Española de Hipertensión/Liga Española para la Lucha contra la Hipertensión Arterial (SEH-LELHA) (col. Fernandez P.) Prevalence of target organ damage and metabolic abnormalities in resistant hypertension [Prevalencia de lesión de órganos diana y alteraciones metabólicas en la hipertensión arterial refractaria]. *Medicina Clinica*;137(10):435-439. **IF: 1.385**
- 17 Torregrosa J.-V., Bover J., Andia J.C., Lorenzo V., de Francisco A.L.M., Martínez I., Portillo M.R., Arenas L., Parra E.G., Caravaca F., Martín-Malo A., Giraldez E.F., Torres A. Recommendations of the Spanish Society of Nephrology for managing bone-mineral metabolic alterations in chronic kidney disease patients (S.S.N.-MM) [Recomendaciones de la Sociedad Española de Nefrología para el manejo de las alteraciones del metabolismo óseo-mineral en los pacientes con enfermedad renal crónica (S.E.N.-MM)]. *Nefrologia*;31(SUPPL.1):3-32. **IF: 1**
- 18 Arce J., Rosales A., Caffaratti J., Montlleo M., Guirado L., Díaz J.M., Villavicencio H. Renal retransplantation: Risk factors and results [Retrasplante renal: Factores de riesgo y resultados]. *Actas Urológicas Espanolas*;35(1):44-50. **IF: 0.455**
- 19 Higashihara E., Torres V.E., Chapman A.B., Grantham J.J., Bae K., Watnick T.J., Horie S., Nutahara K., Ouyang J., Krasa H.B., Czerwiec F.S., TEMPOFormula and 156-05-002 Study Investigators (col. Torra R.) Tolvaptan in autosomal dominant polycystic kidney disease: Three years' experience. *Clinical Journal of the American Society of Nephrology*;6(10):2499-2507. **IF: 5.227**
- 20 Oliveras A., Armario P., Martell-Claros N., Ruilope L.M., De La Sierra A., Spanish Society of Hypertension-Resistant Hypertension Registry (col. Fernandez P.) Urinary albumin excretion is associated with nocturnal systolic blood pressure in resistant hypertensives. *Hypertension*;57(3 PART 2):556-560. **IF: 6.207**
- 21 Santin S., Fraga G., Ruiz P., Pardo N., Torrent M., Martí T., Ballarín J., Ars E., Torra R. WT1 mutations may be a cause of severe renal failure due to nephroblastomatosis in Wilms' tumor patients. *Clinical Nephrology*;76(3):244-249. **IF: 1.171**

## Scientific Production

## Scopus Indexed Publications

- 01 Musso C.G., Bover J., Peña H., Torres-Torres G., Coma M.J. The 2009 international congress of nephrology through internet. *Dialisis y Trasplante*;32(1):3-4.
- 02 Prados-Garrido M.D., Bover J., González-Álvarez M.T., Hervás J.G., Ocharan-Corcuera J., Foraster A., Llopis A., Fernández E., Dusso A., Cannata-Andía J.B. Clinical practice guideline for chronic kidney disease-mineral and bone disease (2010 version). *Dialisis y Trasplante*;32(3):108-18.
- 03 García M.F., Coll E., Pedret S.V., Guitarte C.B., Fernández M.C.C., Rius M.C., Montes M.G., Martínez-Brú C., Surribas D.P., González T.R., Ortiz C.V., Viedma Contreras J.A., Muñoz E.Z. Fe de errores de «Cistatina C en la evaluación de la función renal». *Revista Del Laboratorio Clinico*;4(3):170.
- 04 Fernández García M., Coll E., Ventura Pedret S., Bermudo Guitarte C., Cárdenas Fernández M.C., Cortés Rius M., García Montes M., Martínez-Brú C., Pérez Surribas D., Rodríguez González T., Valldecabres Ortiz C., Viedma Contreras J.A., Zapico Muñoz E. Assessment of renal function using cystatin C. *Revista Del Laboratorio Clinico*;4(1):50-62.
- 05 Fernández-Llama P. Telmisartan in the treatment of arterial hypertension: An additional benefit in the oxidative balance. *Hipertension y Riesgo Vascular*;28(2):37-8.

## Other Publications

## Guides

- Torregrosa J.V., Bover J., Cannata Andía J., Lorenzo V., De Francisco A.L.M., Martínez I., Rodríguez M., Arenas L., González E., Caravaca F., Martín-Malo A., Fernández E., Torres A. Recommendations of the Spanish Society of Nephrology for the management of abnormal bone-mineral metabolism in chronic kidney disease patients (SEN-MM). *Nefrologia*;31(S1):3-32.
- Montañés R., Gracia S., Pérez D., Martínez A., Bover J. Consensus document. Recommendations on the assessment of proteinuria in the diagnosis and monitoring of chronic kidney disease. *Nefrologia*;31(3):331-345.

## Book Chapters

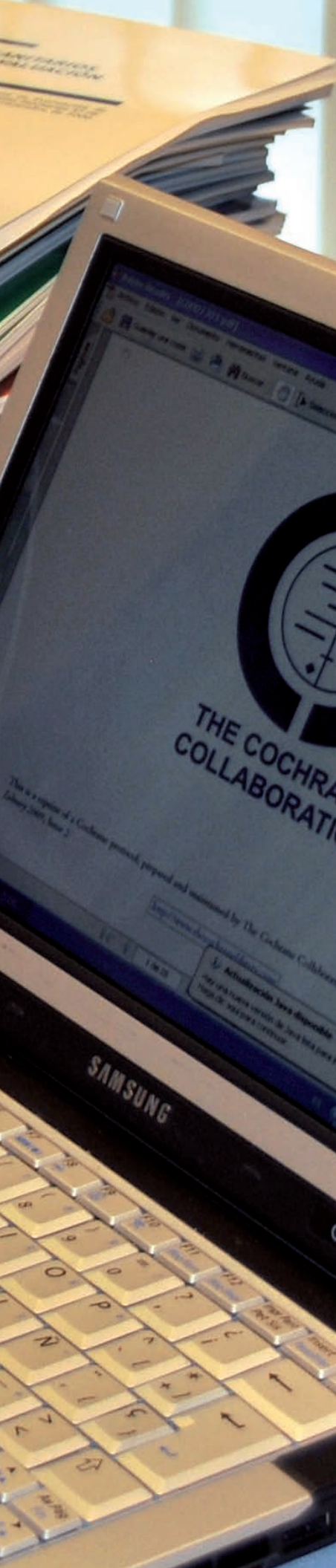
- Chapter: Calcimimetics in chronic kidney disease stage 5D. Book: Bover J., Aguilar A., Venegas J., Jofré R. Alterations of bone and mineral metabolism in chronic kidney disease: advances in pathogenesis, diagnosis and treatment. Editors: Wolter Kluwer, Lippincott Williams & Wilkins. Editorial: Cannata J., Torregrosa V.
- Chapter: Fernández-Llama P. Role of diuretics in the treatment of HTN. Book: Advances in Hypertension and Cardiovascular Risk.
- Chapter: Catala V., Fernández-Llama P. Vascular-renal hypertension. Book: Updating the SERAM "Genitourinary Update".



...of acute flaccid paralysis in Uttar Pradesh in recent years...  
...of acute flaccid paralysis in Uttar Pradesh in recent years...  
...of acute flaccid paralysis in Uttar Pradesh in recent years...



Figure 1 The effect of monovalent vaccine on population immunity among children in Uttar Pradesh. Calculations assume that all doses were received through supplementary immunisation campaigns. (A) The mean number of doses of each type of oral poliovirus vaccine received by children in Uttar Pradesh by 3-month age groups comparing the last quarter of 2004 with 2006. (B) The proportion of children in Uttar Pradesh who received 0, 1, 2, or 3 doses of oral poliovirus vaccine in the last quarter of 2004 and 2006, based on the estimated coverage and efficacy of monovalent and trivalent vaccines. nOPV1=monovalent oral type 1 poliovirus vaccine; nOPV2=monovalent oral type 2 poliovirus vaccine; nOPV3=monovalent oral type 3 poliovirus vaccine.



## AREA T1

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# Clinical Epidemiology and Healthcare Services

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## Main Lines of Research

- Clinical epidemiology.
- Systematic reviews.
- Clinical practice guidelines.
- Health service evaluations.
- Clinical trials (phase 3/4).
- Methodological research.

## Areas of interest:

- Evidence-based medicine.
- Cancer.
- Perioperative medicine.
- Cardiovascular medicine.
- Public health.
- Lower back pain.
- Appropriateness.

## Challenges

- Become a reference group in Spain and in Latin America regarding the preparation of systematic reviews on the effects of healthcare interventions, enhancing the group's capacity to provide technical and methodological support and increasing its scientific production in the framework of the Iberoamerican Cochrane Network. The group is currently participating directly in the preparation of a number of systematic reviews and is providing support to other reviews inspired by the Iberoamerican Cochrane Network, expected to be published by the Cochrane Library (with an impact factor of 6.186) in the next 2 years.
- Promote greater use of scientific evidence and evidence-based medicine tools in clinical and healthcare decision making by means of stable agreements with governmental, academic and scientific entities and institutions, thereby ensuring the ongoing development and dissemination of these

tools and the implementation of training in their use. It is also developing clinical practice guidelines and a number of training activities regarding evidence-based medicine.

- Become a reference group for independent applied clinical research that fosters relevant and scientifically sound studies aimed at meeting the real needs of the national healthcare system, whether on its own initiative or through networked relationships with similar groups (CIBERESP, Cochrane Collaboration, Latin-American Clinical Epidemiology Network and other academic groups such as McMaster University in Canada). Apart from research studies already underway, the group is currently setting up clinical and epidemiological studies (phase 3/4 trials with non-commercial interests, research into healthcare services and results and studies of research methodologies) and apply for additional public funding for new projects aimed at consolidating these research lines.

## Collaborations

### Collaborations with other IIB Sant Pau Groups

- Locomotor System Research Group.
- Evaluation of Public Health Policies and Programmes Group.
- Nephrology Group.
- Palliative Care Group.

### External Collaborations

- Alonso P. Internacional PI: University of Dundee (Scotland, United Kingdom). Developing and Evaluating Communication strategies to support Informed Decisions and practice based on Evidence. DECIDE. European Union Project. January 2011-December 2015. 258583. 245,979.60.
- Alonso P. Internacional PI: Philip Dèveaux. McMaster University (Canada). Vascular events in patients undergoing

Collaborations

- non-cardiac surgery: prospective cohort study (VISION). Hamilton Health Sciences Corporation. March 2009-December 2012. 08/2330. €143,003.
- Bonfill X. Internacional PI: Gerd Antes. University of Freiburg (Germany). OPEN-Overcome failure to Publish Negative Findings. European Union project. November 2011-October 2013. 282543. €57,929.
- Bonfill X. Internacional PI: Richard Peto. Adjuvant Tamoxifen, Longer Against Shorter (ATLAS Trial). Oxford University (United Kingdom). January 2007-December 2015. 96/367.15. €48,166.
- Urrútia G. Nacional PI: Dr. Antonio Cano. Doctor Peset Hospital (Valencia, Spain). Randomized, double-blind, placebo-controlled trial to evaluate the efficacy and tolerability of the combination of soy isoflavones and red clover extract (Fitogyn) in the treatment of hot flashes in menopausal women. Laboratory Casen-Fleet. January 2009-December 2012. 2009-011546-26. €21,000.
- Urrútia G. Internacional PI: Philip Devereaux. McMaster University (Canada). Clinical trial of metoprolol versus placebo in patients about to undergo noncardiac surgery and who are at risk of having moderate or high perioperative cardiac events (POISE Study-1). McMaster University. 2008-2011. 2004-003595-11.
- Urrútia G. IP internacional: Philip Devereaux. McMaster University (Canada). Factorial trial of clonidine and aspirin in patients about to undergo noncardiac surgery and who are at moderate or high risk of developing perioperative cardiac events (POISE Study-2). McMaster University. 2009-2014. 2009-018173-31.

Active Grants

- Alonso P. Evaluation of the validity and updating strategies for clinical practice guidelines: analysis of the National Program GPC for the National Health System. FIS Project. January 2011-December 2013. PI10/00346. 103,636.50.
- Alonso P. Developing and Evaluating Communication strategies to support Informed Decisions and practice based on Evidence. DECIDE. European Union Project. January 2011-December 2015. 258583. 245,979.60.
- Alonso P. Vascular events in patients undergoing non-cardiac surgery: prospective cohort study (VISION). La Marató de TV3. March 2009-December 2012. 08/2330.143,003.
- Alonso P. Clinical trial evaluating different treatment strategies with antibiotics in acute uncomplicated respiratory infections in primary care (PDA study). FIS Project. January 2009-June 2011. EC08/00095. €121,000.
- Alonso P. Understanding, needs and attitudes of doctors to clinical practice guidelines and classification systems for evidence and grades of recommendation (ETES). FIS Project. January 2009-December 2011. PI08/90647. €42,955.
- Alonso P. Vascular events in patients undergoing surgery for non-cardiac surgery. The VISION study. FIS Project. February 2010-January 2013. CP09/00137. €30,000.
- Bonfill X. Grants to support research groups in Catalonia. Clinical Epidemiology and Health Services Group. AGAUR Project. September 2009-December 2013. 2009SGR 786. €41,600.
- Bonfill X. Multicentre coordinated study of care processes and the results observed for a cohort of patients with urological cancer (bladder and prostate). FIS Project. January 2010-December 2012. PI09/1204. €123,420.
- Bonfill X. OPEN-Overcome failure to Publish Negative Findings. European Union Project. November 2011-October 2013. 282543. €57,929.
- Gich I. Quality assessment and scientific impact of cancer clinical trials conducted in Spain. Carlos III Health Institute. FIS Project. January 2007-December 2011. PI06/0649. €126,203.
- Martínez M. Randomized, multicentre, parallel, single blind clinical trial, masked for the unevaluated treatment, to evaluate the effectiveness of platelet-rich plasma (PRP) treatment of autologous muscle tears in tennis leg. FIS Project. January 2009-December 2012. PI08/0724. €121,726.
- Martínez M. Prevention of postoperative bleeding: randomized, parallel, single-centre clinical trial with four treatment arms to evaluate the effectiveness of fibrin glue and tranexamic acid versus standard haemostasis treatment in patients undergoing treatment for total knee arthroplasty. Spanish Ministry of Health, Social Services and Equality. January 2010-December 2011. TRA-081. 94,166.40.
- Tort S. Youth and alcohol consumption. Analysis of the transfer of knowledge: scientific evidence into clinical practice. National Plan on Drugs. January 2011-December 2011. 2010/072. €20,000.
- Urrútia G. Factorial clinical trial of clonidine and aspirin in patients about to undergo non-cardiac surgery and at moderate or high risk of experiencing perioperative cardiac events. Spanish Ministry of Health, Social Services and Equality. January 2010-December 2012. TRA-061. €99,960.

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Scientific Production

ISI Web of Knowledge Indexed Publications with IF

- 01 Tejedor C., Diaz A., Faus G., Perez V., Sola I. Outcomes of a suicide prevention program in the general population. Barcelona dreia eixample district. *Actas Espanolas de Psiquiatria*;39(5):280-287. **IF: 0.589**
- 02 Broazek J.L., Akl E.A., Compalati E., Kreis J., Terracciano L., Fiocchi A., Ueffing E., Andrews J., Alonso-Coello P., Meerpohl J.J., Lang D.M., Jaeschke R., Williams Jr J.W., Phillips B., Lethaby A., Bossuyt P., Glasziou P., Helfand M., Watine J., Afilalo M., Welch V., Montedori A., Abraha I., Horvath A.R., Bousquet J., Guyatt G.H., Schunemann H.J. Grading quality of evidence and strength of recommendations in clinical practice guidelines Part 3 of 3. the GRADE approach to developing recommendations. *Allergy: European Journal of Allergy and Clinical Immunology*;66(5):588-595. **IF: 6.271**
- 03 Calderan C., Sola I., Rotaecche R., Marzo-Castillejo M., Louro-Gonzalez A., Carrillo R., Gonzalez A.-I., Alonso-Coello P. EBM in primary care: A qualitative multicenter study in Spain. *BMC Family Practice*;12. **IF: 1.799**
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# Clinical Epidemiology and Healthcare Services

\*TIF: 139.907 \*\*MIF: 4.240

- E.A., Mejza F, Bala M.M., Bassler D., Mertz D., Diaz-Granados N., Vandvik P.O., Malaga G., Srinathan S.K., Dahm P, Johnston B.C., Alonso-Coello P, Hassouneh B., Truong J., Dattani N.D., Walter S.D., Heels-Ansdell D., Bhatnagar N., Altman D.G., Guyatt G.H. The influence of study characteristics on reporting of subgroup analyses in randomised controlled trials: systematic review. *BMJ (Clinical research ed.)*;342(7800):748.  
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- 07 Burgos J., Lujan M., Falco V., Sanchez A., Puig M., Borrego A., Fontanals D., Planes A.M., Pahissa A., Rello J. The spectrum of pneumococcal empyema in adults in the early 21st century. *Clinical Infectious Diseases*;53(3):254-261.  
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- 08 Castells X., Ramos-Quiroga J.A., Rigau D., Bosch R., Nogueira M., Vidal X., Casas M. Efficacy of methylphenidate for adults with attention-deficit hyperactivity disorder: A meta-regression analysis. *CNS Drugs*;25(2):157-169.  
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- 09 Barragan Loayza I.M., Sola I., Juando Prats C. Biofeedback for pain management during labour. *Cochrane database of systematic reviews (Online)*;6.  
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- 10 Basurto Ona X., Martinez Garcia L., Sola I., Bonfill Cosp X. Drug therapy for treating post-dural puncture headache. *Cochrane database of systematic reviews (Online)*;8.  
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- 11 Rueda J.R., Ballesteros J., Guillen V., Tejada M.I., Sola I. Folic acid for fragile X syndrome. *Cochrane database of systematic reviews (Online)*;5.  
**IF: 5.912**
- 12 Marti-Carvajal A.J., Sola I., Lathyris D., Cardona A.F. Human recombinant activated protein C for severe sepsis. *Cochrane database of systematic reviews (Online)*;4.  
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- 13 Rueda J.R., Sola I., Pascual A., Subirana Casacuberta M. Non-invasive interventions for improving well-being and quality of life in patients with lung cancer. *Cochrane database of systematic reviews (Online)*;9.  
**IF: 5.912**
- 14 Roque I Figuls M., Martinez-Zapata M.J., Scott-Brown M., Alonso-Coello P. Radioisotopes for metastatic bone pain. *Cochrane database of systematic reviews (Online)*;7.  
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- 15 Marti-Carvajal A.J., Sola I., Pena-Martí G.E., Comunian-Carrasco G. Treatment for anemia in people with AIDS. *Cochrane database of systematic reviews (Online)*;10.  
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- 17 Antonijoan R.M., Gich I., Azaro A., Sainz S., Balanzo J., Izquierdo I., Borja J., Donado E., Blanch I., Barbanj M.J. Gastrointestinal safety of triflusal solution in healthy volunteers: A proof of concept endoscopic study. *European Journal of Clinical Pharmacology*;67(7):663-669.  
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- 18 Gimenez S., Romero S., Gich I., Clos S., Grasa E., Rosa-Maria A., Barbanj M.-J. Sex differences in sleep after a single oral morning dose of olanzapine in healthy volunteers. *Human Psychopharmacology*;26(7):498-507.  
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- 19 Alonso-Coello P, Martinez Garcia L., Carrasco Gimeno J.M., Sola I., Qureshi S., Burgers J.S. The updating of clinical practice guidelines: Insights from an international survey. *Implementation Science*;6(1).  
**IF: 3.1**
- 20 Zapata L., Vera P., Roglan A., Gich I., Ordonez-Llanos J., Betbese A.J. B-type natriuretic peptides for prediction and diagnosis of weaning failure from cardiac origin. *Intensive Care Medicine*;37(3):477-485.  
**IF: 5.399**
- 21 Guyatt G.H., Oxman A.D., Kunz R., Brozek J., Alonso-Coello P, Rind D., Devereaux P.J., Montori V.M., Freyschuss B., Vist G., Jaeschke R., Williams Jr. J.W., Murad M.H., Sinclair D., Falck-Ytter Y., Meerpohl J., Whittington C., Thorlund K., Andrews J., Schunemann H.J. GRADE guidelines 6. Rating the quality of evidence – Imprecision. *Journal of Clinical Epidemiology*;64(12):1283-1293.  
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- 22 Guyatt G.H., Oxman A.D., Vist G., Kunz R., Brozek J., Alonso-Coello P, Montori V., Akl E.A., Djulbegovic B., Falck-Ytter Y., Norris S.L., Williams Jr. J.W., Atkins D., Meerpohl J., Schunemann H.J. GRADE guidelines: 4. Rating the quality of evidence – Study limitations (risk of bias). *Journal of Clinical Epidemiology*;64(4):407-415.  
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- 23 Guyatt G.H., Oxman A.D., Montori V., Vist G., Kunz R., Brozek J., Alonso-Coello P, Djulbegovic B., Atkins D., Falck-Ytter Y., Williams Jr. J.W., Meerpohl J., Norris S.L., Akl E.A., Schunemann H.J. GRADE guidelines: 5. Rating the quality of evidence – Publication bias. *Journal of Clinical Epidemiology*;64(12):1277-1282.  
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- 24 Guyatt G.H., Oxman A.D., Kunz R., Woodcock J., Brozek J., Helfand M., Alonso-Coello P, Glasziou P, Jaeschke R., Akl E.A., Norris S., Vist G., Dahm P, Shukla V.K., Higgins J., Falck-Ytter Y., Schunemann H.J. GRADE guidelines: 7. Rating the quality of evidence – Inconsistency. *Journal of Clinical Epidemiology*;64(12):1294-1302.  
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- 25 Guyatt G.H., Oxman A.D., Kunz R., Woodcock J., Brozek J., Helfand M., Alonso-Coello P, Falck-Ytter Y., Jaeschke R., Vist G., Akl E.A., Post P.N., Norris S., Meerpohl J., Shukla V.K., Nasser M., Schunemann H.J. GRADE guidelines: 8. Rating the quality of evidence – Indirectness. *Journal of Clinical Epidemiology*;64(12):1303-1310.  
**IF: 4.271**
- 26 Guyatt G.H., Oxman A.D., Sultan S., Glasziou P, Akl E.A., Alonso-Coello P, Atkins D., Kunz R., Brozek J., Montori V., Jaeschke R., Rind D., Dahm P, Meerpohl J., Vist G., Berliner E., Norris S., Falck-Ytter Y., Murad M.H., Schunemann H.J. GRADE



\*TIF: 139.907 \*\*MIF: 4.240

## Scientific Production

- guidelines: 9. Rating up the quality of evidence. *Journal of Clinical Epidemiology*;64(12):1311-1316.  
**IF: 4.271**
- 27 Selva A., Puig T., Lopez Alcalde J., Bonfill X. Efficacy of screening for lung cancer. Systematic review [Revisión sistemática sobre la eficacia del cribado del cáncer de pulmón]. *Medicina Clinica*;137(12):565-571.  
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- 28 Delgado-Noguera M., Tort S., Martínez-Zapata M.J., Bonfill X. Primary school interventions to promote fruit and vegetable consumption: A systematic review and meta-analysis. *Preventive Medicine*;53(1-2):3-9.  
**IF: 3.216**
- 29 Ferreira Gonzalez I., Urrutia G., Alonso-Coello P. Systematic reviews and meta-analysis: Scientific rationale and interpretation [Revisiones sistemáticas y metaanálisis: bases conceptuales e interpretación]. *Revista Espanola de Cardiologia*;64(8):688-696.  
**IF: 2.53**
- 30 Guzman Laura K.P., Bolibar Ribas I., Alepuz M.T., Gonzalez D., Martin M. Impact on the care and time to tumor stage of a program of rapid diagnosis and treatment of colorectal cancer [Impacto en el tiempo asistencial y el estadio tumoral de un programa de diagnóstico y tratamiento rápido del cancer colorectal]. *Revista Espanola de Enfermedades Digestivas*;103(1):13-19.  
**IF: 1.548**
- 31 Kovacs F.M., Urrutia G., Alarcon J.D. Surgery versus conservative treatment for symptomatic lumbar spinal stenosis: A systematic review of randomized controlled trials. *Spine*;36(20):E1335-E1351.  
**IF: 2.078**
- 32 Seco J., Kovacs F.M., Urrutia G. The efficacy, safety, effectiveness, and cost-effectiveness of ultrasound and shock wave therapies for low back pain: A systematic review. *Spine Journal*;11(10):966-977.  
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- 33 Rico S., Antonijoan R.M., Gich I., Borrell M., Fontcuberta J., Monreal M., Martínez-Gonzalez J., Barbanjo M.J. Safety assessment and pharmacodynamics of a novel ultra low molecular weight heparin (RO-14) in healthy volunteers – A first-time-in-human single ascending dose study. *Thrombosis Research*;127(4):292-298.  
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## ISI Web of Knowledge Indexed Publications without IF

- 01 Sitja-Rabert M., Martínez-Zapata M.J., Fort-Vanmeerhaeghe A., Rey-Abella F., Romero-Rodríguez D., Bonfill X. Whole body vibration for older persons: An open randomized, multicentre, parallel, clinical trial. *BMC Geriatrics*;11.
- 02 Montesinos J., Bare M., Dalmau E., Saigi E., Villace P., Nogue M., Seguí M.A., Arnau A., Bonfill X. The changing pattern of non-small cell lung cancer between the 90th and 2000th decades. *Open Respiratory Medicine Journal*;5(1):24-30.
- 03 Alonso-Coello P., Bonfill X. Better informed decisions in the management of osteoporosis. *Reumatologia Clinica*;7(1):1-2.
- 04 Alonso-Coello P., Villa J.J., Hajar A.M., Tuduri X.M., Puime Á.O., Zurro A.M. Attitudes and perceptions of medical students about family medicine in Spain: Protocol for a cross-sectional survey. *BMJ Open*;1(2).

## Scopus Indexed Publications

- 01 Guyatt G., Oxman A.D., Kunz R., Brozek J., Alonso-Coello P., Rind D., Devereaux P.J., Montori V.M., Freyschuss B., Vist G., Jaeschke R., Williams Jr. J.W., Murad M.H., Sinclair D., Falck-Ytter Y., Meerpohl J., Whittington C., Thorlund K., Andrews J., Schunemann H.J. GRADE guidelines: 6. rating the quality of evidence-imprecision. *Chinese Journal of Evidence-Based Medicine*;11(12):1435-43.
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- 03 Guyatt G., Oxman A.D., Kunz R., Woodcock J., Brozek J., Helfand M., Alonso-Coello P., Falck-Ytter Y., Jaeschke R., Vist G., Akl E.A., Post P.N., Norris S., Meerpohl J., Nasser M. GRADE guidelines: 8. rating the quality of evidence-indirectness. *Chinese Journal of Evidence-Based Medicine*;11(12):1452-8.
- 04 Guyatt G.H., Oxman A.D., Montori V., Vist G., Kunz R., Brozek J., Alonso-Coello P., Djulbegovic B., Atkins D., Falck-Ytter Y., Williams Jr. J.W., Meerpohl J., Norris S.L., Akl E.A., Schünemann H.J. GRADE guidelines: 5. rating the quality of evidence-publication bias. *Chinese Journal of Evidence-Based Medicine*;11(12):1277-82.
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- 06 Aguilera-Repiso J.A., García-Bordes L., Feliciani M., Zamora-Solà Á., Bagó-Granell J., Urrutia-Cuchi G., Serfaty-Soler J.C., Lucas-Andreu E., Gómez-Bonsfills X. Pilot study of the dynamic effects of simulated axial loading magnetic resonance imaging in lumbar disc herniation. *Open Spine Journal*;3(1):9-11.

## Scientific Production

## Letters

- Alonso-Coello P., Paniagua P., Urrutia G. Beta-blockers in patients undergoing non-cardiac surgery: Risks overweight benefits. *Med Clin*;136(14):646-7.
- Kovacs F.M., Olabe J., Urrutia G., Zamora J., Bagó J., Álvarez-Galovich L., Abraira V. Yet another reason for improving approval and surveillance processes for health technologies. *Spine Journal*;11(8):800-1.
- Kovacs F.M., Abraira V., Urrutia G. Advocating for cost-effective placbos. *Spine*;36(19):1615.

## Guides

- Clinical Practice Guideline for the approach to patients with multiple sclerosis. Agència d'Informació, Avaluació i Qualitat en Salut (AIAQS) de Catalunya (Spain).
- Clinical Practice Guideline on menopause and postmenopause. Quality Plan for the National Health Service of the Spanish Ministry of Health, Social Services and Equality. Agency for Health Technology Assessment of Andalusia (Spain).

## Other Publications

# Transport and Health: Injuries and Mobility

## Coordinator

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## Researchers

Ana Novoa  
Marta Olabarria  
Elena Santamariña

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ASPB



## Main Lines of Research

- Public Health Injury Surveillance.
- Evaluation of road safety strategies at urban level.
- Evaluation of road safety strategies in Spain.
- Indicators of mobility exposure and risk of traffic injuries
- Determinants of walking as a mode of transport.
- Social inequalities in fatality injuries.
- Analysis (DACOTA).
- Joint Action on Monitoring Injuries in Europe (JAMIE).
- Social and spatial inequalities in terms of traffic safety.

### Research projects in the planning and design phase:

- Active ageing and fall prevention.
- Motorcycle and moped injury determinants.

### Participation in international projects:

- Road Safety Data Collection, Transfer and

## Challenges

- Study of the nature of injuries and their severity according to the characteristics of the collision and the vehicles involved, particularly in urban settings.
- Evaluation of road safety policies and interventions.
- Development of exposure denominators for the calculation of indicators.
- Study of motorized and non-motorized mobility and its impact on health.

## Active Grants

- Pérez C. Road Safety Data Collection, Transfer and Analysis (DACOTA). EU-Seventh Framework Programme. 2010 – 2012. 233659. 5,550.012.
- Pérez C. Mobility practices and risk of road accidents: social, cultural and regional inequalities in France and Spain. Agence Nationale de Recherche Française. 2010-2012. 20091046. €149,977.
- Pérez C. Joint Action on Monitoring Injuries in Europe (JAMIE). European Commission. 2011-2014. 20102205. 1,588.646.

## Collaborations

### External Collaborations

- The three abovementioned active projects are collaborations with international groups.

\*TIF: 17.409 \*\*MIF: 2.487

## Scientific Production

## ISI Web of Knowledge Indexed Publications with IF

- 01 Borrell C., Artazcoz L., Gil-Gonzalez D., Perez K., Perez G., Vives-Cases C., Rohlf I. Determinants of perceived sexism and their role on the association of sexism with mental health. *Women and Health*;51(6):583-603.  
**IF: 1**
- 02 Novoa A.M., Perez K., Santamarina-Rubio E., Borrell C. Effect on road traffic injuries of criminalizing road traffic offences: A time-series study. *Bulletin of the World Health Organization*;89(6):422-431.  
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- 06 Gotsens M., Mari-Dell'Olmo M., Rodriguez-Sanz M., Martos D., Espelt A., Perez G., Perez K., Teresa Brugal M., Marcalain E.B., Borrell C. Validation of the underlying cause of death in medicolegal deaths [Validación de la causa básica de defunción en las muertes que requieren intervención medicolegal]. *Revista Espanola de Salud Publica*;85(2):163-174.  
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- 01 Rocha K.B., Pérez K., Rodríguez-Sanz M., Borrell C., Obiols J.E. Propiedades psicométricas y valores normativos del general health questionnaire (GHQ-12) en población general española. *International Journal of Clinical and Health Psychology*;11(1):125-39.

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- Santamariña-Rubio E., Pérez C. Persons injured by accident treated in emergency departments in Barcelona 2003-2008. Data Information System of Hospital Emergency from traffic accident injuries (DUHAT) (2011). B-13690-2011. Available online at: [http://www.aspb.cat/quefem/docs/Duhat\\_2010.pdf](http://www.aspb.cat/quefem/docs/Duhat_2010.pdf)
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# Transmissible Diseases

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## Application of the new technologies to tuberculosis (TB) control:

- Significant international diffusion has been achieved. Google Analytics offers a highly effective system for analysing website visits that enables us to assess the kind of users interested in our portal. In 2007 there were 13,429 visitors, 21% from Latin America.
- The main objective of TB Research Unit (UITB) is to produce scientific knowledge of relevance on the control, diagnosis, treatment and prevention of TB. From the visits and discussion forum comments, it is clear that we continue to play a key role in Spain and in Latin America.

## Clinical trials for the prevention and treatment of tuberculosis:

- Our centre, which is the only such centre in Europe, is part of a network of international centres (in Canada, Brasil, South Africa and Uganda) associated with the Tuberculosis Trials Consortium of the CDCs, promoting international involvement in laying the therapeutic and strategic bases for the treatment of TB and tubercular infection. Preliminary results have recently been presented at the ICAAC and other important international conferences (such as that of the American Thoracic Society). The article with definitive study data is pending publication.

- The research line launched aims to fix the bases for shortening treatment times for tubercular infection and, by extension, ensure compliance and control over the disease.

## Community health workers' role in the control of communicable diseases:

- The experiment has been presented in TB and primary care conferences and workshops and in the Emerging Infectious Diseases and Ethnicity and Health journals (Rotterdam). The results of the comparative study were recently presented as a thesis in fulfilment of the Master in Public Health of Pompeu Fabra University and the Autonomous University of Barcelona. An article is undergoing a final review before publication.
- The inclusion of community health workers has led to important changes in TB programme teams and has led to the creation of new TB consensus protocols. The Institute of Health studies (IES) is developing, with sponsorship from the authorities, the first intercultural mediation course in the healthcare arena, in which we are participating as instructors and students. The concept of the community health worker has been included in the framework document of the Tuberculosis Prevention and Control Plan for Spain. The short – to medium-term objective is for community health workers to continue working with us and for these professionals to be included in other public health areas.

## Main Lines of Research

## Challenges

- Investigate the transmission of hepatitis B in autochthonous and immigrant populations.
- Evaluate HIV screening programmes in gay saunas.
- Improve detection and research into causes of hepatitis C.
- Study legionella and TB outbreaks.

Active Grants

- Caylà J.A. Quick study of the characteristic of the outbreaks of influenza A (H1N1) v. Factors associated with the index case and with preventive measures. Carlos III Health Institute. 2010-2011. GR09/0029. 184,811.34.
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- Caylà J.A. Evaluation of a test for determining interferon-gamma in the diagnosis of tuberculosis infection from a cohort study of individuals at risk for tuberculosis. FIS Project. 2008-2011. PI081711. €136,972.
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- Caylà J.A. HIV-TB Coinfection Project. Euro TB Study. 2011-2013.
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Collaborations

External Collaborations

- Centers for Disease Control and Prevention (USA).
- CASCADE.

Awards

- Annual Health Care Award to the book "The Art & Science of Tuberculosis Vaccine Development". Editors: Nor N.M., Acosta A., Sarmiento M.E. Editorial: Oxford FajarSdn. Bhd under license of Oxford University press. Malaysia (2010). In Chapter 2 (pp.15-29): Caylà J.A., Millet J.P, García de Olalla P, Martín V., Nelson J., Orcau A. The current status of tuberculosis in the World: the influence of poverty, prisons, HIV, immigration and control programmes.

\*TIF: 152.764 \*\*MIF: 4.774

Scientific Production

ISI Web of Knowledge Indexed Publications with IF

- |  |  |   |
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| <p>01 Torner N., Carnicer-Pont D., Castilla J., Cayla J., Godoy P., Dominguez A. Auditing the management of vaccine-preventable disease outbreaks: The need for a tool. PLoS ONE;6(1).<br/><b>IF: 4.092</b></p> <p>02 Godoy P., Rodes A., Alvarez J., Camps N., Barrabeig I., Sala M.R., Minguell S., Lafuente S., Pumarola T., Dominguez A., Plasencia A. Characteristics of cases hospitalized for severe pandemic (H1N1) 2009 in Catalonia [Características de los casos graves hospitalizados por gripe pandémicaa (H1N1) 2009 en Cataluña]. Revista Espanola de Salud Publica;85(1):81-87.<br/><b>IF: 0.706</b></p> <p>03 Cayla J.A., Orcau A. Control of tuberculosis in large cities in developed countries: An organizational problem. BMC</p> | <p>Medicine;9.<br/><b>IF: 6.035</b></p> <p>04 Mussini C., Cossarizza A., Sabin C., Babiker A., De Luca A., Bucher H.C., Fisher M., Rezza G., Porter K., Dorrucci M., CASCADE Collaboration (col. Cayla J.) Decline of CD4+ T-cell count before start of therapy and immunological response to treatment in antiretroviral-naive individuals. AIDS;25(8):1041-1049.<br/><b>IF: 6.245</b></p> <p>05 Dominkovics P., Granell C., Perez-Navarro A., Casals M., Orcau A., Cayla J.A. Development of spatial density maps based on geoprocessing web services: application to tuberculosis incidence in Barcelona, Spain. International Journal of Health Geographics;10.<br/><b>IF: 2.617</b></p> <p>06 Monge S., Jarrin I., Perez-Hoyos S., Ferreros I., Garcia-Olalla P., Muga R., Del Romero J., Belda J., Castilla J., Bolumar F., Del Amo J. Educational level and HIV</p> | <p>disease progression before and after the introduction of HAART: A cohort study in 989 HIV seroconverters in Spain. Sexually Transmitted Infections;87(7):571-576.<br/><b>IF: 2.854</b></p> <p>07 Ferreros I., Hurtado I., Del Amo J., Muga R., Del Romero J., Garcia P., Alastrue I., Belda J., Guevara M., Perez S. Effectiveness of combined antiretroviral therapy on multiple aids-defining illnesses in an hiv seroconverter cohort [Efectividad del tratamiento antirretroviral combinado de gran actividad en eventos recurrentes de sida en una cohorte de seroconvertores al virus de la inmunodeficiencia humana]. Enfermedades Infecciosas y Microbiologia Clinica;29(3):179-184.<br/><b>IF: 1.491</b></p> <p>08 Barrabeig I., Rovira A., Rius C., Munoz P., Soldevila N., Batalla J., Dominguez A. Effectiveness of measles vaccination for control of exposed children. Pediatric</p> |
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- D., Conde M.B., Bozeman L., Horsburgh Jr. C.R., Chaisson R.E., TB Trials Consortium PREVENT TB Study Team (col. Cayla J.). Three months of rifapentine and isoniazid for latent tuberculosis infection. *New England Journal of Medicine*;365(23):2155-2166.  
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## Scientific Production

## ISI Web of Knowledge Indexed Publications without IF

- 01 Marco Mouriño A., Orcau Palau A., Jané Galliga R., Escribano Ibáñez M., Caylà Buqueras J.A., Solé Zapata N., del Baño Hollín L., Quintero del Río S., Ferrer Escobar M.D., Mangues Bafalluy J., Guerrero Moreno R.A., Martín Sánchez V. Concordance of tuberculin tests and interferon gamma release assays in the prison population. *Revista Española De Sanidad Penitenciaria*;13(1):15-20.
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- Moreno A., Millet J.P., Orcau A., Fina L., del Baño L., Villegas S., Pickett Sarah A., Martín V., Caylà J. Tobacco and tuberculosis an obvious association. *Tobacco Prevention. Publication of the Spanish Society of Pneumology and Thoracic Surgery*;13(1):8-18.

# Health Inequalities

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## Main Lines of Research

- Health inequalities according to social class in Spain and worldwide have been analysed in depth.
- The main contributions of some of these studies lies in the exploitation of information at the census section level as the maximum disaggregation unit, and also at higher geographic aggregation levels, such as the neighbourhood, town and region. This enables an examination of both the individual and contextual effects of using multilevel techniques and Bayesian methods for geographic data.

### Gender inequalities in health:

- Sexual division between productive and reproductive work (gender roles) and differences in male and female identities are the 2 main structural factors that generate gender inequalities in health.
- Specifically, men and women experience different kinds of exposure and perceive and react differently to the same exposure. This, combined with the existence of gender bias in healthcare, explains the existence of gender inequalities in health, aspects that have been researched by members of this group. Unemployment and employment instability in the health arena have been analysed in terms of gender and class differences. A theoretical framework and explanatory charts have been developed to guide comprehension of the gender determinants that affect health.

### Social and political determinants of health and their impact on policy building and interventions:

- This group has produced evidence of the macroeconomic determinants of health inequalities between countries. A society's wealth explains a significant proportion of health inequalities. Leaving aside economic reasons, social and political settings are very important in explaining inequalities.
- In recent years, the group has also studied the impact of the political context on the health of the population, concluding that countries with better developed welfare states had better levels of health. An analysis of policies was one of the tools used from the perspective of both formulation and application in specific interventions.



## Challenges

**Study health inequalities according to different inequality axes:**

- To date the group has essentially studied the social determinants of health separately in terms of social class and gender. We now aim to integrate these 2 axes and analyse inequalities among immigrants.
- In the last decade interest has grown into research into the impact of area of residence, especially smaller urbanized areas, on the health of the population. This explains why individual factors are not enough to explain diseases and poor health, as contextual factors regarding the area of residence (e.g., the unemployment rate) need to be taken into account. Furthermore, the characteristics of the area of residence can contribute to socioeconomic and environmental inequalities in health. Finally, the study of health inequalities in smaller urban areas enables the detection of areas for intervention. This research has recently been facilitated by the use of methods such as GIS and Bayesian hierarchical models of spatial epidemiology.

**Study gender inequalities in health:**

- This research line aims to further explore the theoretical framework and explanatory charts developed to guide comprehension of the gender determinants that affect health.

**Study the social and political determinants of health and the impact on policy building and interventions:**

- It is planned to continue studying the influence of policies on the health of populations and on social inequalities in health.

**Study sex and reproductive inequalities in health:**

- It is planned to establish a line of research to investigate the different aspects of sexual and reproductive health (sexuality, contraception, pregnancy, birth, miscarriage, abortion, birth rates, etc).

## Active Grants

- Borrell C. Evolution of socioeconomic inequalities in mortality in small areas of cities in Spain-MEDEA. FIS Project. Carlos III Health Institute. 2009-2011. PI08/1488. 147,257.00.
- Borrell C. INEQ-cities (Socioeconomic inequalities in mortality: evidence and policies in cities of Europe). European Union. 2009-2012. 2008 12 13. 310,520.31.
- Borrell C. Socioeconomic inequalities in mental health and in the use of health care services in Spain: a multilevel study. FIS Project. Carlos III Health Institute. January 2010-December 2011. PI09/90676. 26,620.00.
- Cortés I. Work-related mental health problems attended to in primary care: two perspectives to increase understanding. FIS Project. Carlos III Health Institute. October 2009-December 2011. PI06/1831. 111,320.00.
- Díez E. Health impact assessment of a comprehensive intervention project in a suburb of Barcelona. FIS Project. Carlos III Health Institute. January 2010-December 2011. PI09/90700. 36,300.00.
- Pérez G. Socioeconomic disparities in pregnancy planning and contraceptive use in teenagers and young people in Spain. FIS Project. Carlos III Health Institute. January 2010-December 2011. PI09/90424. 26,620.00.
- Borrell C. Evaluating the impact of structural policies on health inequalities and their social determinants, and fostering change-SOPHIE. European Union. 2011-2015. 278173-2. 3,310.530.
- Pérez G. The role of sexuality in active and healthy aging: evidence and effective interventions. RecerCaixa. 2011-2013. 71,480.00.

## Awards

- Award "Top 10 communications submitted by younger than 35," according to evaluation of the scientific committee of the XXVIII Scientific Meeting of the SEE (SEE-SESPAS Congress 2011), to the oral presentation "Socioeconomic inequalities in pregnancy planning in Spanish women vital stages" (project "Social and economic disparities in pregnancy planning and contraceptive use in adolescence and young people of Spain"). PI: Glòria Pérez.
- Award "Top 10 communications submitted by younger than 35," according to evaluation of the scientific committee of the XXVIII Scientific Meeting of the SEE (SEE-SESPAS Congress 2011), to the oral presentation "Gender perspective and chronic disorders: achievements and setbacks in health surveys in Spain", awarded to Davide Malmusi.

# Health Inequalities

\*TIF: 90.976 \*\*MIF: 2.458

## ISI Web of Knowledge Indexed Publications with IF

- 01 Mari-Dell'Olmo M., Martinez-Beneito M.A., Borrell C., Zurriaga O., Nolasco A., Dominguez-Berjon M.F. Bayesian factor analysis to calculate a deprivation index and its uncertainty. *Epidemiology*;22(3):356-364.  
**IF: 5.566**
- 02 Benach J., Malmusi D., Yasui Y., Martinez J., Muntaner C. Beyond rose's strategies: A typology of scenarios of policy impact on population health and health inequalities. *International Journal of Health Services*;41(1):1-9.  
**IF: 1.205**
- 03 Puigpinos-Riera R., Mari-Dell'Olmo M., Gotsens M., Borrell C., Serral G., Ascaso C., Calvo M., Daponte A., Dominguez-Berjon F.M., Esnaola S., Gandarillas A., Lopez-Abente G., Martos C.M., Martinez-Beneito M.A., Montes-Martinez A., Montoya I., Nolasco A., Pesarin I.M., Rodriguez-Sanz M., Saez M., Sanchez-Villegas P. Cancer mortality inequalities in urban areas: A Bayesian small area analysis in Spanish cities. *International Journal of Health Geographics*;10.  
**IF: 2.617**
- 04 Muntaner C., Borrell C., Sola J., Mari-Dell'Olmo M., Chung H., Rodriguez-Sanz M., Benach J., Rocha K., Ng E. Class relations and all-cause mortality: A test of Wright's social class scheme using the Barcelona 2000 Health Interview Survey. *International Journal of Health Services*;41(3):431-458.  
**IF: 1.205**
- 05 Dolk H., Loane M., Garne E., European Surveillance of Congenital Anomalies (EUROCAT) Working Group (Salvador J.) Congenital heart defects in Europe: Prevalence and perinatal mortality, 2000 to 2005. *Circulation*;123(8):841-849.  
**IF: 14.739**
- 06 Morrison J., Borrell C., Mari-Dell'Olmo M., Ruiz Cantero M.T., Benach J., Fernandez E., Pesarin M.I., Perez G., Cascant L., Alvarez-Dardet C., Artazcoz L., Perez K., Garcia-Calvente M.D.M., Ruiz I. Desigualdades de género en la Sociedad Española de Salud Pública y Administración Sanitaria (2000-2009) [Codificación de la mortalidad directamente relacionada con drogas ilegales en España: Hacia una adaptación a los criterios estándar europeos]. *Gaceta Sanitaria*;24(4):334-338.  
**IF: 1.326**
- 07 Borrell C., Artazcoz L., Gil-Gonzalez D., Perez K., Perez G., Vives-Cases C., Rohlfes I. Determinants of perceived sexism and their role on the association of sexism with mental health. *Women and Health*;51(6):583-603.  
**IF: 1**
- 08 Novoa A.M., Perez K., Santamarina-Rubio E., Borrell C. Effect on road traffic injuries of criminalizing road traffic offences: A time-series study. *Bulletin of the World Health Organization*;89(6):422-431.  
**IF: 4.641**
- 09 Lopez M.J., Olmo M.M.D., Perez-Gimenez A., Nebot M. Evaluative designs in public health: Methodological considerations [Diseños evaluativos en salud pública: aspectos metodológicos]. *Gaceta Sanitaria*;25(SUPPL. 1):9-16.  
**IF: 1.326**
- 10 Puigpinos-Riera R., Serral G., Pons-Vigues M., Palencia L., Rodriguez-Sanz M., Borrell C. Evolution of inequalities in breast and cervical cancer screening in Barcelona: Population surveys 1992, 2001, and 2006. *Journal of Women's Health*;20(11):1721-1727.  
**IF: 1.569**
- 11 Salvador J., Arigita M., Carreras E., Lladonosa A., Borrell A. Evolution of prenatal detection of neural tube defects in the pregnant population of the city of Barcelona from 1992 to 2006. *Prenatal Diagnosis*;31(12):1184-1188.  
**IF: 2.106**
- 12 Borrell C., Fernandez E., Dominguez-Berjon M.F. *Gaceta Sanitaria* en 2010. *Gaceta Sanitaria*;25(1):1-3.  
**IF: 1.326**
- 13 Escriba-Aguir V., Artazcoz L. Gender differences in postpartum depression: A longitudinal cohort study. *Journal of Epidemiology and Community Health*;65(4):320-326.  
**IF: 3.192**
- 14 Escriba-Aguir V., Artazcoz L. Gender differences in postpartum depression: A longitudinal cohort study. *Journal of Epidemiology and Community Health*;65(4):320-326.  
**IF: 3.192**
- 15 Ruiz-Cantero M.T., Carrasco-Portino M., Artazcoz L. Gender-related achievements and challenges in the 2006 National Health Survey: Analysis of adults and households [Logros y retos de género de la Encuesta Nacional de Salud de 2006: análisis de los cuestionarios de adultos y hogar]. *Gaceta Sanitaria*;25(1):6-12.  
**IF: 1.326**
- 16 Priebe S., Sandhu S., Dias S., Gaddini A., Greacen T., Ioannidis E., Kluge U., Krasnik A., Lamkaddem M., Lorant V., Riera R.P., Sarvary A., Soares J.J., Stankunas M., Strassmayr C., Wahlbeck K., Welbel M., Bogic M. Good practice in health care for migrants: Views and experiences of care professionals in 16 European countries. *BMC Public Health*;11.  
**IF: 1.997**
- 17 Deville W., Greacen T., Bogic M., Dauvin M., Dias S., Gaddini A., Jensen N., Karamanidou C., Kluge U., Mertaniemi R., I Riera R., Sarvary A., Soares J.J.F., Stankunas M., Stramayr C., Welbel M., Priebe S. Health care for immigrants in Europe: Is there still consensus among country experts about principles of good practice? A Delphi study. *BMC Public Health*;11.  
**IF: 1.997**
- 18 Fontecha C.G., Balague F., Pellise F., Rajmil L., Aguirre M., Pesarin M., Cedraschi C., Ferrer M. Low back pain in adolescents: Is quality of life poorer in those seeking medical attention?. *Spine*;36(17):E1154-E1161.  
**IF: 2.078**
- 19 Puig-Barrachina V., Malmusi D., Martinez J., Benach J. Monitoring social determinants of health inequalities: The impact of unemployment among vulnerable groups. *International Journal of Health Services*;41(3):459-482.  
**IF: 1.205**
- 20 Isabel Pesarin M., Rocha K.B., Rodriguez-Sanz M., Berra S., Borrell C. One more step in the study of social inequalities in primary care provision from a population-based perspective]. [Un paso más en el estudio de las desigualdades sociales en la provisión de atención primaria desde la perspectiva de la población.]. *Medicina clínica*;137 Suppl 20):49-54.  
**IF: 1.385**
- 21 Loane M., Dolk H., Garne E., Greenlees R., EUROCAT Working Group (Salvador J.) Paper 3: EUROCAT data quality indicators for population-based registries of congenital anomalies. Birth Defects Research Part A – Clinical and Molecular Teratology;91(SUPPL. 1):S23-S30.  
**IF: 2.742**
- 22 Loane M., Dolk H., Kelly A., Teljeur C., Greenlees R., Densem J., EUROCAT Working Group (Salvador J.) Paper 4: EUROCAT statistical monitoring: Identification and investigation of ten year trends of congenital anomalies in Europe. Birth Defects Research Part A – Clinical and Molecular Teratology;91(SUPPL. 1):S31-S43.

\*TIF: 90.976 \*\*MIF: 2.458

- IF: 2.742**
- 23 Greenlees R., Neville A., Addor M.-C., Amar E., Arriola L., Bakker M., Barisic I., Boyd P.A., Calzolari E., Doray B., Draper E., Emil Vollset S., Garne E., Gatt M., Haeusler M., Kallen K., Khoshnood B., Latos-Bielenska A., Martinez-Frias M.-L., Materna-Kirylyuk A., Matias Dias C., McDonnell B., Mullaney C., Nelen V., O'Mahony M., Pierini A., Queisser-Luft A., Randerianaivo-Ranjatoelina H., Rankin J., Rissmann A., Ritvanen A., Salvador J., Sippek A., Tucker D., Verellen-Dumoulin C., Wellesley D., Wertelecki W. Paper 6: EUROCAT member registries: Organization and activities. *Birth Defects Research Part A – Clinical and Molecular Teratology*;91(SUPPL. 1):S51-S100.  
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- 24 Muntaner C., Borrell C., Ng E., Chung H., Espelt A., Rodriguez-Sanz M., Benach J., O'Campo P. Politics, welfare regimes, and population health: Controversies and evidence. *Sociology of Health and Illness*;33(6):946-964.  
**IF: 1.885**
- 25 Pons-Vigues M., Puigpinos-Riera R., Rodriguez-Sanz M., Serral G., Palencia L., Borrell C. Preventive control of breast and cervical cancer in immigrant and native women in Spain: The role of country of origin and social class. *International Journal of Health Services*;41(3):483-499.  
**IF: 1.205**
- 26 Berra S., Rocha K.B., Rodriguez-Sanz M., Pasarin M.I., Rajmil L., Borrell C., Starfield B. Properties of a short questionnaire for assessing Primary Care experiences for children in a population survey. *BMC Public Health*;11.  
**IF: 1.997**
- 27 Garcia-Subirats I., Perez G., Rodriguez-Sanz M., Salvador J., Jane M. Recent immigration and adverse pregnancy outcomes in an urban setting in Spain. *Maternal and Child Health Journal*;15(5):561-569.  
**IF: 2.243**
- 28 Novoa A.M., Perez K., Santamarina-Rubio E., Mari-Dell'Olmo M., Cozar R., Ferrando J., Peiro R., Tobias A., Zori P., Borrell C. Road safety in the political agenda: The impact on road traffic injuries. *Journal of Epidemiology and Community Health*;65(3):218-225.  
**IF: 3.192**
- 29 Boyd P.A., Loane M., Garne E., Khoshnood B., Dolk H., EUROCAT working group (col. Salvador J.) Sex chromosome trisomies in Europe: Prevalence, prenatal detection and outcome of pregnancy. *European Journal of Human Genetics*;19(2):231-234.  
**IF: 4.4**
- 30 Ruiz-Munoz D., Perez G., Garcia-Subirats I., Diez E. Social and economic inequalities in the use of contraception among women in Spain. *Journal of Women's Health*;20(3):403-411.  
**IF: 1.569**
- 31 Duarte-Salles T., Pasarin M.I., Borrell C., Rodriguez-Sanz M., Rajmil L., Ferrer M., Pellise F., Balague F. Social inequalities in health among adolescents in a large southern European city. *Journal of Epidemiology and Community Health*;65(2):166-173.  
**IF: 3.192**
- 32 Artazcoz L., Cortes I., Borrell C., Escriba-Aguir V., Cascant L. Social inequalities in the association between partner/marital status and health among workers in Spain. *Social science & medicine* (1982);72(4):600-607.  
**IF: 2.699**
- 33 Gotsens M., Mari-Dell'Olmo M., Martinez-Beneito M.A., Perez K., Pasarin M.I., Daponte A., Puigpinos-Riera R., Rodriguez-Sanz M., Audicana C., Nolasco A., Gandarillas A., Serral G., Dominguez-Berjon F., Martos C., Borrell C. Socio-economic inequalities in mortality due to injuries in small areas of ten cities in Spain (MEDEA Project). *Accident Analysis and Prevention*;43(5):1802-1810.  
**IF: 1.867**
- 34 Villalbi J.R., Perez-Albarracin G., Delgado-Rodriguez M. The training of medical specialists in preventive medicine and public health in Spain [La formación en España de médicos especialistas en medicina preventiva y salud pública]. *Revista Espanola de Salud Publica*;85(6):507-512.  
**IF: 0.706**
- 35 Borrell C., Palencia L., Rodriguez-Sanz M., Malmusi D., Bartoll X., Puigpinos R. Trends in social inequalities in health in Catalonia, Spain]. [Evolución de las desigualdades sociales en salud en Cataluña.]. *Medicina clínica*;137 Suppl 2():60-65.  
**IF: 1.385**
- 36 Borrell C., Bartoll X., Garcia-Altes A., Pasarin M.I., Pineiro M., Villalbi J.R. Twenty five years of health reports in barcelona: A commitment to transparency and a tool for action [Veinticinco años de informes de salud en barcelona: Una apuesta por la transparencia y un instrumento para la acción]. *Revista Espanola de Salud Publica*;85(5):449-458.  
**IF: 0.706**
- 37 Gotsens M., Mari-Dell'Olmo M., Rodriguez-Sanz M., Martos D., Espelt A., Perez G., Perez K., Teresa Brugal M., Marcalain E.B., Borrell C. Validation of the underlying cause of death in medicolegal deaths [Validación de la causa básica de defunción en las muertes que requieren intervención medicolegal]. *Revista Espanola de Salud Publica*;85(2):163-174.  
**IF: 0.706**

## Scopus Indexed Publications

- 01 Espelt A., Arriola L., Borrell C., Larrañaga I., Sandín M., Escolar-Pujolar A. Socioeconomic position and type 2 diabetes mellitus in europe 1999-2009: A panorama of inequalities. *Current Diabetes Reviews*;7(3):148-58.
- 02 Rocha K.B., Pérez K., Rodríguez-Sanz M., Borrell C., Obiols J.E. Propiedades psicométricas y valores normativos del general health questionnaire (GHQ-12) en población general española. *International Journal of Clinical and Health Psychology*;11(1):125-39.

# Epidemiology of Addictions

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## Main Lines of Research

### Epidemiology of drug use patterns:

- Study of variables such as socioeconomic level, social network and violence as determinants of heroin use and associated health problems.
- Patterns of heroin and cocaine use, associated health problems and implications for health care services.
- Methadone treatment programmes, cost/effectiveness of auxiliary programmes and improvements in quality of life.
- Development and evaluation of new instruments for diagnosis and screening for alcohol-related problems.

### Health problems associated with drug abuse:

#### Infections:

- Prevalence and patterns of HIV/AIDS in Spain, especially among drug users.
- HTLV-1 and syringe user. Molecular epidemiology of HTLV-2.
- Prevalence of other infections related to injected-drug use and associated factors. Prevention policies.

#### Injuries:

- Prevalence of substance abuse in individuals involved in traffic accidents and other accidents. Effectiveness of brief motivational interventions to reduce alcohol consumption in the injured who arrive at emergency rooms under the in-

fluence of alcohol but without alcoholic dependence.

### Psychiatric comorbidity:

- Psychiatric comorbidity in illegal drug users. Development of criteria for heroin and cocaine dependence for application in semi-structured questionnaires and similar in areas of mental health.

### Impact of drug consumption on mortality:

- Main causes of mortality among drug users (overdoses, AIDS, accidents, homicide, suicide, chronic liver disease, etc.). Mortality rates and life-expectancy estimates.
- Effects related to the route of heroin administration and relationships between factors such as frequency of consumption, overdose, level of education and knowledge of causes of mortality.

### Quality of life in drug users:

- Factors determining decreased quality of life in active cocaine and heroin users.

### Evaluation of health care policies:

- Analysis of health care policies and differences in immigrant access to health care services in European cities.
- Evaluation of Spanish policy concerning legal and illegal drug consumption and its impact on the general population.

## Active Grants

- Brugal M., Espelt A. Monitoring of HIV, HCV and other STIs and risk behaviours in IDUs recruited in harm-reduction centres in Catalonia (REDAN). 2009-2012. CEEISCAT/ICO.

**Epidemiology and patterns of drug use:**

- Incidence and patterns of cocaine use.
- Incidence and patterns of heroin use.
- Prevalence of cocaine, heroin and alcohol.

**Health problems associated to drug use:**

- Aggressive and violent attitudes and behaviour in young cocaine users.
- Quality of life in users with psychiatric comorbidity.
- Use of services among young heroin, cocaine and alcohol users.
- Factors associated with retention in treatment programmes for cocaine and alcohol addiction.
- Mortality and its determinants in cohorts of alcohol and cocaine-dependent subjects.
- Factors associated with acute health problems following cocaine use.
- Analysis of differential social and health determinants among immigrants who use illegal drugs.

**Evaluation of health policies:**

- Evaluation of supervised drug consumption rooms and other policies to reduce harm.
- Study of social inequalities in evaluating results and adherence to treatment.
- Evaluation of brief motivational intervention programmes as an alternative to disciplinary measures in teenagers who consume psychoactive substances.

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**ISI Web of Knowledge Indexed Publications with IF**

- 01 Regidor E., Sanchez E., De La Fuente L., Santos J.M., Martinez D. A proposal of measures for monitoring social disparities in health using AIDS and liver disease mortality before and after HAART. *European Journal of Public Health*;21(1):116-121. **IF: 2.728**
- 02 Pulido J., Barrio G., Lardelli P., Bravo M.J., Regidor E., De La Fuente L. Association between cannabis and cocaine use, traffic injuries and use of protective devices. *European Journal of Public Health*;21(6):753-755. **IF: 2.728**
- 03 Llorens N., Barrio G., Sanchez A., Suelves J.M. Effects of Socialization and Family Factors on Adolescent Excessive Drinking in Spain. *Prevention Science*;12(2):150-161. **IF: 2.634**
- 04 Barrio Anta G., Oliva J., Bravo M.J., Mateo S.D., Domingo-Salvany A. Estimating the prevalence of drug injection using a multiplier method based on a register of new HIV diagnoses. *European Journal of Public Health*;21(5):646-648. **IF: 2.728**
- 05 Regidor E., Astasio P., Ortega P., Martinez D., Calle M.E., De La Fuente L. Healthy and unhealthy migrant effect on the mortality of immigrants from wealthy countries residing in Spain. *European Journal of Epidemiology*;26(4):265-273. **IF: 4.713**
- 06 Regidor E., de Mateo S., Ronda E., Sanchez-Paya J., Gutierrez-Fisac J.L., de la Fuente L., Pascual C. Heterogeneous trend in smoking prevalence by sex and age group following the implementation of a national smoke-free law. *Journal of Epidemiology and Community Health*;65(8):702-708. **IF: 3.192**
- 07 Guitart A.M., Espelt A., Castellano Y., Bartoli M., Villalbi J.R., Domingo-Salvany A., Brugal M.T. Impact of alcohol use disorder on mortality: Are there age and gender differences? [Impacto del trastorno por consumo de alcohol en la mortalidad: ¿hay diferencias según la edad y el sexo?]. *Gaceta Sanitaria*;25(5):385-390. **IF: 1.326**
- 08 Herrero M.J., Domingo-Salvany A., Brugal M.T., Torrens M. Incidence of psychopathology in a cohort of young heroin and/or cocaine users. *Journal of Substance Abuse Treatment*;41(1):55-63. **IF: 3.139**
- 09 Neira-Leon M., Barrio G., Bravo M.J., Brugal M.T., de la Fuente L., Domingo-Salvany A., Pulido J., Santos S. Infrequent opioid overdose risk reduction behaviours among young adult heroin users in cities with wide coverage of HIV prevention programmes. *International Journal of Drug Policy*;22(1):16-25. **IF: 2.405**
- 10 Muntaner C., Borrell C., Ng E., Chung H., Espelt A., Rodriguez-Sanz M., Benach J., O'Campo P. Politics, welfare regimes, and population health: Controversies and evidence. *Sociology of Health and Illness*;33(6):946-964. **IF: 1.885**
- 11 Folch C., Casabona J., Brugal M.T., Majo X., Esteve A., Merono M., Gonzalez V. Sexually transmitted infections and sexual practices among injecting drug users in harm reduction centers in Catalonia. *European Addiction Research*;17(5):271-278. **IF: 2.525**
- 12 Regidor E., Pascual C., De La Fuente L., Santos J.M., Astasio P., Ortega P. Socio-economic position, family demands and reported health in working men and women. *European Journal of Public Health*;21(1):109-115. **IF: 2.728**
- 13 Fontcuberta M., Calderon J., Villalbi J.R., Centrich F., Portana S., Espelt A., Duran J., Nebot M. Total and inorganic arsenic in

# Epidemiology of Addictions

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## Scientific Production

- marketed food and associated health risks for the Catalan (Spain) population. *Journal of Agricultural and Food Chemistry*;59(18):10013-10022.  
**IF: 2.823**
- 14 Gotsens M., Mari-Dell'olmo M., Rodríguez-Sanz M., Martos D., Espelt A., Perez G., Perez K., Teresa Brugal M., Marcalain E.B., Borrell C. Validation of the underlying cause of death in medicolegal deaths [Validación de la causa básica de defunción en las muertes que requieren intervención medicolegal]. *Revista Española de Salud Pública*;85(2):163-174.  
**IF: 0.706**
- 15 Torrens M., Gilchrist G., Domingo-Salvany A. Psychiatric comorbidity in illicit drug users: Substance-induced versus independent disorders. *Drug and Alcohol Dependence*;113(2-3):147-156.  
**IF: 3.383**

## Scientific Production

### Scopus Indexed Publications

- 01 Sandín M., Espelt A., Escolar-Pujolar A., Arriola L., Larrañaga I. Gender inequalities and type 2 diabetes: The importance of the difference. *Avances En Diabetologia*;27(3):78-87.
- 02 Espelt A., Arriola L., Borrell C., Larrañaga I., Sandín M., Escolar-Pujolar A. Socioeconomic position and type 2 diabetes mellitus in europe 1999-2009: A panorama of inequalities. *Current Diabetes Reviews*;7(3):148-58.

## Other Publications

### Letters

- Pulido J., Barrio G., Lardelli P., Bravo M.J., Brugal M.T., Espelt A., De La Fuente L., Ambrós M., Belza M.J., Castellano Y., Domingo-Salvany A., Fernández F., Molist G., Sánchez-Niubó A., Santos S., Sordo L., Vallejo F. Cannabis use and traffic injuries. *Epidemiology*;22(4):609-10.
- González-Zobl G., Carrillo-Santistevé P., Rodríguez-Martos A., Brugal M.T. Emergencies in cannabis users in barcelona, spain. *Med Clin*;136(7):310-1.
- Palència L., Espelt A., Rodríguez-Sanz M., Puigpinós R., Pons-vigués M., Pasarín M.I., Spadea T., Kunst A.E., Borrell C. Authors' response to the letter to the editor: Cancer screening: Inequalities ... in the data. *Int J Epidemiol*;40(3):837-8.
- Ventura Vilamala M., Caudevilla Gálligo F., Vidal Giné C., Pujadas M., Rodríguez J., Cuenca A., Domingo-Salvany A., Torrens M., Farré M., De La Torre R. Levamisole-adulterated cocaine: Potential clinical implications. *Med Clin*;136(8):367-8.

# Primary Care Research

## Coordinator

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## Researchers

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## Technicians

Irene Moral EAP Sardenyà  
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## Main Lines of Research

- Prevention and health promotion in primary care settings.
- Implementation of cardiovascular risk prevention guidelines in clinical practice.
- Systematic review of clinical practice guidelines for cardiovascular risk prevention.
- Health related quality of life in patients with cardiovascular disease.

## Challenges

- Enlarge the research team by linking up with other primary care centres associated with the ACEBA Family Medicine Teaching Unit.
- Work with other research teams in IIB Sant Pau.
- Work with other European institutions in implementing projects on risk prevention and health promotion in primary care settings.

## Active Grants

- Soriano N. Randomized clinical trial to assess the effectiveness of memory training workshops in people of 65 to 80 years. FIS Project. Carlos III Health Institute. December 2011-December 2014. PI11/02060.

## Collaborations

### Collaborations with other IIB Sant Pau Groups

- Ageing Institute Group. Project "Pathways: From Solitude to participation".
- Nephrology Group. Project "Diabetic nephropathy: urinary proteome characterization and evaluation of the response to the inhibition of the renin angiotensin system (SRA)".
- Clinical Epidemiology and Healthcare Services Group. Project "Clinical trial on the evaluation of differed treatment strategies with antibiotics in uncomplicated acute respiratory infections in pediatrics (PDA-pediatrics)".
- Pharmacological Research in Humans Group. Project: A randomized, 2-way cross-

over, placebo controlled single dose study to evaluate the effect of the functional fruit concentrate on post-prandial glycaemic response and the bioavailability of phenolic compounds, in pre-diabetic and type 2 diabetic subjects.

### External Collaborations

- Evaluation of Public Health Policies and Programmes Group. Project "Randomized clinical trial to assess the effectiveness of memory training workshops in people of 65 to 80 years".
- Evaluation of the ESC-EASD guideline on prevention of Cardiovascular Disease in Diabetic Patients. European Heart Health Strategy II. EuroHeart II. Executive Agency for Health and Consumers of the EU.

# Primary Care Research

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## ISI Web of Knowledge Indexed Publications with IF

- 01 Lobos Bejarano J.M., Brotons Cuixart C. Cardiovascular risk factors and Primary Care: Evaluation and intervention [Factores de riesgo cardiovascular y atención primaria: evaluación e intervención]. *Atencion Primaria*;43(12):668-677.  
**IF: 0.627**
- 02 Royo Bordonada M.A., Lobos Bejarano J.M., Millan Nunez-Cortes J., Villar Alvarez F., Brotons Cuixart C., Camafort Babkowski M., Guijarro Herraiz C., De Pablo Zarzosa C., Pedro-Botet Montoya J., Santiago Nocito A.D. Dyslipidemias: A pending challenge in cardiovascular prevention. Consensus document from CEIPC/SEA Committee [Dislipidemias: un reto pendiente en prevención cardiovascular. Documento de consenso CEIPC/SEA]. *Medicina Clinica*;137(1):30.e1-30.e13.  
**IF: 1.385**
- 03 Sanchez Chaparro M.A., Calvo Bonacho E., Gonzalez Quintela A., Cabrera M., Sainz J.C., Fernandez-Labander C., Quevedo-Aguado L., Gelpi J.A., Fernandez Meseguer A., Brotons C., de Teresa E., Gonzalez Santos P., Roman Garcia J. High cardiovascular risk in Spanish workers. *Nutrition, Metabolism and Cardiovascular Diseases*;21(4):231-236.  
**IF: 3.731**
- 04 Brotons C., Soriano N., Moral I., Rodrigo M.P., Kloppe P., Rodriguez A.I., Gonzalez M.L., Arino D., Orozco D., Buitrago F., Pepio J.M., Borrás I. Randomized clinical trial to assess the efficacy of a comprehensive programme of secondary prevention of cardiovascular disease in general practice: The PREseAP study [Ensayo clínico aleatorizado para evaluar la eficacia de un programa integral de prevención secundaria de las enfermedades cardiovasculares en atención primaria: estudio PREseAP]. *Revista Espanola de Cardiologia*;64(1):13-20.  
**IF: 2.53**
- 05 Nobels F., Debacker N., Brotons C., Elisaf M., Hermans M.P., Michel G., Muls E. Study rationale and design of OPTIMISE, a randomised controlled trial on the effect of benchmarking on quality of care in type 2 diabetes mellitus. *Cardiovascular Diabetology*;10(82).  
**IF: 3.346**



# Evaluation of Public Health Policies and Programmes

## Coordinator

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## Researchers

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## Main Lines of Research

- Prevention and control of passive smoking.
- Studies evaluating the impact of lifestyle interventions.
- Evaluation of public health programmes and services, including management, organization, results and impact.
- Evaluation of the effectiveness and impact of policies and programmes.
- 2009 MILESTONES: Main challenges that materialized in 2009.

## Challenges

- Promote research into the evaluation of policies and programmes.
- Support the debate on conceptual and methodological aspects of results evaluation in prevention and health promotion.
- Consolidate the group's research, fostering less developed aspects such as financial assessment and the evaluation of health protection interventions.
- Develop a theoretical corpus of concepts, principles, methods and examples that contribute to filling the gap in under- and post-graduate teaching regarding the design and evaluation of risk prevention and health promotion interventions.

## Active Grants

- Ariza C. Design and evaluation of the effectiveness of an intervention to prevent childhood obesity in school children. FIS Project. Carlos III Health Institute. January 2010-December 2012. PI09/02259. €127,171.
- Ariza C. Evaluation of the effectiveness of early treatment intervention for cigarette and cannabis smoking cessation in young people. National Drug Plan. Spanish Ministry of Health. November 2009-October 2012. 2009/046. €38,000.
- Nebot M. Evaluation of the impact of preventive recommendations regarding influenza A(H1N1)v in the population at risk and the adoption of non-pharmacological measures in the general population, school community and risk group. FIS Project. Carlos III Health Institute. September 2009-March 2012. GR09/0036. €199,480.
- Nebot M. Evaluation of the impact of smoke-free policies in Member States on exposure to second-hand smoke and tobacco consumption (IMPASHS). EAHC (European Agency for Health and Consumers). May 2008-April 2011. 2007313. €591,889.
- Nebot N. Research group for evaluation of public health policies and programmes. AGAUR Project. September 2009-December 2013. 2009 SGR 1345. €42,640.
- Nebot M. Improving Knowledge and Communication for Decision Making on Air Pollution and Health in Europe-APHEKOM. EAHC (European Agency for Health and Consumers). June 2008-March 2011. 2007105. €1,470,900.
- Nebot M. Public Health Policies. Training Romanian staff at the regional level to develop Public Health Policies (PHPRO). Education, Audiovisual & Culture Executive Agency. February 2010-January 2012. LLP/LdV/Tol/2009/RO/017. €317,776.
- López M.J. Measuring the exposure to the environmental smoke and the estimate of its impact on mortality in Spain. FIS Project. Carlos III Health Institute. January 2011-December 2013. PI10/00400. €48,521.
- Nebot M. Factors associated with alcohol consumption in young people by place of origin and family migratory path. National Drug Plan. Spanish Ministry of Health. November 2011-November 2013. 2011/107. €74,890.

# Evaluation of Public Health Policies and Programmes

\*TIF: 55.938 \*\*MIF: 1.645

## ISI Web of Knowledge Indexed Publications with IF

- 01 Manzanares-Laya S., Lopez M.J., Sanchez-Martinez F., Fernandez E., Nebot M. Impact of the 28/2005 Spanish smoking law on second-hand smoke exposure in Barcelona [Impacto de la Ley 28/2005 de medidas sanitarias frente al tabaquismo en la prevalencia de la exposición al humo ambiental del tabaco en Barcelona]. *Gaceta Sanitaria*;25(6):495-500.  
**IF: 1.326**
- 02 Lopez M.J., Burhoo P., Moussa L., Nebot M. Secondhand smoke assessment in the first African country adopting a comprehensive smoke-free law (Mauritius). *Environmental Research*;111(8):1024-1026.  
**IF: 3.398**
- 03 Fontcuberta M., Calderon J., Villalbi J.R., Centrich F., Portana S., Espelt A., Duran J., Nebot M. Total and inorganic arsenic in marketed food and associated health risks for the Catalan (Spain) population. *Journal of Agricultural and Food Chemistry*;59(18):10013-10022.  
**IF: 2.823**
- 04 Manzur A., Izquierdo C., Ruiz L., Sousa D., Bayas J.-M., Celorrio J.-M., Varona W., Nebot M., Salleras L., Dominguez A., Carratala J. Influence of prior pneumococcal and influenza vaccination on outcomes of older adults with community-acquired pneumonia. *Journal of the American Geriatrics Society*;59(9):1711-1716.  
**IF: 3.737**
- 05 Nebot M., Manzanares S., Lopez M.J., Ariza C., Galan I., Moncada A., Montes A., Perez-Rios M., Schiaffino A., Fernandez E. Estimation of environmental tobacco smoke exposure: Review of questionnaires used in Spain [Estimación de la exposición al humo ambiental de tabaco: revisión de cuestionarios utilizados en España]. *Gaceta Sanitaria*;25(4):322-328.  
**IF: 1.326**
- 06 Nebot M., Lopez M.J., Ariza C., Villalbi J.R., Garcia-Altes A. Effectiveness assessment in public health: Conceptual and methodological foundations [Evaluación de la efectividad en salud pública: Fundamentos conceptuales y metodológicos]. *Gaceta Sanitaria*;25(SUPPL. 1):3-8.  
**IF: 1.326**
- 07 Nebot M., Vitorica C. Evaluating the effectiveness of public health interventions: The strength of "weak evaluative designs" [Valorando la efectividad de las intervenciones en salud pública: la fuerza de los «diseños evaluativos débiles»]. *Gaceta Sanitaria*;25(SUPPL. 1):1-2.  
**IF: 1.326**
- 08 Lopez M.J., Olmo M.M.D., Perez-Gimenez A., Nebot M. Evaluative designs in public health: Methodological considerations [Diseños evaluativos en salud pública: aspectos metodológicos]. *Gaceta Sanitaria*;25(SUPPL. 1):9-16.  
**IF: 1.326**
- 09 Ariza C., Villalbi J.R., Sanchez-Martinez F., Nebot M. Process evaluation in relation to effectiveness assessment: Experiences with school-based programs [La evaluación del proceso en relación con la evaluación de la efectividad: Experiencias de programas en el medio escolar]. *Gaceta Sanitaria*;25(SUPPL. 1):32-39.  
**IF: 1.326**
- 10 Sintés X., Nebot M., Izquierdo C., Ruiz L., Dominguez A., Bayas J.M., Vera I., Carratala J., Sousa D. Factors associated with pneumococcal and influenza vaccination in hospitalized people aged  $\geq 65$  years. *Epidemiology and Infection*;139(5):666-673.  
**IF: 2.843**
- 11 Villarroel N., Lopez M.J., Sanchez-Martinez F., Fernandez E., Nebot M. Second-hand smoke exposure in hospitality venues in Barcelona: Measurement of respirable particles [Exposición al humo ambiental de tabaco en locales de hostelería de Barcelona: Medición de partículas respirables]. *Gaceta Sanitaria*;25(3):220-223.  
**IF: 1.326**
- 12 Jimenez V., Rubies A., Centrich F., Companyo R., Guiteras J. Development and validation of a multiclass method for the analysis of antibiotic residues in eggs by liquid chromatography-tandem mass spectrometry. *Journal of Chromatography A*;1218(11):1443-1451.  
**IF: 4.531**
- 13 Villalbi J.R., Carrascal D., Cayla J.A., Rodriguez P., Cruz M.J., Pinto J.M. Risk management of soybean-related asthma: Monitoring and surveillance [Gestión del riesgo de asma por haba de soja: Monitorización y vigilancia]. *Gaceta Sanitaria*;25(6):542-544.  
**IF: 1.326**
- 14 Guitart A.M., Espelt A., Castellano Y., Bartroli M., Villalbi J.R., Domingo-Salvany A., Brugal M.T. Impact of alcohol use disorder on mortality: Are there age and gender differences? [Impacto del trastorno por consumo de alcohol en la mortalidad: ¿hay diferencias según la edad y el sexo?]. *Gaceta Sanitaria*;25(5):385-390.  
**IF: 1.326**
- 15 Villalbi J.R., Tresserras R. Evaluation of health policies and plans [Evaluación de políticas y planes de salud]. *Gaceta Sanitaria*;25(SUPPL. 1):17-24.  
**IF: 1.326**
- 16 Biarnes M., Mones J., Villalbi J.R., Arias L. As-needed treatment with ranibizumab 0.5 mg in patients with neovascular age-related macular degeneration. *European Journal of Ophthalmology*;21(3):282-289.  
**IF: 0.965**
- 17 Fu M., Fernandez E., Pascual J.A., Martinez-Sanchez J.M., Agudo A., Moncada A., Nebot M., Borrás J.M. Stages of change, smoking characteristics, and cotinine concentrations in smokers: Setting priorities for smoking cessation. *Preventive Medicine*;52(2):139-145.  
**IF: 3.216**
- 18 Villalbi J.R., Suelves J.M., Salto E., En Cabezas C. Assessment of surveys of adolescents about smoking and the use of alcohol and cannabis in Spain [Valoración de las encuestas a adolescentes sobre consumo de tabaco, alcohol y cannabis en España]. *Adicciones*;23(1):11-16.  
**IF: 0.8**
- 19 Catala-Lopez F., Garcia-Altes A., Alvarez-Martin E., Genova-Maleras R., Morant-Ginestar C. Economic evaluation of neurological and mental disorders in Spain: Systematic review and comparative analysis [Evaluación económica sobre enfermedades neurológicas y mentales en España: Revisión sistemática y análisis comparativo]. *Revista de Neurología*;52(2):65-71.  
**IF: 0.652**
- 20 Garin O., Galante M., Garcia-Altes A., Scuri E., Cots F., Nebot M., Ferrer M., Dominguez A., Alonso J. Use of services and costs in patients with influenza (H1N1) 2009 in Spain: Background and research protocol [Utilización de servicios y costes de los pacientes con gripe (H1N1) 2009 en España: Antecedentes y protocolo de investigación]. *Revista Española de Salud Pública*;85(1):19-31.  
**IF: 0.706**
- 21 Pons J.M.V., Tebe C., Paladio N., Garcia-Altes A., Danes I., Valls-I-Soler A. Meta-analysis of passive immunoprophylaxis in paediatric patients at risk of severe RSV infection. *Acta Paediatrica, International Journal of Paediatrics*;100(3):324-329.  
**IF: 2.073**

\*TIF: 55.938 \*\*MIF: 1.645

## Scientific Production

- 22 Garcia-Altes A., Peiro S. A systematic review of cost-effectiveness evidence of endoscopic saphenous vein harvesting: Is it efficient?. *European Journal of Vascular and Endovascular Surgery*;41(6):831-836.  
**IF: 2.991**
- 23 Catala-Lopez F., Garcia-Altes A., Alvarez-Martin E., Genova-Maleras R., Morant-Ginestar C., Parada A. Burden of disease and economic evaluation of healthcare interventions: are we investigating what really matters?. *BMC health services research*;11():75.  
**IF: 1.66**
- 24 Fu M., Martinez-Sanchez J.M., Lopez M.J., Nebot M., Raich A., Fernandez E. Nicotine dependence and readiness to quit smoking in the Spanish population [Dependencia a la nicotina y preparaci3n para dejar de fumar en la poblaci3n espa1ola]. *Adicciones*;23(2):103-109.  
**IF: 0.8**
- 25 Scandurra R.I., Garca-Altes A., Nebot M. Social impact of abusive alcohol consumption in Spain. Consumption, cost and policies [Impacto social del consumo abusivo de alcohol en el estado Espa1o. Consumo, coste y pol3ticas]. *Revista Espanola de Salud Publica*;85(2):141-147.  
**IF: 0.706**
- 26 Garcia-Altes A., Pinilla J., Ortun V. The evolution of health status and chronic conditions in Catalonia, 1994-2006: The paradox of health revisited using the Blinder – Oaxaca decomposition. *BMC Health Services Research*;11.  
**IF: 1.66**
- 27 Godoy P. Conclusions of the workshop “Results and lessons learned during the pandemic flu (H1N1) 2009 from the research and the public health surveillance” [Conclusiones del taller resultados y lecciones aprendidas en la pandemia de gripe a (H1N1) 2009 a partir de los proyectos de investigaci3n y lavigilancia de la salud p1blica]. *Revista Espanola de Salud Publica*;85(1):121-122.  
**IF: 0.706**
- 28 Gorini G., Currie L., Spizzichino L., Galeone D., Lopez M.J. Smoke-free policy development in Italy through the legislative process of the ban 2000-2005, and press media review 1998-2008. *Annali dell’Istituto Superiore di Sanita*;47(3):260-265.  
**IF: 0.941**
- 29 Catala-Lopez F., Garcia-Altes A., Alvarez-Martin E., Genova-Maleras R., Morant-Ginestar C. Economic evaluation of interventions for infectious diseases in Spain: Systematic review and comparative analysis [Evaluaci3n econ3mica de intervenciones en enfermedades infecciosas en Espa1a: Revisi3n sistem1tica y an1lisis comparativo]. *Revista Espanola de Quimioterapia*;24(3):143-150.  
**IF: 0.81**
- 30 Garcia-Altes A., Navas E., Soriano M.J. Economic evaluation of public health interventions [Evaluaci3n econ3mica de intervenciones de salud p1blica]. *Gaceta Sanitaria*;25(SUPPL. 1):25-31.  
**IF: 1.326**
- 31 Borrell, C., Bartoll, X., Garcia-Altes, A., Pasarin, M.I., Pineiro, M., Villalbi, JR Twenty Five Years of Health Reports in Barcelona: A Commitment to Transparency and A Tool for Action. *Revista Espanola de Salud Publica*;85(5):449-458.  
**IF: 0.706**
- 32 Villalbi, JR., Perez-Albarracin, G., Delgado-Rodriguez, M. Training in Spain of medical specialists in Preventive Medicine and Public Health . *Revista Espanola de Salud Publica*;85(6):507-512.  
**IF: 0.706**
- 33 Aguer0 F., Adell M.N., Perez Gimenez A., Lopez Medina M.J., Garcia Continente X. Adoption of preventive measures during and after the 2009 influenza A (H1N1) virus pandemic peak in Spain. *Preventive Medicine*;53(3):203-206.  
**IF: 3.216**
- 34 Santagelo F.A., Adell M.N., A A.P.G., Medina M.J.L., X X.G.C. Attitudes and preventive behaviours adopted during the (H1N1) 2009 influenza virus epidemic in Spain [Actitudes y comportamientos preventivos durante la pandemia de gripe (H1N1) 2009 en Espa1a]. *Revista Espanola de Salud Publica*;85(1):73-80.  
**IF: 0.706**

## Scientific Production

## Scopus Indexed Publications

- 01 Precioso J., Lopez M.J., Fern1ndez E., Nebot M. Indoor air quality in hospitality venues after the implementation of the portuguese tobacco control law. *Revista Portuguesa De Saude Publica*;29(1):22-6.
- 02 Ner1n I., Alayeto C., C3rdoba R., L3pez M.J., Nebot M. Measurement of fine breathable particles (PM2.5) as a marker of environmental smoke in catering establishments in zaragoza. *Arch Bronconeumol*;47(4):190-4.

## Other Publications

## Letter

- Catal1-L3pez F., Garc1a-Alt3s A., 1lvarez-Mart1n E., G3nova-Maleras R., Morant-Ginestar C. New drug development. *The Lancet*;377(9769):902.



AREA T2

# Molecular, Genomic, Cellular and Kinetic- Dynamic Bases for Diseases and their Treatment

182 Genomics of Complex Diseases

184 Molecular Bases of Disease

186 Pharmacokinetic/Pharmacodynamic Modelling  
and Simulation

188 Generation of Advanced Therapy Medicines

# Genomics of Complex Diseases

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## Main Lines of Research

- Genetic Epidemiology and Bioinformatics.

### Genomic of Complex Diseases:

- Genetic Analysis of Idiopathic Thrombophilia (GAIT).
- Genetic Analysis of Osteoporosis (GAO).
- Genetics of Chronic Venous Insufficiency.
- Genetics of Abdominal Aortic Aneurysms (TAGA).

### Pharmacogenomics:

- Markers of Genetic Susceptibility and Pharmacogenomics of Cardiovascular Diseases.

## Challenges

- Consolidate the genetic epidemiology and bioinformatics research lines.
- Increase human and material resources so as to achieve the goals defined for different projects.
- Coordinate an international cardiovascular genomic project.
- Establish pharmacogenomic agreements with biopharmaceutical companies.

## Awards

- Spanish Society of Thrombosis and Haemostasis (SETH). López Borrascas Prize 2011. Project: Identification of the genetic determinants of the intrinsic coagulation pathway and its involvement in thromboembolic disease.

Active Grants

- Athanasiadis G. Juan de la Cierva Research Contract. Spanish Ministry of Economy and Competitivity. January 2010-December 2013. JCI-2010 – 07202.
- García C. Contracts for health professionals who have completed specialized health training period. FIS Project. Carlos III Health Institute. February 2008-January 2011. FIS CM07/00126.
- López S. Sara Borrell Postdoctoral Research Contract. FIS Project. Carlos III Health Institute. January 2009-December 2012. FIS CD08/00059.
- López S. Identification of the genetic factors that determine the levels of fibrinogen in the Spanish population. FIS Project. Carlos III Health Institute. January 2009-December 2011. FIS PI08-0756. €122,936.
- Martínez A. Genetic basis of primary hemostasis phenotypes and their relationship to thrombosis. Spanish Ministry of Economy and Competitivity. January 2009-December 2011. SAF 2008-01859. €108,900.
- Soria J.M.. A genome-wide mapping and functional genomics approach to elucidating PRecocious Artery DISease (PROCARDIS). European Union Project. April 2007-September 2011. 07/LS-HM-CT037273. €257,000.
- Soria J.M.. Genetic Analysis of Idiopathic Thrombosis (GAIT II). National Institute of Health (NIH). December 2008-May 2011. 07/2R01 LH070751-05. €598,000.
- Soria J.M.. Genetic Analysis Linked to an International Action on Thrombosis (GALIA-Thromb), XXV Anniversary of Spanish Society of Thrombosis and Haemostasis (SETH). Sociedad Española de Trombosis y Hemostasia (SETH). January 2010-December 2011. €25,000.
- Soria J.M.. Identification of genetic factors determining the variability of the FVIII levels and their implication in thromboembolic disease. FIS Project. Carlos III Health Institute. January 2009-December 2011. FIS PI08/0420. €137,335.
- Soria J.M.. Support Funds to Catalanian Research Groups. Unit of Genomics of Complex Diseases. AGAUR Project. September 2009-December 2013. 2009SGR 1240. €41,600.
- Soria J.M.. Red Cardiovascular RECAVA. FIS Project. Carlos III Health Institute. January 2010-December 2013. RECAVA-RD06/0014. €123,413.

Collaborations

Collaborations with other IIB Sant Pau Groups

- Thrombosis and Haemostasis Group.
- Angiology, Vascular Biology and Inflammation Group.
- Haematological Diagnosis Group.
- Metabolic Bases of Cardiovascular Risk group.
- Multi-organ Damage Group.

External Collaborations

- Centro de Investigaciones Biológicas (CSIC). Departamento de Inmunología

(Madrid, Spain).

- Centro de biología aplicada y terapia génica (CEBATEG-UAB) (Barcelona, Spain).
- Departamento de Biología Animal. Universidad de Barcelona (UB) (Barcelona, Spain).
- Centro Regional de Hemodonación. Universidad de Murcia (UM) (Murcia, Spain).
- Centre de Recerca en Enginyeria Biomèdica (CREB). Universitat Politècnica de Catalunya (UPC) (Barcelona, Spain).
- Southwest Foundation for Biomedical Research (San Antonio, Texas, USA).
- Centre National de Genotypage (Paris, France).

- Department of Cardiovascular Medicine and Wellcome Trust Centre for Human Genetics (Oxford, United Kingdom).
- Karolinska Institutet. King Gustaf V Research Institute. Centre of Molecular Medicine and the Centre of Gender-Related Medicine (Stockholm, Sweden).
- INSERM U937, Université Pierre et Marie Curie (Paris, France).
- INSERM U765, Université Pierre et Marie Curie (Paris, France).
- INSERM U626, Université de Marseille (Marseille, France).

\*TIF: 13.401 \*\*MIF: 4.467

Scientific Production

ISI Web of Knowledge Indexed Publications with IF

- 01 Athanasiadis G., Buil A., Souto J.C., Borrell M., Lopez S., Martinez-Perez A., Lathrop M., Fontcuberta J., Almasy L., Soria J.M. A genome-wide association study of the protein C anticoagulant pathway. PLoS ONE;6(12). IF: 4.092
- 02 Blanco-Rojo R., Baeza-Richer C., La-

pez-Parra A.M., Perez-Granados A.M., Brichs A., Bertoncini S., Buil A., Arroyo-Pardo E., Soria J.M., Vaquero M.P. Four variants in transferrin and HFE genes as potential markers of iron deficiency anaemia risk: An association study in menstruating women. Nutrition and Metabolism;8. IF: 2.885

- 03 Guerrero J.A., Rivera J., Quiroga T., Martinez-Perez A., Anton A.I., Martinez

C., Panes O., Vicente V., Mezzano D., Soria J., Corral J. Novel loci involved in platelet function and platelet count identified by a genome-wide study performed in children. Haematologica;96(9):1335-1343.

IF: 6.424

Other Publications

Book Chapter

- Chapter: The genetic component of the coagulation and thrombosis. Book: Cardiovascular Risk. Editor: Jaume Marrugat (2011).

# Molecular Bases of Disease

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## Main Lines of Research

### Basic and applied structure-and-function studies of human proteins of biomedical interest, currently focusing on:

#### Thrombosis and Haemostasis:

- Structural and functional investigations of blood coagulation factors, with emphasis on 1) thrombin generation by the prothrombinase complex, as well as on 2) thrombin interactions with both physiological substrates (factor V, factor VIII and protease-activated receptors), and with exogenous inhibitors from haematophagous animals (e.g., anophelin from *Anopheles* mosquitoes; collaboration with Dr. P. Pereira, IBMC, Porto).

#### Lipid Metabolism and Dyslipidemias:

- Structure and function analysis of mutant apoA-V proteins identified in individuals with hypertriglyceridemia (collaboration with Dr. F. Blanco-Vaca, Biochemistry Laboratory, HSCSP & CIBERDEM).

#### Neurodegenerative Diseases:

- Analysis of mutations that affect the SMN genes, whose deficiency results in spinal

muscular atrophy (SMA) (collaboration with Dr. E. Tizzano, Genetics Department, HSCSP).

- Structure and function investigations of proteins associated with inherited forms of Parkinson's disease (PINK1, DJ-1 and Parkin) (collaboration with Dr. J. Kulisevsky, Movement Disorders Unit, Department of Neurology, HSCSP).

#### Cancer and Innate Immune Responses:

- Structure and function analysis of innate immune responses mediated by Toll-like receptors (TLRs), and in particular the role of the major adaptor, MyD88.
- Analysis of mutations and SNPs that affect the TET2 gene and their implications for acute myeloid leukaemia (ALM) (collaboration with Dr. J. Nomdedéu, Laboratory of Haematology, HSCSP).
- Structure and function analysis of the microsomal prostaglandin E synthase (mP-GEs-1) as a target for the generation of novel anti-inflammatory drugs with fewer side effects (collaboration with Dr. L. Vila, Laboratory of Angiology, Vascular Biology and Inflammation, HSCSP RI).

## Challenges

- To consolidate and extend our research programme within the HSCSP Research Institute and the rest of the IIB Sant Pau in a context of limited access to financial support. To this end, we will need to participate in at least one financed structure-and-function project in each of the three major areas of our research (cardiovascular diseases, neurodegenerative diseases, and cancer and innate immune responses). These projects are being or will be conceived, planned and executed in close collaboration with the Principal Investigators from the HSCSP with whom we work together in these biomedical research areas (see above), and will have an important added value to the current research at the HSCSP/IIB Sant Pau.



Active Grants

- Fuentes-Prior P. Thrombus stabilization as a therapeutic target: in vitro studies and animal models. La Marató de TV3. March 2009-December 2012. 08/2231. €135,500.
- Fuentes-Prior P. Programme i3. General Research Directorate. Spanish Ministry of Economy and Competitivity. January 2009-December 2011. 09/I3.
- Fuentes-Prior P. Structural basis of the generation, inhibition and activity of thrombin. Spanish Ministry of Economy and Competitivity. January 2011-December 2013. SAF2010-15668. €110,500.
- Hernández E. Aid for the realization of the PhD dissertation. MAEC-AECID (Spanish Ministry of External Affairs and Cooperation). September 2009 – September 2012. 586939. €57,600.
- De Mendoza E. Aid for the realization of the PhD dissertation. Spanish Ministry of Economy and Competitivity. January 2009-December 2012. BES-2008-006713. €57,600.

Collaborations

Collaborations with other IIB Sant Pau Groups

- Metabolic Bases of Cardiovascular Risk Group.
- Parkinson Disease and Movement Disorders Group.
- Haematological Diagnosis Group.
- Genetic Diseases Group.
- Angiology, Vascular Biology and Inflammation Group.

External Collaborations

Nationals:

- Dr. R. Gutiérrez-Gallego. IMIM-Hospital del Mar and Pompeu Fabra University (Barcelona, Spain). Analysis of intermolecular interactions between thrombin and substrates/inhibitors using Surface Plasmon Resonance (Biacore).
- Dr. M. Pons. IRB and University of Barcelona (Spain). Analysis of intermolecular interactions between thrombin and FVIII using Nuclear Magnetic resonance (NMR).

Internationals:

- Dr. P. E. Bock. Vanderbilt University (Nashville, USA). Studies of thrombin interaction with major substrates. Mechanism of blood clot formation by the prothrombin activator from Staphylococcus aureus, staphylocoagulase.
- Dr. P. Pereira. IBMC (Porto, Portugal). Structure and function analysis of novel thrombin inhibitors from haematophagous animals.

\*TIF: 32.360 \*\*MIF: 16.180

Scientific Production

ISI Web of Knowledge Indexed Publications with IF

- 01 Panizzi P, Nahrendorf M, Figueiredo J.L., Panizzi J., Marinelli B, Iwamoto Y, Keliher E., Maddur A.A., Waterman P, Kroh H.K., Leuschner F., Aikawa E., Swirski F.K., Pittet M.J., Hackeng T.M., Fuentes-Prior P, Schneewind O., Bock P.E., Weissleder R. In vivo detection of Staphylococcus aureus endocarditis by targeting pathogen-specific prothrombin activation. Nature Medicine;17(9):1142-1147. **IF: 22.462**
- 02 Corral-Rodriguez M.A., Bock P.E., Hernandez-Carvajal E., Gutierrez-Gallego R., Fuentes-Prior P. Structural basis of thrombin-mediated factor V activation: The Glu 666-Glu 672 sequence is critical for processing at the heavy chain – B domain junction. Blood;117(26):7164-7173. **IF: 9.898**

# Pharmacokinetic/Pharmacodynamic Modelling and Simulation

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HSCSP RI

## Technicians

Javier Estévez  
Maite Garrido

HSCSP RI  
HSCSP RI



## Main Lines of Research

- Populational pharmacokinetic analysis aimed at establishing the pharmacokinetic characteristics of medical products and at differentiating and quantifying the degree of intra – and inter-individual variability.
- Continuous response analysis aimed at the analysis of effects (in the presence or absence of drugs) where the variable being evaluated changes values gradually.
- Non-continuous response analysis, for responses most frequently observed in clinical practice and including categorical responses and categorical survival, frequency and censored responses.
- Simulation of clinical trials and therapy applications, aimed at assisting with the planning of clinical trials from the perspectives of developing new drugs and of maximizing data yield and also aimed at studying the therapeutic application of narrow-therapeutic-margin drugs.

## Challenges

- Obtain recognition as an emerging group for the Pharmacokinetic/Pharmacodynamic Modelling and Simulation Group.
- Maintain existing external cooperation agreements.
- Establish new cooperation agreements within the Hospital de la Santa Creu i Sant Pau Research Institute.
- Generate sufficient financial resources to maintain and expand the number of staff in the group.
- Communicate our activities.

## Active Grants

- Valle M. Pharmacokinetic-pharmacodynamic approach to evaluating the interaction between delta-9-tetrahydrocannabinol and cannabidiol in healthy volunteers after oral administration: pharmacokinetic, antinociceptive and subjective effects. La Marató de TV3. February 2008-December 2012. €70,710.
- Valle M. Quantification of unwanted effects following administration of delta-0 tetrahydrocannabinol and cannabidiol: Evaluation of interaction and establishment of risk/ benefit relationship via populational pharmacokinetic/pharmacodynamic modelling. FIS Project. January 2009-December 2012. PI08/0471.
- Valle M. Pharmacological interactions between silymarin and darunavir/ritonavir. FIS Project. January 2011-December 2011.
- Valle M. Pharmacological interactions between Echinacea purpurea and etravirine. FIS Project. January 2011-December 2011.

Collaborations

Collaborations with other IIB Sant Pau Groups

- Pharmacological Research in Humans Group.
- Pharmacy Group.

External Collaborations

- Collaboration with Lluita contra la SIDA Foundation. Germans Trias i Pujol Hospital (Badalona, Spain).
- Collaboration with Pharmacy Service. Hospital del Mar (Barcelona, Spain).
- Collaboration with Department of Pharmacology. Liverpool University (United Kingdom).

\*TIF: 13.780 \*\*MIF: 4.593

Scientific Production

ISI Web of Knowledge Indexed Publications with IF

- 01 1. Dos Santos R.G., Valle M., Bouso J.C., Nomdedeu J.F., Rodriguez-Espinosa J., McIlhenny E.H., Barker S.A., Barbanoj M.J., Riba J. Autonomic, neuroendocrine, and immunological effects of ayahuasca: A comparative study with d-amphetamine. *Journal of Clinical Psychopharmacology*;31(6):717-726.  
**IF: 4.098**
- 02 2. Molto J., Valle M., Back D., Cedeno S., Watson V., Liptrott N., Egan D., Miranda C., Barbanoj M.J., Clotet B. Plasma and intracellular (peripheral blood mononuclear cells) pharmacokinetics of once-daily raltegravir (800 milligrams) in HIV-infected patients. *Antimicrobial Agents and Chemotherapy*;55(1):72-75.  
**IF: 4.841**

- 03 3. Molto J., Valle M., Miranda C., Cedeno S., Negro E., Barbanoj M.J., Clotet B. Herb-drug interaction between Echinacea purpurea and darunavir-ritonavir in HIV-infected patients. *Antimicrobial Agents and Chemotherapy*;55(1):326-330.  
**IF: 4.841**

Other Publications

Letter

- Luque S, Grau S, Valle M, Colino CI, Ferrer A. Levofloxacin weight-adjusted dosing and pharmacokinetic disposition in a morbidly obese patient. *J Antimicrob Chemother*;66(7):1653-4.

# Generation of Advanced Therapy Medicines

## Coordinator

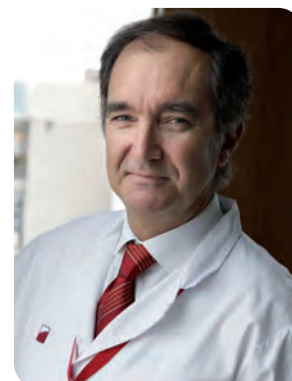
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Maria Isabel Coca BST  
Elisenda Martí BST



## Main Lines of Research

- Bio-processing for cell and tissue production.
- Regeneration of locomotor systems.
- Stem cell therapy for the lymphohematopoietic system.
- Stem cell therapy for multiple sclerosis.

## Challenges

- Create a section within the BST with the structure of a pharmaceutical enterprise and able to develop, assay, register and commercialize advanced therapeutic drugs.

## Active Grants

- Codinach M. Stem cells from amniotic fluid applied to neural and bone regeneration in foetal repair of ovine foetal myelomeningocele. Mutua Madrileña Foundation. 08/2749. 2008-2011.
- Codinach M. UNIportal fetoscopic repair of myelomeningocele using amniotic stem cells in sheep. Carlos III Health Institute. PI10/02466. 2011-2013.
- Garcia J. FACTOCEL. Expansion of the facilities of a factory producing cellular drugs for regenerative medicine. Spanish Ministry of Economy and Competitiveness. PLE2009-0092. 2009-2011.
- Garcia J. REDONTAP. Continuous Proliferation & Simultaneous Maturation of Haematopoietic Stem Cells into Blood Cell Lineages. European Commission. FP7-NMP-2008-SMALL-2. 2010-2014.
- Garcia J. Advanced medical therapies: cellular and tissue engineering products. IPT-300000-2010-17. 2010-2013.
- Garcia J. Prospective, randomized study comparing spinal fusion in patients with degenerative disease of the lumbar spine, using immobilized autologous mesenchymal cells in human bone particles, regarding the iliac crest grafts from the patient. Spanish Ministry of Health. EC10-209. 2011-2012.
- Garcia J. Transplant of autologous mesenchymal stem cells derived from bone marrow as potential therapeutic strategy for the treatment of multiple sclerosis. Spanish Ministry of Health. EC10-266. 2011-2012.
- Garcia J. Autologous Cell therapy with adult stem cells in the osteonecrosis of the femoral head. Spanish Ministry of Health. EC10-208. 2011-2012.
- Garcia J. Transplant of autologous mesenchymal stem cells derived from bone marrow as potential therapeutic strategy for the treatment of multiple sclerosis. Spanish Ministry of Health. EC10-132. 2011-2012.

\*TIF: 25.446 \*\*MIF: 12.723

ISI Web of Knowledge Indexed Publications with IF

01 Eapen M., Klein J.P., Sanz G.F., Spellman S., Ruggeri A., Anasetti C., Brown M., Champlin R.E., Garcia-Lopez J., Hattersely G., Kogler G., Laughlin M.J., Michel G., Nabhan S.K., Smith F.O., Horowitz M.M., Gluckman E., Rocha V. Effect of donor-recipient HLA matching at HLA A, B, C, and DRB1 on outcomes after umbilical-cord blood transplantation for leukaemia and myelodysplastic syndrome: A retrospective analysis. *The Lancet Oncology*;12(13):1214-1221.  
**IF: 22.589**

02 Hook L., Vives J., Fulton N., Leveridge M., Lingard S., Bootman M.D., Falk A., Pollard S.M., Allsopp T.E., Dalma-Weiszhausz D., Tsukamoto A., Uchida N., Gorba T. Non-immortalized human neural stem (NS) cells as a scalable platform for cellular assays. *Neurochemistry International*;59(3):432-444.  
**IF: 2.857**





# Associated Groups

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# Emerging Processes in Prevalent Diseases

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Natalia Rodríguez HSCSP  
Sílvia Ruiz HSCSP  
Miquel Santaló HSCSP  
Montserrat Seres HSCSP  
Sonia Serradell HSCSP  
Olga Trejo HSCSP  
Miquel Turbau HSCSP  
Esther Vendrell HSCSP



## Main Lines of Research

### Emerging processes in prevalent diseases:

- The general aim is to study and analyse processes that are frequently observed in emergency departments so as to transfer the results to clinical practice and so provide better care to patients.

### Clinical organization and management:

- Mireia Puig and Josep Ris.
- Patient safety and emergency service quality. PI: Maite Álvarez.
- Nosocomial infection. PI: Albert Mauri.

### Organ Donation and Coordination:

- Dr. Francisco Caballero and Jesús Leal.

### Respiratory system disorders:

- Salvador Benito.
- Respiratory pattern analysis in the return to spontaneous breathing. PI: Ivan Díaz.

- Ventilatory pattern analysis in heart failure. PI: Sergio Herrera.
- Pneumonia in the emergency department. PI: Míriam Mateo.

### Cardiovascular system:

- Miquel Santaló.
- Acute coronary syndrome in elderly patients. PI: Josep Antoni Montiel.
- Acute coronary syndrome in women. PI: Marta Blázquez.
- Ultrasensitive markers in acute coronary syndrome. PI: Leopoldo Higa.
- Complications in patients implanted with an ICD. PI: Olga Trejo.
- Cardiac failure. PI: Aitor Alquézar.
- Supraventricular arrhythmias. PI: Aitor Alquézar.

### Drug abuse-HIV:

- HCV in patients with HIV. PI: Josep M. Guardiola.
- Acute intoxication. PI: Hector Hernández.

\*TIF: 10.04 \*\*MIF: 3.347

## Scientific Production

### ISI Web of Knowledge Indexed Publications with IF

- 01 Ordóñez Llanos J., Santaló Bel M. Early diagnosis of myocardial injury: What will bring the markers in the future? [Diagnóstico precoz de la lesión miocárdica: ¿qué nos depararán los marcadores bioquímicos en el futuro?]. Emergen-

cias;23(2):149-151.  
IF: 2.486

- 02 Berenguer J., von Wichmann M.A., Querada C., Miralles P., Mallolas J., Lopez-Aldeguer J., Alvarez-Pellicer J., De Miguel J., Crespo M., Guardiola J.M., Tellez M.J., Galindo M.J., Arponen S., Barquilla E., Bellon J.M., Gonzalez-Garcia J., Miralles P., Cosin J., Lopez J.C., Padilla B., Conde M.S., Bellon

J.M., Gutierrez I., Ramirez M., Carretero S., Aldamiz-Echevarria T., Tejerina F., Berenguer J., Alvarez-Pellicer J., Rodriguez E., Arribas J.R., Montes M.L., Bernardino I., Pascual J.F., Zamora F., Pena J.M., Arnalich F., Gonzalez-Garcia J., Bustinduy M.J., Iribarren J.A., Rodriguez-Arondo F., Von-Wichmann M.A., Blanes M., Cuellar S., La-



\*TIF: 10.04 \*\*MIF: 3.347

## Scientific Production

cruz J., Montero M., Salavert M., Lopez-Aldeguer J., Callau P., Miro J.M., Gatell J.M., Mallolas J., Ferrer A., Galindo M.J., Van den Eynde E., Perez M., Ribera E., Crespo M., Vergas J., Tellez M.J., Casado J.L., Dronda F., Moreno A., Perez-Elias M.J., Sanfrutos M.A., Moreno S., Quereda C., Jou A., Tural C., Arranz J.L., Casas E., de Miguel J., Schroeder S., Sanz J., Condes E., Barros C., Sanz J., Santos I., Hernando A., Rodriguez V., Rubio R., Pulido F., Domingo P., Guardiola J.M., Ortiz L., Ortega E., Torres R., Cervero M., Jurdado J.J., Mon-

tes M.L., Perez G., Gaspar G., Barquilla E., Mahillo B., Moyano B., Cotarelo M., Aznar E., Esteban H. Effect of accompanying antiretroviral drugs on virological response to pegylated interferon and ribavirin in patients co-infected with HIV and hepatitis C virus. *Journal of Antimicrobial Chemotherapy*;66(12):2843-2849.

IF: 5.068

- 03 Sanchez M., Bauset J.L., Cuervo R., Carbajosa J., Oria M.C., Povar J., Santalo M. Management of non-ST-segment eleva-

tion acute coronary syndromes in emergency departments according to hospital size: Cases from the Emergency Management of Acute Coronary Syndrome (MUSICA) registry [Atención médica al síndrome coronario agudo sin elevación del ST en los servicios de urgencias según el tamaño del hospital receptor. *Contribuciones del registro MUSICA*]. *Emergencias*;23(6):447-454.

IF: 2.486

## Scientific Production

## ISI Web of Knowledge Indexed Publications without IF

- 01 Chaparro J.A., Giraldo B.F., Caminal P., Benito S. Analysis of the respiratory pattern variability of patients in weaning process using autoregressive modeling techniques. *Conference Proceedings: ...Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Conference 2011*;5690-3.

- 02 Arcentales A., Giraldo B.F., Caminal P., Benito S., Voss A. Recurrence quantification analysis of heart rate variability and respiratory flow series in patients on weaning trials. *Conference Proceedings: ...Annual International Conference of the IEEE Engineering in Medicine and Biology Society. IEEE Engineering in Medicine and Biology Society. Conference 2011*;2724-7.

## Subgroup: Organ Donation and Coordination



## Main Lines of Research

- Kidney preservation with pulsatile perfusion machine RM3: assessment and recovery of kidneys for transplantation from expanded criteria brain dead donors. PI: Francisco Caballero.
- Pathways to consent for organ donation for transplantation (Research Workshop in collaboration with the University of Leeds and Leeds General Infirmary, United Kingdom). PI: Francisco Caballero.

## Coordinator

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## Collaborators

Jesús Leal HSCSP  
Mireia Puig HSCSP  
Josep Ris HSCSP

## Other Publications

## Guide

- Organ donation for transplantation. Protocols and procedures (2011-2012). Transplant Coordination-Emergency Department. HSCSP.

## Thesis

- Thesis on International Master Alianza 2011 in organ, tissue and cell donation and transplantation from Spanish National Transplant Organisation. Title of Master Thesis: Successful kidney transplantation from donors dying from nosocomial bacterial meningitis. Transplant Coordination-Emergency Department. HSCSP.

# Radiophysics and Radioprotection

## Coordinator

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## Researchers

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Teresa Eudaldo HSCSP  
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Agustín Ruiz HSCSP



## Main Lines of Research

### External beam radiotherapy:

- Characterization of various "in vivo" dose measurement detectors for radiation therapy treatments (RT) with intensity modulation (IMRT).
- Validation of dose calculation algorithms for external beam radiotherapy planning systems.

### Biologic dosimetry:

- In cooperation with the Autonomous University of Barcelona team led by Dr. María Rosa Caballín:
  - Cytogenetic evaluation of the relative biological efficacy of low-energy X-rays.

## Challenges

- Optimization of QA procedures for IMRT, SBRT and gating respiratory treatments.
- Index dose assessment on multislices CT.

\*TIF: 9.945 \*\*MIF: 3.315

## Scientific Production

### ISI Web of Knowledge Indexed Publications with IF

- 01 Gutierrez-Enriquez S., Ramon Y Cajal T., Alonso C., Corral A., Carrasco P., Cornet M., Sanz J., Ribas M., Baiget M., Diez O. Ionizing radiation or mitomycin-induced micronuclei in lymphocytes of BRCA1 or BRCA2 mutation carriers. Breast Cancer Research and Treatment;127(3):611-622.

IF: 4.431

- 02 Goma C., Ruiz A., Jornet N., Latorre A., Pallerol R.M., Carrasco P., Eudaldo T., Ribas M. Radiation dose assessment in a 320-detector-row CT scanner used in cardiac imaging. Medical Physics;38(3):1473-1480.  
IF: 2.83

- 03 Mestres M., Benkhaled L., Caballín M.R., Barrios L., Ribas M., Barquinero J.F. Induction of incomplete and complex chromo-

some aberrations by 30 kVp X rays. Radiation research;175(2):201-207.  
IF: 2.684

# Ophthalmology

## Coordinator

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## Researchers

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Jesús Díaz HSCSP  
Miguel Ángel Gil HSCSP  
Sabina Luna HSCSP  
Teresa Marieges HSCSP  
Fernando Rodríguez HSCSP  
Teresa Solans HSCSP  
Jesús Téllez HSCSP  
José Ignacio Vela HSCSP

## Researchers

Eva García HSCSP  
Eva Sáez HSCSP  
Fernando Sánchez HSCSP



## Main Lines of Research

- Optimization of the functional rehabilitation of patients after cataract surgery using multi-focal intraocular lens, and evaluation of vision quality in terms of parameters such as visual acuity, sensitivity to contrast and aberrometry.
- Ocular repercussions of allogeneic medullary transplants and evaluation of the different clinical manifestations and response to treatment in graft-versus-host disease.
- Therapeutic action of anti-VEGF in macular oedema refractory to conventional treatments using bevacizumab in repeated intravitreal injections.

## Active Grants

- Buil J. Randomized, open study of the efficacy, safety and tolerability of repeated doses of intravitreal bevacizumab in patients with refractory uveitic macular edema. FIS Project. January 2009-February 2011. EC08/00119.
- Buil J. Development of a new thulium laser with 1.98 micron emission for medical and surgical applications. FIS Project. October 2010-December 2012. PI09/90048.

## Scientific Production

### ISI Web of Knowledge Indexed Publications without IF

- 01 Cancino R., Vela J.I., Sullivan I., Buil J.A., Alonso Muñoz C. Regression of late onset choroidal metastasis from a breast carcinoma with letrozole. Case Reports in Ophthalmology;2(3):382-6.

# Paediatrics

## Coordinator

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Elisenda Moliner HSCSP  
Nuria Pardo HSCSP  
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Eulàlia Turón HSCSP  
Sergi Verd HSCSP

## Collaborators

(Enriqueta Villavecchia Foundation):  
Richard Cedeño  
Marta García  
Juan Ramis



## Main Lines of Research

- Erythropoietin as an alternative to transfusion in paediatrics.
- Clinical application of peritoneal drainage in the treatment of enterocolitis in infants.
- Chronic functional constipation: Treatment with PEG.
- Creation of a Catalan network for diagnosis and clinical monitoring of rare anemias due to major hemoglobinopathies. PI: Dr. Isabel Badell. Research collaborator: Dr. Montse Torrent. Funding Entity: La Marató de TV3 Foundation (2010).
- Implementation of the study of minimal residual disease in risk assessment in the treatment of children acute lymphoblastic leukemia in the protocol SHOP (in collaboration with the Hematology Department of the HSCSP). PI: Dr. Isabel Badell. Research collaborator: Dr. Montse Torrent. Funding Entity: Enriqueta Villavecchia Foundation for Infantile Oncology.

## Challenges

- Transplant haematopoietic progenitor cells from alternative donors.
- Make pre-implant genetic diagnoses.
- Transplant haematopoietic progenitor cells in congenital immunodeficiencies.
- Transplant haematopoietic progenitor cells in congenital metabolic pathologies.
- Research congenital immunodeficiencies.
- Research Fanconi anaemia (group recognized by the Autonomous University of Barcelona, Spain).
- Apply adaptive cell immunotherapy for tumours.
- Intervention in post-asphyxia neuronal damage in asphyctic infants by applying therapeutic hypothermia (in the context of a Catalan network).
- Polytraumatized patient Care Program. PPT implementation code in HSCSP and in CatSalut Central register.
- Implementation of a multidisciplinary institutional protocol of Massive Transfusion in HSCSP.

## Other Publications

### Book

- Carreras E, Andrés C, Serrano A. Advanced Life Support Manual in Pediatric Trauma, Editorial: Ergón (Barcelona, 2011).

### Books Chapters

- Chapter: Carreras E, Turón E. Abdominal trauma (pp.93-102). Book: Advanced Life Support Manual in Pediatric Trauma. Editorial: Ergón (Barcelona, 2011).
- Chapter: Carreras E, Brió S. Thoracic trauma (pp.71-78). Book: Advanced Life Support Manual in Pediatric Trauma. Editorial: Ergón (Barcelona, 2011).
- Chapter: Carreras, E. Traumatic Shock (pp.49-58). Book. Advanced Life Support Manual in Pediatric Trauma. Editorial: Ergón (Barcelona, 2011).
- Chapter: Carreras, E. choking (pp.139-148). Book Advanced Life Support Manual in Pediatric Trauma. Editorial: Ergón (Barcelona, 2011).
- Chapter: Carnicer J, Remacha AF. Hemochromatosis (pp.480-490). Book: Treaty on Gastroenterology, Hepatology and Pediatric Nutrition Applied SEGHP. Editorial: Ergón (Madrid, 2011).
- Working Group of the Clinical Practice Guidelines on Urinary Tract Infection in pediatric population. Clinical Practice Guidelines on Urinary Tract Infection in the pediatric population (2011). Quality Plan for the National Health Service of the Ministry of Health, Social Policy and Equality. Aragon Institute of Health Sciences. Clinical Practice Guidelines in the NHS: I + CS.

\*TIF: 46.088 \*\*MIF: 3.841

### ISI Web of Knowledge Indexed Publications with IF

- 01 Rives S., Estella J., Gomez P., Lopez-Duarte M., de Miguel P.G., Verdeguer A., Moreno M.J., Vivanco J.L., Couselo J.M., Fernandez-Delgado R., Maldonado M., Tasso M., Lopez-Ibor B., Lendinez F., Lopez-Almaraz R., Uriz J., Melo M., Fernandez-Teijeiro A., Rodriguez I., Badell I. Intermediate dose of imatinib in combination with chemotherapy followed by allogeneic stem cell transplantation improves early outcome in paediatric Philadelphia chromosome-positive acute lymphoblastic leukaemia (ALL): Results of the Spanish Cooperative Group SHOP studies ALL-94, ALL-99 and ALL-2005. *British Journal of Haematology*;154(5):600-611.  
**IF: 4.941**
- 02 Castella M., Pujol R., Callen E., Trujillo J.P., Casado J.A., Gille H., Lach F.P., Auerbach A.D., Schindler D., Benitez J., Porto B., Ferro T., Arturo M., Sevilla J., Madero L., Cela E., Belendez C., De Heredia C.D., Olive T., De Toledo J.S., Badell I., Torrent M., Estella J., Dasi A., Rodriguez-Villa A., Gomez P., Barbot J., Tapia M., Molines A., Figuera A., Bueren J.A., Surralles J. Origin, functional role, and clinical impact of fanconi anemia fanca mutations. *Blood*;117(14):3759-3769.  
**IF: 9.898**
- 03 Castella M., Pujol R., Callen E., Ramirez M.J., Casado J.A., Talavera M., Ferro T., Munoz A., Sevilla J., Madero L., Cela E., Belendez C., de Heredia C.D., Olive T., de Toledo J.S., Badell I., Estella J., Dasi A., Rodriguez-Villa A., Gomez P., Tapia M., Molines A., Figuera A., Bueren J.A., Surralles J. Chromosome fragility in patients with Fanconi anaemia: Diagnostic implications and clinical impact. *Journal of Medical Genetics*;48(4):242-250.  
**IF: 6.365**
- 04 Verdeguer A., De Heredia C.D., Gonzalez M., Martinez A.M., Fernandez-Navarro J.M., Perez-Hurtado J.M., Badell I., Gomez P., Gonzalez M.E., Munoz A., Diaz M.A. Observational prospective study of viral infections in children undergoing allogeneic hematopoietic cell transplantation: A 3-year GETMON experience. *Bone Marrow Transplantation*;46(1):119-124.  
**IF: 3.746**
- 05 Thiel U., Wawer A., Wolf P., Badoglio M., Santucci A., Klingebiel T., Basu O., Borkhardt A., Laws H.-J., Koderer Y., Yoshimi A., Peters C., Ladenstein R., Pession A., Prete A., Urban E.-C., Schwinger W., Bordigoni P., Salmon A., Diaz M.A., Afanasyev B., Lisukov I., Morozova E., Toren A., Bielora B., Korsakas J., Fagioli F., Caselli D., Ehninger G., Gruhn B., Dirksen U., Abdel-Rahman F., Aglietta M., Mastrodicasa E., Torrent M., Corradini P., Demeocq F., Dini G., Dreger P., Eyrych M., Gozdzik J., Guilhot F., Holler E., Koscielniak E., Messina C., Nachbaur D., Sabbatini R., Oldani E., Ottinger H., Ozsahin H., Schots R., Siena S., Stein J., Sufliarska S., Unal A., Ussowicz M., Schneider P., Woessmann W., Jurgens H., Bregni M., Burdach S. No improvement of survival with reduced – versus high-intensity conditioning for allogeneic stem cell transplants in Ewing tumor patients. *Annals of Oncology*;22(7):1614-1621.  
**IF: 6.425**
- 06 Santin S., Fraga G., Ruiz P., Pardo N., Torrent M., Marti T., Ballarin J., Ars E., Torra R. WT1 mutations may be a cause of severe renal failure due to nephroblastomatosis in Wilms' tumor patients. *Clinical Nephrology*;76(3):244-249.  
**IF: 1.171**
- 07 Esparcia O., Montemayor M., Ginovart G., Pomar V., Soriano G., Pericas R., Gurgui M., Sulleiro E., Prats G., Navarro F., Coll P. Diagnostic accuracy of a 16S ribosomal DNA gene-based molecular technique (RT-PCR, microarray, and sequencing) for bacterial meningitis, early-onset neonatal sepsis, and spontaneous bacterial peritonitis. *Diagnostic Microbiology and Infectious Disease*;69(2):153-160.  
**IF: 2.528**
- 08 Garcia-Patterson A., Aulinas A., Sojo L., Ginovart G., Adelantado J.M., de Leiva A., Corcoy R. Poorer perinatal outcome in male newborns of women with pregestational diabetes mellitus. *Diabetic Medicine*;28(4):436-439.  
**IF: 2.902**
- 09 Mencia S., Botran M., Lopez-Herce J., Del Castillo J., Alvarez P., Ballesteros Y., Borrego R., Brio S., Bustinza A., Carrillo A., De Carlos J.C., Dorao P., Espinosa J.M., Garcia-Teresa M.A., Gili T., Gomez De Quero P., Gonzalez I., Gonzalez J.M., Gonzalez-Bravo N., Hernandez A., Iglesias J.M., Jollanes B., Domingo Lopez J., Lopez-Menchero C., Luaces J., Martin B., Menendez S., Moralo S., Ortiz M., Obeso T., Oyaguez P., Redondo S., Rodriguez A., Roqueta J., Sanchez M., Suarez M., Reig R., Tapia R., Ulloa E. Sedative, analgesic and muscle relaxant management in Spanish paediatric intensive care units [Manejo de la sedoanalgesia y de los relajantes musculares en las unidades de cuidados intensivos pediátricos españolas]. *Anales de Pediatría*;74(6):396-404.  
**IF: 0.770**
- 10 Santin S., Tazon-Vega B., Silva I., Cobo M.A., Gimenez I., Ruiz P., Garcia-Maset R., Ballarin J., Torra R., Ars E. Clinical value of NPHS2 analysis in early – and adult-onset steroid-resistant nephrotic syndrome. *Clinical Journal of the American Society of Nephrology*;6(2):344-354.  
**IF: 5.227**
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- 02 Verd S., Ginovart G., Garcia M.J., Capdevila E., Sanchez L., Porta R., Botet F. Course of premature infants fed with donor human milk. *Pediatría Catalana*;71(3):96-9.
- 03 Moliner Calderón E., Gómez González P., Fernández Liarte L., Ginovart Galiana G., García Borau M.J. Möbius syndrome: Misoprostol as a teratogenic? *Acta Paediatrica Espanola*;69(4):189-92.

# Chronic Respiratory Diseases

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## Main Lines of Research

### Asthma:

- Inflammatory, remodelling and genetic mechanisms in severe asthma.
- Role of the toll-like receptors.
- Study of the inflammatory asthma phenotypes.
- Novel skills to determine bronchial inflammation by exhaled air temperature (EAT) and electronic nose.
- Changes in exhaled air temperature as a non-invasive measure of inflammation.
- Studies in education and allergies, meta-analysis and clinical practice guidelines.
- Inflammation and rhinitis.

### Chronic obstructive pulmonary disease (COPD) and respiratory failure:

- New techniques of weaning from home-based non-invasive ventilation and their viability.
- Correlation of lung function and imaging techniques in patients with neuromuscu-

lar disorders.

- Role of mucines in COPD infections.
- Specificity and selectivity of the electronic nose to identify COPD.
- Respiratory rehabilitation studies.
- Predictive mathematic model to establish COPD patients at risk of future exacerbations. Coordination between care levels (primary and hospital care) for COPD and aneurysm and COPD.

### Obstructive Sleep Apnea Syndrome (OSAS):

- Physiology and clinical therapeutic consequences of OSAS.
- Obesity-hypoventilation syndrome.
- Airway inflammation and OSAS.

### Bronchoscopy:

- Cryowave efficacy in obtaining lung biopsies from patients with interstitial disease.
- Efficacy of themoplasty in selected severe asthma patients.

## Challenges

- Enhance basic research into obstructive respiratory diseases.
- Recruit young researchers to the team.
- Cooperate with other research groups and hospital departments in setting up re-

search groups in a local multidisciplinary network and in other Spanish centres (inclusion in CIBERES), Programa Investigación Integrada (PII) de asma de la SEPAR and European centres (joint studies).

## Awards

- Original Award with better evaluation published in 2010 in Archives of Bronco-pneumology. Authors: Pajares V., Torrego A., Puzo C., Lerma E., Gil de Bernabé M.A., Franquet T. Arch Bronconeumol 2010;46:111-5.

## Active Grants

- Giner J. Effectiveness of quality control methods for primary care spirometry. FIS Project. January 2010-December 2012. PI09/0686.
- Ramos D. Role of effector and regulatory cells in the recruitment and differentiation of mesenchymal stem cells as a mecha-

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- nism of respiratory tract remodeling in asthma. FIS Project. January 2011-September 2012. PI08/1822.
- Mayos M. Systemic effects of the sleep apnoea syndrome: Analysis using animal models and human studies. FIS Project. January 2009-December 2011. PI08/1211.
  - Sibila O. Study of lung defence mechanisms in severe COPD and its relationship to airway infection. FIS Project. January 2010-December 2012. PI09/2567.
  - Solanes I. Impact of a multidisciplinary coordinated primary care-hospital programme to improve COPD care in a health area. Spanish Society of Neumology and Thoracic Surgery (SEPAR Project). June 2007-May 2011. 06/SEPAR.
  - Torrego A. Randomized trial of the of diagnostic performance and safety of transbronchial lung biopsy with cryoprobes compared to conventional tweezers in the diagnosis of diffuse lung disease. FIS Project. January 2011-December 2013. PI10/01006.
  - Peiro M., Plaza V. Effectiveness of a Program of minimal educational intervention in asthma management and prevention of exacerbations (PROMETEO). Grant: Official College of Nurses of Barcelona (COMB). January 2011-December 2013. €6,000.
  - Crespo A. Toll-like receptor expression in induced sputum cells in asthmatic patients. Relationship to phenotype, severity and level of asthma control. Catalan Foundation of Pneumology (FUCAP). January 2011-December 2013. €12,000.
  - Solanes I. Study of pulmonary defense mechanisms in severe COPD and its relationship with the infection in the airways. Grant FUCAP 2011. Fundació Catalana de Pneumologia (FUCAP). January 2011-December 2013. €12,000.
  - Ramos D. Interaction between immune regulation and mechanisms in respiratory tract remodeling in asthma: pathogenic effects versus therapeutic potential. FIS PI11/01001. January 2011-December 2013.

\*TIF: 19.466 \*\*MIF: 2.781

## Scientific Production

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- 01 Quirce S., Barcina C., Plaza V., Calvo E., Muoz M., Ampudia R., Capel M. A comparison of budesonide/formoterol maintenance and reliever therapy versus conventional best practice in asthma management in Spain. *Journal of Asthma*;48(8):839-847. **IF: 1.525**
- 02 Fortuna A.M., Miralda R., Calaf N., Gonzalez M., Casan P., Mayos M. Airway and alveolar nitric oxide measurements in obstructive sleep apnea syndrome. *Respiratory Medicine*;105(4):630-636. **IF: 2.475**
- 03 Vidal S., Bellido-Casado J., Granel C., Crespo A., Plaza V., Juarez C. Flow cytometry analysis of leukocytes in induced sputum from asthmatic patients. *Immunobiology*;217(7):692-697. **IF: 3.205**
- 04 Gasa M., Salord N., Fortuna A.M., Mayos M., Vilarrasa N., Dorca J., Montserrat J.M., Bonsignore M.R., Monasterio C. Obstructive sleep apnoea and metabolic impairment in severe obesity. *European Respiratory Journal*;38(5):1089-1097. **IF: 5.895**
- 05 Tarrega J., Anton A., Guell R., Mayos M., Samolski D., Marti S., Farrero E., Prats E., Sanchis J. Predicting nocturnal hypoventilation in hypercapnic chronic obstructive pulmonary disease patients undergoing long-term oxygen therapy. *Respiration*;82(1):4-9. **IF: 2.258**
- 06 Quirce S., Plaza V., Picado C., Vennera M., Casafont J. Prevalence of uncontrolled severe persistent asthma in pneumology and allergy hospital units in Spain. *Journal of Investigational Allergology and Clinical Immunology*;21(6):466-471. **IF: 2.269**
- 07 Masa J.F., Jimenez A., Duran J., Carmona C., Monasterio C., Mayos M., Teran J., Barbe F., Rubio M., Failde I., Mota M., Montserrat J.M. Visual analogical well-being scale for sleep apnea patients: Validity and responsiveness. *Sleep and Breathing*;15(3):549-559. **IF: 1.839**

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- 04 Ramos-Barbón D., Parra-Arrondo A. Inflammation and remodeling of the distal airways: Studies in humans and experimental models. *Arch Bronconeumol*;47(SUPPL. 2):2-9.
- 05 Vigil L., Güell M.R., Morante F., López De Santamaría E., Sperati F., Guyatt G., Schünemann H. The validity and sensitivity to change of the Spanish self-administered version of the chronic respiratory questionnaire (CRQ-SAS). *Arch Bronconeumol*;47(7):343-9.
- 06 Ramos-Barbón D. Resistance to glucocorticoids: Another piece of the jigsaw. *Arch Bronconeumol*;47(3):113-4.

## Other Publications

## Letters

- Castillo D., Pajares V., Torrego A. What is the technique of choice for diagnosing mediastinal lesions? *Arch Bronconeumol*;47(3):160.
- Solanes García I., Crespo Lessmann A., Giner Donaire J. World spirometry day: Experience in a hospital centre. *Arch Bronconeumol*;47(4):217.
- Plaza V. GEMA (Spanish Guidelines for Asthma Management). Editorial Luzán (Madrid, 2011). ISBN: 978-84-7989-668-3.
- Plaza V. Pulmonology practice for primary care. Editorial Marge Médica (Barcelona, 2011). ISBN: 978-84-15004-39-4.

## Books

## Book Chapter

- Chapter: Castillo D., Torrego A. The resident at the beginning of the specialty: the selection system and the process of choosing the place. Book: *La Formación del Residente de Neumología*. Editorial Luzán (2011).

# Nuclear Medicine

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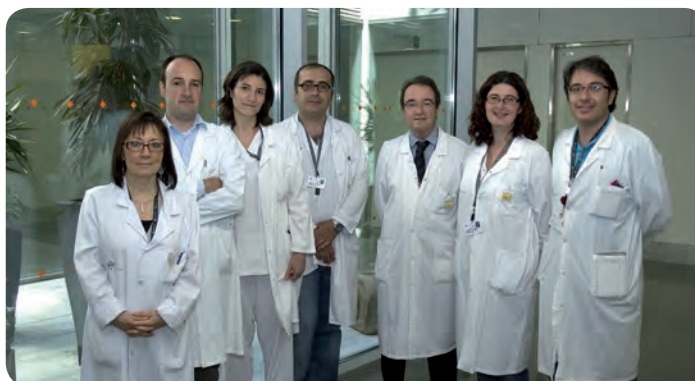
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## Main Lines of Research

### Oncology:

- Design of new diagnostic methods based on identifying and visualizing molecular targets from metabolic mechanisms, receptor systems, hypoxia, angiogenesis and apoptosis.
- Development of new applications for sentinel ganglion and radioguided surgery models.

### Cardiovascular research:

- New methods for non-invasive assessment of ischaemic heart disease and heart failure.

- Cardiovascular functional studies.
- New methods for assessing cardiac innervation and determining applications.

### Functional neuroimaging:

- Development of new functional imaging methods for evaluating neurodegenerative diseases whether or not they involve dementia (Parkinson, Parkinson-Plus, Alzheimer and DCL).
- Dopaminergic system studies using IBZM and Datscan.

## Challenges

- Introduce new technologies to clinical research. Imaging techniques are evolving very rapidly towards multimodal systems that integrate biological, molecular, anatomical and functional information in a single examination. The group aims to include these technologies, mainly PET/CT and PET/MR, in its own and the hospital's research activities.

### New molecular imaging techniques:

- Date the group has developed pre-clinical and clinical molecular imaging models using SPECT and conventional nuclear medicine technologies. In the next 5 years, the group plans to develop

- new hybrid molecular imaging technologies, mainly PET/CT and PET/MR.

### PET imaging biomarkers:

- The group uses radioactive tracers to view in vivo diagnostic and therapeutic targets. In the next 5 years, the group plans to develop new PET radioactive tracers to be used as biomarkers in new imaging techniques.

## Active Grants

- Flotats A. EVINCI: Evaluation of Integrated Cardiac Imaging for the Detection and Characterization of ischaemic heart disease. European Union Project. January 2009-December 2011. 08/UE222915.



\*TIF: 40.843 \*\*MIF: 3.404

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- 02 Carrio I. Nuclear medicine, scientific publishing and the era of cost containment. *European Journal of Nuclear Medicine and Molecular Imaging*;38(12):2111-2113. **IF: 4.991**
- 03 Gaeta C., Fernandez Y., Pavia J., Flotats A., Artigas C., Deportes J., Geraldo L., Carrio I. Reduced myocardial 18F-FDG uptake after calcium channel blocker administration. Initial observation for a potential new method to improve plaque detection. *European Journal of Nuclear Medicine and Molecular Imaging*;38(11):2018-2024. **IF: 4.991**
- 04 Yang D.J., Zhang H., Tian M., Ignasi C., Cheng Z., Shen L.-H. Molecular image-guided theranostic and personalized medicine. *Journal of Biomedicine and Biotechnology*;2011. **IF: 2.436**
- 05 Camacho Marti V., Marquie M., Lleo A., Alves L., Artigas C., Flotats A., Duch J., Blesa R., Gomez-Isla T., Carrio I., Estorch M. Cardiac sympathetic impairment parallels nigrostriatal degeneration in Probable Dementia with Lewy Bodies. *Quarterly Journal of Nuclear Medicine and Molecular Imaging*;55(4):476-485. **IF: 2.256**
- 06 Safont G., Corripio I., Escarti M.J., Portella M.J., Perez V., Ferrer M., Camacho V., Sauras R.B., Alonso A., Grasa E.M., Arranz B., San L., Duenas R., Carrio I., Alvarez E. Cannabis use and striatal D2 receptor density in untreated first-episode psychosis: An in vivo SPECT study. *Schizophrenia Research*;129(2-3):169-171. **IF: 4.748**
- 07 Carrio I. Current research in nuclear medicine and molecular imaging: Highlights of the 23rd Annual EANM Congress. *European Journal of Nuclear Medicine and Molecular Imaging*;38(2):378-399. **IF: 4.991**
- 08 Garcia J.R., Soler M., Fuertes S., Riera E., Moreno A., Lomena F., Carrio I. Incidence of focal myocardial 18F-FDG uptake and correlation with coronary calcifications by PET/CT. *Revista Espanola de Medicina Nuclear*;30(1):8-13. **IF: 0.894**
- 09 Flotats A., Hasbak P., Hidalgo A., Leta R. Cardiac SPECT-CT and PET-CT imaging. *Current Medical Imaging Re-*views;7(3):175-191. **IF: 0.708**
- 10 Flotats A., Knuuti J., Gutberlet M., Marcassa C., Bengel F.M., Kaufmann P.A., Rees M.R., Hesse B. Hybrid cardiac imaging: SPECT/CT and PET/CT. A joint position statement by the European Association of Nuclear Medicine (EANM), the European Society of Cardiac Radiology (ESCR) and the European Council of Nuclear Cardiology (ECNC). *European Journal of Nuclear Medicine and Molecular Imaging*;38(1):201-212. **IF: 4.991**
- 11 Duch J. Portable gamma cameras: The real value of an additional view in the operating theatre. *European Journal of Nuclear Medicine and Molecular Imaging*;38(4):633-635. **IF: 4.991**
- 12 Guardia-Serecigni J., Estorch M., Surkov S., del Valle Camacho M., Ribas G.G. Multidimensional alcohol craving scale and [123I] Iodobenzamide SPECT as predictors of early relapse in alcohol-dependent patients [La Escala Multidimensional de Craving de Alcohol y el SPECT con yodobenzamida[123I] como predictores de recaída precoz en pacientes que presentan dependencia del alcohol]. *Adicciones*;23(2):157-164. **IF: 0.800**



# Intensive Medicine

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## Main Lines of Research

- Acute respiratory failure and artificial ventilation.
- Non-invasive ventilation
- New ventilation modes: proportional-assist ventilation and NAVA.
- Prone decubitus in acute respiratory dysfunction syndrome (ARDS).
- Artificial ventilation withdrawal.
- Expert ventilation systems.
- Sleep and artificial ventilation.
- Early and active mobilization of the critical patient.

## Study of the usefulness of new biomarkers in critically ill patients:

- BNP in weaning from mechanical ventilation.
- Use of the NGAL protein in the renal prognosis of critically ill patients.
- Strict control of blood glucose in critically ill patients.
- Prophylaxis of acute gastric mucosal injury in critically ill patients.
- Study of the haemodynamic effects of different antipyretic drugs in critically ill patients.
- Influence of position change to supine decubitus position in intra-abdominal pressure.

## Challenges

- Consolidate clinical and physiological research into ventilation in critically ill patients through multicentre and multinational networking.
- Create a stable and well-trained group of researchers in this discipline.

## Collaborations

### Collaborations with other IIB Sant Pau Groups

- Pharmacological Research in Humans Group.

### External Collaborations

- ABISS-EDUSEPSIS Study: Evaluation of the effectiveness and efficiency of a multifaceted intervention aimed at improving early antibiotic therapy in severe sepsis. PI: Paula Vera.
- ENVIN: National Study of Nosocomial Infection Surveillance. PI: Paula Vera.

**Letter**

- Aguirre-Bermeo H., Millón J., Martínez-Domeño A., Marruecos-Sant L. Status epilepticus in a patient with sickle cell disease. *Med Clin*;137(9):428-9.

**Books**

- Felices F., Morán I., Marruecos L.I., Martínez-Lozano F. The essential in Clinical Toxicology. Editor: DM Librero SL. ISBN 978-84-8425-896-4.
- Morán I., Baldirà J., Marruecos L.I., Nogué S. Clinical Toxicology. Editor: Difusión Jurídica y Temas de Actualidad SA. ISBN: 978-84-95545-52-7.

**Book Chapters**

- Chapter: Cabello B., Roche-Campo F., Mancebo J. Weaning from Mechanical Ventilation (pp.342-346). Book: Textbook of Critical Care. Editors: Vincent J.L., Abraham E., Moore F., Kochanek P., Fink M. 6th Edition. Editorial: Elsevier Saunders. ISBN: 978-1-4377-1367-1.
- Chapter: Zapata L., Vera P., Morán I. Disorders of acid-base balance and ion metabolism in critically ill patients (pp.623-635). Book: Critically ill and Emergencies. Elsevier España SL. ISBN 978-84-8086-470-1.
- Chapter: Nogué S., Marruecos L.I., Lloret J. Renal clearance in the treatment of intoxications (pp.101-107). Book: Clinical Toxicology. Editor: Difusión Jurídica y Temas de Actualidad SA. ISBN: 978-84-95545-52-7.
- Chapter: Nogué S., Marruecos L.I., Lloret J. Indications for extra-renal deputation in the treatment of acute intoxications (pp.109-119). Book: Clinical Toxicology. Editor: Difusión Jurídica y Temas de Actualidad SA. ISBN: 978-84-95545-52-7.
- Chapter: Marruecos L.I., Morán I., Baldirà J., Núñez K. Intoxications due to colchicine, isoniazid, theophylline and chloroquine (pp.231-241). Book: Clinical Toxicology. Editor: Difusión Jurídica y Temas de Actualidad SA. ISBN: 978-84-95545-52-7.
- Chapter: Morán I., Marruecos L.I., Zapata L.I., Vera P. Metabolic acidosis in toxicology (pp.399-412). Book: Clinical Toxicology. Editor: Difusión Jurídica y Temas de Actualidad SA. ISBN: 978-84-95545-52-7.
- Chapter: Marruecos L.I., Nogué S., Morán I. Intoxications due to methanol and ethylene glycol. Indications of fomepizole (pp.413-421). Book: Clinical Toxicology. Editor: Difusión Jurídica y Temas de Actualidad SA. ISBN: 978-84-95545-52-7.

\*TIF: 83.199 \*\*MIF: 4.622

**ISI Web of Knowledge Indexed  
Publications with IF**

- |   |  |   |
|---|--|---|
| <p>01 Dellamonica J., Lerolle N., Sargentini C., Beduneau G., Di Marco F., Mercat A., Richard J.-C.M., Diehl J.-L., Mancebo J., Rouby J.-J., Lu Q., Bernardin G., Brochard L. Accuracy and precision of end-expiratory lung-volume measurements by automated nitrogen washout/washin technique in patients with acute respiratory distress syndrome. <i>Critical Care</i>;15(6).<br/><b>IF: 4.607</b></p> <p>02 Moran I., Blanch L., Fernandez R., Fernandez-Mondejar E., Zavala E., Mancebo J. Acute physiologic effects of a stepwise recruitment maneuver in acute respiratory distress syndrome. <i>Minerva Anestesiologica</i>;77(12):1167-1175.<br/><b>IF: 2.656</b></p> <p>03 Zapata L., Vera P., Roglan A., Gich I., Ordonez-Llanos J., Betbese A.J. B-type na-</p> | <p>triuretic peptides for prediction and diagnosis of weaning failure from cardiac origin. <i>Intensive Care Medicine</i>;37(3):477-485.<br/><b>IF: 5.399</b></p> <p>04 Cuquemelle E., Soulis F., Villers D., Roche-Campo F., Ara Somohano C., Fartoukh M., Kouatchet A., Mourvillier B., Dellamonica J., Picard W., Schmidt M., Boulain T., Brun-Buisson C. Can procalcitonin help identify associated bacterial infection in patients with severe influenza pneumonia? A multicentre study. <i>Intensive Care Medicine</i>;37(5):796-800.<br/><b>IF: 5.399</b></p> <p>05 Fodil R., Lellouche F., Mancebo J., Sbirlea-Apiou G., Isabey D., Brochard L., Louis B. Comparison of patient-ventilator interfaces based on their computerized effective dead space. <i>Intensive Care Medicine</i>;37(2):257-262.<br/><b>IF: 5.399</b></p> | <p>06 Moran I., Cabello B., Manero E., Mancebo J. Comparison of the effects of two humidifier systems on endotracheal tube resistance. <i>Intensive Care Medicine</i>;37(11):1773-1779.<br/><b>IF: 5.399</b></p> <p>07 Roche-Campo F., Vignaux L., Galia F., Lyazidi A., Vargas F., Texereau J., Apiou-Sbirlea G., Jolliet P., Brochard L. Delivery of helium-oxygen mixture during spontaneous breathing: Evaluation of three high-concentration face masks. <i>Intensive Care Medicine</i>;37(11):1787-1792.<br/><b>IF: 5.399</b></p> <p>08 Roche-Campo F., Mancebo J. Implications of a comprehensive clinical approach in the treatment of critically-ill patients requiring mechanical ventilation. <i>Minerva Anestesiologica</i>;77(5):477-479.<br/><b>IF: 2.656</b></p> |
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# Intensive Medicine

\*TIF: 83.199 \*\*MIF: 4.622

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- 09 Dimassi S., Vargas F., Lyazidi A., Roche-Campo F., Dellamonica J., Brochard L. Intrapulmonary percussive ventilation superimposed on spontaneous breathing: A physiological study in patients at risk for extubation failure. *Intensive Care Medicine*;37(8):1269-1276.  
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- 11 Palencia Herrejon E., Gonzalez Diaz G., Mancebo Cortes J. The future of intensive medicine [El futuro de la Medicina Intensiva]. *Medicina Intensiva*;35(4):232-235.  
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**IF: 5.399**
- 15 Antonelli M., Azoulay E., Bonten M., Chastre J., Citerio G., Conti G., De Backer D., Gerlach H., Hedenstierna G., Joannidis M., MacRae D., Mancebo J., Maggiore S.M., Mebazaa A., Preiser J.-C., Pugin J., Wernerman J., Zhang H. Year in review in *Intensive Care Medicine* 2010: III. ARDS and ALI, mechanical ventilation, noninvasive ventilation, weaning, endotracheal intubation, lung ultrasound and paediatrics. *Intensive Care Medicine*;37(3):394-410.  
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**IF: 11.08**
- 18 Olaechea P.M., Alvarez-Lerma F., Palomar M., Insausti J., Lopez-Pueyo M.J., Martinez-Pellus A., Canton M.L., Grupo ENVIN-HELICS (col. Roche F.) Impact of primary and intravascular catheter-related bacteremia due to coagulase-negative staphylococci in critically ill patients [Impacto de la bacteriemia primaria y relacionada con catéter intravascular causado por *Staphylococcus* coagulasa negativo en pacientes críticos]. *Medicina Intensiva*;35(4):217-225.  
**IF: 1.072**

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## Main Lines of Research

### Critical analysis of new clinical technologies:

- Anaconda-inhaled sedation in patients undergoing postoperative mechanical ventilation.
- New monitoring systems for anaesthesia depth and cerebral oxygen status.
- Systematic review of intraoperative active warming systems.

### Rational use of perioperative blood products:

- Usefulness of thromboelastography in postoperative bleeding in cardiac surgery.
- Critical evaluation of the reliability of point-of-care systems in the management of perioperative blood count.

### Perioperative medicine:

- VISION Study: Evaluation of vascular complications in patients undergoing major non-cardiac surgery.
- POISE Study I: Clinical trial of metoprolol versus placebo in patients scheduled for non-cardiac surgery with moderate or high risk of experiencing perioperative cardiac events.
- POISE Study II: Factorial clinical trial of clonidine and aspirin in patients undergoing non-cardiac surgery with moderate or high risk of experiencing perioperative cardiac events.
- GLUCOVISION Study: Evaluation of glucose as a predictor of vascular events in patients undergoing non-cardiac surgery.
- Systematic review of intraoperative active warming systems.
- ECT: Anaesthetic alternatives to enhance therapeutic effect.

### New health service delivery systems:

- Bronchial cryobiopsies.
- Professional team preoperative evaluations.

### Physiology, pharmacology and anaesthetic techniques:

- Intraoperative respiratory physiology.
- Efficacy and safety of levosimendan in postoperative refractory heart failure.

### Acute and chronic pain (neuroscience research group):

- Stride Study (E05-CL-3001). Open arm multicentre study of repeated administration of Qutenza for the treatment of peripheral neuropathic pain.
- Evaluation of the effectiveness, safety and tolerability of extended-release tapentadol versus a combination of extended-release tapentadol and pregabalin in patients with severe chronic lower back pain with a neuropathic pain component (KF5503/58).
- Application of high-field MRI and its analysis tools to the evaluation of brain alterations in patients with chronic pain compared to acute pain and a control group (PI08/0678).

# Anaesthesiology

## Challenges

- Critical analysis of new clinical technologies.
- Rationalization of perioperative transfusions.
- Perioperative medicine.
- Development of new health service systems.
- Clinical and preclinical research into physiology, pharmacology and anaesthetic/analgesic techniques.

\*TIF: 4.243 \*\*MIF: 4.243

## Scientific Production

### ISI Web of Knowledge Indexed Publications with IF

- 01 Sabate S., Mases A., Guilera N., Canet J., Castillo J., Orrego C., Sabate A., Fita G., Parramon F., Paniagua P., Rodriguez A., Sabate M. Incidence and predictors of major perioperative adverse cardiac and cerebrovascular events in non-cardiac surgery. *British Journal of Anaesthesia*;107(6):879-890.  
IF: 4.243

## Scientific Production

### ISI Web of Knowledge Indexed Publications without IF

- 01 Català E., Ferrándiz M., Lorente L., Landaluce Z., Genové M. Opioids for chronic noncancer pain: Recommendations based on clinical practice guidelines. *Revista Española De Anestesiología y Reanimación*;58(5):283-9.
- 02 Rama-Maceiras P., Unzueta M.C., Soro M., González de Castro R., Belda J. Airway pressure elevation during mechanical ventilation: Beyond considerations of bronchospasm. *Revista Española De Anestesiología y Reanimación*;58(2):70-3.
- 03 Rawal N., Macquaire V., Catala E., Berti M., Costa R., Wietlisbach M. Tramadol/paracetamol combination tablet for postoperative pain following ambulatory hand surgery: a double-blind, double-dummy, randomized, parallel-group trial. *Journal of pain research*;4:103-110.

## Other Publications

### Letters

- Mateo J., Paniagua P., Koller T., Moral V., Fontcuberta J. Dextran and hydroxyethyl starch do not interfere with fibrinogen measurement if claus method with mechanical clot detection is used. *Critical Care*;15(5).
- González-Rodríguez R., Koller Bernhard T., Bausili Ribera M., Martín-Huerta B. Catheterization of the femoral vein in a patient following femoro-femoral cardiopulmonary bypass. *Revista Española De Anestesiología y Reanimación*;58(5):327.
- Alonso-Coello P., Paniagua P., Urrutia G. Beta-blockers in patients undergoing non-cardiac surgery: Risks overweight benefits. *Med Clin*;136(14):646-7.

## Subgroup: Pain and Neurosciences



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### Main Lines of Research

- Involvement of brain areas and release of substances in chronic pain (in conjunction with HSCSP neuroradiology unit and the Autonomous University of Barcelona.
- Adverse effects of epidural steroids administered for lumbar spine pathologies.
- Effectiveness of topical long-term treatment with high-dose capsaicin of peripheral neuropathic pain.
- Sleep disturbance on initiating systemic opioid treatment in patients with severe chronic pain and altered sleep patterns.

### Challenges

- Establish the possible differences in brain area involvement between acute and chronic pain.
- Determine the extent of chronic pain according to the involvement of different brain areas.
- Determine if the intensity of chronic neuropathic pain assessed by the patient is correlated with the patient's psychopathology, essentially, anxiety, depression and catastrophizing.
- Determine the duration and intensity of undesirable effects of epidural steroids and establish early diagnostic criteria.
- Determine the profile of patients who would benefit from treatment with major systemic opioids in relation to night rest and establish the recommendable opioid.

### Active Grants

- Català E. Application of high-field MRI and its analysis tools to evaluating brain alterations in patients with chronic pain compared to acute pain and a control group. FIS Project. January 2009-December 2012. PI08/0678.

# Pharmacy

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## Main Lines of Research

- Pharmaceutical care.
- Artificial nutrition.
- Oncohaematology.
- Independent clinical trials.

## Challenges

- Evaluate the impact on effectiveness and safety of pharmacological treatments in different pharmaceutical care programmes: clinical pharmacokinetics, health education for outpatients, medicine reconciliation and identification and prevention of medication-related problems.
- Evaluate the impact of artificial nutrition on the clinical evolution of patients.
- Study the stability of cytostatics in different conditions of use.
- Predict response to anti-tumour treatment in a number of tumoural processes.
- Develop focal adhesion inhibitors, e.g., anti-tumour agents.
- Actively cooperate in independent clinical trials performed in the HSCSP.

## Active Grants

- Scholarship Joaquim Bonal to the project "Pharmaceutical care program for patients with heart failure and/or COPD users of emergency department versus conventional monitoring". Catalan Society of Clinical Pharmacy. PI: Juanes A. Directors: Mangués M.A., Baena I.



## Collaborations

## Collaborations with other IIB Sant Pau Groups

- Oncogenes and Antitumour Drugs Group.
- Dermatology Group.
- Neuromuscular Diseases Group.
- Digestive Diseases Group.

## External Collaborations

- EPIMED 2011: Optimizing the use of medication. Spanish Society of Hospital Pharmacy. Gaspar Casal Foundation. Department of Economics. University Pompeu Fabra. ISBN 978-84-96727-38-0.
- Study of the effectiveness of phenytoin in the prophylaxis of seizures in patients with pneumococcal meningitis of 50 years

or more. Comparative trial, multicenter, placebo-controlled, double-blind and randomized trial. Promoter: Cabellos M.C. Bellvitge University Hospital (L'Hospitalet de Llobregat, Spain). Code: INFSNC1. No. EUDRACT: 2010-023919-34.

- Multicenter open trial, observational and prospective to analyze the variability in prescription and efficiency of starting drugs in a cohort of naive patients in the treatment of chronic hepatitis B (study HEPABAND). PI: Morillo R. Promoter: Andalusian Society of Hospital Pharmacy. Code: SAF-HEP-2009-01.
- Prospective study of oral treatment adherence in patients diagnosed with cancer. Grant FISS 2011. PI: Borràs J.M. Promoter: Oncology Master Plan (Generalitat de Catalunya).

\*TIF: 6.257 \*\*MIF: 3.129

## Scientific Production

## ISI Web of Knowledge Indexed Publications with IF

- 01 Majem M., Moreno M.E., Calvo N., Feliu A., Perez J., Mangués M.A., Barnadas A. Perception of healthcare providers versus patient reported incidence of chemotherapy-induced nausea and vomiting after the addition of NK-1 receptor antagonists. *Supportive Care in Cancer*;19(12):1983-1990.  
IF: 2.597

- 02 Gastelurrutia P, Benrimoj S.I., Espejo J., Tuneu L, Mangués M.A., Bayes-Genis A. Negative clinical outcomes associated with drug-related problems in heart failure (HF) outpatients: Impact of a pharmacist in a multidisciplinary HF clinic. *Journal of Cardiac Failure*;17(3):217-223.  
IF: 3.66

## Other Publications

## Letter

- Riba Solé M., Farré Riba R., Badell Serra I., Mangués Bafalluy M.A. Acyclovir-induced acute renal failure in a paediatric oncology patient. *Farmacia Hospitalaria*;35(5):281-2.

## Scientific Journal

- Payés M., Juanes A., García M., Mariñosa M., Iglesias M.L., Altimiras J. Errores de medicación detectados en un servicio de urgencias hospitalario. *Atención Farmacéutica*;13(2),113-116.

## Book Chapter

- Mangués M.A. Monitorización de niveles de fármacos. *MEDIMEDICUM. Guía de Terapia Farmacológica*. Editorial Adis (2011).

## Book

- Mangués M.A. Líneas estratégicas y objetivos 2020. *Sociedad Española de Farmacia Hospitalaria* (2011).

# Dermatology

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## Main Lines of Research

- Biologic therapy in Dermatology.
- Genome-wide association studies in psoriasis
- Medical and physical treatment options for vascular tumours.
- Psychopathological studies of patients with chronic dermatological disorders.

## Challenges

- To provide infrastructure and stable staff for clinical research
- To foster interdepartmental collaborative research.

## Active Grants

- García M.P. Pharmaceutical care program for patients with heart failure and / or COPD users of emergency department versus conventional monitoring. Spanish Ministry of Health, Social Services and Equality. January 2011-September 2012. EC10-074.

## Collaborations

### Collaborations with other IIB Sant Pau Groups

- Parkinson Disease and Movement Disorders Group.

\*TIF: 15.103 \*\*MIF: 3.776

## Scientific Production

## ISI Web of Knowledge Indexed Publications with IF

- 01 Silvestre J.F., Toledo F., Mercader P., Gimenez-Arnau A.M. (col. Serra, E.) A Summary of shoe allergic contact dermatitis caused by dimethyl fumarate in Spain. *Contact Dermatitis*;65(2):122-123. **IF: 3.509**
- 02 Martin-Ezquerro G., Salgado R., Toll A., Baro T., Mojal S., Yebenes M., Garcia-Muret M.P., Sole F., Quitllet F.A., Espinet B., Pujol R.M. CDC28 protein kinase regulatory subunit 1B (CKS1B) expression and genetic status analysis in oral squamous cell carcinoma. *Histology and Histopathology*;26(1):71-77. **IF: 2.48**

- 03 Garcia M., Larcher F., Hickerson R.P., Baselga E., Leachman S.A., Kaspar R.L., Del Rio M. Development of skin-humanized mouse models of pachyonychia congenita. *Journal of Investigative Dermatology*;131(5):1053-1060. **IF: 6.134**
- 04 Puig L. Obesity and psoriasis: Body weight and body mass index influence the response to biological treatment. *Journal of the European Academy of Dermatology and Venereology*;25(9):1007-1011. **IF: 2.98**

## Scientific Production

## ISI Web of Knowledge Indexed Publications without IF

- 01 Morell L, Carrascosa J.M., Ferrándiz C, García-Bustinduy M, Fonseca E, Carretero G, Daudén E, Marrón SE, López-Estebananz JL, Ferrán M, Sánchez-Regaña M, Muñoz-Santos C, Belinchón I, Puig L. Clinical characteristics and disease course in patients treated with efalizumab following suspension of marketing authorization by the european medicines agency: A multicenter observational study. *Actas Dermo-Sifiliogr*;102(5):354-64.
- 02 Carrascosa J.M., López-Estebananz JL, Carretero G, Daudén E, Ferrándiz C, Vidal D, Belinchón I, Sánchez-Regaña M, Puig L. Narrowband UV-B, monochromatic excimer laser, and photodynamic therapy in psoriasis: A consensus statement of the spanish psoriasis group. *Actas Dermo-Sifiliogr*;102(3):175-86.
- 03 Ribera M, Daudén E, Puig L, Briones VG-, Herranz J.M., Bordas X, Vanaclocha F. Design and validation of a questionnaire to measure treatment satisfaction in patients with moderate-to-severe psoriasis: The NEODERMA study. *Actas Dermo-Sifiliogr*;102(1):28-38.

## Scopus Indexed Publications

- 01 Ruiz V., Puig L., Alomar A. Use of biological agents in psoriasis during pregnancy. *Piel*;26(1):40-5.

## Other Publications

## Letters

- Sánchez-Schmidt J.M., Salgado R., Servitje O., Gallardo F., Ortiz-Romero P.L., Karpova M.B., Zipser M.C., García-Muret M.P., Estrach T., Rodríguez-Pinilla S.M., Climent F., Suela J., Ferreira B.I., Cigudosa J.C., Salido M., Barranco C., Serrano S., Dummer R., Solé F., Pujol R.M., Espinet B. Primary cutaneous CD30 anaplastic large-cell lymphomas show a heterogeneous genomic profile: An oligonucleotide array-CGH approach. *J Invest Dermatol*;131(1):269-71.
- Ruiz V., Garcia-Muret M.P., Alomar A. Hand eruption after intravenous administration of bevacizumab. *Journal of the European Academy of Dermatology and Venereology*;25(2):238-9.

# Palliative Care

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## Main Lines of Research

- Symptom evaluation and control: pain, dyspnoea, cognitive failure, complex situations.
- End-of-life ethical issues: sedation, expression of a desire for death and euthanasia.
- Psychosocial care for patients and families: adaptation to the terminal situation, grief, spiritual needs.
- Training in palliative care: training needs and outcomes.

## Challenges

- Psychosocial care for patients and families.
- Counselling and hospital sensitization.
- Quality evaluation and control.
- Symptom evaluation and control.
- Integrated care: analysis and care of end-of-life emotional, social and spiritual dimensions and adequate ethical reflection in decision making.

\*TIF: 5.912 \*\*MIF: 5.912

## Scientific Production

### ISI Web of Knowledge Indexed Publications with IF

- 01 Rueda J.R., Sola I., Pascual A., Subirana Casacuberta M. Non-invasive interventions for improving well-being and quality of life in patients with lung cancer. Cochrane database of systematic reviews (Online);9.  
IF: 5.912

## Other Publications

- Benito E., Maté Méndez J., Pascual López A. Strategies for detection, exploration and care for patient suffering. FMC Formación Médica Continuada en Atención Primaria;18(7):392-400.

# Cardiac Imaging

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## Main Lines of Research

- Participation in the development of clinical follow-up databases that determine the diagnostic value and cost-benefit of new cardiac imaging techniques.
- Computer modelling of electromechanical activation and cardiac ventricular function.

### Non-invasive multidetector CT coronary angiography:

- Validation of the technique.
- Development of software to characterize and quantify coronary artery lesions.

- Studies of clinical usefulness in primary prevention.

### Cardiac Magnetic Resonance Imaging:

- Quantification of myocardial perfusion in ischaemic heart disease.
- Myocardial tagging study of heart mechanics.
- Optimization of diffusion tensor sequences for the identification of myocardial fibers.
- Development of 4D sequences for viewing intra-vascular flow direction.

## Challenges

- Non-invasive multidetector CT coronary angiography: to consolidate use in clinical practice by improving viewing and quantification tools that confirm its diagnostic value for cardiology.
- Cardiac Magnetic Resonance Imaging: to improve physiopathological knowledge of ischaemic heart disease, cardiomyopa-

thies and heart failure.

- To explore and understand heart mechanics and to study ventricular function.
- To design ventricular electro-mechanical computer-models.
- To improve cardiac imaging diagnostic techniques for a complete non-invasive assessment of heart diseases.

## Active Grants

- Carreras F. Advanced information technologies for the healthcare sector (CARE4ME. Cooperative Advanced Research for Medical Efficiency). Spanish Ministry of Industry, Energy and Tourism. January 2010-February 2011. TSI-020400-2009-83.

\*TIF: 11.053 \*\*MIF: 2.763

## Scientific Production

### ISI Web of Knowledge Indexed Publications with IF

- 01 Vazquez M., Aris R., Houzeaux G., Aubry R., Villar P., Garcia-Barnes J., Gil D., Carreras F. A massively parallel computational electrophysiology model of the heart. International Journal for Numerical Methods in Biomedical Engineering;27(12):1911-1929. **IF: 1.409**
- 02 Bellmunt S., Dilme J., Barros A., Escudero J.R. Compression assisted by removable coils as a new treatment for iatrogenic femoral pseudoaneurysms. Journal of

Vascular Surgery;53(1):236-238. **IF: 3.21**

- 03 Catalan P., Leta R., Hidalgo A., Montiel J., Alomar X., Vilades D., Barros A., Pujadas S., Carreras F., Padro J.M., Cinca J., Pons-Llado G. Ruling out coronary artery disease with noninvasive coronary multidetector CT angiography before noncoronary cardiovascular surgery. Radiology;258(2):426-434. **IF: 5.726**

- 04 Flotats A., Hasbak P., Hidalgo A., Leta R. Cardiac SPECT-CT and PET-CT imaging. Current Medical Imaging Reviews;7(3):175-191. **IF: 0.708**

## Scientific Production

### ISI Web of Knowledge Indexed Publications without IF

- 01 Giménez A., Franquet T., Hidalgo A. Intrathoracic manifestations of breast cancer. Radiologia;53(1):7-17.

# Plastic Surgery

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## Main Lines of Research

### Perforator microsurgery:

- Application of imaging techniques to preoperative studies of perforators using MRI without contrast (in collaboration with Clínica Creu Blanca radiology department).
- Anatomical studies of the variability of perforators in the following regions: internal mammary artery, descending genicular artery, inferior epigastric system and internal superficial circumflex system (in collaboration with the University of Barcelona human anatomy department).
- Locating new donor anatomical areas for morphological and functional reconstruction of oncology post-surgery defects.

### Lymphoedema:

- Study and characterization of the anatomy and pathophysiology of the superficial and deep lymphatic system.
- Preoperative magnetic resonance study of the lymphatic system in order to define surgical indication patterns.
- Preoperative magnetic resonance study of the surgical effectiveness of lymphatic-venous anastomosis.

- Lymphogenesis study in experimental animals (sheep) after vascularized lymph node tissue transplantation (popliteal lymph nodes).

### Regenerative surgery:

- Industry-funded research project (BIOMET): Application of growth factors in tissue regeneration in irradiated head and neck surgery.
- Development of regenerative lymphatic system surgery in the context of primary lymphoedema through specific lymphatic system growth factors (VEGF-C and VEGF-D).

### Breast cancer surgery:

- Industry-funded clinical trials (Allergan Medical, USA). SURE-002 study of Seriscuffold used in immediate breast reconstructive surgery in a single surgical period.

## Challenges

- Consolidation and optimization of preoperative management techniques for locating perforating vessels suitable for each microsurgical flap.
- Development of research into the surgical treatment of both primary and secondary lymphoedema.
- Development of research into preventive surgery of secondary lymphoedema in breast cancer by total breast anatomy restoration (TBAR).
- Development of research into regenerative surgery using specific growth factors.
- Consolidation of facial paralysis functional surgical reconstruction by microsurgical transfer of innervated flaps.
- Development of multidisciplinary protocols for the treatment of vascular malformations.
- Collaboration with other research groups both in the HSCSP and internationally to establish a multidisciplinary research network.

## Collaborations

## External Collaborations

- International Framework on Lymphedema Surgical Treatment.
- 6th Barcelona Meeting on Plastic Surgery "Up-dating Head & Neck Surgery" (March, 2011).
- 2nd Edition of the International Master's Degree in Reconstructive Microsurgery (2011-2013).
- President of SECPRE (Spanish Society of Plastic, Reconstructive and Aesthetic Surgery).

## Awards

- The best educational paper published in "Senología Journal". XXX Congress of the Spanish Society of Breast Pathology and Senology VI. Meeting of the Nursing Section and Senology Technicians. San Sebastián (Spain, October 2011).

\*TIF: 5.43 \*\*MIF: 1.81

## Scientific Production

## ISI Web of Knowledge Indexed Publications with IF

- |  |  |
|--|--|
| <p>01 Masia J, Sommaro M., Cervelli D., Vega C., Leon X., Pons G. Extended deep inferior epigastric artery perforator flap for head and neck reconstruction: A clinical experience with 100 patients. <i>Head and Neck</i>;33(9):1328-1334.<br/><b>IF: 2.403</b></p> <p>02 Masia J., Navarro C., Clavero J.A., Alomar X. Noncontrast Magnetic Resonance Imaging for Preoperative Perforator Mapping. <i>Clinics in Plastic Surgery</i>;38(2):253-261.<br/><b>IF: 1.422</b></p> | <p>03 Vega C., Leon X., Cervelli D., Pons G., Lopez S., Fernandez M., Quer M., Masia J. Total or subtotal glossectomy with microsurgical reconstruction: Functional and oncological results. <i>Microsurgery</i>;31(7):517-523.<br/><b>IF: 1.605</b></p> |
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## Scientific Production

## Scopus Indexed Publications

- 01 Tejerina B.C., Márquez Cañada J.M., García Andrés E., Masià Ayala J., Arpino A., Elia I. Preoperative planning of receiver vessels in breast reconstruction with DIEP flap. *Cirugía Plástica Ibero-Latinoamericana*;37(3):233-6.

## Other Publications

## Books

- Guide educational book for trainees in plastic surgery in the HSCSP (Autonomous University of Barcelona, Spain).
- Electronic Logbook for plastic surgery training.

# Andrology

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## Researchers

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Olga Martínez  
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César Rojas  
Alvar Vives



## Main Lines of Research

### Infertility and preimplantation genetic diagnosis:

- We are presently developing a project on the genetic causes of cryptorchidism in humans. Besides, we have been awarded a ISCIII grant for a project on genetic alterations of the Y chromosome. Results from both projects may have clinical implications. Members of the service also collaborate in external financed ISCIII projects (with the University of Barcelona, Vall d'Hebron) studying genetic anomalies, spermatogenesis and preimplantation genetic diagnosis.

### Male sexual dysfunction:

- As a referral centre it is essential to extend investigation into the mechanisms that trigger endothelial damage and erectile dysfunction so as to develop new treatment strategies.
- We are presently developing an animal model of erectile dysfunction (cavernous nerve injury in rats). This will later allow research on the mechanisms of endothelial damage and erectile dysfunction in different situations, substances and/or surgeries, with a focus on identifying preventive strategies and transferring results to research in humans.

## Challenges

- The strategic plan is to develop basic and clinical research projects in andrology for the period 2009-2012, with emphasis on translational research to the clinical area.

## Active Grants

- Krausz C. Gene dosage of the AZFc region of chromosome Y: clinical implications and spermatozoid-gene expression profile. Carlos III Health Institute. January 2009-December 2011. PI 08/1138.

## Collaborations

### External Collaborations

- Copy number variants (CNVs) on chromosome X and candidate genes linked to the X chromosome in male infertility. PI: Krausz C. Promoter: Puigvert Foundation (Barcelona, Spain).
- Open phase III study of the safety and effectiveness of AA4500 administered twice per treatment cycle for up to four treatment cycles (2x4) in men with Peyronie's disease (Study AUXILIUM). PI: Ruiz-Castañé E. Promoter: AUXILIUM PHARMACEUTICALS INC.
- Study of temporal trends in the diagnosis of anogenital warts in a network of health professionals in Catalunya to evaluate the impact of vaccination against the human papillomavirus (Study iVacVPH-I). PI: Vives A. Collaborator researcher: Ruiz-Castañé E. Promoter: Institut Català d'Oncologia (ICO,

Barcelona, Spain).

- Methylation Profiles of sperm DNA associated with biological fertility. Researcher: Bassas LI. Promoter: IUOPA-Hospital Universitario Central de Asturias (Spain).
- Influence of replicative stage of evolutionary embryo blastomeres in PGS: consequences on the outcome of the analysis of the complete embryonic chromosome complement. Researcher: Martínez O. Promoter: Cell Biology and Genetic Department. Faculty of Medicine. Autonomous University of Barcelona (Spain).
- Extended Cytogenetic study in patients with Klinefelter syndrome. Researcher: Bassas LI. Promoter: Cell Biology and Genetic Department. Faculty of Medicine. Autonomous University of Barcelona (Spain).



## Patents

- Title: In vitro method for predicting fecundity of semen. Inventors: Bassas L. (Puigvert Foundation, Barcelona, Spain), Larriba S. (IDIBELL, Barcelona, Spain). Application number: EP 11382187. Publication Date: June 11, 2011.

\*TIF: 32.643 \*\*MIF: 2.968

## Scientific Production

## ISI Web of Knowledge Indexed Publications with IF

- 01 Rajmil O., Fernandez M., Blasco A., Arrus J.A., Montanes R., Rodriguez-Espinosa J. Association of nocturnal penile rigidity with testosterone, metabolic syndrome, and other variables: A prospective cross-sectional pilot study [Asociación de la rigidez peneana nocturna con testosterona, síndrome metabólico y otras variables: un estudio piloto prospectivo transversal]. *Actas Urologicas Espanolas*;35(8):459-467.  
**IF: 0.455**
- 02 Palma Ceppi C., Sarquella Geli J., Moya Gonzalez F., Peraza Godoy M.F., Vazquez Tissera A., Suarez Regardiz H., Ruiz Castane E. Comparative study of the characteristics of patients with erectile dysfunction and its initial management in different urology-andrology Spanish centres [Estudio comparativo de las características de los pacientes con disfunción eréctil y su manejo inicial en diferentes centros uro-andrológicos españoles]. *Revista Internacional de Andrologia*;9(4):145-153.  
**IF: 0.213**
- 03 Rius M., Daina G., Obradors A., Ramos L., Velilla E., Fernandez S., Martinez-Passarell O., Benet J., Navarro J. Comprehensive embryo analysis of advanced maternal age-related aneuploidies and mosaicism by short comparative genomic hybridization. *Fertility and Sterility*;95(1):413-416.  
**IF: 3.775**
- 04 Rius M., Obradors A., Daina G., Ramos L., Pujol A., Martinez-Passarell O., Marqus L., Oliver-Bonet M., Benet J., Navarro J. Detection of unbalanced chromosome segregations in preimplantation genetic diagnosis of translocations by short comparative genomic hybridization. *Fertility and Sterility*;96(1):134-142.  
**IF: 3.775**
- 05 Baldi E., Luconi M., Krausz C., Forti G. Editorial commentary: Progesterone and spermatozoa: A long-lasting liaison comes to definition. *Human Reproduction*;26(11):2933-2934.  
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- 06 Lo Giacco D., Ars E., Bassas L., Galan J.J., Rajmil O., Ruiz P., Caffaratti J., Guarducci E., Ruiz-Castane E., Krausz C. ESR1 promoter polymorphism is not associated with nonsyndromic cryptorchidism. *Fertility and Sterility*;95(1):369-371.e2.  
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- 07 Ars E., Lo Giacco D., Bassas L., Nuti F., Rajmil O., Ruiz P., Garat J.M., Ruiz-Castane E., Krausz C. Further insights into the role of t222p variant of rxfp2 in non-syndromic cryptorchidism in two mediterranean populations. *International Journal of Andrology*;34(4 PART 1):333-338.  
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- 08 Vives A., Ceppi C.P., Sobron M., Jesus Barbera M. Genital sores due to MRSA [Úlceras genitales debidas a MRSA]. *Revista Internacional de Andrologia*;9(3):116-119.  
**IF: 0.213**
- 09 Garcia-Quevedo L., Blanco J., Sarrate Z., Catal V., Bassas L., Vidal F. Hidden mosaicism in patients with Klinefelters syndrome: Implications for genetic reproductive counselling. *Human Reproduction*;26(12):3486-3493.  
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- 10 Krausz C. Male infertility: Pathogenesis and clinical diagnosis. *Best Practice and Research: Clinical Endocrinology and Metabolism*;25(2):271-285.  
**IF: 4.121**
- 11 Uroz L., Rajmil O., Templado C. Meiotic chromosome abnormalities in fertile men: Are they increasing? *Fertility and Sterility*;95(1):141-146.  
**IF: 3.775**

## Scientific Production

## ISI Web of Knowledge Indexed Publications without IF

- 01 De Gracia-Nieto A.E., Samper A.O., Rojas-Cruz C., Gascon L.G., Sanjuan J.B., Mavrich H.V. Genitourinary manifestations of sickle cell disease. *Arch Esp Urol*;64(7):597-604.

## Other Publications

- Mata A., García R., Gustá O., López O., Martínez-Pasarell O., Bassas L. The sperm bank and sperm survival in an assisted reproduction program. *Actas Fund Puigvert*;30(1):12-19.

## Book Chapters

- Chapter: Bassas L. Hormone Study. *Endocrinology and male reproduction* (pp.162-170). Book: *Treaty of andrology and sexual medicine*. Volume I. Editorial Médica Panamericana (2011).
- Chapter: Rojas C. Penile prosthesis. *Complications and results* (pp.621-629). Book: *Treaty of andrology and sexual medicine*. Volume II. Editorial Médica Panamericana (2011).
- Chapter: Palma C., Ruiz-Castañe E. Other ejaculation disorders (pp.688-697). Book: *Treaty of andrology and sexual medicine*. Volume II. Editorial Médica Panamericana (2011).

# Urology

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Francesco Sanguedolce



## Main Lines of Research

### Tissue engineering:

- Application in urological oncology and congenital urogenital malformations. In 2002 we began this line of research focusing on vesicular reconstruction. The endpoints have high clinical translational potential as the objective is organ procurement for genitourinary reconstruction, especially in urology pediatrics.

### New techniques (surgical techniques and healthcare products):

- Application in urological oncology and benign urogenital pathology (e.g. incontinence, benign hyperplasia of the prostate, lithiasis).
- The Puigvert Foundation is a referral centre for treatment of urological disorders. It performs a high number of studies, parti-

cularly at a clinical level, aiming to determine the best techniques for diagnosis and treatment of these disorders.

### Genetics (diagnostic and prognostic markers):

- Application in urological oncology. In 2003, when the molecular biology lab was set up, the objective was to identify diagnostic and prognostic markers of urological cancers. Results from this line of study led to a patent in cancer of the bladder. We are now developing studies on the prostate. Besides our own work we collaborate with other centres and universities and with biotechnology labs (Progenika, Oryzon, Neocodex) to develop new diagnostic and prognostic markers in blood, urine and tissues that will optimize patient management in oncology.

## Challenges

- The Service of Urology has a multidisciplinary team of professionals who develop translational research in the field of diagnosis and treatment of urological disorders. To further our knowledge about kidney disorders and thereby improve health care for patients we seek to continue active projects, develop new lines

of investigation, increase the number of international publications, train professionals and increase collaboration with hospital and university groups inside and outside our centre.

## Active Grants

- Rodríguez O. Relationship between phenotype of chronic inflammatory cells and stromal fibroblasts, and development of tumor recurrence and progression of bladder urothelial carcinoma. Research Grants "Pedro Cifuentes Díaz" FIU. 2010-2012

## Collaborations

## External Collaborations

- Three national registries of tumors (prostate, bladder and kidney) with the Spanish Association of Urology (AEU).

## Awards

- Best poster of the session. International Cooperation in Endourology: Percutaneous and flexible ureteroscopic treatment of lower pole kidney Stones. Millán F., Sanguedolce F., et al. 26th EAU Annual Congress. Viena (Austria).
- Third prize Julian Perez de Toledo to the best oral communication. Retrospective study of the different Treatment Options for category T1G3 vesical carcinoma: the support guideline establishes the differences. Palou J., Solsona E., Angulo J., Fernández J.M., Unda M., Martínez Piñeiro M., Portillo J.A., Chantada V., Moyano J.L. LXXVI National Congress of Urology. Málaga (Spain).
- Third prize for the best poster Joaquin Albarran. Preservation of neurovascular bundles in robotic assisted cystoprostatectomy and orthotopic neobladder. Ramos E., Palou J., Gausa L.I., Gaya J.M., Azuero J., Villavicencio H. LXXVI National Congress of Urology. Málaga (Spain).
- Second prize for best video Joaquin Albarran. Robotic assisted laparoscopic transmesenteric pyeloplasty. Palou J., Gausa L.I., Gaya J.M., Rodríguez O., Villavicencio H. LXXVI National Congress of Urology. Málaga (Spain).
- Best Video Award.. Pieloplastia transmesentérica laparoscópica asistida por robot. Caffaratti J., Serrano M., Azuero J., Bujons A., Garat J.M., Villavicencio H. XXVIII Meeting of the group of Pediatric Urology. Málaga (Spain).
- Prize for the best scientific paper published in any medium. Predictive clinical factors of poor outcome in patients with radical cystectomy pT0. Rodríguez O., Palou J., Rosales A., Breda A., Algaba F., Urdaneta G., Villavicencio H. XVII Symposium of the Catalan Society of Urology. Lleida (Spain).
- Award to the best doctoral dissertation for "Effect of anterior urethra urethroplasty in male sexuality". Ponce de Leon J. XVII Symposium of the Catalan Society of Urology. Lleida (Spain).
- Award to the best scientific paper published in any medium for "Clinical predictors of poor outcome in patients with radical cystectomy pT0". Rodríguez O., Palou J., Rosales A., Breda A., Algaba F., Urdaneta G., Villavicencio H. XVII Symposium of the Catalan Society of Urology. Lleida (Spain).
- Silver Beniqué of the Catalan Society of Urology to Lluís Gausa by the activity developed in recent years in the positions of treasurer, secretary and vice president of the Society. XVII Symposium of the Catalan Society of Urology. Lleida (Spain).

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## Scientific Production

## ISI Web of Knowledge Indexed Publications with IF

- 01 Millan F., Gracia S., Sanchez-Martin F.M., Angerri O., Rousaud F., Villavicencio H. A new approach to urinary stone analysis according to the combination of the components: Experience with 7949 cases [Un nuevo enfoque en el análisis de la litiasis urinaria en función de la combinación de sus componentes: Experiencia con 7.949 casos]. *Actas Urológicas Espanolas*;35(3):138-143.  
**IF: 0.455**
- 02 Brausi M., Witjes J.A., Lamm D., Persad R., Palou J., Colombel M., Buckley R., Soloway M., Akaza H., Bohle A. A review of current guidelines and best practice recommendations for the management of nonmuscle invasive bladder cancer by the international bladder cancer group. *Journal of Urology*;186(6):2158-2167.

IF: 3.746

- 03 Ballarin J., Arce Y., Torra Balcells R., Diaz Encarnacion M., Manzarbeitia F., Ortiz A., Egado J., Moreno J.A. Acute renal failure associated to paroxysmal nocturnal haemoglobinuria leads to intratubular haemosiderin accumulation and CD163 expression.. *Nephrology, dialysis, transplantation : official publication of the European Dialysis and Transplant Association - European Renal Association*;26(10):3408-3411.  
**IF: 3.396**

- 04 Arce J., Gaya J.M., Huguet J., Rodriguez O., Palou J., Villavicencio H. Can we identify those patients who will benefit from prostate-sparing surgery? Predictive factors for invasive prostatic involvement by transitional cell carcinoma. *The Canadian journal of urology*;18(1):5529-5536.  
**IF: 0.641**

- 05 Rodriguez Faba O., Palou J., Rosales A.,

Breda A., Algaba F., Urdaneta G., Villavicencio H. Clinical predictive factors of poor outcome in patients with stage PT0 disease at radical cystectomy. *Journal of Urology*;186(2):442-447.  
**IF: 3.746**

- 06 Palou J. Comment to: "Robotic-assisted laparoscopic radical cystectomy: Evaluation of functional and oncological results" [Comentario a: "Cistectomía radical laparoscópica asistida por robot: Evaluación de los resultados funcionales y oncológicos"]. *Actas Urológicas Espanolas*;35(3):158.  
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- 07 Sancho G., Maroto P., Palou J. Current management of muscle-invasive bladder cancer. *Clinical and Translational Oncology*;13(12):855-861.  
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- 08 Algaba F., Akaza H., Lopez-Beltran A., Martignoni G., Moch H., Montironi R., Reuter V. Current pathology keys of

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- renal cell carcinoma. *European Urology*;60(4):634-643.  
**IF: 8.493**
- 09 Babjuk M., Oosterlinck W., Sylvester R., Kaasinen E., Böhle A., Palou-Redorta J., Roupret M. EAU guidelines on non-muscle-invasive urothelial carcinoma of the bladder, the 2011 update. *European Urology*;59(6):997-1008.  
**IF: 8.493**
- 10 Albers P., Albrecht W., Algaba F., Bokemeyer C., Cohn-Cedermark G., Fizazi K., Horwich A., Laguna M.P. EAU guidelines on testicular cancer: 2011 update. *European Urology*;60(2):304-319.  
**IF: 8.493**
- 11 Lo Giacco D., Ars E., Bassas L., Galan J.J., Rajmil O., Ruiz P., Caffaratti J., Guarducci E., Ruiz-Castane E., Krausz C. ESR1 promoter polymorphism is not associated with nonsyndromic cryptorchidism. *Fertility and Sterility*;95(1):369-371.e2.  
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- 12 Palou J., Pigrau C., Molina I., Ledesma J.M., Angulo J. Etiology and sensitivity of uropathogens identified in uncomplicated lower urinary tract infections in women (ARESC Study): Implications on empiric therapy [Etiología y sensibilidad de los uropatógenos identificados en infecciones urinarias bajas no complicadas de la mujer (Estudio ARESC): implicaciones en la terapia empírica]. *Medicina Clinica*;136(1):1-7.  
**IF: 1.385**
- 13 Roupret M., Zigeuner R., Palou J., Böhle A., Kaasinen E., Sylvester R., Babjuk M., Oosterlinck W. European guidelines for the diagnosis and management of upper urinary tract urothelial cell carcinomas: 2011 update. *European Urology*;59(4):584-594.  
**IF: 8.493**
- 14 Agundez M., Grau L., Palou J., Algaba F., Villavicencio H., Sanchez-Carbayo M. Evaluation of the methylation status of tumour suppressor genes for predicting bacillus Calmette-Guérin response in patients with T1G3 high-risk bladder tumours. *European Urology*;60(1):131-140.  
**IF: 8.493**
- 15 Lopez-Beltran A., Jimenez R.E., Montironi R., Patriarca C., Blanca A., Menendez C.L., Algaba F., Cheng L. Flat urothelial carcinoma in situ of the bladder with glandular differentiation. *Human Pathology*;42(11):1653-1659.  
**IF: 2.876**
- 16 Lopez-Beltran A., Algaba F., Berney D.M., Boccon-Gibod L., Camparo P., Griffiths D., Mikuz G., Montironi R., Varma M., Egevad L. Handling and reporting of transurethral resection specimens of the bladder in Europe: A web-based survey by the European Network of Uro-pathology (ENUP). *Histopathology*;58(4):579-585.  
**IF: 3.082**
- 17 Egevad L., Algaba F., Berney D.M., Boccon-Gibod L., Comperat E., Evans A.J., Grobholz R., Kristiansen G., Langner C., Lockwood G., Lopez-Beltran A., Montironi R., Oliveira P., Schwenkglenks M., Vainer B., Varma M., Verger V., Camparo P. Interactive digital slides with heat maps: A novel method to improve the reproducibility of Gleason grading. *Virchows Archiv*;459(2):175-182.  
**IF: 2.491**
- 18 Faba O.R., Palou J., Urdaneta G., Gausa L., Villavicencio H. Invasive bladder cancer in the eighties: Transurethral resection or cystectomy?. *International Braz J Urol*;37(1):49-56.  
**IF: 1.065**
- 19 Cebrian V., Fierro M., Orenes-Piero E., Grau L., Moya P., Ecke T., Alvarez M., Gil M., Algaba F., Bellmunt J., Cordon-Carado C., Catto J., Lopez-Beltran A., Sanchez-Carbayo M. KISS1 methylation and expression as tumor stratification biomarkers and clinical outcome prognosticators for bladder cancer patients. *American Journal of Pathology*;179(2):540-546.  
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- 20 Pena J.A., Rosales A., Algaba F., Palou J., Villavicencio H. Laparoscopic management of spontaneous retroperitoneal hemorrhage. *Urologia Internationalis*;87(1):114-116.  
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- 21 Helleenthal N.J., Hussain A., Andrews P.E., Carpentier P., Castle E., Dasgupta P., Kaouk J., Khan S., Kibel A., Kim H., Manoharan M., Menon M., Mottrie A., Ornstein D., Palou J., Peabody J., Pruthi R., Richstone L., Schanne F., Stricker H., Thomas R., Wiklund P., Wilding G., Guru K.A. Lymphadenectomy at the time of robot-assisted radical cystectomy: Results from the International Robotic Cystectomy Consortium. *BJU International*;107(4):642-646.  
**IF: 2.844**
- 22 Bujons A., Sfulcini J.C., Pascual M., Feu O.A., Garat J.M., Villavicencio H. Prepubertal testicular tumours and efficacy of testicular preserving surgery. *BJU International*;107(11):1812-1816.  
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- 23 Martinez-Salamanca J.I., Huang W.C., Millan I., Bertini R., Bianco F.J., Carbalido J.A., Ciancio G., Hernandez C., Herranz F., Haferkamp A., Hohenfeller M., Hu B., Koppie T., Martinez-Ballesteros C., Montorsi F., Palou J., Pontes J.E., Russo P., Terrone C., Villavicencio H., Volpe A., Libertino J.A. Prognostic impact of the 2009 UICC/AJCC TNM staging system for renal cell carcinoma with venous extension. *European Urology*;59(1):120-127.  
**IF: 8.493**
- 24 Arce J., Rosales A., Caffaratti J., Montleón M., Guirado L., Diaz J.M., Villavicencio H. Renal retransplantation: Risk factors and results [Retrasplante renal: Factores de riesgo y resultados]. *Actas Urológicas Espanolas*;35(1):44-50.  
**IF: 0.455**
- 25 Oosterlinck W., Kirkali Z., Sylvester R., Silva F.C.D., Busch C., Algaba F., Collette S., Bono A. Sequential intravesical chemoimmunotherapy with mitomycin C and bacillus Calmette-Guérin and with Bacillus Calmette-Guérin alone in patients with carcinoma in situ of the urinary bladder: Results of an EORTC genito-urinary group randomized phase 2 trial (30993). *European Urology*;59(3):438-446.  
**IF: 8.493**
- 26 Oosterlinck W., Sylvester R., Babjuk M., Kaasinen E., Böhle A., Palou-Redorta J., Roupret M. Should all patients receive an immediate chemotherapeutic drug instillation after resection of papillary bladder tumors? *European Urology*;59(3):374-376.  
**IF: 8.493**
- 27 Rodriguez Faba O., Rosales A., Breda A., Palou J., Gaya J.M., Esquena S., Gausa L., Villavicencio H. Simplified technique for parastomal hernia repair after radical cystectomy and ileal conduit creation. *Urology*;77(6):1491-1494.  
**IF: 2.428**
- 28 Bujons A., Caffaratti J., Pascual M., Angerri O., Garat J.M., Villavicencio H. Testicular tumours in infancy and children [Tumores testiculares en la infancia]. *Actas Urológicas Espanolas*;35(2):93-98.  
**IF: 0.455**
- 29 Challacombe B.J., Bochner B.H., Dasgupta P., Gill I., Guru K., Herr H., Mottrie A., Pruthi R., Redorta J.P., Wiklund P. The role of laparoscopic and robotic cystectomy in the management of muscle-invasive bladder

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Scientific  
Production

- cancer with special emphasis on cancer control and complications. *European Urology*;60(4):767-775.  
**IF: 8.493**
- 30 Tilki D., Burger M., Dalbagni G., Grossman H.B., Hakenberg O.W., Palou J., Reich O., Roupret M., Shariat S.F., Zlotta A.R. Urine markers for detection and surveillance of non-muscle-invasive bladder cancer. *European Urology*;60(3):484-492.  
**IF: 8.493**
- 31 Grcia-Garcia S., Millan-Rodriguez F., Rousaud-Baron F., Montanes-Bermudez R., Angerri-Feu O., Sanchez-Martin F., Villavicencio-Mavrigh H., Oliver-Samper A. Why and how we must analyse urinary calculi [Por qué y cómo hemos de analizar los cálculos urinarios]. *Actas Urologicas Espanolas*;35(6):354-362.  
**IF: 0.455**

Other  
Publications

## Letters

- Oliveira C.A., Rodríguez O., Palou J., Palou-Redorta J. et al. Bacillus calmette-guérin osteomyelitis mimicking spinal metastasis from urothelial cell carcinoma of the bladder. *Eur Urol*;60(1).
- Sánchez-Martín F. Obituary for doctor Ricardo Regalado Pareja. *Actas Urol Esp*;35(4):250-1.

## Book Chapter

- Chapter: Breda, A. Robot-Assisted Donor Nephrectomy (pp.121-126). Book: *Laparoscopic and Robot-Assisted Surgery*. Editorial Springer.

# Radiation Oncology

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HSCSP

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## Main Lines of Research

The Radiation Oncology Group's research is conducted on the premises of the Translational Research Laboratory of the Catalan Oncology Institute (ICO)-IDIBELL under a framework agreement between the HSCSP and the ICO. The main lines of research are:

- Modulation of radiosensitivity by SRC protein inhibitors in combination with anti-EGFR.
- Modulation of radiosensitivity by HMG-CoA reductase inhibitors in combination with anti-EGFR.

## Challenges

- Establishment of relatively radioresistant cell lines compared with the parental cells from which they derive (by clonal selection).
- Determination of the resistant phenotype in cultures and xenografts.
- Determination of molecular radioresistance.
- Evaluation of the effect on carcinomas of SRC and HMG-CoA reductase inhibitors in combination with anti-EGFR.
- Explore signal transduction changes in EGFR-MAPK pathway and SRC-EGFR/SRC-STAT3 cooperation induced by SRC and HMG-CoA reductase inhibitors.

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## Scientific Production

### ISI Web of Knowledge Indexed Publications with IF

- 01 Balart J, Pueyo G, de Llobet L.I., Baro M., Sole X., Marin S., Casanovas O., Mesia R., Capella G. The use of caspase inhibitors in pulsed-field gel electrophoresis may improve the estimation of radiation-induced DNA repair and apoptosis. Radiation Oncology;6(1). IF: 2,321

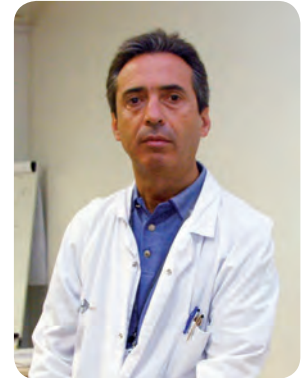
# Locomotor System Research

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Ana Peiró HSCSP  
Màrius Valera HSCSP  
Claudia Lamas HSCSP  
Gemma González HSCSP  
Álex del Arco HSCSP  
Óscar García HSCSP  
Isidre Gracia HSCSP  
Laura Trullols HSCSP



## Main Lines of Research

### ANTIRESORPTIVES IN ORTHOPEDIC AND TRAUMA SURGERY:

- Effect of zoledronic acid (Aclasta) on periprosthetic bone mineral density in patients undergoing total knee arthroplasty. Study approved by the HSCSP ethics committee and authorized by the Spanish Medicines and Health Products Agency (AEMPS) for the out-of-context indication of Aclasta.

### KNEE:

#### Haemostasis:

- Blood loss control using tranexamic acid in primary prosthetic and knee revision surgery.
- Retrospective study of revision knee arthroplasty to compare the effects of intravenous tranexamic acid and normal haemostasis.
- Clinical trial comparing outcomes for intravenous tranexamic acid with fibrin glue (Tissucol©) and normal haemostasis in primary knee prosthetic surgery.
- Observational study of blood loss in redon drainage over time in pertrochanteric hip fractures.

#### Cartilage:

- Regeneration of cartilage defects using tissue engineering and a matrix seeded with characterized allogeneic chondrocytes.

#### Meniscus:

- Effect of normal and growth-factor-enriched cell cultures on the meniscal collagen network and glycosaminoglycan expression.
- In vitro experimental study of the feasibility of a polyurethane replacement meniscus pre-seeded with stem cells.

- Evolution of allogeneic meniscal transplants and relationship with extrusion.

### HIP:

- Coxarthrosis in young adults: etiological study of biomechanical factors.
- Biomechanics of coxarthrosis in young adults: finite element study.
- Influence of hip anatomy in early development of coxarthrosis: controlled, prospective radiographic study.

### UPPER LIMB:

- Anatomical study of stabilizing ligaments in the trapeziometacarpal joint: the role played by dorsoradial and anterior oblique ligaments in Bennett and Rolando fractures.
- Surgical treatment of middle-third clavicle fractures in high-energy trauma in young patients.
- Retrospective study of the use of vascularized bone graft using the 1,2-ICSR artery in the revascularization of proximal necrosis in scaphoid pseudarthrosis.

# Locomotor System Research

## Active Grants

- Aguilera X. Observational, single-center study to evaluate over time, the bleeding by redones of a prospective cohort of patients undergoing surgery for pertrochanteric fracture of the femur. MAPFRE Foundation. February 2011-February 2012. MAPFRE 2010.
- Aguilera X. Prevention of postoperative bleeding in massive resection of bone tumors: multicentre, randomized, open, parallel of three treatment arms clinical trial, evaluating the efficacy of topical tranexamic acid versus Evice!® topical and usual hemostasis. Spanish Ministry of Health, Social Services and Equality. January 2011-December 2011. EC11-340.
- Gelber P.E., Erquicia J.I., Abat F., Sosa G., Pelfort X., Monllau J.C. Grant from the Spanish Arthroscopy Association (AEA) for the study "Evaluation by CT in cadaveric model of the safety when carrying out of the posterolateral corner tunnels in multi-ligament reconstruction of the knee". XXIX Congress of the Spanish Arthroscopy Association (Tenerife, Spain). €6,000.
- Majó Buidas J., Trullols Tarragó L., Gracia Alegría I. Grant from Enriqueta Vilaveccia Foundation for "Multicenter Study. Family exostosis Disease". €15,000.
- Monllau, J.C. Regeneration of cartilage defects by tissue engineering with a characterized allogeneic chondrocytes seeded matrix. Spanish Ministry of Economy and Competitiveness. January 2011-December 2013. MAT2010-21611-C03-02.

## Awards

- Proubasta I.R., Lamas C.G., Ibañez N.A., Delacroix D., Fernandez I. Proximal carpectomy. Finite element study. First prize for the best paper presented at the XX Congress SECMA (Spanish Society of Hand Surgery). Valencia (Spain, 2011).

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## Scientific Production

- ISI Web of Knowledge Indexed Publications with IF**
- 01 Tey M., Erquicia J.I., Pelfort X., Miquel J., Gelber P.E., Ribas M. Allogenic labral transplantation in hip instability following arthroscopic labrectomy. *HIP International*;21(2):260-262.  
**IF: 0.763**
  - 02 Gelber P.E., Erquicia J., Abat F., Torres R., Pelfort X., Rodriguez-Baeza A., Alomar X., Monllau J.C. Effectiveness of a footprint guide to establish an anatomic femoral tunnel in anterior cruciate ligament reconstruction: Computed tomography evaluation in a cadaveric model. *Arthroscopy – Journal of Arthroscopic and Related Surgery*;27(6):817-824.  
**IF: 3.024**
  - 03 Monllau J.C., Gelber P.E., Abat F., Pelfort X., Abad R., Hinarejos P., Tey M. Outcome after partial medial meniscus substitution with the collagen meniscal implant at a minimum of 10 years' follow-up. *Arthroscopy – Journal of Arthroscopic and Related Surgery*;27(7):933-943.  
**IF: 3.024**
  - 04 Lamas C., Moldovan R., Proubasta I., Natera L. Vascularized bone grafting and mini-acutrak fixation of scaphoid non-unions with avascular proximal pole. *Chirurgie de la Main*;30(4):264-268.  
**IF: 0.529**



### ISI Web of Knowledge Indexed Publications without IF

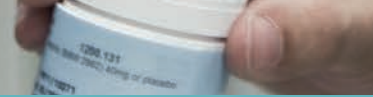
- 01 Lamas C., Castellanos J., Proubasta I., Dominguez E. Comminuted radial head fractures treated with pyrocarbon prosthetic replacement. *Hand*;6(1):27-33.
- 02 Gracia I., Proubasta I.R., Trullols L., Peiró A., Moya E., Cortés S., Buezo O., Majó J. Distal radioulnar joint prosthesis for the treatment of giant cell tumor of the distal ulna: A case report and literature review. *Strategies in Trauma and Limb Reconstruction*;6(2):103-6.
- 03 Monllau J.C. The best journal possible. *Revista Espanola De Cirugia Ortopedica y Traumatologia*;55(3):169.
- 04 Lamas C., Proubasta I., Natera L., Moldovan R., Almenara M. Vascularised bone graft with mini-acutrak<sup>®</sup> fixation in scaphoid pseudoarthrosis with proximal pole necrosis. *Revista Espanola De Cirugia Ortopedica y Traumatologia*;55(3):187-92.
- 05 Proubasta I., Lamas C., Abat F., Sarasquete J., Itarte J. Luxation of the hand extensor tendons around the metacarpophalangeal joint. *Revista Espanola De Cirugia Ortopedica y Traumatologia*;55(2):105-9.
- 06 Torres J., Abat F., Monteiro E., Gelber P. Isolated fracture of the body of the hamate bone. about a case. *Revista Espanola De Cirugia Ortopedica y Traumatologia*;55(4):288-91.

### Book Chapters

- Chapter: Monllau J.C., Pelfort X., Gelber P., Tey M. Combined Tibial Tubercle Realignment and MPFL reconstruction (pp.451-455). Book: Sanchís V. Editorial: Anterior Knee Pain and Patellar Instability. Springer-Verlag London (2011).

### Journals

- Proubasta I.R., Ibañez N.A., Itarte J.P., Lamas C.G., Sarasquete J.R. Complex posterior fracture-dislocation of shoulder. *Traumaonline*;1(3):17-23.
- Proubasta I.R., Lamas C.G., Almenara M.F. Toe deformities. Treatment with Herbert screw. *Traumaonline*;1(3):24-32.
- Proubasta I.R., Natera L.C., Lamas C.G. Artroplastia de implante de silicona de la articulación interfalángica proximal mediante abordaje palmar. *Traumaonline*;1(3):33-43.
- Proubasta I.R., Lamas C.G. Transferencias tendinosas. Parte III: parálisis del nervio cubital. *Traumaonline*;1(2):1-21.
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- Almenara M.F., Ibañez N.A., Proubasta I.R. Simultaneous bilateral fracture of the neck of the radius. About a case and review of the literature. *Traumaonline*;1(2):70-3.
- Proubasta I.R., Carrera I.F., Abat F.G. Tendon transfers in peripheral nerve paralysis of the upper extremity. Part I: Principles and indications. Parte I: principios e indicaciones. *Traumaonline*;1(1):17-24.
- Proubasta I.R., Carrera I.F., Abat F.G. Tendon transfers. Part II: radial nerve paralysis. *Traumaonline*;1(1):25-32.
- Proubasta I.R., Lamas C.G., Itarte J.P., Sarasquete J.R., Abat F.G. Long-term results of treatment of recurrent carpal tunnel syndrome by internal saphenous venous coating. *Traumaonline*;1(1):48-54.
- Proubasta I.R., Itarte J.P., Iglesias J.J.D. Invertebrate and blocked posterior dislocation of the shoulder. Treatment Alternatives. *Traumaonline*;1(1):55-64.
- Proubasta I.R., Lamas C.G., Almenara M. Silicone arthroplasty in the treatment of arthrosis carpometacarpal. *Traumaonline*;1(3):59-63.
- Proubasta I., Lamas C., Abat F., Sarasquete J., Itarte J. Dislocation of the extensor tendons of the hand at the level of the metacarpophalangeal joint. *Rev Cir Ortop Traum*;55:105-9.
- Torres J., Abat F., Monteiro E., Gelber P.E. Isolated fracture of the body of the hamate bone. About a case. *Rev Ortop Traumatol*;55:288-91.
- Gelber P.E., Torres R., García Giralte N., Pelfort X., Abat F., Alvarez Gómez C., Monllau J.C. The menisci viable; can be more easily stored in an alternative growth medium? Estudio in vitro. *Cuadernos de Artroscopia*;18:7-12.
- Aguilera Roig X., Almenara Fernández M., Fernández Núñez J.A., Urrutia Cuchí G., Martínez Zapata M<sup>a</sup> J. Tranexamic acid in knee replacement surgery: update. *Traumaonline*;1(1):3-14.
- Jordán M., Celaya F., González J.C., Aguilera X. Isolated acute dislocation of the proximal tibiofibular joint. About a case and review of the literature. *Traumaonline*;1(2):58-63.



# Multiple Sclerosis and Epilepsy Research

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## Main Lines of Research

- Neuropsychological impairment in patients with multiple sclerosis.
- Pharmacogenetics in epilepsy.
- Neuropsychological impairment in juvenile myoclonic epilepsy.

## Challenges

- Study of the validity of cognitive evoked potentials in early detection of cognitive impairment in patients with radiologically isolated syndrome, clinically isolated syndrome and newly diagnosed multiple sclerosis.
- Study of the effects of immunomodulatory and immunosuppressive treatments on the cognitive functions of patients with multiple sclerosis.
- Determination of the pharmacogenetic variations involving different responses to antiepileptic treatment.
- Study of neuropsychological alterations in patients diagnosed with juvenile myoclonic epilepsy.

## Collaborations

### External Collaborations

- Participation in the European registry of pregnant women with epilepsy (EURAP).
- Epidemiological study to determine the diagnosis and follow-up in patients with a first demyelinating episode suggestive of multiple sclerosis. EPI-CIS Study.
- Registration of new cases of multiple sclerosis in Catalonia. Epidemcat Register.

\*TIF: 24.114 \*\*MIF: 12.057

## Scientific Production

## ISI Web of Knowledge Indexed Publications with IF

01 Sastre-Garriga J, Rovira A, Bonaventura I, Escudero-Torrella J, Marco-Igual M, Aymerich X, de Andres C, Lacruz F, Escartin A, Olascoaga J, Solar D, Farres J, Arroyo-Gonzalez R, Montalban X. Spanish multi-centre observational study of the first attacks suggestive of multiple sclerosis: The PREM cohort [Estudio observacional multicéntrico español de primeros episodios sugestivos de esclerosis múltiple: Cohorte PREM]. *Revista de Neurologia*;53(10):577-583.  
IF: 0.652

02 Tomson T, Battino D, Bonizzoni E, Craig J, Lindhout D, Sabers A, Perucca E, Vajda F, EURAP study group (col. Escartin A.) Dose-dependent risk of malformations with antiepileptic drugs: An analysis of data from the EURAP epilepsy and pregnancy registry. *The Lancet Neurology*;10(7):609-617.  
IF: 23.462

## Other Publications

## Letters

- Aguirre-Bermeo H, Millón J, Martínez-Domeño A, Marruecos-Sant L. Status epilepticus in a patient with sickle cell disease. *Med Clin*;137(9):428-9.
- Díaz-Manera J, Querol L, Clarimón J, Yagüe S, Illa I. Unique post-exercise electrophysiological test results in a new andersen-tawil syndrome mutation. *Clinical Neurophysiology*;122(12):2537-9.

## Book Chapters

- Chapter: Optimization of treatment with high doses of zonisamide. Book: Escartín A. *Clinical Cases: Zonisamide in full doses*. Editorial: Ergon (Madrid, Spain, 2011).
- Chapter: Approaching stroke (CVA)-Approaching alterations of consciousness on critical ill patients. Book: Escartín A, López-Góngora M. *Critical patient and emergencies*. Editorial: Elsevier (Barcelona, Spain, 2011).



# Reproductive Health

## Subgroup: Prenatal Diagnosis and Treatment

### Coordinator

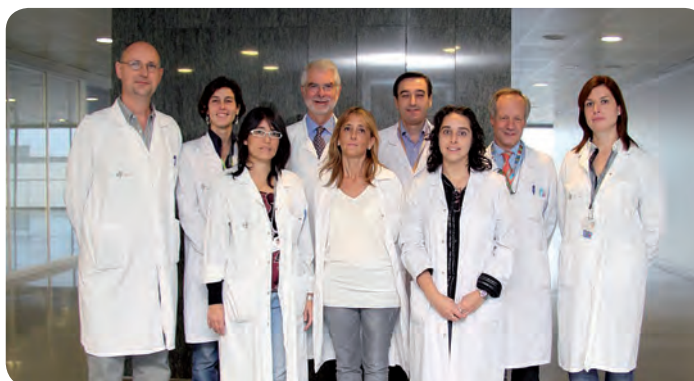
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### Main Lines of Research

- Qualitative study of foetal motility by means of 2D ultrasound in foetuses with spinal muscular atrophy.
- Value of foetal nuchal translucency as a marker of neuromuscular diseases and other monogenic diseases.
- Utility of Doppler ultrasound of the umbilical artery during the second trimester as a discriminator of pregnancies at high risk of poor perinatal outcomes.
- Cutoff point for foetal pyelectasis as a nephrourologic pathology discriminator.
- Value of ultrasound in the control of foetal anaemia.

### Challenges

- Consolidate a line of work with the HSCSP genetics department concerning possible early clinical manifestations detectable using 2D and 4D ultrasound in foetuses affected by genetic diseases, particularly neuromuscular disorders, given that HSCSP is a referral centre for a particular group of rare diseases.
- Early screening for chromosomal abnormalities from the ultrasound and biochemistry points of view, investigating the potential usefulness of the markers used either alone or in combination as indicators of populations at risk of placental insufficiency.
- Investigate the usefulness of new technologies such as 3D power Doppler angiography of the placenta in the diagnosis and control of certain foetal diseases.

### Collaborations

#### Collaborations with other IIB Sant Pau Groups

- Genetic Diseases Group.

# Reproductive Health

## Subgroup: Reproduction Endocrinology

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(HSCSP-Fundació Puigvert):

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### Main Lines of Research

#### Hormonal alteration with reproductive and metabolic implications:

- Polycystic ovary syndrome is characterized by the frequent coexistence of alterations of the reproductive system and metabolic control of carbohydrates. This relationship determines changes in ovulation, given that insulin acts on the steroidogenic cells of the ovarian theca.
- The consequences of this situation ranges from androgenetic cutaneous manifestations at puberty (acne, hirsutism, etc.) to infertility, obesity, gestational diabetes and subsequent development of type 2 diabetes or metabolic syndrome.

- The working group headed by Dr. Espinós focuses on research into factors that promote these synergies and interventions that can positively alter evolution.

#### Disorders related to hypo-oestrogenism:

- For some time the group has been active in clinical research (especially clinical trials) related to physiological hypo-oestrogenism in menopause and its consequences. It is currently finalizing a prospective randomized trial on the possible role of phytotherapy in menopausal symptoms in a multicentre study designed in collaboration with the Iberoamerican Cochrane Centre.

### Challenges

#### Hormonal alteration with reproductive and metabolic implications:

- The project to assess the impact of changes induced by exercise and diet on the results of in vitro fertilization opens new perspectives for identifying mediators between obesity and fertility control.
- The group has obtained a grant to coordinate a state wide multicentre study on the impact of lifestyle on fertility, confirming the strength of metabolic-reproductive life-styles as a key directions of research into reproduction.
- One goal is to advance research into study methodologies and incentives for patients to adopt healthy life styles and so strengthen the capacities of the group. Explored is the possibility of using tools developed for external and self-control of physical activity when assessing the degree of compliance of patients advised to include regular exercise in their weight loss programme.

- We also plan to continue with optimization programmes for controlled stimulation and multiple follicular development, the preservation of fertility in young cancer patients and the application of pre-implantation genetic diagnoses.

#### Disorders related to hypo-oestrogenism:

- Because of the ongoing ageing of the population, new fields for the study of hypo-oestrogenism are emerging. The increasing survival for oncological diseases in young people and preventive measures in families at risk of hormone-dependent cancers (especially preventive ovariectomy) opens new fields such as the preservation of fertility or hormone replacement in this type of patient.

# Reproductive Health

## Subgroup: Reproduction Endocrinology

### Active Grants

- Espinós, J, Polo, A. Impact of hypocaloric diet and exercise in obese women who undergo an IVF cycle. FIS Project. Carlos III Health Institute. 2011-2014. PI11/02816. 50.000.

### Collaborations

#### External Collaborations

- PI: Espinós J. Collaborators: Peon S., Polo A. Multicenter study on the influence of diet and lifestyle in the different results of IVF-ICSI. Spanish Fertility Society. DYP-HAB-2010-01.
- PI: Espinós J. Collaborator: Checa M.A. Comparative study of ovarian stimulation pattern launched in late follicular or mid luteal phase versus the conventional pattern of stimulation launched in follicular temprana phase (initial) in oocyte donation cycles. Merk Schering. UREP-ONCO-2010.
- PI: Guinot M. Collaborator: Alejos O. Open and randomized study to evaluate the safety and efficacy of the treatment with Denosumad and monthly Actonel in postmenopausal women after treatment transition with weekly or daily alendronate. AMG 162-Denosumab.
- PI: Estadella J. Multicenter, multinational, randomized study open to evaluate the effect of DR-102 in hemostatic parameters in healthy women compared to standard oral contraceptive used in a regimen of 28 days. Promoter: TEVA.

\*TIF: 4.842 \*\*MIF: 2.421

### Scientific Production

#### ISI Web of Knowledge Indexed Publications with IF

01 Bruna-Catalan I., Menabrito M., Spanish Collaborative Group (col. Espinos J.J.). Ovulation induction with minimal dose

of follitropin alfa: A case series study. Reproductive Biology and Endocrinology;9.

IF: 2.045

02 Parra J., Martínez-Hernández R., Aliso-Rallo E., Alias L., Barcelo M.J., Amene-

do M., Medina C., Senosiain R., Calaf J., Baiget M., Bernal S., Tizzano E.F. Ultrasound evaluation of fetal movements in pregnancies at risk for severe spinal muscular atrophy. Neuromuscular Disorders;21(2):97-101.

IF: 2.797

### Other Publications

#### Journals

- Espinós J.J., Polo A., Sastre M. Obesity and reproduction. Epidemiology and the basic aspects. Lifestyle and Fertility. Editorial Médica Panamericana;25-35.
- Trilla C., Senosiain R., Gich I., Espinós J.J., Calaf J. Emergency contraception: accessibility and demand. Revista de Ginecología y Obstetricia Clínica;12(suppl):124-30.
- Agramunt S., Checa M.A., Espinós J.J., Requena A. Effectiveness of highly purified human menopausal gonadotropins (HP-hMG) versus recombinant FSH (rFSH): systematic review and meta-analysis. Revista de Ginecología y Obstetricia Clínica;12(suppl):117-124.
- Ramos L., Daina G., Rius M., Polo A., Martínez-Pasarell O., Obradors A., Navarro J. First application of Double-Factor Preimplantation Genetic Diagnosis for Lynch syndrome or hereditary nonpolyposis colorectal cancer (HNPCC). Rev Asoc Est Biol Rep;16:116.
- Daina G., Rius M., Ramos L., del Rey J., Benet J., Navarro J., López O., Mata A., García A., Bassas L., Bordás R., Martínez-Pasarell O. Study of chromosome segregation in a carrier of a reciprocal translocation. Rev Asoc Est Biol Rep;16:145-6.
- Mata A., García A., Gustà R., López O., Martínez-Pasarell O., Saiz M.J., Bassas L. The sperm DNA fragmentation. Rev Asoc Est Biol Rep;16:154.

- García A., López O., Martínez-Pasarell O., Mata A., Peón S., Bassas L. Progression of embryo cryopreservation results after the introduction of vitrification in an IVF program. Rev Asoc Est Biol Rep;16:167.
- García A., Martínez-Pasarell O., Mata A., Martínez K., Díaz F., Camps N., Clot E., Parés P., Goyanes J., Bassas L. Music therapy reduces anxiety state in an IVF program. Rev Asoc Est Biol Rep;16:212-3.

#### Book Chapters

- Chapter: Baró F., Rodríguez Bueno E., Boixadera E., Guinot M., Roca B., Ruiz E. Risks factors associated to osteoporosis in femoral neck rated with spanish cohort postmenopausal women. Book: Menopause. State of the Art. Edizioni Internazionali;207-208. ISBN:978-88-7141-924-4.
- Chapter: Guinot M., Alcovero L., Perello J., Espinós J.J., Calaf J. Review of premature ovarian failure. Book: Menopause. State of the Art. Edizioni Internazionali;333-335. ISBN:978-88-7141-924-4.

# Nursing Care Research

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## Main Lines of Research

The group develops independent research projects focused on care. The active projects are grouped under the following lines:

- Fall prevention and analysis of fall-related factors.
- Translation and validation of care evaluation questionnaires.
- Constipation and ageing.
- Quality of life related to nursing care.
- Development and application of health science methods: qualitative and qualitative methods, text analysis and text analysis and discourse.
- Patient satisfaction with nursing care.
- Attention to the family.
- Pain.
- Technological innovations in nursing care.

## Challenges

- Strengthen implemented care research lines and disseminate the results of active projects.
- Explore the impact of nursing care for patients, strategies for care improvement and the application of results in cure models.
- Improve the development and understanding of qualitative research in the context of the health sciences and disseminate qualitative methods and analysis of text and discourse as tools in health science research.
- Create the synergies necessary to consolidate the group's activities.

## Active Grants

- Juandó C. Economic and cultural inequalities faced by women with breast cancer: Barriers and facilitators in the use of health services. FIS Project. January 2009-December 2011. PI08/0888.
- Ricart M.T. Anxiety in patients discharged from the intensive care units (UCIs). MIA Grant. 2011-2012.
- Robleda G. Efficacy and safety of the administration of opioid agents as preventive treatment of pain associated with nursing care of critically ill patients on mechanical ventilation. COIB Grant. January 2011-March 2012. PR-3569/10. €7,770.
- Romero M. Perception of critically ill patients regarding to satisfaction with nursing care. COIB Grant. January 2011-January 2014. PR-3663/10.
- Romero M. Quantitative and qualitative research design "Critical patient perception of nursing care: an approach to the concept of satisfaction". COIB Grant. 2010-11. PI11/00447.

## Collaborations

### External Collaborations

- Robleda G. Participation in an international multicenter study as Spanish coordinator. Study EUROPAIN®.

# Translational Molecular Oncology

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## Main Lines of Research

The main lines of research are focused on basic mechanism of human neoplasias, as follows:

- Identification of prognostic and predictive markers in patients with locally advanced HNSCC with poor clinical outcome. In collaboration with the Oncogenes and Antitumour Drugs Group and the Ear, Nose, Throat Cancer Group.
- Study "in vitro" and "in vivo" by genetic manipulation of putative biomarkers of poor prognosis in HNSCC in tumor progression and as potential therapeutic targets. Now the studies are focused in genes of the Wnt signaling and/or induced by hypoxia.

## Challenges

- To evaluate the survival pathways, epithelial-mesenchymal transition (EMT), enrichment of cancer stem cell and the resistance to chemotherapeutic treatment in which the study genes are involved.
- To obtain a preclinical model for studying new anti-tumor drugs or alternative treatment to improve survival in patient with recurrent tumors and progression of the disease in HNSCC, and its use in personalized therapy.
- To reinforce and to encourage the translational research in tumor progression and tumor initiating cells through the collaboration with internal and external groups of research.
- To be consolidated as a group of research through obtaining new research staff and new financed projects.

## Active Grants

- Parreño M. Study of poor prognosis markers in squamous cell carcinoma of the head and neck and the search for therapeutic alternatives. FIS Project. January 2010-December 2012. PI09/0334. €183,31.
- Parreño M. SNS Researcher Stabilization. Department of Health: SNS Spanish National Health System. January 2008-April 2012. FIS01/3085.



## Collaborations

## Collaborations with other IIB Sant Pau Groups

- Haematological Diagnosis Group.

## External Collaborations

- Development and improvement of a xenograph mouse model of head and neck carcinoma, based on the orthotopic implantation of human primary and recurrent tumor of HNSCC, with the objective to study populations of cancer stem cells, their role in the tumor progression and the resistance to treatment. This work is being carried out in collaboration with Alberto Villanueva of the Translational Research Laboratory of the Catalan Institute of Oncology (ICO-IDIBELL, Barcelona, Spain), Purificación Muñoz (PEBC-IDIBELL, Barcelona, Spain), and the Ear, Nose, Throat Cancer Group.

\*TIF: 9.898 \*\*MIF: 9.898

## Scientific Production

## ISI Web of Knowledge Indexed Publications with IF

- 01 Bosch R, Dieguez-Gonzalez R., Cespedes M.V., Parreno M., Pavon M.A., Granena A., Sierra J., Mangues R., Casanova I. A novel inhibitor of focal adhesion signaling induces caspase-independent cell death in diffuse large B-cell lymphoma. *Blood*;118(16):4411-4420.  
IF: 9.898

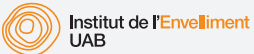


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