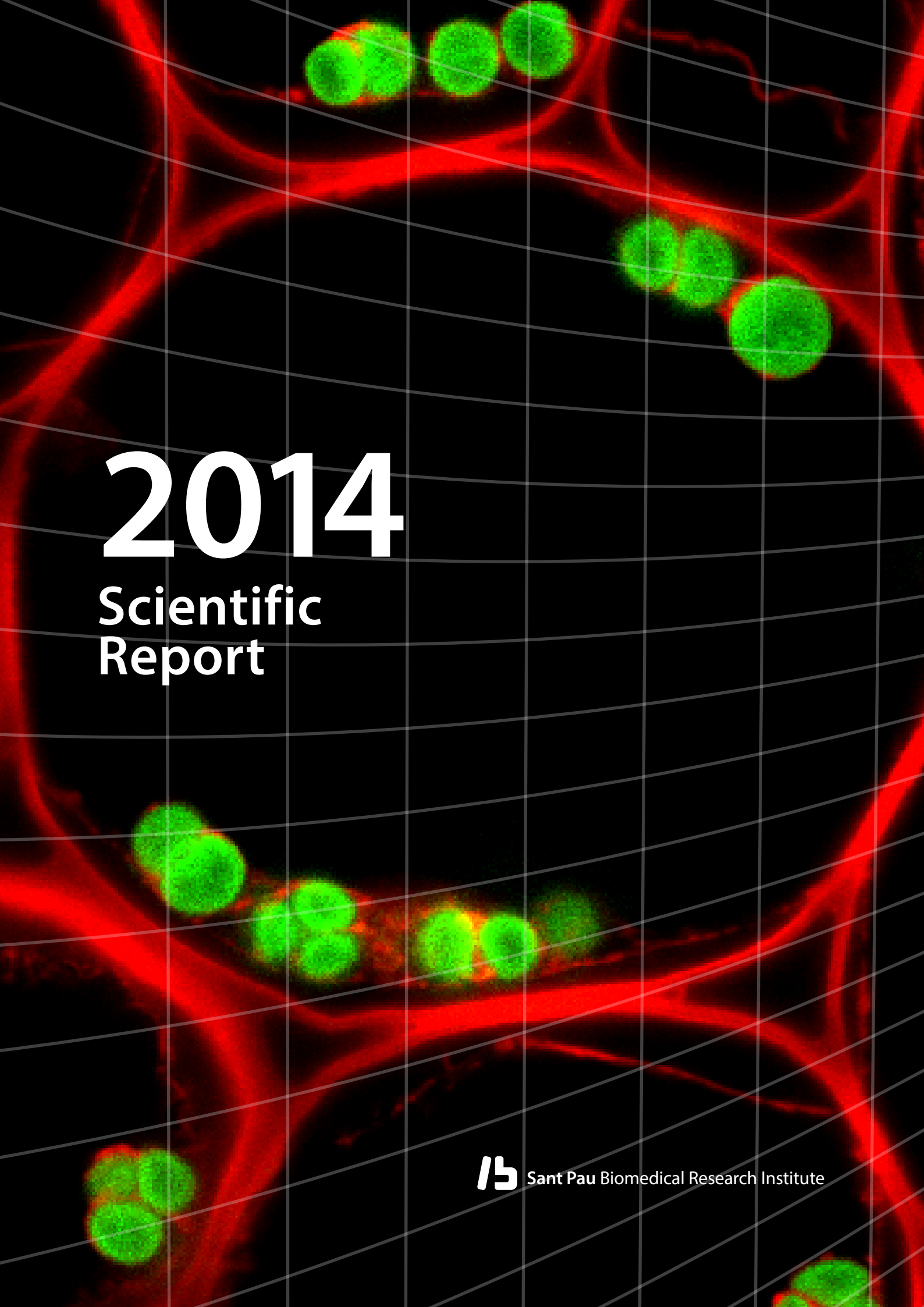


The background of the entire page is a fluorescence microscopy image. It shows a network of red, thread-like structures, likely representing the cytoskeleton or extracellular matrix. Scattered throughout this network are several bright green, spherical spots, which appear to be individual cells or specific organelles within cells. The image is overlaid with a white grid of thin lines, creating a technical or scientific aesthetic.

2014

Scientific Report



Sant Pau Biomedical Research Institute

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Summary

IIB Sant Pau · 2014 Scientific Report

04	Presentation
05	IIB Sant Pau Scientific Structure
06	Who We Are
07	Strategic Objectives
08	IIB Sant Pau Entities
10	Vertical Areas of Research
11	Transversal Areas of Research
11	Associated Groups
12	Organization Chart
14	Financial Data
16	Scientific Outcomes
18	Publications with an Impact Factor
19	Publications by Thematic Area and Quartile
20	Research Resources
21	Research Training
22	Doctoral Theses
25	Patents
26	Technology Transfer Agreements
27	Clinical Guidelines
30	Research Support Services
40	Scientific and Technical Service Platform

44 Areas of Research

46	Area 1. Cardiovascular Diseases
78	Area 2. Genetic, Metabolic and Inflammatory Diseases
116	Area 3. Haematological and Oncological Diseases
138	Area 4. Neurological, Mental Disorders and Ageing
180	Area 5. Urology and Experimental Surgery
194	Area T1. Epidemiology, Public Health and Healthcare Services
220	Area T2. Molecular, Genomic, Cellular and Kinetic-Dynamic Bases for Diseases and their Treatment
230	Associated Groups

Presentation



Dear Friends of the IIB Sant Pau

I am pleased to present you the IIB-Sant Pau Scientific Report for the year 2014.

We continue the upward trend in both competitive projects and technology transfer agreements that shows, once more, the continuous growth and creation of good quality scientific knowledge of our Institution despite the unfavourable conditions and context in which we were immersed.

This upward trend is also reflected in the economic balance of the annual closure of the managing institution of the IIB Sant Pau, the Research Institute of Sant Pau Hospital with many efforts could rectify the negative results of 2013 product of the economic downturn.

These results confirm the consolidation of the IIB Sant Pau as a leading research centre. Noteworthy, they have again been produced thanks to the continuous efforts of our Researchers and the entire Research Support Team who overcome every year and keep the bar high up within the set of Accredited Health Institutes in Spain.

Cordially,

Jaume Kulisevsky
IIB Sant Pau Manager

IIB Sant Pau Scientific Structure

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

The vertical line has five main areas:

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

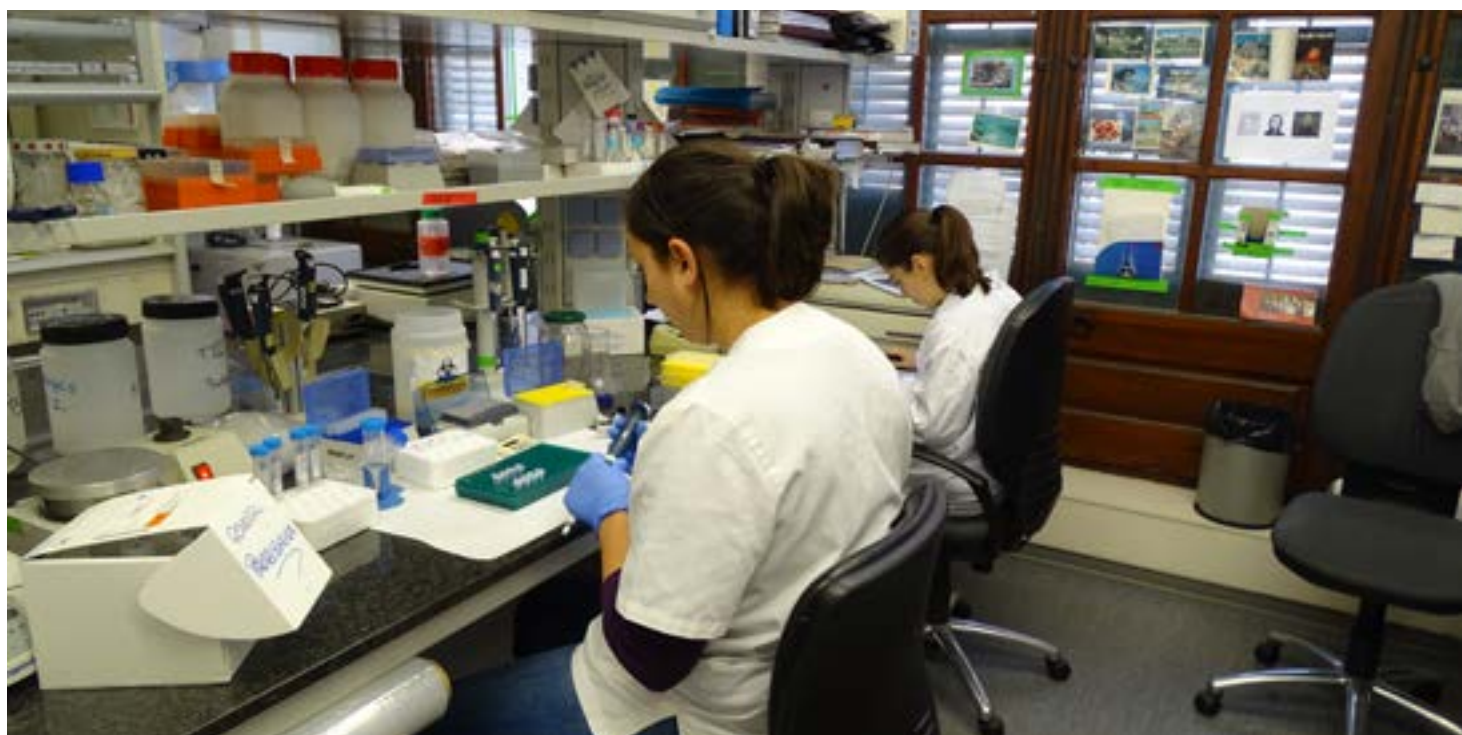
Who We Are

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 in 2009 as an association of healthcare entities carrying out their own research. Throughout 2010, IIB Sant Pau became 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. The success as a research centre ultimately translates to patient health.

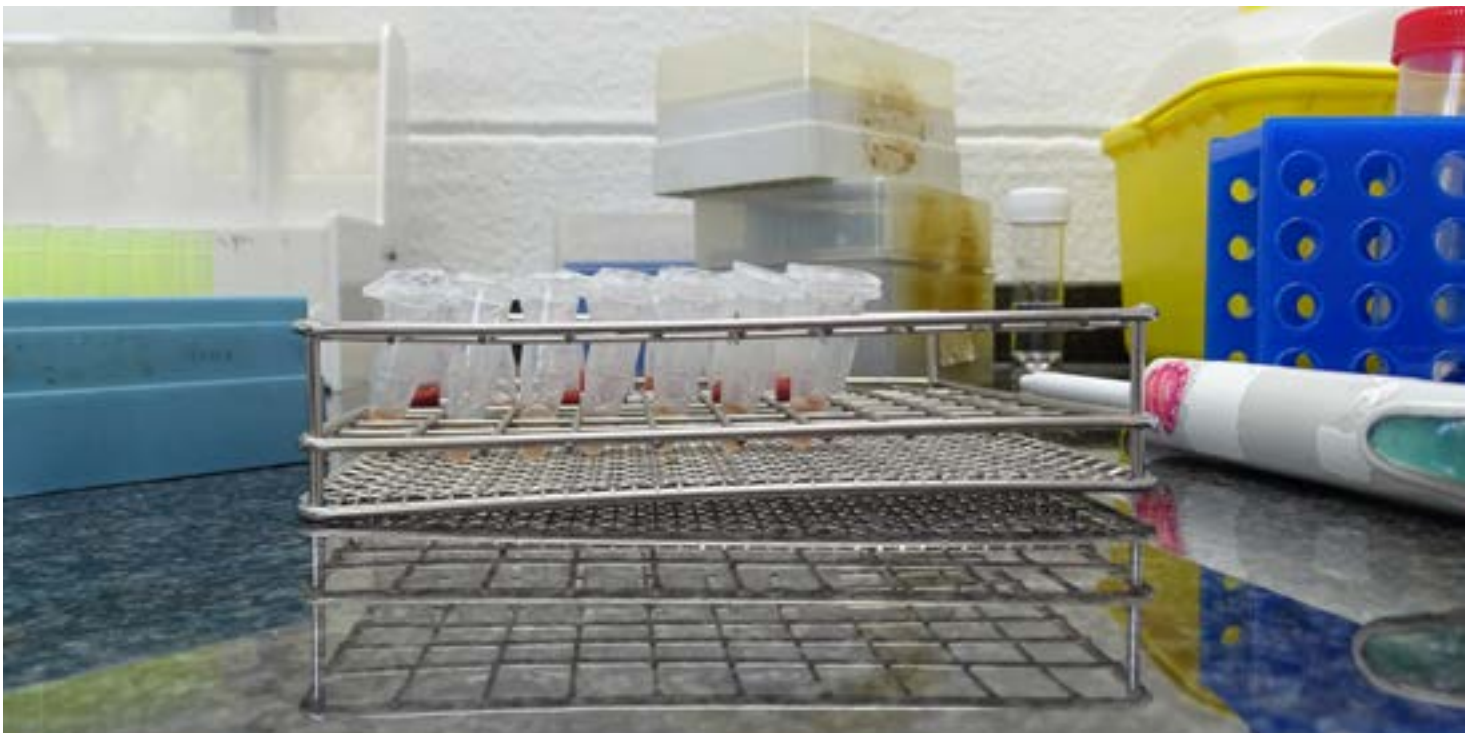


Strategic Objectives

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

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

- 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.
- 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.
- Organize and participate in continuous professional development, whether by developing teaching activities or arranging grant-aided stays abroad for researchers.
- 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.
- 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 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.

Hospital de la Santa Creu i Sant Pau Research Institute



Institut de Recerca

The Hospital de la Santa Creu i Sant Pau Research Institute (HSCSP RI) promotes, manages and communicates biomedical research conducted in the HSCSP. 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



FUNDACIÓ PRIVADA

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

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 this university, is a non-profit foundation governed by a board of trustees formed by the UAB, the UAB Foundation and the 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 society and people to the challenges of demographic change.



Catalan Institute of Cardiovascular Sciences (ICCC)

The ICCC 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

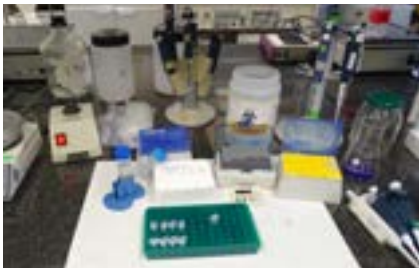
This autonomous body, created by the Barcelona Health Consortium, has as its main mission to analyse and monitor the health of the population of Barcelona with a view to improving health and preventing risk. It is also responsible for epidemiological surveillance and the provision of medical care to 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.

Vertical Areas of Research



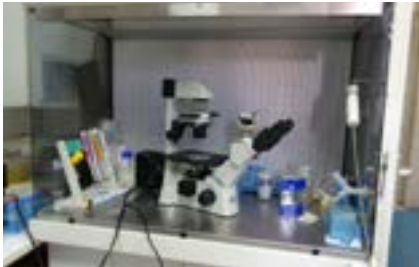
Cardiovascular Diseases

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, such as diabetes and obesity, known but with a hereditary diseases, infectious diseases (AIDS, tuberculosis, etc) and rare diseases (not well know but with a devastating impact on those affected).



Haematological and Oncological Diseases

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

This area 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.



Uronephrology 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 provides valuable new insights and ensures 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. In the fields of andrology, urology and nephrology research, the Puigvert Foundation is a leading centre in Spain.

Transversal Areas of Research



Epidemiology, Public Health and Healthcare Services

Research in these fields aims 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

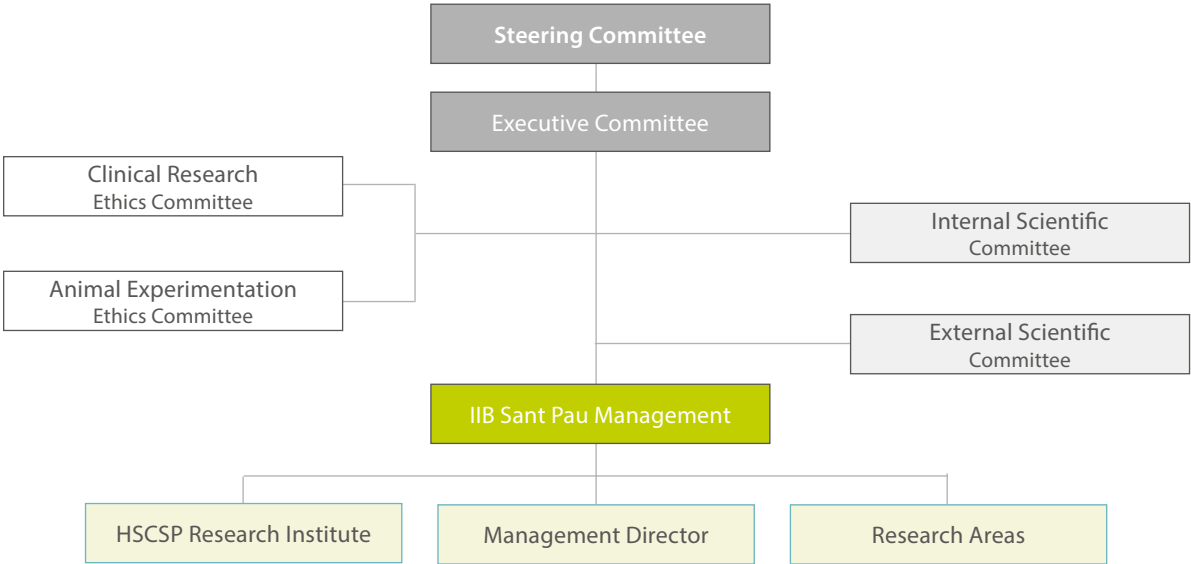
This area focuses on the structure of proteins associated with neurodegenerative diseases and inflammatory processes and on factors linked to the innate immune system. Research is also conducted in the area of osteoporosis, ageing-related macular degeneration and coagulation-cascade factors closely linked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

Associated Groups



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

Organization Chart



Steering Committee

- Chair**
- Dr. Alberto Salazar
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. Lluís Tort
Autonomous University of Barcelona
- Dr. Lina Badimon
Catalan Institute of Cardiovascular Sciences
- Dr. Helena Isábal
Puigvert Foundation
- Dr. Jordi Sierra
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

Executive Committee

- Chair**
- Dr. Jaume Kulisevsky
IIB Sant Pau Manager
- Representatives of Associated Entities**
- Dr. Manel Trias
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 la Santa Creu i Sant Pau Healthcare Management Foundation
- Dr. Gemma Craywinckel
Hospital de la Santa Creu i Sant Pau Private Foundation
- Dr. Lina Badimon
Catalan Institute of Cardiovascular Sciences
- Dr. Helena Isabal
Puigvert Foundation
- Dr. Jordi Sierra
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 Guarner
Hospital de la Santa Creu i Sant Pau:
Cirrhosis complications

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, Mental Disorders and Ageing

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. Carles Ariza
Public Health Agency of Barcelona:
Evaluation of public health policies and
programmes

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

Dr. Jordi Sierra
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
Physiology professor
Institute of Biomedicine of Seville (Spain)

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

Dr. Vicente Vicente
Haematology group researcher
Faculty of Internal Medicine
Murcia General University Hospital (Spain)

Dr. José Palacios
Head of the pathology/anatomy
Department
Ramón y Cajal Hospital (Madrid, Spain)

Dr. Agustín Gómez de la Cámara
Clinical epidemiology group researcher
Doce de Octubre Teaching Hospital
(Madrid, Spain)

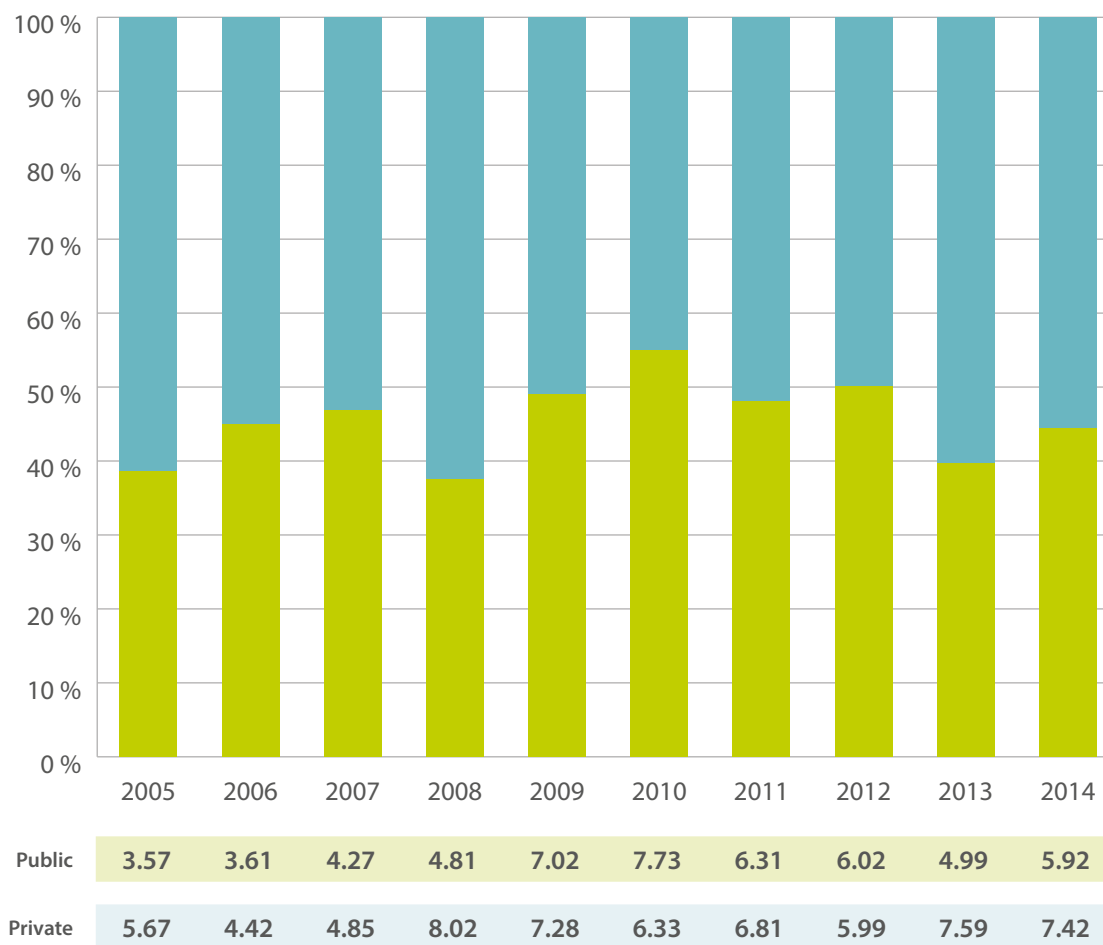
Dr. John Louis McGregor
Director of Research-INSERM Unit 689
Cardiovascular Research Centre–
Lariboisière Hospital (Paris, France)

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

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

Financial Data

Public/Private Income Summary 2005-2014



In millions of euros

Income Statement year ending 31 December 2014

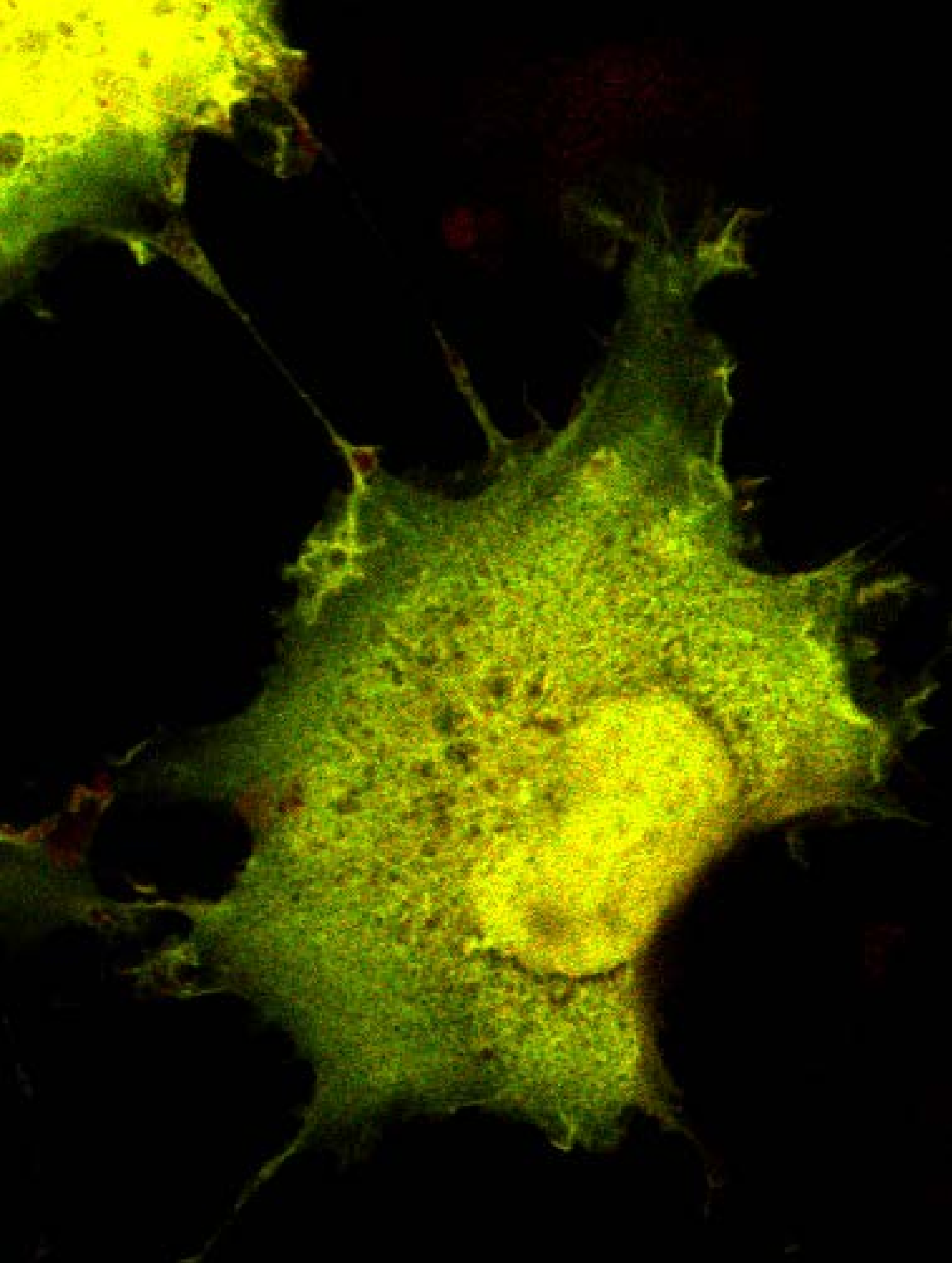
Income from activities	13,185,336
Services	4,333,475
Collaborations with partners and sponsors	1,524,193
Government grants	6,100,684
Other grants, donations and legacies	1,330,487
Repayment of grants, donations, etc	-103,5034
Stocks and supplies	-1,219,051
Material and equipment for activities	-1,219,051
Other income	283,794
Additional and management income	283,794
Personnel expenditure	-8,293,137
Salaries	-6,356,780
Social security	-1,936,357
Other operating expenses	-3,742,227
External services	-3,369,180
Repairs and maintenance	-114,529
Freelance services	-422,451
Insurance	-62,550
Banking	-23,062
Sundry	-252
Other services	-2,746,335
Taxes	-19,572
Loss, deterioration and variation in provisions for operations	-9,638
Other operating expenses	-343,838
Depreciation of fixed assets	-1,280,457
Grants, donations and bequests transferred to results	911,259
Deterioration and gains/losses on disposal of fixed assets	-1,924
Gains/losses from disposal and other	-1,924
Other gains/losses	-183,208
Incidental expenses	-222,175
Incidental income	38,967
OPERATIONAL PROFIT/LOSS	-339,614
Financial income	462,460
From investments in equity instruments	0.00
Negotiable costs	462,460
Financial expenditure	-181,526
Debts with third parties	-181,526
Exchange differences	-277
FINANCIAL PROFIT/LOSS	280,657
OVERALL PROFIT/LOSS	-58,953

In euros

Scientific Outcomes

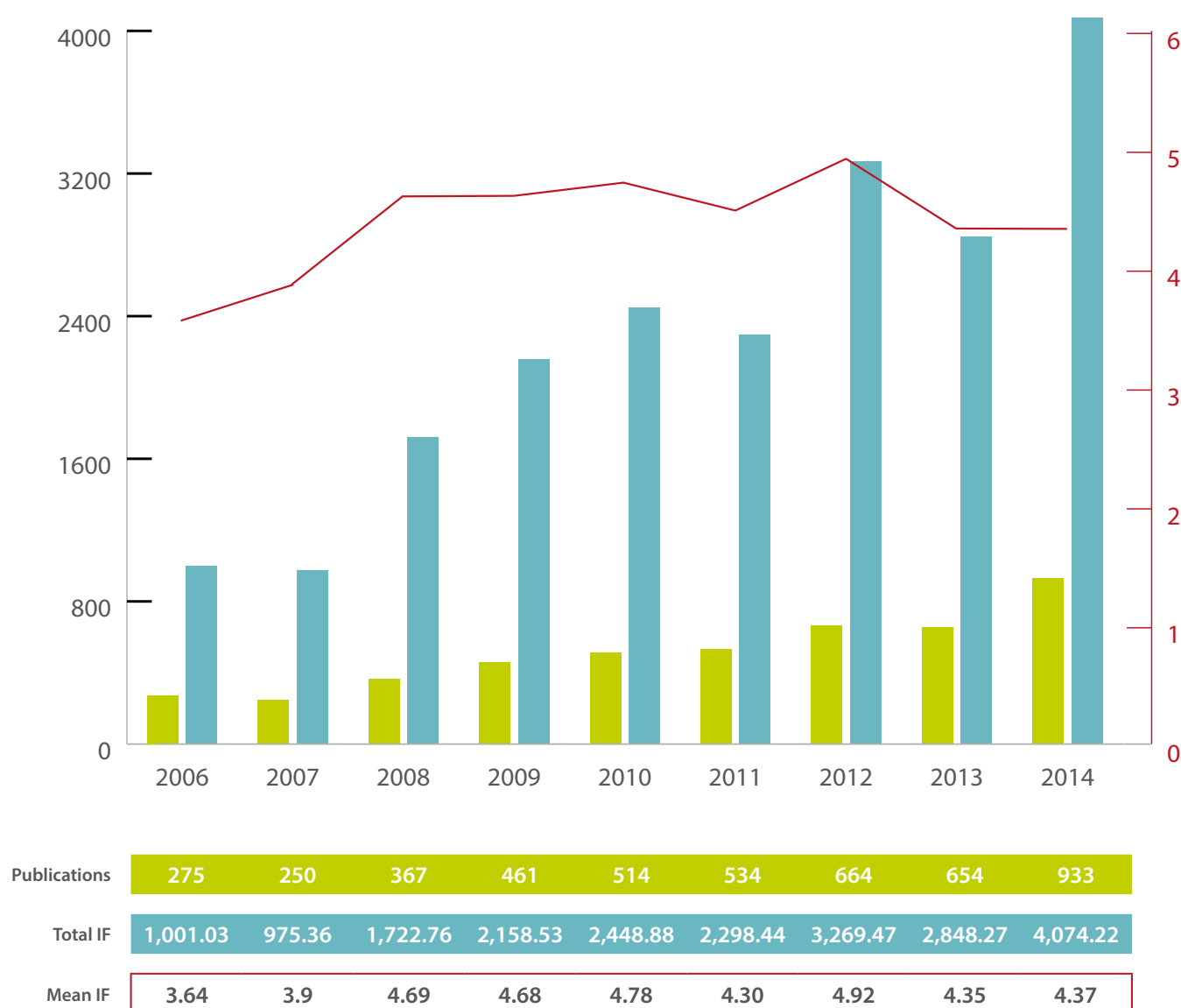
Outcomes for IIB Sant Pau's scientific activities are summarized in the following pages as follows:

- **Publications with an Impact Factor (IF):** 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 journals 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 (foundation year) and 2014.
- **Technology Transfer Agreements:** This table reflects agreements signed between 2009 (foundation year) and 2014.
- **Clinical Guidelines.**



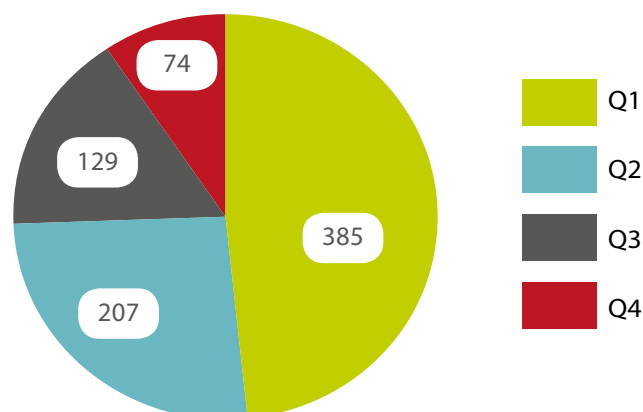
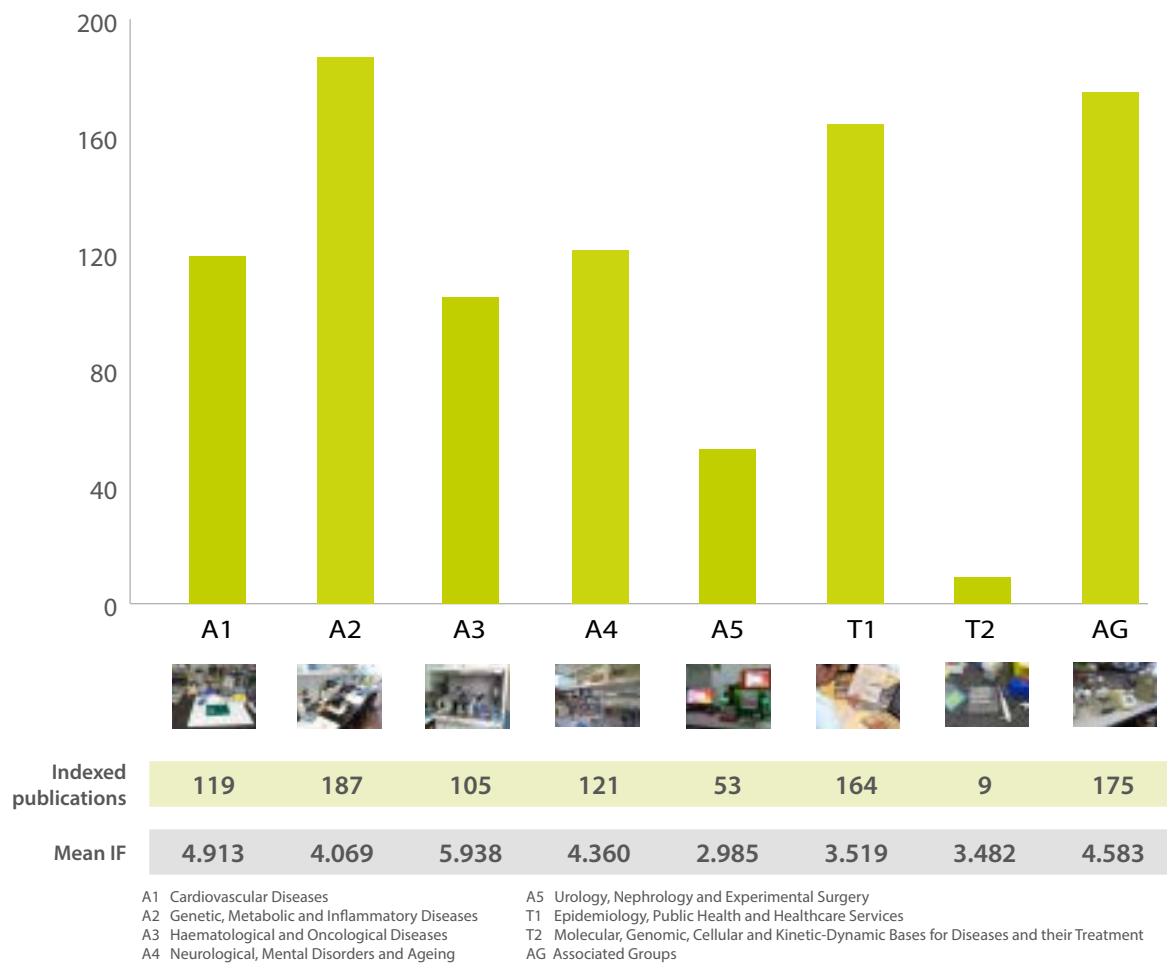
Publications with an Impact Factor

Production status



Publications by Thematic Area and Quartile

Indexed publications



Research Resources

Centre	Active		Granted	
	2013	2014	2013	2014
AGAUR (Agència de Gestió d'Ajuts Universitaris i de Recerca)	19	19	-	23
European Comission	6	5	1	1
American Grants	1	1	1	
EAES (European Association for Endoscopic Surgery)	1	1	-	-
COIB (Col·legi Oficial d'Infermeria de Barcelona)	3	2	-	-
Fundació Marató TV3	9	9	2	5
Fundación Mútua Madrileña (FMM)	1	2	2	-
Fundación Mapfre	1	1	-	-
MICINN - ISCIII (Instituto de Salud Carlos III)	110	113	23	21
MINECO (Ministerio de Economía y Competitividad)	8	6	1	6
Ministerio de Sanidad y Política Social	12	11	1	-
SEPAR (Sociedad Española de Neumología y Cirugía Torácica)	1	9	8	4
SERAM (Sociedad Española de Radiología Médica)	2	-	-	-
AECC (Asociación Española Contra el Cáncer)	1	3	2	-
Merk Serono	2	1	-	-
Fundació Acadèmia de Ciències Mèdiques i de la Salut de Catalunya i de Balears	1	1	-	-
SOCAP (Societat Catalana de Pneumologia)	1	1	-	-
ISHLT	1	-	-	-
Sociedad Española de Diabetes	1	1	1	-
Fundació Catalana de Pneumologia	3	21	-	-
Sociedad Española de Cardiología	3	-	-	-
Asociación Española de Artroscopia	1	1	-	-
FAME	1	-	-	-
AFM Telethon	-	1	1	1
Societat Catalana de Psiquiatria i Salut Mental	-	1	1	-
Fundación Alfonso Martín Escudero	-	1	1	-
CIBERER	-	1	1	-
GILEAD	-	1	1	1
Grupo Español de Investigación en Sarcomas	-	-	-	1
Mutual Médica	-	-	-	1
ASEM / FEDER / FIG	-	-	-	1
	189	194	47	66

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

Research Training

Centre	Active		Granted	
	2013	2014	2013	2014
AGAUR (Agència de Gestió d'Ajuts Universitats i Recerca)	6	3	4	2
Departament de Salut (Generalitat de Catalunya)	4	3	-	-
MINECO (Ministerio de Economía y Competitividad)	6	6	2	-
ISCIII (Instituto de Salud Carlos III)	28	27	10	12
Fundació Gestió Sanitària	5	5	5	-
Fundació Casa del Corazón	-	-	-	1
American Grants	-	-	-	1
Fundación J. L. Castaño	-	-	-	1
	49	44	21	17

Doctoral Theses

IIB Sant Pau Accredited Groups	Institution	Candidate	Director(s)	Thesis title	Defended at
Genetic Diseases	HSCSP	Laura Alías Andreu	Eduardo F. Tizzano, Cristina Fillats	Anàlisi qualitativa i quantitativa dels gens SMN1 i SMN2	Universitat de Barcelona
Microbiology and Infectious Diseases	HSCSP	Noemí Alonso Louro	Beatriz Mirelis, Alba Rivera	Caracterización molecular de los genes blaAmpC cromosómicos y adquiridos en aislados clínicos de Escherichia coli en el área de Barcelona*	Universitat Autònoma de Barcelona
Chronic Respiratory Diseases	HSCSP	Óscar Amor Carro	David Ramos Barbón	Role of the effector and regulatory arms of the adaptive immune response in the pathophysiology of experimental asthma	Universidade de Santiago de Compostela
Emerging Processes in Prevalent Diseases	HSCSP	Aitor Alquezar Arbé	Salvador Benito, Miquel Santaló	Troponina T d'elevada sensibilitat per a l'exclusió precoç de l'infart agut de miocardi sense elevació del segment st.	Universitat Autònoma de Barcelona
Clinical Epidemiolgy and Healthcare Services	HSCSP	Manel Balcells Diaz	Xavier Bonfill Cosp	Anàlisi de l'estructura i el procés d'innovació de quatre grans hospitals de Barcelona	Universitat Autònoma de Barcelona
Oncology/Haematology and Transplantation	HSCSP	Pere Barba Suñol	Jordi Sierra Gil, Rodrigo Martino Bofarull	Evaluación de la función hepática en el trasplante alogénico de progenitores hematopoyéticos con acondicionamiento de toxicidad reducida	Universitat Autònoma de Barcelona
Clinical Epidemiolgy and Healthcare Services	HSCSP	Xavier Basurto Oña	Xavier Bonfill Cosp	Manejo farmacológico del dolor agudo en urgencias. Compendio de evidencias	Universitat Autònoma de Barcelona
Inflammatory Diseases	HSCSP	Consol Benaiges Martínez	Cándido Juárez Rubio	Teixit adipós epicàrdic i senyalització a través dels receptors toll like (TLR): Paper en la patofisiologia de l'aterosclerosi	Universitat Autònoma de Barcelona
Nuclear Medicine	HSCSP	M. del Valle Camacho Martí	Montserrat Estorch Cabrera	Utilidad de la gammagrafía de innervación miocárdica con 123I-MIBG en el diagnóstico clínico de la demencia de cuerpos de Levy	Universitat Autònoma de Barcelona
Generation of Advanced Therapy Medicines	BST	Marta Caminal-Bobet	Joaquim Vives, Francesc Gòdia	Tissue engineering for bone regeneration: in vitro development and in vivo testing in sheep	Universitat Autònoma de Barcelona
Multi-organ Damage	HSCSP	Iván Castellví Barranco	Carmen Pilar Simeon Aznar, Héctor Corominas Macías, Jordi Casademont Pou	Utilidad de los antagonistas de los receptores de la endotelina para prevención primaria de hipertensión pulmonar en pacientes afectados de esclerosis sistémica	Universitat Autònoma de Barcelona
Clinical Epidemiolgy and Healthcare Services	HSCSP	Evelina Chapman Heller	Xavier Bonfill Cosp	Análisis y generación de evidencias científicas en relación a la salud materna	Universitat Autònoma de Barcelona
Transport and Health: Injuries and Mobility	ICCC	Eva Cirera	Catherine Pérez	Evolució de les lesions en la gent gran. Espanya 2000-2010	Universitat Pompeu Fabra
Palliative Care	HSCSP	Nadia Collette	Pilar Barreto Martin	Art therapy for terminal patients	Universidad de Valencia

IIB Sant Pau Accredited Groups	Institution	Candidate	Director(s)	Thesis title	Defended at
Health Inequalities	ASPB	Marco Antonio Cornejo	Glòria Pérez, Carme Borrell	Salud bucal y su atención en las personas mayores institucionalizadas de Barcelona y el impacto en su calidad de vida	Universitat Pompeu Fabra
Multi-organ Damage	HSCSP	César Díaz Torné	César Díaz López, Sílvia Vidal Alcorisa, Jordi Casademont Pou	Avenços clínics i immunològics en la resposta al tractament amb teràpia deplectora de limfòcits B (Rituximab) en pacients amb artritis reumatoide	Universitat Autònoma de Barcelona
Angiology, Vascular Biology and Inflammation	HSCSP	Jaime Félix Dilmé Muñoz	Luis Vila Navarro, Secundino Llagostera Pujol, Xavier Rius i Cornadó	Estudio la influencia de los factores de riesgo cardiovascular en los niveles locales de factores angiogénicos en el aneurisma de aorta abdominal	Universitat Autònoma de Barcelona
Clinical Psychiatry	HSCSP	Albert Feliu Soler	Xavier Borrás, Joaquim Soler	Caracterización del Trastorno Límite de la Personalidad y efectos del entrenamiento en mindfulness	Universitat Autònoma de Barcelona
General and Digestive Surgery	HSCSP	Sonia Fernández Ananin	Eduard Targarona	Abordage laparoscòpic en el càncer de recto. Factores predictivos de la calidad del mesorrecto	Universitat Autònoma de Barcelona
Chronic Respiratory Diseases	HSCSP	Ana M. Fortuna Gutiérrez	Pere Casan Clará, Mercedes Mayos Pérez	Utilidad de la medición de óxido nítrico en aire espirado en la patología respiratoria	Universitat Autònoma de Barcelona
Oncology/Haematology and Transplantation / Haematological Diagnosis	HSCSP	Montserrat Hoyos Colell	Jordi Sierra Gil, Josep Francesc Nomdedéu Guinot	Impacto de las alteraciones moleculares en el pronóstico de la Leucemia Mieloide Aguda (LMA) "de novo"	Universitat Autònoma de Barcelona
Neuromuscular Diseases	HSCSP	Eugenia Martínez Hernández	Isabel Illa Sendra	Biomarcadores en el diagnóstico y tratamiento de la miastenia	Universitat Autònoma de Barcelona
Health Inequalities	ASPB	Roshanak Mehdipanah	Carme Borrell	Urban Renewal and Health: The effects of the Neighbourhoods Law on health and health inequalities in Barcelona*	Universitat Pompeu Fabra
Pharmacokinetic/ Pharmacodynamic Modelling and Simulation / Pharmacy	HSCSP	Maria Rita Moreira da Silva	Maria Antonia Manges, Marta Valle	Análisis farmacocinético poblacional de vancomicina en neonatos: diseño de una nueva estrategia de dosificación	Universitat Autònoma de Barcelona
Oncogenesis and Antitumour Drugs	HSCSP	María José Moreno Jiménez	Ramon Manges, Isolda Casanova	Desenvolupament de models animals de limfoma difús de cèl·lula gran i paper de CXCR4 en la disseminació	Universitat de Barcelona
Nuclear Medicine	HSCSP	Paloma Pifarré Montaner	Alejandro Fernández	Técnica de relajación vs fármaco de síntesis en el tratamiento de la ansiedad del paciente oncológico: estudio del metabolismo cerebral mediante PET con FDG	Universitat Autònoma de Barcelona
Clinical Epidemiology and Healthcare Services	HSCSP	Salvador Rico Amaro	Ignasi Gich Saladich	Pharmacological characterization of unconventional heparins	Universitat Autònoma de Barcelona
Clinical Psychiatry	HSCSP	Irene Cristina Romera Fernández	Víctor Pérez, Inmaculada Gilaberte	Remisión y funcionalidad en el trastorno depresivo mayor	Universitat Autònoma de Barcelona
Oncology/Haematology and Transplantation	HSCSP	Isabel Sánchez-Ortega	Jordi Sierra Gil, Rafael F. Duarte Palomino	Avances en la profilaxis antifúngica primaria en la fase precoz del trasplante alogénico	Universitat Autònoma de Barcelona
Clinical Epidemiology and Healthcare Services	HSCSP	Judit Sanz i Buxó	M. Teresa Puig Reixach	Estudi epidemiològic, genètic i clínic del registre de famílies amb càncer de mama i ovari hereditaris de l'Hospital de la Santa Creu i Sant Pau (1995-2005)	Universitat Autònoma de Barcelona

*European theseq,

IIB Sant Pau Accredited Groups	Institution	Candidate	Director(s)	Thesis title	Defended at
Genetic Diseases / Clinical Oncology	HSCSP	Ana Sebio García	Montserrat Baiget, Agustí Barnadas	Estudios farmacogenéticos en el cáncer colorrectal: la vía del receptor del factor de crecimiento epidérmico*	Universitat Autònoma de Barcelona
Clinical Epidemiology and Healthcare Services	HSCSP	Pamela Serón Silva	Xavier Bonfill Cosp	Actividad física y ejercicio en la enfermedad cardiovascular	Universitat Autònoma de Barcelona
Molecular Pathology and Therapeutic of Ischaemic and Atherothrombotic Diseases / Biomarkers for Disease Status	ICCC	Rosa Suades Soler	Lina Badimon, Teresa Padró	Role of microparticles in atherothrombosis	Universitat Pompeu Fabra
Oncology/Haematology and Transplantation	HSCSP	David Valcárcel Ferreira	Jordi Sierra Gil, Rodrigo Martino Bofarull	Transplante de progenitores hematopoyéticos con acondicionamiento de intensidad reducida: aplicabilidad en leucemia mieloide aguda y síndromes mielodisplásicos	Universitat Autònoma de Barcelona
Endocrinology, Diabetes and Nutrition	HSCSP	Irene Vinagre Torres	Alberto de Leiva, Antonio Pérez	Biomarcadores de la inflamación en la diabetes mellitus tipo 2: efecto del control glucémico y del fenotipo de las LDL	Universitat Autònoma de Barcelona
Inflammatory Diseases	HSCSP	Carlos Zamora Atenza	Silvia Vidal Alcorisa	Anàlisi de l'expressió del receptor scavenger CD36 en els leucòcits: conseqüències funcionals en la inflamació	Universitat Autònoma de Barcelona

* *European theseq*,

Patents

IIB Sant Pau Group	Researchers	Organizations	Title	Application Number	Year
Reproductive Health	Dr. Ramon Rovira	HSCSP RI	Procedimiento y dispositivo para el aprendizaje y entrenamiento de operaciones de cirugía laparoscópica e intervenciones similares	P201331528	2013
Lipids and Cardiovascular Pathology / Molecular and Therapeutic Pathologies of Ischaemic and Atherothrombotic Diseases	Vicenta Llorente-Cortés, Lina Badimon	CSIC-ICCC	LRP1 as a key receptor for cholesteryl ester transfer from very low density lipoproteins to ischaemic myocardium	PCT/ES2012/070483	2011
Oncogenesis and Antitumour Drugs	Ramon Mangues, Isolda Casanova, Ma Virtudes Céspedes, Esther Vazquez, Ugutz Unzueta, Neus Ferrer, Antonio P Villaverde	HSCSP RI, UAB, CIBERBBN	Methods and reagents for efficient and targeted delivery of therapeutic molecules to CXCR4 cells	PCT/EP2012/050513	2011
Nephrology	Jordi Bover	Puigvert Foundation, Biomedical Reserach Foundation of the Hospital General Universitario Gregorio Marañón, University of Alcalá	Method for diagnosing kidney failure	ES 2397461	2011
Andrology	Lluís Bassas	Puigvert Foundation, IDIBELL	In vitro method for predicting semen fecundity	EP 2532757	2011
Molecular and Therapeutic Pathologies of Ischaemic and Atherothrombotic Diseases, Biomarkers for Disease Status	Lina Badimon, Judit Cubedo, Teresa Padró	CSIC-ICCC	APO J isoforms as biomarkers of tissue lesions	ES 2364169	2010
Regulation of Cardiac Rhythm and Contraction	Raúl Benítez, Enrique Álvarez, Leif Hove	CSIC-ICCC, UPC	Method for detecting local intracellular calcium release events	PCT/ES2010/000102	2009
Oncogenesis and Antitumour Drugs	Ramon Mangues, Isolda Casanova, Fernando Palomera, Mercedes Álvarez, Savina Svetlana	HSCSP RI, Fundació Bosch i Gimpera Foundation	Antitumour 1,2-diphenylpyrrole compounds and their preparation	PCT/EP2010/060983	2009

Technology Transfer Agreements

IIB Sant Pau Group	Organizations	Company	Application Number	Year
Clinical and Translational Cardiology	HSCSP RI, Genetrix	Transactel Therapeutics	PCT/ES2008/000543	2012
Clinical Oncology	University of Valencia, USC, ICN	Nanotargets	PCT/EP2009/067136	2011
Oncogenesis and Antitumour Drug	HSCSP RI, Bosch i Gimpera Foundation	Argon Pharma	PCT/EP2010/060983	2009

Clinical Guidelines

PUBMED

Panel de Expertos del Grupo de Estudio de Sida (GESIDA), Sociedad Española de Enfermedades Infecciosas y Microbiología Clínica (SEIMC), Sociedad Española de Nefrología (SEN), Sociedad Española de Bioquímica Clínica y Patología Molecular (SEQC), Gorris J.L., Gutiérrez F., Trullàs J.C., Arazo P., Arribas J.R., Barril G., Cervero M., Cofán F., Domingo P., Estrada V., Fulladosa X., Galindo M.J., Gràcia S., Iribarren J.A., Knobel H., López-Aldegue J., Lozano F., Martínez-Castelao A., Martínez E., Mazuecos M.A., Miralles C., Montañés R., Negredo E., Palacios R., Pérez-Elías M.J., Portilla J., Praga M., Quereda C., Rivero A., Santamaría J.M., Sanz J., Sanz J., Miró J.M. [Executive summary of the recommendations on the evaluation and management of renal disease in human immunodeficiency virus-infected patients]. *ENFERM INFECC MICROBIOL CLIN*. 2014 Nov;32(9):583-97. doi: 10.1016/j.eimc.2014.09.002. Epub 2014 Oct 7. Spanish. PubMed PMID: 25303781.

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Research Support Services

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

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 IIB Sant Pau.

IIB Sant Pau has 14 services:

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

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 and technical assessment and advise on the most appropriate methods to prepare samples and to plan optimal work flows for each objective.

IIB Sant Pau has 5 platforms:

- Genomics and Transcriptomics Platform
- Functional and Cellular Analysis Platform
- Microscopy and Immunohistochemistry Platform
- Innovation Platform i2Health Sant Pau
- Biobank

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



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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.
- > Store the supplies until the end of the studies, when they are destroyed or recycled.
- > Oversee and manage documentation of completed trials for the Centre for Drug Research (CIM)
- > Maintain and update the clinical workstation database and manage clinical studies.
- > Manage restricted access by clinical trial monitors to the clinical workstation.
- > Supervise data processing and management.
- > Coordinate researchers and monitors; draw up 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.
- > Ship biological samples to central laboratory services.

Facilities:

Several areas have been designated to implement these functions:

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

Research Support Services



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Human Resources Unit

Rafael Fernández

General Secretariat

Rosa M. García
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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: fulfil obligations imposed by government 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.



Coordinator:

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Staff:

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Eva Rodríguez
Amanda García
Marta Lorente

Research Institute Projects Unit

Functions:

- > Search of public and private funding, broadcast, assessment and review for the success of the application submission, send applications, register and monitoring until its resolution.
- > Registration of granted projects, economic monitoring of both national and international projects and agreements, costs validation (concept/balance), preparing annual and final reports, manage incidences, interlocutor with official entities.
- > Activity reports: scientific report, Board, Direction and others.
- > Internal and external audits from different financial entities.
- > Researchers: meetings for starting and managing projects.
- > Interaction with different transversal areas to implement the regulations of the calls.


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Quality and Information Systems Unit

Functions:
> General:

- Support management with strategic projects (accreditation, CERCA evaluation, biobank legalization, evaluation of research groups, etc).
- Manage IIB Sant Pau research groups: creation, dissolution and changes in composition.
- Manage new laboratory works performed under the contingency plan.
- Implement the functional plan for the new research building.
- Support management of the IIB Sant Pau Internal Scientific Committee, External Scientific Committee, Executive Committee and Delegate Committee.
- Implement policies for the dissemination of research among the general public and especially among secondary pupils and health science university students.
- Manage the HSCSP Research Institute Biosafety Committee.
- Participate in the Animal Experimentation Ethics Committee.
- Participate in the UCICEC Sant Pau Technical Committee.
- Represent the HSCSP Research Institute before external organizations.

> Quality:

- Implement policies to improve quality under GLP, GCP, GMP and ISO 9001 standards.

- Lead the quality assurance programme at CIM Sant Pau and in clinical trials where the HSCSP Research Institute acts as sponsor.
- Oversee auditing for protocols, databases, experimental phases, facilities, processes and final reports for clinical trials.
- Oversee supplier audits.
- Monitor non-conformity in internal and external audits.
- Draw up own SOPs and provide support for SOPs preparation by other units.
- Establish mechanisms to assess quality and good scientific practices in IIB Sant Pau.

> Information systems:

- Design mechanisms and implement tools for the collection and organization of data and information to feed decision making.
- Manage and transform information and data to contribute to the fulfillment of objectives and strategies.
- Respond to external requests for data and information (statistical surveys, SIRECS, etc).
- Implement policies to improve information systems.
- Develop new indicators of use for the institution.
- Update research group staff details on the intranet.

Research Support Services



Coordinator:
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Supervisor in charge:
Josep Julve
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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 and its staff supervise compliance with the corresponding laws, guidelines and regulations.
- > Services include support for:
 - In vitro labelling of proteins, lipoproteins and liposomes.
 - Cellular proliferation and toxicity.
 - Nucleic acid labelling.
 - Immunoassay techniques.
 - Determination of enzymatic activities using radiolabelled 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 cabinets for gas extraction.
- > 1 vertical laminar air flow cabinet for cell cultures.
- > 1 CO₂ incubator for cell cultures.



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Coordinators:
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Staff:
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Jorge Pena

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 correlation 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 complies with current regulations and is scientifically, technically and ethically viable).

Equipment:

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


Coordinator:

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Staff:

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Sonia Coma
M. Ángeles Funes
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Ana Gomis
Mireia González
David Martínez
Joan Martínez
Maribel Martínez
Pura Martínez
Esteve Mercader
Sara Mora
Montserrat Punes

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 GCP 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.
- > Archives.

Management, administration and data processing:

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

Communications Coordination Team

Functions:

- > Coordinate IIB Sant Pau communications.
- > Prepare IIB Sant Pau annual reports and other communication materials.
- > Provide an effective news distribution 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:

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Staff:

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Nadia Llaveró
Pablo Bros
Enrique Peña

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

Functions:

It provides comprehensive support to researchers in the development of independent research projects (not sponsored by the pharmaceutical industry) on the methodological, regulatory, administrative, economic and practical aspects, subject to compliance with the ethical, good clinical practice and legislation.

UCICEC Sant Pau is part of the Spanish Clinical Research Network (SCReN), a functional organization network to support the conduction of multi-center clinical trials.

Knowledge management:

- > One-stop information for independent research group projects.
- > Comprehensive assessment and project coordination.
- > Point of communication between researchers and technical units.
- > Pharmacovigilance activities for trials including drugs or medical devices.
- > Knowledge management:
 - Study of dimensionality and feasibility of projects.
 - Identification of each project needs.
 - Advice on the preparation of documentation: protocol, annexes, monitoring report, final report.
 - Advice on the submission of documentation to Spanish Agency for Medicines and Medical Devices (AEMPS), Clinical Research Ethics Committee (CEIC), Autonomous Communities (CCAA) and other relevant authorities.
 - Advice on project registration in public databases.
 - Identification of spinoff projects.
 - Advice on the presentation of research results.

Methodological and statistical support unit:

- > Advice on study design.
- > Data entry.
- > Data processing.
- > Development of statistical reports.
- > Electronic CRFs validation and management.
- > Documentation and reports.

Documentation, archiving, monitoring and follow-up unit:

- > Support in document creation: EudraCT form and annexes / application forms / evaluation forms follow form.
- > Support in the processing of initial applications, clarifications and amendments: AEMPS, CEIC, other health authorities regarding clinical trials, and other post-authorization studies.
- > Comprehensive monitoring of clinical trials and observational studies.
- > Management of initial, follow-up and final reports.
- > Development and file custody promoter (Master File), file preparation investigator.
- > Other communications to CEIC, autonomous communities and competent authorities.

Unit of management and financial management:

- > Management of clinical trials contracts with participating centers.
- > Management of collaboration agreements with laboratories / companies for funding.
- > Management of clinical trial-related contracts (CRO's, E-CRDs, statistics, etc.).
- > Management of clinical trial-related client and supplier invoices.
- > Management of clinical trial insurance policies.
- > Preparation of financial reports for the submission of studies to ethics committees.
- > Management of payment of fees to the competent authorities.



Coordinator:
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Staff:
Animal welfare advisor:
M. Antonia Rubio

Veterinary surgeon:
Eder Fredy Mateus

Animal care workers:
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 deliver them to users once quarantine and health requirements are met.
- > House and maintain experimental animals while ensuring their welfare.
- > Regularly check rodent health status.
- > Perform twice-yearly health checks.
- > Clean and sterilize of materials and maintain the pathogen-free area.
- > Feed animals according to experimental protocols.
- > Provide support for animal surgery, anaesthesia and euthanasia.
- > Supply laboratory materials 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.
- > 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:

Conventional Animal Facility:

- > Mice rooms (2), total capacity 2400.
- > Rat room, capacity 200.
- > Quarantine room.
- > Washroom.
- > Clean-storage room.
- > Standard storeroom.
- > Surgery room.
- > CO2 euthanasia equipment.
- > Treatment room.
- > Office.
- > Shower.
- > WC.

Pathogen-free area:

- > Pre-changing room.
- > Changing room.
- > Air shower.
- > Work room.
- > Mice room and changing area.
- > S.A.S.
- > Autoclave and washing area.
- > storage room.

Research Support Services



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Xavier León
Jordi Mancebo
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M. Virtudes Pacheco

Transfer and Innovation Unit

Functions:

- > Facilitate collaboration between institute's research groups and industry.
- > Support to public and private funding of technology development projects.
- > Support the submission of European projects.
- > Analysis of the business viability of technological projects.
- > Intellectual Property protection.
- > Technology Transfer.
- > Support the creation of spin-offs and start-ups.
- > Legal support to agreements with third parties.

Clinical Research Ethics Committee

The Ethics Committee for Clinical Research (CEIC) of the HSCSP 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, protection by reviewing the protocol, the suitability of the researchers, 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 or biological samples.
- > Evaluate the relevant amendments in projects approved by the CEIC.
- > Monitor of clinical drug trials and clinical research with medical devices.

**Coordinator:**

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Administrative Staff:

Marisol Mogollón
Albert Querol
Romy Rodríguez

Clinical Research Ethics Committee Secretariat

The Clinical Research Ethics Committee is an independent agency whose mission is to protect the rights, safety and wellbeing of persons participating in 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 SOPs 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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Coordinator:
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Technical Staff:
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Transcriptomics Laboratory:
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Genomics and Transcriptomics Platform

> GENOMICS LABORATORY

Functions:

- > Next-generation sequencing: full transcriptome genotyping, RNA-Seq, Ampli-Seq, ChIP-Seq, amplicon sequencing and sequencing and identification of microorganisms.
- > Sanger sequencing: mutational analysis, microorganism identification and validation of cell lines.
- > Analysis of fragments: microsatellite instability, loss of heterozygosity studies in pathological conditions, mutation detection and genotyping, quantification of gene copy numbers, methylation studies and studies of polymorphisms associated with disease states.

Equipment:

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

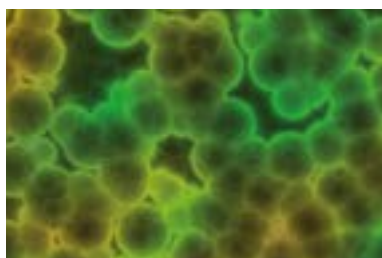
> TRANSCRIPTOMICS LABORATORY

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 7900HT (384-well plates and TLDA).
- > Bioanalyzer 2100
- > Nanodrop 2000.



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Coordinator:

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Technical Staff:

Flow Cytometry Laboratory:

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Cell Culture Laboratory:

Rosa Antón
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Functional and Cellular Analysis Platform

> FLOW CYTOMETRY LABORATORY

Functions:

- > Conventional cytometry 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 and relative and absolute presence.
- Production of mediators.
- Detection of minority populations.
- > Cell sorter:
 - Separation of cell populations in sterile conditions.

Equipment:

- > FACSCalibur (BD) conventional flow cytometry.
- > MACSQuant (Mileny Biotech) conventional flow cytometry.
- > FACSria (BD) flow cytometry cell sorter.

> CELL CULTURE LABORATORY

Functions:

- > To make adequate facilities and equipment available to researchers working with cell cultures in a BSL2 laboratory.

Equipment:

- > 3 CO₂ incubators.
- > 2 hypoxia incubators (2-21% O₂).
- > 2 IIA biosafety cabinets (BSL2).
- > 2 hypoxia cabinets (BSL1).
- > Culture baths.
- > Olympus inverted microscope with high-resolution colour camera.
- > Refrigerated centrifuge.
- > Fridge 4°C and freezer -20°C.
- > Thermo-desinfector and autoclave.

Scientific and Technical Service Platforms



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Coordinators:
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Microscopy and Immunohistochemistry Platform

> IMMUNOHISTOCHEMISTRY LABORATORY

Functions:

- > Tissue processing.
- > Paraffin and OCT-block preparation.
- > Block cutting with microtome/cryostat.
- > Automatic immunostaining (simple and dual).
- > Staining (Giemsa, haematoxylin-eosin, trichromic, PAS, Oil Red, etc).
- > Preparation of tissue arrays.
- > Image acquisition and analysis using high-resolution colour microscopy and specialist software.

Equipment:

- > Tissue processor (Sakura).
- > Paraffin bath (Sakura).
- > Microtome (Microm).
- > Cryostat (Leica).
- > Immune autostainer AS48 (Dako).
- > Autostainer (Sakura).
- > Semiautomatic tissue arrayer.

> 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) in live and fixed cells.

Equipment:

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

Innovation Platform i2Health Sant Pau

Functions:

- > Promote the development of the information and communication technologies in the health sector.
- > Support researchers and healthcare 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.





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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 collaboration projects by putting investigators in touch and making biological human sample cession possible.
- > Supply (non-profit) human biological samples to research groups, in accordance with legal regulations.
- > Obtain, process and store human biological samples in accordance with international standards, maintaining sample traceability and security in accordance with legal requirements.
- > Provide training in legal and ethical regulations governing biological human sample management.

Grants:

- > HSCSP Research Institute. Biobank Network 2009. Amount: €138,000.



Coordinator:

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Technical Staff:

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. Innovation Network 2009. Amount: €123,414.
- > Kulisevsky, J. Expert system integrating teleassistance and medicine to prevent dependence and promote autonomy of the elderly in the home environment. E-HEALTH Platform for Healthy Ageing. Plan Avanza. Amount: €60,848.55.

Areas of Research

46



Area 1
Cardiovascular Diseases

78



Area 2
Genetic, Metabolic and
Inflammatory Diseases

116



Area 3
Haematological and
Oncological Diseases

138



Area 4
Neurological,
Mental Disorders and Ageing

180



Area 5
Uronephrology
and Experimental Surgery

194



Area T1

Epidemiology, Public Health
and Healthcare Services

220



Area T2

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

230



Associated Groups

AREA 1

Cardiovascular Disease

- 48 Clinical and Translational Cardiology
- 54 Thrombosis and Haemostasis
- 56 Cardiovascular Biochemistry
- 60 Angiology, Vascular Biology and Inflammation
- 62 Molecular Pathology and Therapeutics of Ischaemic and Atherothrombotic Diseases
- 66 Inflammation and Vascular Remodelling
- 68 Biomarkers for Cardiovascular Disease
- 70 Atherosclerosis and Vascular Biology
- 72 Regulation of Cardiac Rhythm and Contraction
- 74 Lipids and Cardiovascular Pathology

eases



Clinical and Translational Cardiology

Coordinator

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Members

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Beatriz Vaquerizo HSCSP
Montserrat Vila HSCSP
David Vilades HSCSP
Xavier Viñolas HSCSP
Miquel Vives HSCSP RI



Main Lines
of Research

- ▶ Electrophysiology and arrhythmias clinical and experimental.
- ▶ Heart failure.
- ▶ Ischemic heart disease.
- ▶ Valvular heart disease.
- ▶ Cardiac imaging.
- ▶ Percutaneous valve repair.

Challenges

Electrophysiology

- ▶ Describe the mechanisms and clinical significance of the electrocardiographic alterations in patients with acute myocardial infarction, using translational research in pig heart models.
- ▶ Characterize the ECG patterns and prognosis in patients with left circumflex coronary occlusion.
- ▶ Describe the behaviour of myocardial electrical impedance in normal and acute ischemic models using new bioimpedance methods developed in our laboratory.

Heart failure

- ▶ Develop new risk scores for ambulatory heart failure patients predicting death and re-hospitalizations.
- ▶ Research on new biomarkers in patients with heart failure included in the Spanish registry Redinscor II (RIC) (1500 patients). Our group is the national coordinator.
- ▶ Develop new markers for early detection of cardiac graft rejection in transplanted patients.
- ▶ Develop palliative care programs for patients with advanced heart failure.

Ischaemic heart disease

- ▶ Settle a Program for patients with refractory angina.
- ▶ Treat complex atherosclerotic coronary artery lesions using international techniques.

Valvular heart disease

- ▶ Implement new percutaneous techniques for the treatment of mitral valve regeneration and degenerative aortic stenosis.
- ▶ Implement devices for the treatment of prosthetic valve leak.

Cardiac imaging

- ▶ Implement new imaging software analysis to detect structural abnormalities of the myocardium (fibrosis, necrosis).
- ▶ Implement new software analysis for fusion imaging in patients submitted to coronary interventions.
- ▶ Implement new percutaneous techniques for the treatment of mitral regurgitation in patients with heart failure or myocardial infarction.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Vicenta Llorente-Cortés, ICC - CSIC.
- ▶ Leif Hove Madsen, ICC - CSIC.
- ▶ Jordi Ordóñez Llanos, HSCSP - Biochemistry Laboratory.
- ▶ Antoni Capdevila, HSCSP - Radiodiagnostics.
- ▶ María Poca Sans, HSCSP - Digestive Disorders.
- ▶ Enric Álvarez, HSCSP - Anaesthesiology.
- ▶ Ricard Serra, HSCSP - Psychiatry.

External Collaborations

Juan Cinca Cusculola (HSCSP), Programme 6: Clinical and Translational Cardiology, RD12/0042-RIC (Cardiovascular Research Network):

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- ▶ Fernando Worner Diz. Hospital Universitari Arnau de Vilanova (Lleida)
- ▶ Andrés Grau Sepúlveda. Hospital Son Dureta (Palma de Mallorca)
- ▶ Xavier Rosell Ferrer. Universitat Politècnica Catalunya – UPC (Barcelona)
- ▶ Rafael Vázquez García. Hospital Universitario Virgen de Valme (Sevilla) / Hospital Puerta del Mar (Cádiz)
- ▶ Joaquín Lucena Romero. Instituto de Medicina Legal (Sevilla)
- ▶ José M. Cubero Gómez. Hospital Virgen del Rocío (Sevilla)
- ▶ Antonio Fernández Romero. CHARE Utrera SAS (Sevilla)
- ▶ Josep Brugada Terradellas. Hospital Clínic (Barcelona)
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- ▶ Juan Francisco Delgado Jiménez. Hospital 12 de Octubre (Madrid)
- ▶ Jose Luis Zamorano. Hospital Ramón y Cajal (Madrid)

- ▶ Mariano Valdés Chavarri. Hospital Universitario Virgen de la Arrixaca (Murcia)
- ▶ José Ramón González. Hospital Clínico Universitario (Santiago de Compostela)
- ▶ Luis Alonso-Pulpón Rivera. Hospital Puerta del Hierro (Madrid)
- ▶ Covadonga García González. Hospital Guadarrama (Madrid)
- ▶ José Miguel Rivera. Hospital La Fe (Valencia)
- ▶ Alfonso Castro Beiras. Complejo Hospitalario Universitario A Coruña
- ▶ Francisco Fernández Avilés. Hospital Gregorio Marañón (Madrid)
- ▶ Ignacio Flores Hernández. Centro Nacional de Investigaciones Cardiovasculares - CNIC (Madrid)

Antoni Serra Peñaranda TEAM:

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- ▶ Carlos Macaya Miguel. Hospital Clínico San Carlos (Madrid)
- ▶ Andrés Iníguez Romo. Complejo Hospitalario de Vigo

Xavier Viñolas Prat, RETAC Group - European Network for the Treatment of Arrhythmias in Cardiology:

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- ▶ Benoît Guy-Moyat. Hospital Universitaire de Limoges (France)
- ▶ Franck Halimi. C.M.C. Parly II (Le Chesnay)
- ▶ Luc de Roy. Clinique Universitaire de Saint Godinne (Yvoir-Belgium)
- ▶ Serge Boveda. Clinique Pasteur (Toulouse)
- ▶ Julio Martí. Hospital del Mar (Barcelona)
- ▶ Pascal Defaye. Hospital Universitaire de Grenoble
- ▶ Antonio Curnis. Spedali Civili (Brescia-Italy)
- ▶ Marc Zimmermann. Hôpital de la Tour (Geneve-Switzerland)
- ▶ Thomas Arentz. Herzzentrum Brad Krozingen (Germany)

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- ▶ Juan Cinca Cusculola. Caracterització electrofisiològica i metabòlica de la repolarització cardíaca en el cor humà aïllat. MAR-ATÓ TV3 2008 Malalties cardiovasculars. 08/0630. Duration: 26/03/09-31/01/14. €130,480.
- ▶ José María Guerra Ramos. Estudio comparativo de los efectos electromecánicos de la estimulación biventricular epicárdica y endocárdica del ventrículo izquierdo en un modelo animal de insuficiencia cardíaca. FIS Project 2010. PI10/01149. Duration: 01/01/11-30/04/14. €152,150.
- ▶ Juan Cinca Cusculola. Desarrollo preclínico de una nueva técnica para guiar la ablación eléctrica de las arritmias ventriculares en pacientes con infarto crónico mediante bioimpedancia. Proyectos

de Investigación en Salud 2013. PI13/00765. Duration: 01/01/14-31/12/16. €140,250.

- ▶ Juan Cinca Cusculola. REDINSCOR. Grupo HSCSP. Retics 2006. RD06/0003/0000. Duration: 01/01/07-31/12/14. €910,209.89.
- ▶ Juan Cinca Cusculola. REDINSCOR. Grupo HSCSP. Retics 2006. RD06/0003. Duration: 01/01/07-31/12/14. €511,230.

Note: Total amount granted to PI. It does not include indirect costs.

Clinical and Translational Cardiology

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Thrombosis and Haemostasis

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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. VEREMA project.
- ▶ Applied clinical development of the self-management model of oral anticoagulant treatment.
- ▶ Mathematical models of prediction of the individual risk of thromboembolic disease. RETROVE and PAN projects.
- ▶ CITA project. Centre for Antithrombotic Therapy Management. Research into a new ambulatory management model for patients receiving any kind of antithrombotic therapy (anti vitamin-K, new oral anticoagulants, low molecular weight heparins, antiplatelets) by incorporating new educational programmes, specialized nursing and new communication technologies.

Challenges

- ▶ Study QTL detected in GAIT-1 families in relation to phenotypes of haemostasis with thrombosis risk (resistance to activated protein C, factor VIII, homocysteine, factor XII, body mass index and others).
- ▶ Replicate QTL related to thrombosis in GAIT-1 families by means of the linkage analysis using new GAIT-2 families.
- ▶ Conduct genome-wide association study (GWAS) of phenotypes involved in GAIT-1.
- ▶ GWAS of phenotypes included in GAIT-2.
- ▶ Analyse RNA expression in the GAIT-2 families.
- ▶ Investigate miRNA associated with thromboembolic disease in GAIT-2.
- ▶ Complete recruitment for the RETROVE project.
- ▶ Recruit team for the MIRTO project (Modelling Individual Risk of Thrombosis in Oncology), with the goal of establishing an individual risk score for venous thromboembolism (RETROVO sub-project) and for ischaemic stroke (SINO subproject) in patients with cancer.
- ▶ Research plasma proteins associated with the risk of venous thromboembolism by using high affinity proteomics developed at Karolinska Institutet. VEREMA project, joint collaboration between the European case-control studies VEBIOS (Sweden), RETROVE (from our unit) and MARTHA (France).
- ▶ Continue collaboration with the RCV Spanish cardiovascular patient network and with other European groups, mainly with the goal of applying GAIT project findings to cohorts of patients with venous and arterial thrombosis in Spain and other European countries.
- ▶ Evaluate the effectiveness of an educational programme for patients taking antiplatelet therapy (aspirin and/or clopidogrel) in reducing severe complications: EDUCANT clinical trial.

Collaborations	Collaborations with other IIB Sant Pau Groups ▶ Genomics of Complex Diseases (GAIT1, GAIT 2, RETROVE, VEREMA and MIRTO design). ▶ Stroke Unit (HERO, EDUCANT and MIRTO design). ▶ Clinical and Translational Cardiology (EDUCANT). ▶ Vascular Surgery (EDUCANT). ▶ Medical Oncology (MIRTO design). ▶ Clinical Haematology (MIRTO design). ▶ Digestive Diseases (HEPACO).	External Collaborations ▶ Cardiovascular Research Network (RIC). ▶ Karolinska Institutet, Stockholm, Sweden: GAIT2 and VEREMA. ▶ La Timone Hospital, Marseilles, France: GAIT2 and VEREMA. ▶ Pierre and Marie Curie University, INSERM, UMR-S 1166, Paris, France: GAIT2 and VEREMA. ▶ Université de Genève, Switzerland: GAIT2. ▶ Texas Research Institute (formerly Southwest Foundation for Biomedical Research), San Antonio, USA: GAIT1 and GAIT2. ▶ Universitat Politècnica de Catalunya, Barcelona, Spain. Centre for Biomedical Engineering Research: RETROVE and MIRTO design. ▶ Thrombosis Group of the Spanish Medical Oncology Society (SEOM): ONCOTROMB and MIRTO.
Active Grants	▶ Jordi Fontcuberta Boj. Ajuts de suport als Grups de Recerca de Catalunya. Grup Trombosi i Hemostàsia. AGAUR 2009. SGR 1147. Duration: 29/09/09-30/04/14. €43,680. ▶ Jordi Fontcuberta Boj. RECAVA. Retics 2006. RD06/0014/0016. Duration: 01/01/07-31/12/14. €761,461.33. ▶ Juan Carlos Souto Andrés. Búsqueda de un algoritmo aplicable en la clínica para definir el perfil individual de Riesgo de En-	fermedad TROMboembólica Venosa (RETROVE). Proyectos de Investigación en Salud 2012. PI12/00612. Duration: 01/01/13-31/12/15. €51,500. ▶ Juan Carlos Souto Andrés. Red Cardiovascular. Redes Temáticas de Investigación Cooperativa en Salud 2012. RD12/0042/0032. Duration: 01/01/13-31/12/16. €44,000. Note: Total amount granted to PI. It does not include indirect costs.
*TIF: 16.4490 **MIF: 3.2898		
Scientific Production	Cegarra-Sanmartin V., Gonzalez-Rodriguez R., Paniagua-Iglesias P., Santamaria-Ortiz A., Cueva L.F., Galan-Serrano J., Victoria Moral-Garcia M., Fondaparinux as a safe alternative for managing heparin-induced thrombocytopenia in postoperative cardiac surgery patients. (2014) J CARDIOTHOR VASC AN, 28 (4), 1020-1024. IF: 1.4630 Lopez S., Buil A., Souto J.C., Casademont J., Martinez-Perez A., Almasy L., Soria J.M., A genome-wide association study in the genetic analysis of idiopathic thrombophilia project suggests sex-specific regulation of	mitochondrial DNA levels. (2014) MITOCHONDRION, 18 (1), 34-40. IF: 3.2490 Rico S., Antonijoan R.-M., Ballester M.R., Gutierrez I., Ayani I., Martinez-Gonzalez J., Borrell M., Fontcuberta J., Gich I., Pharmacodynamics assessment of Bemiparin after multiple prophylactic and single therapeutic doses in adult and elderly healthy volunteers and in subjects with varying degrees of renal impairment. (2014) THROMB RES, 133 (6), 1029-1038. IF: 2.4470 Soria JM, Morange PE, Vila J, Souto JC, Moyano M, Trégouët DA, Mateo J, Saut N, Salas E, Elosua R. Multilocus genetic risk scores for venous thromboembolism risk assessment. (2014) J AM HEART ASSOC, 3 (5). IF: 4.3060 Souto J.C., Pena G., Ziyatdinov A., Buil A., Lopez S., Fontcuberta J., Soria J.M., A genome-wide study of body mass index and its genetic correlation with thromboembolic risk. Results from the GAIT project. (2014) THROMB HAEMOSTASIS, 112 (5), 1036-1043. IF: 4.9840
Other Publications	▶ Vilalta N., Souto J.C., Venous thrombophilia research. Present and future. (2014) ANGIOLOGIA, 66 (4), 190-198.	

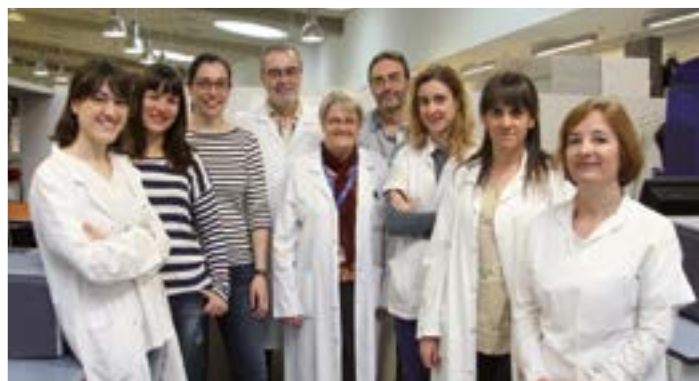
Cardiovascular Biochemistry

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Main Lines of Research

Atherosclerosis mechanisms

- ▶ Analysis of apolipoprotein J (apoJ) as a marker of CVR.
- ▶ Use of mimetic peptides derived from apoJ as therapeutic tools.
- ▶ Involvement of LDL(-) on lipid accumulation in cardiomyocytes and heart failure.

Inflammatory mechanisms induced by LDL(-) on monocytes from patients with diabetes.

- ▶ Diagnosis of chronic or acute cardiovascular diseases

- ▶ Development of algorithms for ruling-out acute coronary disease.
- ▶ Assessment of new biomarkers of acute cardiovascular disease: cardiac troponins, natriuretic peptides, ST-2.
- ▶ Development of methods for point-of-care biomarker measurement.
- ▶ Vulnerability markers in atheromatous plaque: electronegative LDL, LDL size, HDL function, myeloperoxidase, phospholipase.

Challenges

- ▶ Determine the intracellular mechanisms involved in the inflammatory response induced by LDL(-) and the components of the particle that entail atherogenicity.
- ▶ Analyse the therapeutic potential of mimetic peptides derived from apo J to delay the development of atherosclerosis in animal models.
- ▶ Demonstrate that electronegative LDL is a marker of vulnerable atheromatous plaque.
- ▶ Find new markers of cardiovascular risk in diseases such as diabetes, HIV or cardiac failure.

Active Grants

- ▶ Jordi Ordóñez Llanos. Ajuts de suport als Grups de Recerca de Catalunya. Grup Bioquímica Cardiovascular. AGAUR 2009. SGR 1205. Duration: 04/08/09-30/04/14. €46,800.
- ▶ Sonia Benítez González. Efecto de la modificación de la LDL sobre la expresión y activación de CD14, TLR4 y moléculas de adhesión en monocitos de individuos normolipémicos y diabéticos de tipo 2. Proyectos de Investigación en Salud 2012. PI12/00967. Duration: 01/01/13-31/12/15. €36,500.
- ▶ José Luis Sánchez Quesada. Implicación de la apolipoproteína J (clusterina) en la arteriosclerosis. Utilización terapéutica de péptidos miméticos con actividad chaperona. Proyectos de Investigación en Salud 2013. PI13/00364. Duration: 01/01/14-31/12/16. €85,500.
- ▶ Jordi Ordóñez Llanos. Red Cardiovascular. Redes Temáticas de Investigación Cooperativa en Salud 2012. RD12/0042/0043. Duration: 01/01/13-31/12/16. €22,250.

Note: Total amount granted to PI. It does not include indirect costs.

Collaborations with other IIB Sant Pau Groups

- ▶ Metabolic Bases of Cardiovascular Risk (Dr F. Blanco Vaca).
- ▶ Endocrinology, Diabetes and Nutrition (Dr A. Pérez).
- ▶ Angiology, Vascular Biology and Inflammation (Dr L. Vila).
- ▶ Clinical and Translational Cardiology (Dr J. Cinca).
- ▶ Lipids and Cardiovascular Pathology (Dr C. Llorente).

External Collaborations**Research into atherosclerosis mechanisms**

- ▶ Dr Petri Kovanen, Wihuri Research Institute, Helsinki, Finland.
- ▶ Dr Kati Öörni, Wihuri Research Institute, Helsinki, Finland. Pre-doctoral stay by Montserrat Estruch (4 months).
- ▶ Dr Olga Gursky, Boston University School of Medicine, Boston, USA. Post-doctoral stay by Anna Rull (6 months).
- ▶ Dr Sandra Villegas, Biochemistry and Molecular Biology Department, UAB, Barcelona, Spain (ISCIII/FIS coordinated project under PI10/00265).

Research into diagnosis

- ▶ Dr Daniel Podzamczar, HIV Unit, Infectious Disease Service, Bellvitge University Hospital, Barcelona, Spain (ATADAR, SPIRAL and BICOMBO clinical trials).
- ▶ Formation and maintenance of a bank of samples within the Cardiovascular Research Network (RIC), Programme 6 (Clinical and Translational Heart Failure).
- ▶ Cardiovascular Research Network (RIC): Dr Francisco Marín, Cardiology, Hospital Virgen de Arrixaca, Murcia, Spain, 3-month stay by Dr Juan Antonio Vilchez (during a Rio Hortega contract) in our collaborative studies laboratory.

- ▶ Dr Mariano Valdés, Hospital Virgen de Arrixaca, Murcia, Spain, 3-week stay by Dr Carmen Puche in our collaborative studies laboratory.
- ▶ Dr Laura Dos (D. Garcia-Dorado), Integrated Adult Congenital Heart Disease Unit of Vall d'Hebron University Hospital, Barcelona, Spain (Evedes study).
- ▶ Dr Domingo Pascual-Figal, Cardiology Department, Virgen de la Arrixaca University Hospital, Murcia, Spain.
- ▶ Dr Rafael Vázquez, Cardiology Service, Puerta del Mar University Hospital, Cadiz, 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 Jordi Ordóñez-Llanos, member)

- ▶ Dr Fred S. Apple, Department of Laboratory Medicine and Pathology, University of Minnesota, USA.
- ▶ Dr Paul O. Collinson, Cardiovascular and Laboratory Departments, St. George's Hospital, London, UK.
- ▶ Dr Alan S. Jaffe, Mayo Clinic, Cardiovascular Division, Rochester, New York, USA.
- ▶ Dr James L. Januzzi, Cardiology Division, Massachusetts General Hospital, Boston, USA.

Participation in multicentre studies

- ▶ MUSIC (sudden death in heart failure) Risk Score, Spanish Society of Cardiology.
- ▶ MAGGIC (meta-analysis global group in chronic heart failure), European Society of Cardiology.

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Alcantara-Aragon V., Martinez-Couselo S., Tundidor-Rengel D., Webb S.M., Carreras G., Espinos J.J., Chico A., Blanco-Vaca F., Corcoy R., Genetic analysis does not confirm non-classical congenital adrenal hyperplasia in more than a third of the women followed with this diagnosis. (2014) HORM-INT J ENDOCRINO, 13 (4), 585-587.

IF: 1.1980

Lipinski M.J., Baker N.C., Escarcega R.O., Torguson R., Chen F., Aldous S.J., Christ M., Collinson P.O., Goodacre S.W., Mair J., Inoue K., Lotze U., Sebbane M., Cristol J.-P., Freund Y., Chenevier-Gobeaux C., Meune C., Eggers K.M., Pracon R., Schreiber D.H., Wu A.H.B., Ordoez-Llanos J., Jaffe A.S., Twerenbold R., Mueller C., Waksman R., Comparison of conventional and high-sensitivity troponin in patients with chest pain: A collaborative meta-analysis. (2014) AM HEART J, 169 (1), 6-16.e6.

IF: 4.4630

Julve J., Pardina E., Perez-Cuellar M., Ferrer R., Rossell J., Baena-Fustegueras J.A., Fort J.M., Lecube A., Blanco-Vaca F., Sanchez-Quesada J.L., Peinado-Onsurbe J., Bariatric surgery in morbidly obese patients improves the atherogenic qualitative properties of the plasma lipoproteins. (2014) ATHEROSCLEROSIS, 234 (1), 200-205.

IF: 3.9940

Martin-Campos J.M., Julve J., Roig R., Martinez S., Errico T.L., Martinez-Couselo S., Escola-Gil J.C., Mendez-Gonzalez J., Blanco-Vaca F., Molecular analysis of chylomicronemia in a clinical laboratory setting: Diagnosis of 13 cases of lipoprotein lipase deficiency. (2014) CLIN CHIM ACTA, 429, 61-68.

IF: 2.8240

Mendez A.B., Cardona M., Ordonez-Llanos J., Mirabet S., Perez-Villa F., Roig E., Predictive

value of high-sensitive troponin T to rule out acute rejection after heart transplantation. (2014) REV ESP CARDIOL, 67 (9), 775-776.

IF: 3.7920

Minambres I., Sanchez-Quesada J.L., Sanchez-Hernandez J., Rodriguez J., De Leiva A., Perez A., Vitamin D concentrations in familial combined hyperlipidemia: Effects of lipid lowering treatment. (2014) DIABETOL METAB SYNDR, 6 (1).

IF: 2.1730

Saumoy M., Ordonez-Llanos J., Martinez E., Ferrer E., Domingo P., Ribera E., Negredo E., Curto J., Sanchez-Quesada J.L., Di Yacovo S., Lez-Cordon A.G., Podzamczar D., Atherogenic properties of lipoproteins in HIV patients starting atazanavir/ritonavir or darunavir/ritonavir: A substudy of the ATADAR randomized study. (2014) J ANTIMICROB CHEMOTH, 70 (4), 1130-1138.

Cardiovascular Biochemistry

*TIF: 29.9060 **MIF: 3.3229		
Scientific Production	IF: 5.3130 Vinagre I., Sanchez-Quesada J.L., Sanchez-Hernandez J., Santos D., Ordonez-Llanos J., De Leiva A., Perez A., Inflammatory biomarkers in type 2 diabetic patients: Effect of glycemic control and impact of ldl subfraction phenotype. (2014) CARDIOVASC DIABETOL, 13 (1).	IF: 4.0150 Zapata L., Betbese A.J., Roglan A., Ordonez-Llanos J., Use of B-type natriuretic peptides to detect the existence and severity of diastolic dysfunction in non-cardiac critically ill patients: A pilot study. (2014) MINERVA ANESTESIOL, 80 (2), 194-203.
	IF: 2.1340	
Other Publications	► Estruch M., Sanchez-Quesada J.L., Ordonez-Llanos J., Benitez S., Ceramide-enriched LDL induces cytokine release through TLR4 and CD14 in monocytes. Similarities with electronegative LDL. (2014) CLINICA E INVESTIGACION EN ARTERIOSCLEROSIS, 26 (3), 131-137.	

Angiology, Vascular Biology and Inflammation

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Begoña Soto



Main Lines
of Research

Cardiovascular Research

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

Cancer Research

- ▶ Role of inflammatory mediators in head and neck squamous carcinoma and in regulating gene expression in tumour relapse.

Challenges

- ▶ Increase cooperation between clinicians and experimental researchers to enhance the translation level of our research by setting up training programmes for clinical physicians.
- ▶ Increase the number of researchers with PhDs in the group.
- ▶ Increase funding sources by establishing collaborations with the industrial sector.
- ▶ Improve research quality in terms of standard evaluation indexes.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Ear, Nose and Throat Cancers (Xavier León, Jacinto Gracia and Miquel Quer).
- ▶ Genomics of Complex Diseases (José Manuel Soria, PI).
- ▶ Thrombosis and Haemostasis (Juan Carlos Souto, PI).
- ▶ Atherosclerosis and Vascular Biology (José Martínez, PI).
- ▶ Inflammation and Vascular Remodelling (Cristina Rodríguez, PI).
- ▶ General and Digestive Surgery (Eduard Targarona and Carmen Balagué).

External Collaborations

- ▶ Dr Mercedes Salices. Pharmacology Group, Universidad Autónoma de Madrid, Spain.
- ▶ Dr Juan Miguel Redondo. CNIC, Madrid, Spain.
- ▶ Dr Alicia García Arroyo. CNIC, Madrid, Spain.
- ▶ Dr Francesc-Xavier Avilés-Jurado. Otorhinolaryngology Department, Hospital Universitari de Tarragona Joan XXIII, ISPV, Universitat Rovira i Virgili, Tarragona, Spain.

Active Grants

- ▶ Luis Vila Navarro. RECAVA. Retics 2006. RD06/0014/1005. Duration: 01/01/08-31/12/14. €127,811.57.
- ▶ Luis Vila Navarro. Red Cardiovascular. Redes Temáticas de Investigación Cooperativa en Salud 2012. RD12/0042/0051. Duration: 01/01/13-31/12/16. €49,217.39.
- ▶ Luis Vila Navarro. PGE-Sintasa Microsomal-1 como diana para la generación de nuevos fármacos antiinflamatorios de interés cardiovascular: estudio en el contexto del aneurisma abdominal de aorta. MICINN SAF 2010. SAF2010-21392. Duration: 01/01/11-31/08/14. €120,000.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2014

- ▶ Luis Vila Navarro. Papel de las vías de la PGE2 y glutatión reducido/Nfr2-ARE en la hipervascularización asociada al aneurisma de aorta abdominal. Proyectos de I+D+i Retos Investigación 2013. SAF2013-46707-R. Duration: 01/01/14-31/12/16. €110,000.

Note: Total amount granted to PI. It does not include indirect costs.

Theses

- ▶ Jaime Félix Dilmé Muñoz. Estudio la influencia de los factores de riesgo cardiovascular en los niveles locales de factores angiogénicos en el aneurisma de aorta abdominal. Universitat Autònoma de Barcelona. Directors: Luis Vila Navarro, Secundino Llagostera Pujol, Xavier Rius i Cornadó. Date of defense: 31 October 2014. Awarded best thesis at the 61th Congreso de la Sociedad Española de Angiología y Cirugía Vascular.

Awards

- ▶ Camacho M, Dilmé JF, Solà-Vilà, Bellmunt S, Romero, JM, Escudero JR, Vila L. Efecto de los factores de riesgo cardiovascular en la expresión del eje COX2/mPGES-1/EP4 en pacientes de aneurisma aórtico abdominal (AAA). Special mention. XXVII Congreso Nacional SEA. Barcelona 20-21 February 2014.

*TIF: 13.2120 **MIF: 1.8874

Scientific Production

Bellmunt Montoya S., Sirvent Gonzalez M., Florit Lopez S., Dilme Munoz J., Gimenez Gaibar A., Escudero Rodriguez J.R., Study to develop a waiting list prioritization score for varicose vein surgery. (2014) ANN VASC SURG, 28 (2), 306-312.

IF: 1.1700

Bellmunt S., Alonso-Coello P., Cilostazol : Same evidence, different conclusions. (2014) CHEST, 145 (2), 435-436.

IF: 7.4830

Bellmunt S., Roque M., Osorio D., Pardo H., Escudero J.-R., Bonfill X., Healthcare quality indicators of peripheral artery disease based on systematic reviews. (2014) EUR J VASC ENDOVASC, 48 (1), 60-69.

IF: 2.4900

Dilme J.F., Bellmunt S., Camacho M., Sola-Villa D., Romero J.M., Escudero J.R., Vila L. Influence of cardiovascular risk factors on levels of matrix metalloproteinases 2 and 9 in human abdominal aortic aneurysms. (2014) EUR J VASC ENDOVASC, 48 (4), 374-381

IF: 2.4900

Dilme J.-F., Sola-Villa D., Bellmunt S., Romero J.-M., Escudero J.-R., Camacho M., Vila L., Active smoking increases microsomal PGE-synthase-1/PGE-receptor-4 axis in human abdominal aortic aneurysms. (2014) MEDIAT INFLAMM, 2014.

IF: 3.2360

Lozano Sanchez F.S., Marinell Io Roura J., Carrasco Carrasco E., Gonzalez-Porras J.R., Escudero Rodriguez J.R., Sanchez Nevarez I.,

Diaz Sanchez S., Venous leg ulcer in the context of chronic venous disease. (2014) PHLEBOLOGY, 29 (4), 220-226.

IF: 1.7740

Rivera J., van der Graaf G.B., Escudero J.R., Bellmunt S., van de Vosse F., A computational fluid dynamics study on hemodynamics for different locations of the distal anastomosis of a bypass nearby a collateral vessel in the femoropopliteal area. (2014) INT J NUMER METH BIO, 30 (11), 1263-1277.

IF: 2.0520

Other Publications

- ▶ Rodriguez-Calvo R., Guadall A., Calvayrac O., Alonso J., Ferran B., Marti I., Navarro M.T., De Diego A., Osada J., Rodriguez C., Martinez-Gonzalez J., The nuclear receptor NOR-1 regulates the activation of vascular cells and vascular remodelling in response to hemodynamic stress. (2014) CLINICA E INVESTIGACION EN ARTERIOSCLEROSIS, 26 (2), 66-75.

Molecular Pathology and Therapeutic of Ischaemic and Atherothrombotic Diseases

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Sergi Florit ICCC
Olaya García ICCC
Joaquim Gordo ICCC
Sonia Huertas ICCC
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Emil Kozarov ICCC
Sergio López ICCC
Josep Moreno ICCC
Anna Navarrete ICCC
Raquel de la Torre ICCC
Lourdes Maria Varela ICCC
Carolina Romero ICCC
Gemma Vilahur ICCC



Main Lines of Research

- ▶ Physiopathological role of LRP family proteins in chronic diseases.
- ▶ Identification and characterization of transcription factors and genetic targets. Role of lipids and inflammation.
- ▶ Vascular impact of ischaemia and angiogenesis in heart disease. Cell therapy.
- ▶ Research into new targets to inhibit the transformation of silent atherosclerosis into ischaemic syndromes: tissue-factor-mediated angiogenic switch.

Challenges

- ▶ 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 identified by post-genomic technologies and systems biology approaches.
- ▶ Maintain present scientific networks and establish new multidisciplinary collaborations.
- ▶ Increase international funding for the extension of new and established platforms in order to implement proposed activities.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Clinical and Translational Cardiology (PI: Juan Cinca).
- ▶ Biomarkers for Cardiovascular Disease (PI: Teresa Padró).
- ▶ Cerebrovascular Diseases (PI: Joan Martí Fábregas).
- ▶ Inflammation and Vascular Remodelling (PI: Cristina Rodríguez).
- ▶ Endocrinology, Diabetes and Nutrition (PI: Alberto de Leiva).
- ▶ Pharmacological Research in Humans (PI: Rosa M. Antonijoan).

National Collaborations

- ▶ Department of Internal Medicine, Hospital Clínic, Barcelona (R. Estruch).
- ▶ Department of Cardiology, Thorax Institute, Hospital Clínic, University of Barcelona (Salvatore Brugaletta, Victoria Martín-Yuste, Clarissa Cola, Manel Sabaté).
- ▶ Quirúrgica Cirujanos Asociados (Alberto Díez-Caballero).

- ▶ Department of Plastic Surgery, Centro Médico Teknon, Barcelona (Fabrizio Moscatiello, Javier Herrero).
- ▶ Centro Laparoscópico Doctor Ballesta SLU, Barcelona (Carlos Ballesta-López).
- ▶ Fundación Jiménez Díaz, Madrid (Rodrigo Alonso, Pedro Mata).
- ▶ Cell Therapy Network (TerCel), RD12/0019.
- ▶ Cardiovascular Research Network (RIC), RD12/0042.

International Collaborations

- ▶ Experimental, Diagnostic and Speciality Medicine, University of Bologna, Bologna, Italy (Raffaele Bugiardini).
- ▶ School of Healthcare Science, John Dalton Building, Manchester Metropolitan University, UK (Mark Slevin).
- ▶ Atherothrombosis Research Unit, Zena and Michael A. Wiener Cardiovascular Institute, Mount Sinai School of Medicine, New York, USA (Juan José Badimon).
- ▶ Department of Clinical Biochemistry and Immunohematology, Faculty of Health Sciences, University of Talca, Chile (Ivan Palomo).

Active Grants	▶ Lina Badimon. Safer and faster evidence-based translation (SAFE-T). European Commission. 115003, IMI-JU. Duration: Sept 2009-June 2015. ▶ Lina Badimon, Gemma Vilahur. Biomarker for cardiovascular risk assessment in Europe (BiomarCaRe). European Commission GA 278913, FP7. Duration: Oct 2011-Oct 2015. ▶ Gemma Vilahur. Functional and molecular effects of different HDL forms in myocardial remodelling post-infarction: application of a systems biology approach to identify regulated genes and gene products. National Plan for Scientific Research and Technological Development. SAF2012-40208. Duration: Jan 2013-Dec 2015. ▶ Gemma Arderiu. Peripheral vascular disease and angiogenesis: role of tissue factor in the stabilization of neovessels. ISCIII Project. PI12/02332. Duration: Jan 2013-Dec 2015. ▶ Lina Badimon. Cell Therapy Network (TerCel). ISCIII Project. RD12/0019/0026. Duration: Jan 2013-Dec 2017. ▶ Lina Badimon. Cardiovascular Research Network (RIC). ISCIII Project. RD12/0042/0027. Duration: Jan 2013-Dec 2017. ▶ Gemma Vilahur G. Functional and molecular effects of different HDL constituents on cardiac remodelling post myocardial infarction: magnetic resonance assessment and identification of molecular targets modulated by HDL. Sociedad Española de Cardiología. Duration: Oct 2012-Dec 2014. ▶ Lina Badimon. Proteomic characterization of intracoronary thrombus in STEMI patients, Fundación Española de Trombosis y Hemostasia (FETH). Duration: Jan 2013-Dec 2014. ▶ Lina Badimon. Ticagrelor: does it afford cardioprotection in the setting of acute myocardial infarction? Astra Zeneca AB. Duration: June 2013-Dec 2014. ▶ Lina Badimon. Comparative study of fibrin adhesives by confocal microscopy. Grifols Institute, SA. Duration: Oct 2013-Mar 2014. ▶ Lina Badimon. Transcriptomic profile of cardiac markers and endothelial function in humans: effect from the moderate consumption of Beer. Beer and Health Information Centre. Duration: Nov 2013-Mar 2016.
Grants Awarded in 2014	▶ Lina Badimon. Ajuts de suport als Grups de Recerca de Catalunya, AGAUR 2014 SGR 1303. Duration: Jan 2014-Dec 2016. ▶ Lina Badimon. Earch of new targets to inhibit the transformation of silent atherosclerosis into ischemic syndromes: tissue factor mediated angiogenic switch. National Plan for Scientific Research and Technological Development. SAF2013-42962-R. Duration: Jan 2014-Dec 2016.
Awards	▶ Lina Badimon. "Rey Jaime I" Prize to Clinical Research (Generalitat de València) Valencia, Spain (November 2014). ▶ Sonia Espinosa. Young Investigation Award. 23rd Biennial International Congress on Thrombosis 2014. Valencia, Spain (5/14/2014 to 5/17/2014). ▶ Gemma Chiva. ImmunoTools Special Award 2014 (Germany, May 2014). ▶ Gemma Chiva. Extraordinary Doctoral Award (curs 2012/2013). Faculty of Medicine, Universitat de Barcelona (June 2014). ▶ Judit Cubedo. Massachusetts Institute of Technology (MIT) review Award. Winner of Innovator under 35 in Spain (Madrid, November 2014).
Theses	▶ Rosa Suades Soler. Role of microparticles in atherothrombosis. Universitat Pompeu Fabra. Directors: Lina Badimon, Teresa Padró. Date of defense: 21 November 2014.

Molecular Pathology and Therapeutic of Ischaemic and Atherothrombotic Diseases

*TIF: 176.9240 **MIF: 4.7817

Scientific Production

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- ▶ Badimon L., Mendieta G., Vilahur G., Gene Expression, Atherogenesis, and the Mediterranean Diet. (2014) The Mediterranean Diet: An Evidence-Based Approach, 367-378.
- ▶ Badimon L., Mendieta G., Vilahur G., The mechanisms of action of new antiplatelet agents. How do they work? (2014) REVISTA ESPANOLA DE CARDIOLOGIA SUPLEMENTOS, 14 (S1), 3-9.
- ▶ Garcia-Gomez C., Bianchi M., De la Fuente D., Badimon L., Padro T., Corbella E., Pinto X., Inflammation, lipid metabolism and cardiovascular risk in rheumatoid arthritis: A qualitative relationship?. (2014) WORLD JOURNAL OF ORTHOPAEDICS, 5 (3), 304-311.

- ▶ Slevin M., Baldellou M., Hill E., Alexander Y., McDowell G., Murgatroyd C., Carroll M., Degens H., Krupinski J., Rovira N., Chowdhury M., Serracino-Inglott F., Badimon L., Novel methods for accurate identification, isolation, and genomic analysis of symptomatic microenvironments in atherosclerotic arteries. (2014) METHODS IN MOLECULAR BIOLOGY, 1135, 289-305.

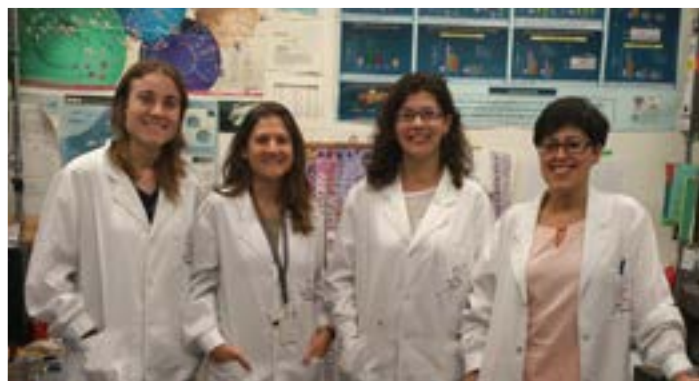
Inflammation and Vascular Remodelling

Coordinator

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Main Lines of Research

- ▶ Inflammation and vascular remodelling: regulation of vascular homeostasis by extracellular matrix components and modifying enzymes.
- ▶ Molecular and cellular mechanisms in atherosclerosis: identification of new therapeutic targets.
- ▶ Molecular basis of abdominal aortic aneurysm (AAA): new pharmacological strategies.
- ▶ Epigenetics in cardiovascular diseases.

Challenges

- ▶ Identify new therapeutic targets, progression markers and biomarkers in atherosclerosis and AAA.
- ▶ Establish genetically modified animal models that could become useful disease models in atherosclerosis and AAA.
- ▶ Expand and consolidate the scientific staff.
- ▶ Increase regular funding through national and international calls.
- ▶ Set up new stable collaborations within IIB Sant Pau and with national and international groups and consolidate those already established.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Angiology, Vascular Biology and Inflammation (PI: Luis Vila).
- ▶ Regulation of Cardiac Rhythm and Contraction (PI: Leif Hove-Madsen).
- ▶ Atherosclerosis and Vascular Biology (PI: José Martínez González).

External Collaborations

- ▶ Jain K. Mukesh. Case Western Reserve University School of Medicine (Cleveland, Ohio, USA).
- ▶ Mark Slevin. Manchester Metropolitan University (United Kingdom).
- ▶ Nadia Mercader. Universidad de Berna (Switzerland).
- ▶ Vicente Andrés. Centro Nacional de Investigaciones Cardiovasculares (Spain).

- ▶ José Manuel Redondo. Centro Nacional de Investigaciones Cardiovasculares (Spain).
- ▶ Jesús Egido. Fundación Jiménez Díaz (Madrid, Spain).
- ▶ Jesús Osada. CIBEROBN, Universidad de Zaragoza (Spain).
- ▶ Manel Vázquez Carrera. CIBERDEM, Universitat de Barcelona (Spain).
- ▶ Mercedes Salaices. Universidad Autónoma de Madrid (Spain).
- ▶ Victoria Cachafeiro. Universidad Complutense de Madrid (Spain).
- ▶ Francisco Marín. Department of Cardiology, Hospital Clínico Universitario Virgen de la Arrixaca, Murcia (Spain).
- ▶ Jerzy Krupinski. Hospital Mútua Universitària de Terrassa (Barcelona, Spain).
- ▶ Francisco Sánchez. Hospital de la Princesa (Madrid, Spain).

Active Grants	▶ Cristina Rodríguez Sinovas. Mecanismos epigenéticos implicados en el remodelado de la matriz extracelular asociado al aneurisma de aorta abdominal: nuevas estrategias terapéuticas. Instituto de Salud Carlos III. PI12/01952. Duration: 2013-2015. €153,065.* ▶ José Martínez González. Red de Investigación Cardiovascular (RIC). MINECO-ISCIII. RD12/0042/0053. Duration: 2013-2016. €205,000.* ▶ Maria Galán Arroyo. Ayudas para Contratos Postdoctorales de Perfeccionamiento Sara Borrell 2012. FIS12/00589. Duration: 2013-2016. Note: Total amount granted to PI. It does not include indirect costs. * Grants applied for by other research institutes.
Awards	▶ Martí-Pàmies I, Calvayrac O, Ferrán B, Aguiló S, Rodríguez C, Martínez-González J. Modulación de la migración de las CMLV por vitronectina: estudios de regulación transcripcional. Special mention. XXVII Congreso de la Sociedad Española de Aterosclerosis. Barcelona, February 2014. ▶ Miana M, Galán M, Martínez-Martínez E, Varona S, Jurado-López R, Martínez-González J, Rodríguez C, Cachofeiro V. La inhibición de la lisil oxidasa mejora las alteraciones metabólicas y del tejido adiposo en animales obesos. Special mention. XXVII Congreso de la Sociedad Española de Aterosclerosis. Barcelona, February 2014.
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Scientific Production	Orriols M., Guadall A., Galan M., Martí-Pàmies I., Varona S., Rodríguez-Calvo R., Briones A.M., Navarro M.A., de Diego A., Osada J., Martínez-Gonzalez J., Rodríguez C., Lysyl oxidase (LOX) in vascular remodelling: Insight from a new animal model. (2014) THROMB HAEMOSTASIS, 112 (4), 812-824. IF: 4.9840 Shatat M.A., Tian H., Zhang R., Tandon G., Hale A., Fritz J.S., Zhou G., Martínez-Gonzalez J., Rodríguez C., Champion H.C., Jain M.K., Hamik A., Endothelial Krüppel-like factor 4 modulates pulmonary arterial hypertension. (2014) AM J RESP CELL MOL, 50 (3), 647-653. IF: 3.9850
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Biomarkers for Cardiovascular Disease

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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 research is based on cell culture studies, 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 postgenomic 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 studies include proteomic and lipidomic techniques based on liquid chromatography and bidimensional electrophoresis, antibody array systems and mass spectrometry (MALDI-ToF/ToF; linear 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 selected biomarkers in cardiovascular pathology (biology of systems).
- Consolidate the lipidomic platform.
- Lead the Biobank in the SAFE-T European project.

Collaborations

- External Collaborations**
- Department of Cardiology, Thorax Institute, Hospital Clínic, University of Barcelona, Spain (Salvatore Brugaletta, Victoria Martín-Yuste, Clarissa Cola, Manel Sabaté).
 - Fundación Jiménez Díaz, Madrid (Rodrigo Alonso, Pedro Mata).
 - Red TERCEL.
 - Member of IIB Sant Pau Biobank External Committee.
 - Member of IIB Sant Pau Training Committee.
 - Member of the Local Organizing Committee of the Congress of the MLTD (Valencia, 2014).

Theses

- Rosa Suades Soler. Role of microparticles in atherothrombosis. Universitat Pompeu Fabra. Directors: Lina Badimon, Teresa Padró. Date of defense: 21 November 2014.

Active Grants

- ▶ Teresa Padró. Safer and faster evidence-based translation (SAFE-T). European Commission. 115003, IMI-JU. Duration: Sept 2009-June 2015.
- ▶ Teresa Padró. Biomarker for Cardiovascular Assessment in Europe (BiomarCaRE). FP7-Health-2011/ GA 278913. Duration: Oct 2011-Oct 2016.
- ▶ Teresa Padró. Patología molecular y celular de la arterioesclerosis: papel regulador de la matriz extracelular. ISCIII Project. PI13/02850. Duration: Jan 2014-Dec 2016.
- ▶ Teresa Padró. Proteomic characterization of intracoronary thrombus in STEMI patients. Fundación Española de Trombosis y Hemostasia (FETH). Duration: Jan 2013-Dec 2014.
- ▶ Teresa Padró. Cell Therapy Network (TerCel), RD12/0019/0026, ISCIII Project. Duration: Jan 2013-Dec 2017.

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- ▶ Teresa Padró. Proyecto de investigación traslacional en cardiología. Sociedad Española de Cardiología. 2014.

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Brugaletta S., Cola C., Martin-Yuste V., Vilahur G., Oriol J., Padro T., Guerra J.M., Borras R., Badimon L., Sabate M., Qualitative and quantitative accuracy of ultrasound-based virtual histology for detection of necrotic core in human coronary arteries. (2014) INT J CARDIOVAS IMAG, 30 (3), 469-476.

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Cubedo J., Padro T., Badimon L., Glycoproteome of human apolipoprotein A-I: N- and O-glycosylated forms are increased in patients with acute myocardial infarction. (2014) TRANSL RES, 164 (3), 209-222.

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Vilahur G., Cubedo J., Padro T., Casani L., Juan-Babot O., Crespo J., Bendjama K., Lawton M., Badimon L., Roflumilast-induced local vascular injury is associated with a coordinated proteome and microparticle change in the systemic circulation in pigs. (2014) TOXICOL PATHOL, 43 (4), 569-580.

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Other Publications

- ▶ Garcia-Gomez C., Bianchi M., De la Fuente D., Badimon L., Padro T., Corbella E., Pinto X., Inflammation, lipid metabolism and cardiovascular risk in rheumatoid arthritis: A qualitative relationship? (2014) WORLD JOURNAL OF ORTHOPAEDICS, 5 (3), 304-311.

Atherosclerosis and Vascular Biology

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Members

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Main Lines of Research

- ▶ Identification and characterization of master genes involved in the onset, development and complication of ischaemic heart disease (IHD), abdominal aortic aneurysm (AAA) and cardiac hypertrophy.
- ▶ Mechanisms involving nuclear receptors in IHD, AAA and cardiac hypertrophy.
- ▶ Identification and validation of new targets for diagnosis, prognosis and treatment of cardiovascular diseases.
- ▶ Development of new (genetically modified) animal models for IHD, AAA and cardiac hypertrophy.

Challenges

- ▶ Incorporate new PhD and postdoctoral students as well as staff investigators to preserve the core group and implement new technical expertise and experimental approaches.
- ▶ Find affinities with other IIB Sant Pau groups in order to increase critical mass and implement joint strategies to optimize resources and access to alternative funding sources.
- ▶ Consolidate present relationships with national collaborators and expand our international collaborations.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Inflammation and Vascular Remodelling (PI: Cristina Rodríguez).
- ▶ Angiology, Vascular Biology and Inflammation (PI: Luis Vila).
- ▶ Regulation of Cardiac Rhythm and Contraction (PI: Leif Hove-Madsen).

External Collaborations

- ▶ José Luis de la Pompa. Centro Nacional de Investigaciones Cardiovasculares, CNIC.
- ▶ Jain K. Mukesh. Case Western Reserve University School of Medicine, Cleveland.
- ▶ Mark Slevin. Manchester Metropolitan University.
- ▶ Jerzy Krupinski. Hospital Mútua Universitària de Terrassa.
- ▶ Francisco Marín. Hospital Clínico Universitario Virgen de la Arrixaca, Murcia.
- ▶ Jesús Osada. Universidad de Zaragoza.

- ▶ Mercedes Salaices. Universidad Autónoma de Madrid, UAM.
- ▶ Vicente Andrés García. Centro Nacional de Investigaciones Cardiovasculares, CNIC.
- ▶ Juan Miguel Redondo. Centro Nacional de Investigaciones Cardiovasculares, CNIC.
- ▶ Victoria Cachafeiro. Universidad Complutense de Madrid, UCM.
- ▶ Jose Luis Martín Ventura. Fundación Jiménez Díaz-UAM.
- ▶ Francisco Sánchez Madrid. Hospital de la Princesa-UAM.
- ▶ Manuel Vázquez Carrera. Universidad de Barcelona.

Active Grants	▶ José Martínez González. Mecanismos celulares y moleculares que involucran al receptor nuclear NOR-1 en enfermedades cardiovasculares. MINECO. SAF2012-40127. Duration: 2013-2015. €169,400.* ▶ José Martínez González. Red de Investigación Cardiovascular (RIC). MINECO-ISCIII. RD12/0042/0053. Duration: 2013-2016. €205,000.* ▶ José Martínez González. Análisis de las propiedades anti-inflamatorias del receptor nuclear NOR-1 en la cardiopatía isquémica (FEC/SEC-2012). Fundación Española del Corazón (FEC)-Sociedad Española de Cardiología (SEC). Duration: 2013-2014. €18,000.* Note: Total amount granted to PI. It does not include indirect costs. * Grants applied for by other research institutes.
Awards	▶ Martí Pàmies I, Calvayrac O, Ferrán B, Aguiló S, Rodríguez C, Martínez-González J. Modulación de la migración de las CMLV humanas por vitronectina: estudios de regulación transcripcional. Special mention. XXVII Congreso Nacional de la Sociedad Española de Arteriosclerosis. Barcelona 2014. ▶ Miana M, Galán M, Martínez-Martínez E, Varona S, Jurado López R, Martínez-González J, Rodríguez C, Cachofeiro V. La inhibición de la Lisil Oxidasa mejora las alteraciones metabólicas y del tejido adiposo en animales obesos. Special mention. XXVII Congreso Nacional de la Sociedad Española de Arteriosclerosis. Barcelona 2014.
*TIF: 8.9690 **MIF: 4.4845	
Scientific Production	Orriols M., Guadall A., Galan M., Martí-Pamies I., Varona S., Rodríguez-Calvo R., Briones A.M., Navarro M.A., de Diego A., Osada J., Martínez-Gonzalez J., Rodríguez C., Lysyl oxidase (LOX) in vascular remodelling: Insight from a new animal model. (2014) THROMB HAEMOSTASIS, 112 (4), 812-824. IF: 4.9840 Shatat M.A., Tian H., Zhang R., Tandon G., Hale A., Fritz J.S., Zhou G., Martínez-Gonzalez J., Rodríguez C., Champion H.C., Jain M.K., Hamik A., Endothelial Krüppel-like factor 4 modulates pulmonary arterial hypertension. (2014) AM J RESP CELL MOL, 50 (3), 647-653. IF: 3.9850
Other Publications	▶ Rodríguez-Calvo R., Guadall A., Calvayrac O., Alonso J., Ferran B., Martí I., Navarro M.T., De Diego A., Osada J., Rodríguez C., Martínez-Gonzalez J., The nuclear receptor NOR-1 regulates the activation of vascular cells and vascular remodelling in response to hemodynamic stress. (2014) CLINICA E INVESTIGACION EN ARTERIOSCLEROSIS, 26 (2), 66-75.

Regulation of Cardiac Rhythm and Contraction

Coordinator

Leif Hove-Madsen
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ICCC

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Cristina Espinosa
Carmen Tarifa

HSCSP
ICCC



Main Lines of Research

- ▶ Receptor-mediated changes in intracellular calcium homeostasis in atrial fibrillation.
- ▶ Contribution of genetic variants to electrical remodelling and arrhythmogenesis.
- ▶ Effects of development and ageing on calcium handling in cardiac myocytes.
- ▶ Functional effects of lipid accumulation in cardiomyocytes.

Challenges

- ▶ The goal is to consolidate the group as a reference in research on calcium handling in atrial fibrillation and to establish it within other lines of research by including emerging technology and fields of research. Specifically we aim to:
 - Develop computational tools and models to improve the analysis and understanding of intracellular calcium handling in cardiac myocytes.
 - Incorporate emerging technology such as stretching and measurements of force development in single cardiomyocytes.
- Consolidate current national and international collaborations and establish new strategic collaborations within emerging fields of research such as the use of super-resolution fluorescence imaging (STORM, STED-techniques), the detection and role of Reactive Oxygen Species in diseased cardiomyocytes, and the role of telomere length in cardiac senescence and regeneration.
- Achieve international funding for incorporation of scientific expertise and participation in multidisciplinary international research projects.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Clinical and Translational Cardiology (PI: Juan Cinca)
- ▶ Lipids and Cardiovascular Pathology (PI: Vicenta Lorente)
- ▶ Atherosclerosis and Vascular Biology (PI: José Martínez)

National Collaborations

- ▶ Diego Franco, Amelia Aranega. Departamento de Biología Experimental, Universidad de Jaén.
- ▶ Blas Echebarria. Departament de Física Aplicada, Universitat Politècnica de Catalunya.
- ▶ Raul Benitez. Enginyeria de Sistemes, Automàtica i Informàtica Industrial, Universitat Politècnica de Catalunya.

- ▶ Vicente Andrés. Fisiopatología Cardiovascular Molecular y Genética, CNIC.

- ▶ Ignacio Flores. Regeneración y envejecimiento, CNIC.

International Collaborations

- ▶ SR Wayne Chen. Department of Physiology and Pharmacology, University of Calgary, Canada.
- ▶ Glen F Tibbits. Department of Biomedical Physiology and Kinesiology, Simon Fraser University, Burnaby & Child and Family Research Institute, Vancouver, Canada.
- ▶ Edwin Moore. Cardiovascular Research Group, University of British Columbia, Vancouver, Canada.

Active Grants

- ▶ Leif Hove-Madsen. Functional cellular bases of PITX2 involvement in human atrial fibrillation. Ministerio de Ciencia y Tecnología. CNIC2009-08. Duration: Jul 2011-May 2015. €187,000.*
- ▶ Leif Hove-Madsen. Effects of atrial fibrillation on the distribution and frequency of spontaneous calcium release events in human atrial myocytes. Ministerio de Ciencia y Tecnología. SAF2011-30312. Duration: Jan 2012-Jul 2015. €181,500.*
- ▶ Leif Hove-Madsen. Cristina Espinosa Molina. European Union, Marie Curie FP7-PEOPLE-2012_IEF. Duration: Apr 2013-Mar 2015. €166,000.*
- ▶ Cinca J. Red de Investigación Cardiovascular. Instituto de Salud Carlos III. RD12/0042/0002. Duration: Jan 2014-Dec 2017.*
- ▶ Leif Hove-Madsen. Grup de Recerca Emergent: Anàlisi i Control del Ritme Cardíac AGAUR 2014. SGR 1465. Duration: 2014-2017. €22,000.*

Note: Total amount granted to PI. It does not include indirect costs.

*Grants applied for by other research institutes.

*TIF: 6.9440 **MIF: 3.4720

Scientific Production

Lin E., Ribeiro A., Ding W., Hove-Madsen L., Sarunic M.V., Beg M.F., Tibbits G.F., Optical mapping of the electrical activity of isolated adult zebrafish hearts: Acute effects of temperature. (2014) AM J PHYSIOL-REG I, 306 (11).

IF: 3.1060

Lugo C.A., Cantalapiedra I.R., Penaranda A., Hove-Madsen L., Echebarria B., Are SR Ca content fluctuations or SR refractoriness the key to atrial cardiac alternans?: Insights from a human atrial model. (2014) AM J PHYSIOL-HEART C, 306 (11).

IF: 3.8380

Other Publications

- ▶ Dan P, Zeng Z, Li Y, Qu Y, Hove-Madsen L, Tibbits GF. Phenotype-dependent role of the L-type calcium current in embryonic stem cell derived cardiomyocytes. AM J STEM CELLS. 2014 Mar 13;3(1): 37-45.

Lipids and Cardiovascular Pathology

Coordinator

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Members

David de Gonzalo HSCSP RI
Laura Nasarre ICCIC
Elena Revuelta Pérez ICCIC



Main Lines of Research

- ▶ Molecular mechanisms involved in the modulation of LRP1 by cardiovascular risk factors.
- ▶ Impact of LRP1 on vascular and myocardial cholesterol accumulation.
- ▶ Impact of lipoproteins on LRP1-Intracellular signal pathways under normoxic and hypoxic conditions.
- ▶ Alterations in LRP1 expression and LRP1-intracellular signal pathways in hypoxia/ischaemia in in vitro and in vivo models.
- ▶ Lipids and diabetic cardiomyopathy.
- ▶ Lipids and breast cancer.
- ▶ LRP1 and inflammation.
- ▶ Circulating non-coding RNAs as biomarkers of cardiovascular disease.
- ▶ Role of non-coding RNAs in vascular lipid accumulation.
- ▶ Role of non-coding RNAs in myocardial lipid accumulation.

Challenges

- ▶ Develop transgenic mice with tissue-specific LRP1 modulation to proceed to in-depth analysis of LRP1-dependent mechanisms.
- ▶ Maintain and amplify relationship with IIB Sant Pau groups regarding translation in this research area.
- ▶ Maintain and strengthen international collaborations to set up future applications for European funding.
- ▶ Establish collaborations with companies with the aim of developing new products useful for prognosis, diagnosis and treatment.

Research Networks

- ▶ RD12/0042/0027. Red de Investigación Cardiovascular RIC. Programa 1: Research Programme on Adverse Ventricular Remodeling (Coordinator: Francisco Fernández-Avilés). 01.2013-12.2015.

Awards

- ▶ David de Gonzalo Calvo. Merck Serono Research Award in Cardiometabolism 2014, Foundation 2000. 29 March 2014.

Patents

- ▶ Vicenta Llorente-Cortés, Lina Badimon (inventors). LRP1 as a crucial receptor for the transfer of cholesteryl esters from VLDL to ischemic myocardium. PCT/ES2012/070483: patented in USA, in revision in Europe. Con-

sejo Superior de Investigaciones Científicas and Institut Català de Ciències Cardiovasculars.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Cardiovascular Biochemistry (PI: Jordi Ordóñez)
- ▶ Regulation of Cardiac Rhythm and Contraction (PI: Leif Hove-Madsen)
- ▶ Molecular Pathology and Therapeutic of Ischaemic and Atherothrombotic Diseases (PI: Lina Badimon)
- ▶ Clinical and Translational Cardiology (PI: Juan Cinca)
- ▶ Metabolic Bases of Cardiovascular Risk (PI: Francisco Blanco)
- ▶ Molecular Bases of Disease (PI: Pablo Fuentes)
- ▶ Clinical Oncology (PI: Agustí Barnadas)
- ▶ Oncogenesis and Antitumour Drug (PI: Ramon Mangués)
- ▶ Enrique Lerma (researcher of Molecular Pathology of Gynecologic Cancer)
- ▶ Lluís Guirado (researcher at Fundació Puigvert)

National Collaborations

- ▶ Dr. Bayés-Genís. Grupo ICREC (Insuficiencia Cardíaca y Regeneración Cardíaca). Hospital Germans Trias i Pujol. Badalona.
- ▶ Marta Casado Pinna. Unidad de Patología Médica Experimental. Consejo Superior de Investigaciones Científicas. Valencia.
- ▶ Francisco Tinahones. Endocrinology Department, Biomedical Research Laboratory. Hospital Virgen de la Victoria, Málaga.

- ▶ Eduardo Iglesias Gutiérrez. Grupo ITS (Intervenciones Traslacionales para la Salud). Universidad de Oviedo.

- ▶ Rocío Toro. Departamento de Medicina. Facultad de Medicina, Universidad de Cádiz.

International Collaborations

- ▶ Colette Lacabanne & Valerie Samouillan. Group Physique des Polymères, Institut Carnot, CIRIMAT, Université Paul Sabatier. Toulouse, France.
- ▶ Max Bown. Vascular Surgery group. Department of Cardiovascular Sciences University of Leicester, New England.
- ▶ Fulvia Ortolani. Department of Experimental Clinical Medicine. Università degli Studi di Udine. Italy.
- ▶ Gustavo Alberto Chiabrando. CIBICI-CONICET/FCQ-Universidad Nacional de Córdoba, Argentina.
- ▶ Claudia Huesca Gómez. Departamento de Biomedicina Cardiovascular. Instituto Nacional de Cardiología "Ignacio Chávez". México D.F.

Other Collaborations

- ▶ InnoPharma BioFarma-USEF Research Group. University of Santiago de Compostela.
- ▶ Teresa Tarragó. Iproteos. Parc Científic. Barcelona. Spain.

Active Grants

International Research Projects

- ▶ Vicenta Llorente-Cortés. Estudio de los aspectos moleculares y celulares que regulan el tráfico intracelular del receptor de la alfa 2-Macroglobulina, LRP1, y sus implicancias en el control de la migración celular. CONICET-CSIC 2013; PICT-2012-2607. Duration: 01.06.2013-30.05.2016. €29,728.*

National Research Projects

- ▶ Vicenta Llorente Cortés. Ajuts de suport als Grups de Recerca de Catalunya. AGAUR 2014. SGR 170. Duration: 2014-2016.*
- ▶ Vicenta Llorente-Cortés. Interferència de l'acumulació de lípids al sistema cardiovascular mitjançant peptidomimètics LRP1: Una nova estratègia terapèutica a la cardiomiopatia. AGAUR. Convocatòria d'ajuts per a projectes innovadors amb potencial d'incorporació al sector productiu (LLAVOR). 2014 LLAV 00001. Duration: 20/03/15-31/11/15. €25,000.*

- ▶ Vicenta Llorente-Cortés. Myocardial cholesteryl ester accumulation, LRP1 and cardiac dysfunction in type 2 diabetes. FIS PI14/01729. Duration: 01/09/14-01/09/17. €110,715.*

- ▶ David de Gonzalo Calvo. Regulation of LRP1 receptor gene expression by microRNAs; a new therapeutic target in the treatment of atherosclerosis? Basic Research Award, Atherosclerosis Spanish Foundation (FEA), Atherosclerosis Spanish Society (SEA) 2013. Duration: 01/01/14-31/12/15. €9,000.*

- ▶ David de Gonzalo Calvo. Identification of miRNAs implicated in the formation of "foam cells" in vascular cells: pathophysiological mechanism and therapeutic potential. Merck Serono Research Award in Cardiometabolism 2014, Foundation 2000. Duration: 30/06/14-01/07/16. €25,000.*

Note: Total amount granted to PI. It does not include indirect costs.

* Grants applied for by other research institutes.

Grants Awarded in 2014

- ▶ David de Gonzalo Calvo. Contratos Sara Borrell 2014. FIS. CD14/00109. €280,598.

Note: Total amount granted to PI. It does not include indirect costs.

Lipids and Cardiovascular Pathology

*TIF: 28.1820 **MIF: 3.5228		
Scientific Production	Aledo R., Costales P., Ciudad C., Noe V., Llorente-Cortes V., Badimon L., Molecular and functional characterization of LRP1 promoter polymorphism c.1-25 C>G (rs138854007). (2014) <i>ATHEROSCLEROSIS</i>, 233 (1), 178-185. IF: 3.9940 Castellano J., Badimon L., Llorente-Cortes V., Amyloid-β increases metallo- and cysteine protease activities in human macrophages. (2014) <i>J VASC RES</i>, 51 (1), 58-67. IF: 2.9010 De Gonzalo-Calvo D., Llorente-Cortes V., Orbe J., Paramo J.A., Badimon L., High triglyceride-low HDL cholesterol lipid profile is associated with a dysregulated gene expression in mononuclear leukocyte from hypercholesterolemic patients. (2014) <i>INT J CARDIOL</i>, 178 (), 102-104. IF: 4.0360 De Gonzalo-Calvo D., Llorente-Cortes V., Orbe J., Paramo J.A., Badimon L., Altered atherosclerotic-related gene expression signature in circulating mononuclear leukocytes from hypercholesterolemic patients with low HDL cholesterol levels. (2014) <i>INT J CARDIOL</i>, 173 (2), 337-338. IF: 4.0360 Llorente-Cortes V., De Gonzalo-Calvo D., Orbe J., Paramo J.A., Badimon L., Signature of subclinical femoral artery atherosclerosis in peripheral blood mononuclear cells. (2014) <i>EUR J CLIN INVEST</i>, 44 (6), 539-548. IF: 2.7340 Nasarre L., Juan-Babot O., Gastelurrutia P., Lucia-Valldeperas A., Badimon L., Bayes-Genis A., Llorente-Cortes V., Low density lipoprotein receptor-related protein 1 is upregulated in epicardial fat from type 2 diabetes mellitus patients and correlates with glucose and triglyceride plasma levels. (2014) <i>ACTA DIABETOL</i>, 51 (1), 23-30. IF: 2.3990 Roura S., Cal R., Galvez-Monton C., Revuelta-Lopez E., Nasarre L., Badimon L., Bayes-Genis A., Llorente-Cortes V., Inverse relationship between raft LRP1 localization and non-raft ERK1,2/MMP9 activation in idiopathic dilated cardiomyopathy: Potential impact in ventricular remodeling. (2014) <i>INT J CARDIOL</i>, 176 (3), 805-814. IF: 4.0360 Samouillan V., Revuelta-Lopez E., Dandurand J., Nasarre L., Badimon L., Lacabanne C., Llorente-Cortes V., Cardiomyocyte intracellular cholesteryl ester accumulation promotes tropoelastin physical alteration and degradation: Role of LRP1 and cathepsin S. (2014) <i>INT J BIOCHEM CELL B</i>, 55 (), 209-219. IF: 4.0460	
Other Publications	► David de Gonzalo-Calvo; Vicenta Llorente-Cortés. Low-density lipoprotein receptor-related protein 1 (LRP1) as a modulator of the vascular inflammatory response to modified LDL. <i>Biohelikon: Cell Biology</i> (ISSN: 2348-3741). 2, pp. a12. 2014.	

AREA 2

Genetic, Metabolic Inflammatory Disease

80 Genetic Diseases

84 Metabolic Bases of Cardiovascular Risk

86 Inflammatory Diseases

88 Endocrinology, Diabetes and Nutrition

92 Pituitary Gland Disorders

94 Digestive Diseases



c and ases

98 Microbiology and Infectious Diseases

104 Multi-organ Damage

108 Chronic Respiratory Diseases

112 Research Group in HIV and AIDS

Genetic Diseases

Coordinator

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Members

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Adriana Maria Laso	HSCSP
Sara Moron	HSCSP
Elisabeth del Rio	HSCSP
María José Rodríguez	
Julia Salazar	CIBERER
Ana Sebío	HSCSP
Ivana Gabriela Sullivan	HSCSP RI
Adoración Vencesla	HSCSP RI



Main Lines of Research

- ▶ Study of the clinical heterogeneity of genetic autosomal recessive transmission of waist dystrophy and autosomal dominant transmission.
- ▶ Spinal atrophy and SMN genes: 1.- studies of molecular pathology, disease mechanisms and SMN gene expression. 2.- Identification of modifying genes. 3.- study of biomarkers for validation processing in spinal muscular atrophy. 4.- study of the neuromuscular junction in human development.
- ▶ Hereditary breast cancer and BRCA mutations: 1. Identification of mutations and genetic variants. 2. Molecular characterization of Circulating tumor cells (CTCSS) through expression profiles in patients with breast cancer. 3. Analysis of free circulating tumor DNA (cfDNA) as a predictor of response to the treatment of breast cancer.
- ▶ Pharmacogenetics: adverse reactions to medications.
- ▶ Congenital coagulopathies: Molecular Pathology of haemophilias.
- ▶ Duchenne and Becker muscular dystrophy: molecular pathology of DMD gene.

Challenges

Pharmacogenetics

- ▶ Colorectal and lung cancer treatments.
- ▶ Chronic inflammatory disease treatment.
- ▶ HIV infection treatment.

Muscular Dystrophies

- ▶ Post-transcriptional regulation of the dystrophin gene using nonsense-mediated decay analysis in DNA from patients with Duchenne muscular dystrophy.
- ▶ Genes associated with new phenotypic forms of limb girdle muscular dystrophy.
- ▶ Workflow development for the analysis of DMD gene by NGS techniques.

Hereditary Breast/Ovarian Cancer

- ▶ DNA studies to classify DNA variants found in the BRCA genes as pathogenic or neutral.
- ▶ CTCs as prognostic markers in patients with locally advanced and disseminated breast cancer.
- ▶ Workflow development for the analysis of BRCA1 and BRCA2 genes by NGS techniques.

Hereditary Motor Neurone Diseases

- ▶ Development of neuromuscular junction studies in health and disease.
- ▶ Broadening of the spectrum of motor neuron diseases to include bulbar and spinal muscular atrophy, distal muscular atrophies and amyotrophic lateral sclerosis.

Theses

- ▶ Laura Alías Andreu. Anàlisi qualitativa i quantitativa dels gens SMN1 i SMN2. Universitat de Barcelona. Directors: Eduardo F. Tizzano, Cristina Fillats.
- ▶ Ana Sebío García. Estudios farmacogenéticos en el cáncer colorrectal: la vía del receptor del factor de crecimiento epidérmico. Universitat Autònoma de Barcelona. Directors: Montserrat Baiget, Agustí Barnadas. Date of defense: 21 November 2014.

Collaborations	External Collaborations ▶ Sara Moron López. Investigación traslacional en la atrofia muscular espinal: Modificadores del fenotipo, modelos de neurona motora a partir de iPSCs y patología del desarrollo neuromuscular. Ayudas CIBERER 2013 para el inicio de tesis doctorales en Enfermedades Raras. Duration: 01/03/13-28/02/14. €12,400.
Active Grants	▶ Montserrat Baiget Bastus. Ajuts de suport als Grups de Recerca de Catalunya. Grup de Genètica en Malalties Neurològiques. AGAUR 2009. SGR 1299. Duration: 04/08/09-30/04/14. €42,640. ▶ Montserrat Baiget Bastus. Estudios farmacogenéticos en el tratamiento del cáncer colorrectal con terapias biológicas. MINECO-ISCIII Project 2011. PI11/01711. Duration: 01/01/12-31/12/14. €56,636. ▶ M. Pia Gallano Petit. Elaboración de paneles de diagnóstico molecular en patología monogénica hereditaria mediante el sistema de nanofluidos y secuenciación masiva. MINECO-ISCIII Project 2011. PI11/02586. Duration: 01/01/12-31/12/14. €78,250. ▶ Eduardo Tizzano Ferrari. Investigación traslacional en la atrofia muscular espinal: Modificadores del fenotipo, modelos de neurona motora a partir de iPSCs y patología del desarrollo neuromuscular. MINECO-ISCIII Project 2011. PI11/02606. Duration: 01/01/12-31/12/14. €107,127. ▶ Montserrat Baiget Bastus. Estudio farmacogenético fase II randomizado para evaluar eficacia y seguridad del esquema FOLFIRI con altas dosis de irinotecán (FOLFIRIAD) en pacientes con cáncer colorrectal metastásico de acuerdo con el genotipo UGT1A 1. Ministerio de Sanidad y Servicios Sociales e Igualdad: EC 2011. EC11-336. Duration: 01/01/12-30/06/15. €63,500. ▶ Eduardo Tizzano Ferrari. Modificadores del fenotipo en la atrofia muscular espinal: hacia una mejor caracterización de pacientes para futuros ensayos clínicos. X Convocatoria de Ayudas a la Investigación Médica 2013. FMM 2013-1. Duration: 08/10/13-08/10/15. €34,285. ▶ Ana Sebio García. FIS Postdoc Contract "RIO HORTEGA" 2011. CM11/00102. Duration: 30/01/12-30/01/14. €43,200. Note: Total amount granted to PI. It does not include indirect costs.
Grants Awarded in 2014	▶ Ana Sebio Garcia. Contratos Juan Rodés 2014. JR14/00006. €135,000. Note: Total amount granted to PI. It does not include indirect costs.
*TIF: 54.2440 **MIF: 3.6163 Scientific Production	
Alias L., Barcelo M.J., Bernal S., Martinez-Hernandez R., Also-Rallo E., Vazquez C., Santana A., Millan J.M., Baiget M., Tizzano E.F., Improving detection and genetic counseling in carriers of spinal muscular atrophy with two copies of the SMN1 gene. (2014) CLIN GENET, 85 (5), 470-475. IF: 3.9310 Alias L., Bernal S., Barcelo M.J., Martinez-Hernandez R., Martinez E., Baiget M., Tizzano E.F., Analysis of the C9orf72 gene in spinal muscular atrophy patients. (2014) AMYOTROPH LAT SCL FR, 15 (7-8), 563-568. IF: 2.4050 Alvarez-Satta M., Castro-Sanchez S., Pereiro I., Pineiro-Gallego T., Baiget M., Ayuso C., Valverde D., Overview of Bardet-Biedl syndrome in Spain: Identification of novel mutations in BBS1, BBS10 and BBS12 genes. (2014) CLIN GENET, 86 (6), 601-602. IF: 3.9310 Bladen C.L., Thompson R., Jackson J.M., Garland C., Wegel C., Ambrosini A., Pisano P., Walter M.C., Schreiber O., Lusakowska A., Jedrzejowska M., Kostera-Pruszyk A., Van Der Pol L., Wadman R.I., Gredal O., Karaduman A., Topaloglu H., Yilmaz O., Matyushenko V., Rasic V.M., Kosac A., Karcagi V., Garami M., Herczegfalvi A., Monges S., Moresco A., Chertkoff L., Chamova T., Guergueltcheva V., Butoianu N., Craiu D., Kornigut L., Campbell C., Haberlova J., Strenkova J., Alejandro M., Jimenez A., Ortiz G.G., Enriquez G.V.G., Rodrigues M., Roxburgh R., Dawkins H., Youngs L., Lahdetie J., Angelkova N., Saugier-veber P., Cuisset J.-M., Bloetzer C., Jeannet P.-Y., Klein A., Nascimento A., Tizzano E., Salgado D., Mercuri E., Sejersen T., Kirschner J., Rafferty K., Straub V., Bushby K., Verschuuren J., Beroud C., Lochmuller H., Mapping the differences in care for 5,000 Spinal Muscular Atrophy	

Genetic Diseases

*TIF: 54.2440 **MIF: 3.6163

Scientific Production

patients, a survey of 24 national registries in North America, Australasia and Europe. (2014) J NEUROL, 261 (1), 152-163.

IF: 3.3770

Dias M.M., Pignon J.-P., Karapetis C.S., Boige V., Glimelius B., Kweekel D.M., Lara P.N., Laurent-Puig P., Martinez-Balibrea E., Paez D., Punt C.J.A., Redman M.W., Toffoli G., Wadelius M., Mckinnon R.A., Sorich M.J., The effect of the UGT1A1 28 allele on survival after irinotecan-based chemotherapy: A collaborative meta-analysis. (2014) PHARMACOGENOMICS J, 14 (5), 424-431.

IF: 4.2290

Fernandez-Rozadilla C., Cazier J.B., Tomlinson I., Brea-Fernandez A., Lamas M.J., Baiget M., Lopez-Fernandez L.A., Clofent J., Bujanda L., Gonzalez D., De Castro L., Hemminki K., Bessa X., Andreu M., Jover R., Xicola R., Llor X., Moreno V., Castells A., Castellvi-Bel S., Carracedo A., Ruiz-Ponte C., A genome-wide association study on copy-number variation identifies a 11q11 loss as a candidate susceptibility variant for colorectal cancer. (2014) HUM GENET, 133 (5), 525-534.

IF: 4.8240

Freixenet N., Moreno-Rosel M.S., Barcelo M.J., Serrano A., Paya M., Crespo L., Perez-Lucena M.J., Altes A., Baiget M., Felez J., Detection of hereditary hemochromatosis and biochemical iron overload in primary care: A multicenter case finding study in Spain. (2014) AM J HEMATOL, 89 (9), 940-940.

IF: 3.7980

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Metabolic Bases of Cardiovascular Risk

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Main Lines of Research

- ▶ HDL and susceptibility to diabetes, arteriosclerosis and breast cancer: this relationship is being analysed through the study of metabolic disorders, genetic modification, and dietary or 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 hyperhomocysteinaemia 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.
- ▶ Study anti-cancer mechanisms of HDL genetic modification and phytosterol consumption.
- ▶ Develop new molecular techniques to diagnose metabolic inherited diseases to be used in the clinical laboratory.

Active Grants

- ▶ Francisco Blanco Vaca. Funcionalidad de las lipoproteínas de alta densidad (HDL) y efectos pleiotrópicos en diabetes, retinopatía y cáncer de mama. MINECO-ISCIII Project 2011. PI11/01076. Duration: 01/01/12-31/12/14. €73,009.
 - ▶ Juan Carlos Escola Gil. Estrategias terapéuticas y nutricionales basadas en la mejora de las funciones antioxidante y antiinflamatoria de las HDL en la diabetes mellitus tipo 2 y el cáncer de mama. Proyectos de Investigación en Salud 2012. PI12/00291. Duration: 01/01/13-31/12/15. €164,000.
 - ▶ Josep Julve. Molecular studies of monogenic familial dyslipemias and construction of a diagnostic/prognosis criteria in mutation-negative patients with familial hypercholesterolemia. Contratos Miguel Servet 2013 - Tipo I. CP13/00070. Duration: 01/01/14-31/12/16. €121,500.
 - ▶ Teresa Laura Errico. MINECO-ISCIII Contracte Predoc formació 2012. FI12/00226. Duration: 01/09/12-31/08/16. €85,200.
 - ▶ Josep Julve Gil. Contratos Miguel Servet 2013 - Tipo I. MS13/00070. Duration: 01/01/2014-31/12/2018. €202,500.
 - ▶ Helena Quesada Vázquez. Ayudas para Contratos de Perfeccionamiento "Sara Borrell 2012". CD12/00533. Duration: 14/01/13-13/01/16. €75,600.
- Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded
in 2014

- Francisco Blanco Vaca. Avances en el diagnóstico molecular de pacientes con dislipemias hereditarias, con especial referencia a la base poligénica de algunas de ellas y a la hipercolesterolemia familiar. Proyectos de Investigación en Salud 2014. PI14/01648. €76,500.
- Karen Alejandra Méndez Lara. Estratègies terapèutiques i nutricionals basades en la milloria de les funcions antioxidant i antiinflamatòria de les lipoproteïnes d'alta densitat (HDL) en la

diabetis tipus 2 i el càncer de mama. Ajuts per contractar personal investigador novell any 2014 (FI-DGR). FI00171. Duration: 01/10/14-30/09/17. €18,146.88.

Note: Total amount granted to PI. It does not include indirect costs.

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Scientific Production

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Escola-Gil J.C., Cedo L., Blanco-Vaca F., High-density lipoprotein cholesterol targeting for novel drug discovery: Where have we gone wrong? (2014) EXPERT OPIN DRUG DIS, 9 (2), 119-124.

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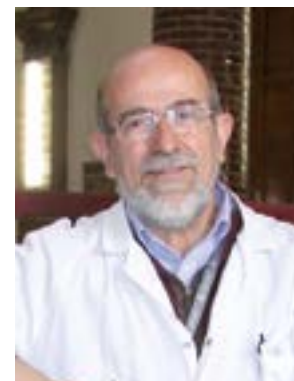
Inflammatory Diseases

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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 chronic graft rejection in cardiac posttransplant patients.

Challenges

- ▶ Role of cells and molecules of the innate immune response in the development and control of inflammatory processes, in the appearance of autoimmune phenomena, immunodeficiencies, infections, cardiovascular diseases and development of tumours.
- ▶ Role of TLR and STAT signalling in inflammatory diseases.
- ▶ Involvement of STAT family of transcription factors in response to superantigens.
- ▶ Study of mechanisms involved in immunodeficiency caused by alterations of the CD8a molecule.
- ▶ 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.
- ▶ Analysis of the evolution of immunological parameters and their correlation with clinical response to treatment with immunomodulators.
- ▶ Effects of rituximab, tocilizumab and adalimumab in immunological variables and their correlation with the clinical response in patients with inflammatory diseases.

Theses

- ▶ Carlos Zamora Atenza. Anàlisi de l'expressió del receptor scavenger CD36 en els leucòcits: conseqüències funcionals en la inflamació. Universitat Autònoma de Barcelona. Director: Silvia Vidal Alcorisa.
- ▶ Consol Benaiges Martínez. Teixit adipós epicàrdic i senyalització a través dels receptors toll like (TLR): Paper en la patofisiologia de l'aterosclerosi. Universitat Autònoma de Barcelona. Director: Cándido Juárez Rubio.

Active Grants

- ▶ Oscar de la Calle Martín, Redirección de la especificidad de las células T contra péptidos del antígeno tumoral WT1 restringidos por la HLA-A2. Estudio preclínico traslacional. FIS Project 2009. PI09/0310. Duration: 01/01/10-30/06/14. €86,500.
- ▶ Juárez Rubio, Cándido. Mecanismos implicados en la acción del rtuximab en miastenia gravis: efecto diferencial sobre los autoanticuerpos anti-AchR y ANTI-MuSK. MINECO-ISCIII Project 2011. PI11/00927. Duration: 01/01/12-31/12/15. €66,500.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2014

- ▶ Vidal Alcorisa, Silvia. Estudio de la interacción entre el linfocito T y plaquetas: su aplicación en el desarrollo de una terapia celular para regular la respuesta inmune en la artritis reumatoide. Proyectos de Investigación en Salud 2014. PI14/00741. €41,500.

Note: Total amount granted to PI. It does not include indirect costs.

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Scientific Production

Canto E., Garcia Planella E., Zamora-Atenza C., Nieto J.C., Gordillo J., Ortiz M.A., Meton I., Serrano E., Vegas E., Garcia-Bosch O., Juarez C., Vidal S., Interleukin-19 impairment in active Crohn's disease patients. (2014) PLOS ONE, 9 (4).

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Cuenca S., Sanchez E., Santiago A., El Khader I., Panda S., Vidal S., Nieto J.C., Juarez C., Sancho F., Guarner F., Soriano G., Guarner C., Manichanh C., Microbiome composition by pyrosequencing in mesenteric lymph nodes of rats with CCl4-induced cirrhosis. (2014) J INNATE IMMUN, 6 (3), 263-271.

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jas-Garcia R., Hayworth C.R., Verschuuren J.J., Balice-Gordon R., Dalmau J., Illa I., Cortactin autoantibodies in myasthenia gravis. (2014) AUTOIMMUN REV, 13 (10), 1003-1007.

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Guillen-Gomez E., Guirado L., Belmonte X., Maderuelo A., Santin S., Juarez C., Ars E., Facundo C., Ballarin J.A., Vidal S., Diaz-Encarnacion M.M., Monocyte implication in renal allograft dysfunction. (2014) CLIN EXP IMMUNOL, 175 (2), 323-331.

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Nieto J.C., Sanchez E., Roman E., Vidal S., Oliva L., Guarner-Argente C., Poca M., Torras X., Juarez C., Guarner C., Soriano G., Cytokine production in patients with cirrhosis and TLR4 polymorphisms. (2014) WORLD J GASTROENTERO, 20 (46), 17516-17524.

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Roman E., Torrades Ma.T., Nadal Ma.J., Cardenas G., Nieto J.C., Vidal S., Bascunana H., Juarez C., Guarner C., Cordoba J., Soriano G., Randomized pilot study: Effects of an exercise programme and leucine supplementation in patients with cirrhosis. (2014) DIGEST DIS SCI, 59 (8), 1966-1975.

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Zamora-Atenza C., Diaz-Torne C., Geli C., Diaz-Lopez C., Ortiz M.A., Moya P., Castellvi I., Nieto J.C., Canto E., Casademont J., Juarez C., Llobet J.M., Vidal S., Adalimumab regulates intracellular TNF α production in patients with rheumatoid arthritis. (2014) ARTHRITIS RES THER, 16 (4).

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Other Publications

- ▶ Fuentes-Finkelstein P., Barnadas M., Gelpi C., Puig L., Pemphigus herpetiformis with progression to pemphigus foliaceus: A case report. (2014) ACTAS DERMATO-SIFILIOGRAFICAS, 105 (5), 526-528.
- ▶ Gelpi C., Perez E., Roldan C., Efficiency of a solid-phase chemiluminescence immunoassay for detection of antinuclear and cytoplasmic autoantibodies compared with gold standard immunoprecipitation. (2014) AUTOIMMUNITY HIGHLIGHTS, 5 (2), 47-54.

- ▶ Labrador-Horrillo M., Martinez M.A., Selva-O'Callaghan A., Trallero-Araguas E., Balada E., Vilardell-Tarres M., Juarez C., Anti-MDA5 antibodies in a large Mediterranean population of adults with dermatomyositis. (2014) JOURNAL OF IMMUNOLOGY RESEARCH, 2014, 290797.

Endocrinology, Diabetes and Nutrition

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Aleida Pujol
Diana Tundidor



Main Lines of Research

- ▶ Endocrine neoplasms: investigation of tumour dedifferentiation mechanisms through genomic, proteomic and bioinformatic procedures.
- ▶ Autoimmune diabetes mellitus (classic type 1 and LADA) and gestational diabetes.
- ▶ Telemedicine and intelligent systems for therapeutic optimization of diabetes mellitus.
- ▶ Prediction, prevention and optimization of the treatment of obesity, hyperlipidaemia, metabolic syndrome and complications.
- ▶ Diabetes and endocrine disorders in pregnancy.
- ▶ History of insulin: old and new controversies about the discovery of insulin.

Active Grants

- ▶ Alberto de Leiva Hidalgo. Ajuts de suport als Grups de Recerca de Catalunya. Grup Diabetis i Altres Malalties Endocrinològiques. AGAUR 2009. SGR 806. Duration: 17/09/09-30/04/14. €47,840.
- ▶ Rosa Corcoy Pla. Vitamin D and Lifestyle Intervention for Gestational Diabetes Mellitus (GDM) Prevention (DALI). 7th Framework Programme. HEALTH-F2-2009-242187. Duration: 01/03/10-31/12/15. €143,257.
- ▶ Cintia González Blanco. Intensificación y monitorización telemática personalizada de la modificación del estilo de vida en el tratamiento de la obesidad y la prevención del riesgo cardiometabólico. Proyectos de

Investigación en Salud 2012. PI12/00931. Duration: 01/01/13-31/12/15. €68,000.

- ▶ Miguel Ángel María María. Evaluación del impacto de la implantación de un programa de manejo de tratamiento de la hiperglucemia durante la hospitalización y al alta del paciente no crítico en un gran hospital con la inclusión de una enfermera consultora. III Ayuda Guido Ruffino de Investigación en Educación Terapéutica en Diabetes. Duration: 29/05/2013-30/11/2014. €5,455.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2014

- ▶ Alberto de Leiva Hidalgo. Grup de Recerca en Endocrinologia, Diabetis i Nutrició (ED-UAB-HSP). AGAUR 2014. SGR 569. Duration: 04/09/14-31/12/16. €50,000.
- ▶ Valeria Alcántara Aragón. Intensificación y monitorización telemática personalizada de la modificación del estilo de vida en el tratamiento de la obesidad y la prevención

del riesgo cardiometabólico (PREDIRCAM 2). Ajuts per contractar personal investigadors novells any 2014 (FI-DGR) 2014. FI00149. Duration: 01/03/14-28/02/17. €18,146.88.

Note: Total amount granted to PI. It does not include indirect costs.

Theses

- ▶ Irene Vinagre Torres. Biomarcadores de la inflamación en la diabetes mellitus tipo 2: efecto del control glucémico y del fenotipo de las LDL. Universitat Autònoma de Barcelona. Directors: Alberto de Leiva, Antonio Pérez. Date of defense: December 2014.

Challenges

Endocrine Neoplasms

- ▶ Molecular markers of the epithelial lineage: expression of the ABCG2 gene/BCRP1 transporter.
- ▶ Importance of thyroglobulin and antithyroglobulin antibodies as prognostic prediction markers in differentiated thyroid cancer of epithelial lineage.
- ▶ Transcriptomics and proteomics as prediction and prognosis instruments for epithelial thyroid cancer.
- ▶ Intramural CELL-NANO-THYROID project: investigation of human mesenchymal cell capacity as an instrument for administering anti-tumour cell drugs in the form of conjugated nanoparticles.

Autoimmune Diabetes Mellitus and Gestational Diabetes

- ▶ Classic type 1 autoimmune diabetes mellitus: discovery of genes that influence susceptibility to autoimmune diabetes (classic type 1).
- ▶ LADA type diabetes: prevalence of metabolic syndrome among patients with LADA compared to prevalence among patients with classic type 1 diabetes, type 2 diabetes and the general non-diabetic population in European countries.
- ▶ Diabetes and pregnancy: clinical research aimed at optimizing care for women with pre-gestational and gestational diabetes at different pre-conception, pregnancy, birth and postpartum stages.

Telemedicine and Intelligent Systems for Therapeutic Optimization of Diabetes Mellitus

- ▶ Development of a technological platform for the prediction, prevention and treatment of obesity, DM, HTA, dyslipidemia and cardiometabolic risk.

Optimization of the Treatment of Obesity, Hyperlipidaemia, Metabolic Syndrome and Complications

- ▶ Optimal treatment and prevention of cardiovascular risk associated with, obesity, hyperlipidaemia, metabolic syndrome and diabetes mellitus 2.

History of Insulin: Old and New Controversies about the Discovery of Insulin

- ▶ To demonstrate with documented evidence (heuristics) demonstrating that European research on the development of pancreatic extracts achieved beneficial results in the opotherapy of both experimental and clinical diabetes.
- ▶ Research into impaired glucose tolerance in women suffering from polycystic ovary syndrome.
- ▶ Acquisition of information to help assess the clinical and socioeconomic relevance of cardiometabolic risk.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Oncogenesis and Antitumour Drugs (Ramon Mangués).
- ▶ Ophthalmology (Fernando Rodríguez Álvarez).
- ▶ Cardiovascular Biochemistry (Jorge Ordóñez, José Luis Quesada, Francisco Blanco).
- ▶ General and Digestive Surgery (Antonio Moral, Ignacio Pérez).
- ▶ Reproductive Health (Juan Adelantado).

External Collaborations

CIBER-BBN

- ▶ Bioengineering and Telemedicine Group at the Universidad Politécnica de Madrid, Spain (GBT-UPM). PI: Enrique J. Gómez Aguilera.
- ▶ Biomedical Engineering Research Group at the Universidad de Sevilla, Spain (GIB-US). PI: Laura Roa Romero.

CELL-NANO-THYROID

- ▶ Molecular Oncology Group at HVH, PI: S. Schwartz, Jr.
- ▶ Development of New Drugs Group at the Universidad del País Vasco, Spain. PI: JL Pedraz.

CONCEPTT: Women with Type 1 Diabetes in Pregnancy Trial

- ▶ Sansum Diabetes Research Institute (SDRI). Santa Barbara (California) USA.

- ▶ University of Toronto, Mount Sinai Hospital, Department Endocrinology & Metabolism. Toronto, Canada.
- ▶ Dalhousie University, Staff Endocrinologist, Department of Medicine. Halifax, Canada.
- ▶ University of British Columbia, BC Women's Diabetes Pregnancy Service. Vancouver, Canada.
- ▶ McMaster University, Endocrinology/General Internal Medicine. Hamilton, Canada.
- ▶ University of Ottawa, The Ottawa Hospital, Division of Endocrinology and Metabolism. Ottawa, Canada.
- ▶ Sunnybrook Health Sciences Centre, Department of Endocrinology. Toronto, Canada.
- ▶ University of Western Ontario, Department of Medicine: Endocrinology & Metabolism. London, Ontario, Canada.
- ▶ Centre de Recherche du CHUL. Unité de recherche sur le diabète. Québec, Canada.
- ▶ McGill University, Department of Medicine, Division of Endocrinology & Metabolism, Metabolic Day Centre and Antenatal Clinic. Montréal, Canada.
- ▶ University of Calgary, Departments of Medicine and Obstetrics & Gynaecology. Calgary, Canada.
- ▶ Charles H. Best Diabetes Centre. Ajax, Canada.
- ▶ Yale University. Diabetes Clinic. New Haven, US.
- ▶ Tel-Aviv University, Helen Schneider Hospital for Women; Rabin Medical Center. ISRAEL

Endocrinology, Diabetes and Nutrition

Collaborations

- ▶ Universitat Autònoma de Barcelona. Hospital de la Santa Creu i Sant Pau. Servei d'Endocrinologia i Nutrició. Barcelona, Spain.
- ▶ Health and Social Secretariat. Assembly of First Nations. Ottawa, Canada.
- ▶ CIHR Institute of Aboriginal Peoples' Health. Ottawa, Canada.
- ▶ Community Programs Directorate First Nations and Inuit Health Branch. Ottawa, Canada.
- ▶ University of Western Ontario. Department of Epidemiology and Biostatistics and the Division of Endocrinology. London, Ontario, Canada.
- ▶ Royal University Hospital. Department of Medicine. Saskatoon, Canada.
- ▶ Sunnybrook Health Sciences Centre. Centre for Mother, Infant, and Child Research (CMICR). Toronto, Canada.
- ▶ Jaeb Center for Health Research. Tampa, US.
- ▶ University of Waterloo. Office of Research. Waterloo, Canada.
- ▶ Juvenile Diabetes Research Foundation (JDRF). Canada.
- ▶ Juvenile Diabetes Research Foundation International (JDRF). US.
- ▶ JDRF Lay Review Committee Members (LRC).
- ▶ JDRF Canadian Clinical Trial Network (CCTN).

Vitamin D and Lifestyle Intervention for Gestational Diabetes Mellitus (GDM) Prevention (DALI)

- ▶ Medizinische Universität Graz (MUG), Austria.
- ▶ Medical Research Council (MRC), United Kingdom.
- ▶ Medical University Vienna (MUV), Austria.
- ▶ University Central Hospital (HUCH), Finland.

- ▶ Recherche en Santé Lawson S.A. (LAWSON), Switzerland.
- ▶ Katholieke Universiteit Leuven (K.U.Leuven), Belgium.
- ▶ Copenhagen University Hospital (CUH), Denmark.
- ▶ Akademia Medyczna im Karola Marcinkowskiego (PUM), Poland.
- ▶ BAP Health Outcomes Research (S.L. BAP), Spain.
- ▶ Università degli studi di Padova (UNIPD), Italy.
- ▶ National University of Ireland (NUI), Ireland.
- ▶ Vrije Universiteit Medisch Centrum (VU), Netherlands.

Action LADA European Consortium

- ▶ David Leslie, Co-Ordinator, St. Bartholomew's Hospital, UK.
- ▶ Rhys Williams and Mark Airey, Nuffield Institute for Health, UK.
- ▶ Henning Beck-Nielsen, Odense University Hospital, Denmark.
- ▶ David Hadden and Stephen Hunter, Royal Victoria Hospital, UK.
- ▶ Umberto Di Mario, University of Rome "La Sapienza", Italy.
- ▶ Werner Scherbaum and Jochen Seissler, University of Dusseldorf, Germany.
- ▶ Hubert Kolb, Germany, University of Dusseldorf, Germany.
- ▶ Guntram Schernthaner, Rudolfstiftung Hospital, Austria.
- ▶ Jaakko Tuomilehto and Johan Eriksson, National Public Health Inst., Finland.
- ▶ Alberto de Leiva, Hospital de Sant Pau, Spain.
- ▶ Charles Thivolet, Hospital Edouard Herriot, France.
- ▶ Type 1 Diabet Genetics European Network (ET1DGC), Asia-Pacific, North America and United Kingdom.

*TIF: 44.5170 **MIF: 2.7823

Scientific Production

Alcantara-Aragon V., Martinez-Couselo S., Tundidor-Rengel D., Webb S.M., Carreras G., Espinos J.J., Chico A., Blanco-Vaca F., Corcoy R., Genetic analysis does not confirm non-classical congenital adrenal hyperplasia in more than a third of the women followed with this diagnosis. (2014) HORM-INT J ENDOCRINO, 13 (4), 585-587.

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Amor A.J., Halperin I., Alfayate R., Borrás V.M., Escribano A., Gonzalez C., Gutierrez A., Mauri M., Perez P., Pico A., Vourliotaki I., Oriola J., Identification of four novel mutations in the thyroid hormone receptor- β gene in 164 Spanish and 2 Greek patients with resistance to thyroid hormone. (2014) HORM-INT J ENDOCRINO, 13 (1), 74-78.

IF: 1.1980

Aulinas A., Ramirez M.-J., Barahona M.-J., Vallasi E., Resmini E., Mato E., Santos A., Crespo I., Bell O., Surrallés J., Webb S.M., Telomere length analysis in Cushing's syndrome. (2014) EUR J ENDOCRINO, 171 (1), 21-29.

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Gonzalez C., Aulinas A., Colom C., Tundidor D., Mendoza L., Corcoy R., Mato E., Alcantara V., Urgell Rull E., De Leiva A., Thyroglobulin as early prognostic marker to predict remission at 18-24 months in differentiated thyroid carcinoma. (2014) CLIN ENDOCRINO, 80 (2), 301-306.

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Inka Miñambres, Jose Luis Sánchez-Quesada, Irene Vinagre, Joan Sánchez-Hernández, Eulalia Urgell, Alberto de Leiva, Antonio Pérez. Hypovitaminosis D in type 2 diabetes: relation with features of the metabolic syndrome and glycemic control. Endocrine Research: 1-6. Posted online on December 23, 2014.

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Julve J., Pardina E., Perez-Cuellar M., Ferrer R., Rossell J., Baena-Fustegueras J.A., Fort J.M., Lecube A., Blanco-Vaca F., Sanchez-Quesada J.L., Peinado-Onsurbe J., Bariatric surgery in morbidly obese patients improves the atherogenic qualitative properties of the plasma lipoproteins. (2014) ATHEROSCLEROSIS, 234 (1), 200-205.

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Mato E., Gonzalez C., Moral A., Perez J.I., Bell O., Lerma E., de Leiva A., ABCG2/BCRP gene expression is related to epithelial-mesenchymal transition inducer genes in a papillary thyroid carcinoma cell line (TPC-1).

(2014) J MOL ENDOCRINO, 52 (3), 289-300. IF: 3.0810

Minambres I., De Leiva A., Perez A., Hypovitaminosis D and metabolic syndrome. (2014) MED CLIN-BARCELONA, 143 (12), 542-547.

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Minambres I., Sanchez-Quesada J.L., Sanchez-Hernandez J., Rodriguez J., De Leiva A., Perez A., Vitamin D concentrations in familial combined hyperlipidemia: Effects of lipid lowering treatment. (2014) DIABETOL METAB SYNDR, 6 (1).

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Perez A., Jansen-Chaparro S., Saigi I., Bernal-Lopez M.R., Minambres I., Gomez-Huelgas R., Glucocorticoid-induced hyperglycemia. (2014) J DIABETES, 6 (1), 9-20.

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Perez A., Mediavilla J.J., Minambres I., Gonzalez-Segura D., Glycemic control in patients with type 2 diabetes mellitus in Spain. (2014) REV CLIN ESP, 214 (8), 429-436.

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Perez A., Reales P., Barahona M.J., Romero M.G., Minambres I., Efficacy and feasibility of basal-bolus insulin regimens and a discharge-strategy in hospitalised patients with type 2 diabetes-the HOSMIDIA study. (2014) INT J CLIN PRACT, 68 (10), 1264-1271.

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Vinagre I., Sanchez-Quesada J.L., Sanchez-Hernandez J., Santos D., Ordonez-Llanos J., De Leiva A., Perez A., Inflammatory biomarkers in type 2 diabetic patients: Effect of glycemic control and impact of LDL subfraction phenotype. (2014) CARDIOVASC DIABETOL, 13 (1).

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Other Publications

▶ Alcántara-Aragón V, Gonzalez C, Corcoy R, Ubeda J, Chico A. Carbohydrate-to-Insulin Ratio in a Mediterranean Population of Type 1 Diabetic Patients on Continuous Subcutaneous Insulin Infusion Therapy. J Diabetes Sci Technol. 2014 Dec 17. pii: 1932296814563571. [Epub ahead of print] PubMed PMID: 25519294.

▶ Alejandra de Leiva-Pérez, Eulalia Brugués, Alberto de Leiva. PREVENTION OF T2DM: eHEALTH. Diapedia (The Living Text Book of Diabetes). November 2014

▶ Chico A., Tundidor D., Jordana L., Saigi I., Maria M.A., Corcoy R., De Leiva A., Changes in insulin requirements from the onset of continuous subcutaneous insulin infusion (CSII) until optimization of glycemic control. (2014) Journal of Diabetes Science and Technology, 8 (2), 371-377.

▶ de Leiva Pérez, A., Brugués, E., de Leiva, A.. Prevention of T2DM: eHealth [internet]. 2014 Nov 6; Diapedia 0104770160 rev.o.11. Available from: <http://dx.doi.org/10.14496/dia.0104770160.11>

▶ Martín Vaquero P, Martínez-Brocca M.A, García-López JM, en representación del Grupo de trabajo de Nuevas de Nuevas Tecnologías de la Sociedad Española de Diabetes. (Cintia González, Ana Chico). Documento de posicionamiento sobre la eficiencia de las tecnologías aplicadas al manejo de la diabetes. Av Diabetol 2014;30:131-49.

▶ Monografía GEDE (2014): Uso de fármacos en diabetes y embarazo. Grupo Español de Diabetes y Embarazo (SED, SEGO) (Rosa Corcoy, Ana Chico).

Pituitary Gland Disorders

Coordinator

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HSCSP

Members

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Eugenia Resmini	CIBERER
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Eulalia Urgell	HSCSP
Elena Valassi	HSCSP RI



Main Lines of Research

- ▶ Morbimortality, low-grade inflammation and cardiovascular risk in patients with acromegaly or Cushing syndrome.
- ▶ ERCUSYN: European Registry on Cushing syndrome. Initiated with funding from SANCO, EU Public Health Programme.
- ▶ Neuroradiological, neuropsychological and clinical study of endogenous hypercortisolism: comparison of Cushing syndrome and chronic major depressive disorder.
- ▶ Validation of psychological properties of specific questionnaires to evaluate health-related quality of life (HRQoL) in Cushing syndrome and acromegaly.
- ▶ Study of signal transduction of GH in muscle by gene expression in a C2C12 cell line stimulated with GH.
- ▶ Aetiology of cardiopathy in acromegaly and its relation to body composition.
- ▶ Role of telomeres in endocrine diseases.

Challenges

- ▶ Investigate the neuropsychological, neuroradiological and clinical correlation of patients with endogenous hypercortisolism (due to Cushing 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 using microarrays.
- ▶ Correlate neuropsychological status and circadian rhythm of cortisol in patients with hypercortisolism (Cushing syndrome) and without hypercortisolism (non-functioning pituitary adenomas) compared to normal controls.
- ▶ Evaluate long-term morbidity and mortality in patients who have had Cushing syndrome or acromegaly in the last 25 years.
- ▶ Analyse and update the European database of patients with Cushing syndrome (ERCUSYN), which at the end of 2013 included over 1100 patients from 57 centres in 36 countries.
- ▶ Conduct in vitro molecular analysis of operated pituitary adenomas within the RE-MAH (Molecular Registry of Pituitary Adenomas) study, sponsored by the Spanish Endocrinology and Nutrition Society.
- ▶ Investigate correlations of telomere length and different clinical and biochemical parameters in patients with Cushing syndrome.

Awards

- ▶ Maria Antonia Martínez Momblán. Impacto de un programa educativo para el paciente con síndrome de Cushing: Estudio Multicéntrico. Premi extraordinari de doctorat del curs 2013-2014.
- ▶ María-José Barahona, Eugenia Resmini, David Viladés, Guillem Pons-Lladó, Rubén Leta, Teresa Puig, Susan M. Webb. Coronary Artery Disease Detected by Multislice Computed Tomography in Patients After Long-Term Cure of Cushing's Syndrome. J Clin Endocrinol Metab 2013 Mar;98(3):1093-9. Premi Almirall 2014 de la SEEN.
- ▶ Anna Aulinas. Does hypercortisolism of Cushing's syndrome affect telomere length? European Society of Endocrinology Young Investigators Award. 16th European Congress of Endocrinology. Wrocław, Poland, 3-7 May 2014.

Active Grants	▶ Susan Webb Youdale. Etiopatogenia de la cardiopatia en la acromegalia y su relación con la composición corporal. MINECO-ISCI111 Proyecto 2011. PI11/00001. Duration: 01/01/12-31/12/14. €164,227. ▶ Susan Webb Youdale. Etiopatogenia de la cardiopatia en la acromegalia y su relación con la composición corporal. Merck Serono 2012. Duration: 04/06/12-04/06/15. €16.667.	▶ Susan Webb Youdale. Contractes per a la intensificació de l'activitat investigadora en el SNS 2013. INT13/00248. Duration: 01/01/14-31/12/14. €30,000. ▶ Elena Valassi. Subprograma Juan de la Cierva 2012. JLC-2012-13447. Duration: 01/12/13-30/11/16. €86,400.
	Note: Total amount granted to PI. It does not include indirect costs.	

Grants Awarded in 2014	▶ Webb Youdale, Susan. Estudio de microarquitectura y resistencia óseas y de factores que las determinan en el síndrome de Cushing o acromegalia en remisión. Modelo para investigar la interacción hueso-grasa corporal. Proyectos de Investigación en Salud 2014. PI14/00194. €91,500.	Note: Total amount granted to PI. It does not include indirect costs.
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*TIF: 48.5800 **MIF: 4.0483

Scientific Production	Aulinas A., Ramirez M.-J., Barahona M.-J., Valassi E., Resmini E., Mato E., Santos A., Crespo I., Bell O., Surralles J., Webb S.M., Telomere length analysis in Cushing's syndrome. (2014) EUR J ENDOCRINOL, 171 (1), 21-29. IF: 4.0690 Aulinas A., Webb S.M., Health-related quality of life in primary and secondary adrenal insufficiency. (2014) EXPERT REV PHARM OUT, 14 (6), 873-888. IF: 1.6690 Badia X., Valassi E., Roset M., Webb S.M., Disease-specific quality of life evaluation and its determinants in Cushing's syndrome: What have we learnt?. (2014) PITUITARY, 17 (2), 187-195. IF: 3.2010 Clemmons D.R., Molitch M., Hoffman A.R., Klibanski A., Strasburger C.J., Kleinberg D.L., Ho K., Webb S.M., Bronstein M.D., Bouillon R., Ben-Shlomo A., Hamrahian A.H., Chanson P., Barkan A.L., Merriam G.R., Blackman M.R., Salvatori R., Growth hormone should be used only for approved indications. (2014) J CLIN ENDOCR METAB, 99 (2), 409-411. IF: 6.2090 Crespo I., Esther G.-M., Santos A., Valassi E., Yolanda V.-G., De Juan-Delago M., Webb S.M., Gomez-Anson B., Resmini E., Impaired decision-making and selective cortical frontal thinning in Cushing's syndrome. (2014) CLIN ENDOCRINOL, 81 (6), 826-833. IF: 3.4570 Crespo I., Webb S.M., Perception of health and cognitive dysfunction in acromegaly patients. (2014) ENDOCRINE, 46 (3), 365-367. IF: 3.8780 De Liano A.G., Reig O., Mellado B., Martin C., Rull E.U., Maroto J.P., Prognostic and predictive value of plasma testosterone levels in patients receiving first-line chemotherapy for metastatic castrate-resistant prostate cancer. (2014) BRIT J CANCER, 110 (9), 2201-2208. IF: 4.8360 Gonzalez C., Aulinas A., Colom C., Tundidor D., Mendoza L., Corcoy R., Mato E., Alcantara V., Urgell Rull E., De Leiva A., Thyroglobulin as early prognostic marker to predict remission at 18-24 months in differentiated thyroid carcinoma. (2014) CLIN ENDOCRINOL, 80 (2), 301-306. IF: 3.4570 Mo D., Blum W.F., Rosilio M., Webb S.M., Qi R., Strasburger C.J., Ten-year change in quality of life in adults on growth hormone replacement for growth hormone deficiency: An analysis of the hypopituitary control and complications study. (2014) J CLIN ENDOCR METAB, 99 (12), 4581-4588. IF: 6.2090 Santos A., Resmini E., Crespo I., Pires P., Vives-Gilabert Y., Granell E., Valassi E., Gomez-Anson B., Martinez-Momblan M.A., Mataro M., Webb S.M., Small cerebellar cortex volume in patients with active Cushing's syndrome. (2014) EUR J ENDOCRINOL, 171 (4), 461-469. IF: 4.0690 Sesmi G., Resmini E., Bernabeu I., Aller J., Soto A., Mora M., Pico A., Fajardo C., Torres E., Alvarez-Escola C., Garcia R., Blanco C., Camara R., Gaztambide S., Salinas I., Pozo C.D., Castells I., Villabona C., Biagetti B., Webb S.M., Escape and lipodystrophy in acromegaly during pegvisomant therapy, a retrospective multicentre Spanish study. (2014) CLIN ENDOCRINOL, 81 (6), 883-890. IF: 3.4570 Webb S.M., Ware J.E., Forsythe A., Yang M., Badia X., Nelson L.M., Signorovitch J.E., McLeod L., Maldonado M., Zgliczynski W., De Block C., Portocarrero-Ortiz L., Gadelha M., Treatment effectiveness of pasireotide on health-related quality of life in patients with Cushing's disease. (2014) EUR J ENDOCRINOL, 171 (1), 89-98. IF: 4.0690	

Other Publications	▶ Crespo I., Santos A., Resmini E., Valassi E., Martinez-Momblan M.A., Webb S.M., Improving quality of life in patients with pituitary tumors. (2014) US ENDOCRINOLOGY, 10 (1), 79-83. ▶ Miguel Novoa P.D., Vela E.T., Garcia N.P., Rodriguez M.M., Guerras I.S., Martinez de Salinas Santamaria M.D.L.T., Maso A.A., Guidelines for the diagnosis and treatment of adrenal insufficiency in the adult. (2014) ENDOCRINOLOGIA Y NUTRICION, 61 (S1), 1-35.
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Digestive Diseases

Coordinator

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Members

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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 receptor 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.
- ▶ Cognitive impairment, falls and quality of life in patients with cirrhosis.

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

Challenges

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

Collaborations

- ▶ Carlos Guarner Argente. Beca per a la intensificació de la recerca de la Societat Catalana de Digestologia (2014-2015).

Active Grants

- ▶ Germán Soriano Pastor. Relación de polimorfismos de toll-like receptors (TLR) TLR2, TLR4 y TLR9 con la incidencia de infecciones, la evolución de la enfermedad y la respuesta inflamatoria en pacientes cirróticos. FIS Project 2009. PI09/0357. Duration: 01/01/10-30/06/14. €56,500.
- ▶ Cándido Villanueva Sánchez. Prevención del desarrollo de hipertensión portal clínicamente significativa en la cirrosis compensada mediante vasodilatación hepática selectiva. Estudio multicéntrico, doble ciego, aleatorizado. FIS Project 2010. PI10/01552. Duration: 01/01/11-30/06/15. €93,000.
- ▶ Carlos Guarner Aguilar. Estudio clínico y experimental de traslocación bacteriana en la cirrosis mediante pirosecuenciación. MINECO-ISCIII Project 2011. PI11/01026. Duration: 01/01/12-31/12/14. €62,600.
- ▶ Eva María Román. Estudio del síndrome de fragilidad en los pacientes con cirrosis hepática: relación con las caídas, la calidad de vida y el pronóstico. Proyectos de Investigación en Salud 2012. PI12/00629. Duration: 01/01/13-31/12/15. €31,500.
- ▶ Carlos Guarner Argente. Ensayo clínico multicéntrico, aleatorizado y doble ciego sobre el uso de antibiótico profiláctico en la punción por ecoendoscopia de lesiones quísticas del páncreas. Proyectos de Investigación en Salud 2013. PI13/00609. Duration: 01/01/14-31/12/16. €33,750.
- ▶ Cándido Villanueva Sánchez. Prevención de la descompensación de la cirrosis a largo plazo mediante el tratamiento de la hipertensión portal: Estudio multicéntrico a doble-cego. Proyectos de Investigación en Salud 2013. PI13/02535. Duration: 01/01/14-31/12/16. €218,750.
- ▶ Cándido Villanueva Sánchez. Estudio aleatorizado y controlado comparando acenocumarol versus bemiparina en pacientes que necesitan reiniciar la anticoagulación tras un episodio de hemorragia digestiva grave. Ministerio de Sanidad, Servicios Sociales e Igualdad: EC 2010. EC10-135. Duration: 01/01/11-30/06/15. €25,480.
- ▶ Abelardo Margolles. MICROBILE. La microbiota de la bilis humana: ecología, funcionalidad y relación con la dieta de algunos trastornos biliares. MINECO 2014.*

Note: Total amount granted to PI. It does not include indirect costs.

* Grants applied for by other research institutes.

Grants Awarded in 2014

- ▶ Carlos Guarner Aguilar. Estudio de las alteraciones de la barrera intestinal en la cirrosis hepática. Proyectos de Investigación en Salud 2014. PI14/00680. €81,500.
- ▶ Adolfo Gallego Moya. Estudio de pacientes con hepatitis crónica B en "zona gris de decisión terapéutica o que no cumplen estrictamente la indicación de tratamiento antiviral según las guías clínicas. Gilead 2014. 0146. Duration: 17/07/14-16/07/15. €6,000.

Note: Total amount granted to PI. It does not include indirect costs.

*TIF: 110.3530 **MIF: 4.7980

Scientific Production

- Ampuero J., Banales J.M., Soriano G., Crespo J., Olcoz J.L., Diago M., Calleja J.L., Romero-Gomez M., La poliquistosis hepática del adulto (PHA) en España: Análisis de una encuesta estructurada analizando la experiencia y actitud de los especialistas de digestivo españoles. (2014) REV ESP ENFERM DIG, 106 (4), 263-275.
IF: 1.4140
- Andreu M., Marquez L., Domenech E., Gisbert J.P., García V., Marin-Jimenez I., Penalva M., Gomollon F., Calvet X., Merino O., Garcia-Planella E., Vazquez-Romero N., Esteve M., Nos P., Gutierrez A., Vera I., Cabriada J.L., Martin M.D., Canas-Ventura A., Panes J., Disease severity in familial cases of IBD. (2014) J CROHNS COLITIS, 8 (3), 234-239.
IF: 6.2340
- Bakker O.J., Van Brunschot S., Farre A., Johnson C.D., Kalfarentzos F., Louie B.E., Olah A., O'Keefe S.J., Petrov M.S., Powell J.J., Besselink M.G., Van Santvoort H.C., Rovers M.M., Gooszen H.G., Timing of enteral nutrition in acute pancreatitis: Meta-analysis of individuals using a single-arm of randomised trials. (2014) PANCREATOLOGY, 14 (5), 340-346.
IF: 2.8370
- Cabre E., Manosa M., Garcia-Sanchez V., Gutierrez A., Ricart E., Esteve M., Guardiola J., Aguas M., Merino O., Ponferrada A., Gisbert J.P., Garcia-Planella E., Cena G., Cabriada J.L., Montoro M., Domenech E., Phenotypic concordance in familial inflammatory bowel disease (IBD). Results of a nationwide IBD Spanish database. (2014) J CROHNS COLITIS, 8 (7), 654-661.
IF: 6.2340
- Canas-Ventura A., Marquez L., Ricart E., Domenech E., Gisbert J.P., Garcia-Sanchez V., Marin-Jimenez I., Rodriguez-Moranta F., Gomollon F., Calvet X., Merino O., Garcia-Planella E., Vazquez-Romero N., Esteve M., Iborra M., Gutierrez A., Vera M., Andreu M., Panes J., Garcia V., Penalva M., Garcia-Planella E., Vera I., Nos P., Vazquez N., Gento E., Fernandez-Salazar L., Barrio J., Martin M.D., Munoz F., Ponferrada A., Hinojosa J., Piqueras M., Mendoza J.C., Cabriada J.L., Munoz C., Vilar P., Montoro M.A., Algaba A., Botella B., Saro C., Barreiro M., Aldeguer X., Risk of colectomy in patients with ulcerative colitis under thiopurine treatment. (2014) J CROHNS COLITIS, 8 (10), 1287-1293.
IF: 6.2340
- Canto E., Garcia Planella E., Zamora-Atenza C., Nieto J.C., Gordillo J., Ortiz M.A., Meton I., Serrano E., Vegas E., Garcia-Bosch O., Juarez C., Vidal S., Interleukin-19 impairment in active Crohn's disease patients. (2014) PLOS ONE, 9 (4).
IF: 3.2340
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Microbiology and Infectious Diseases

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Main Lines of Research

Clinical Microbiology

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

Kidney Transplantation

- ▶ Vaccines in patients at high risk of CMV infection post-transplantation.
- ▶ Detection of patients IgG positive for CMV but with posttransplantation risk of CMV infection.

- ▶ Biomarkers for BKV in urine samples.
- ▶ Medical care projects.

Infectious Pathologies

- ▶ 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 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 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 two doctoral theses.

Tuberculosis, Epidemiology and Resistance Mechanisms

- ▶ Prospective monitoring of primary and acquired Mycobacterium tuberculosis resistance to first-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 Mycobacterium 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 Unit.

Medical Care

- ▶ Government health department agreement (ongoing) regarding the development of epidemiological surveillance sup-

Challenges

port 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.
- ▶ Multicentre studies of HIV (ongoing).
- ▶ Monitoring of congenital infection in prenat women with Chagas disease.

Kidney Surgery

- ▶ Vaccine in patients with high risk of CMV infection post- transplantation: Phase 2 randomized, double-blind, placebo-controlled trial of MCMV5322A/MCMV3068A for the prevention of cytomegalovirus disease in high-risk kidney allograft recipients, Clinical trial sponsored by Genetech.
- ▶ Detection of patients IgG positive for CMV with high or low risk of CMV infection post- transplantation: Translational study to assess the clinical utility of determination pre-transplant of IFN- γ secreted by CD8 + T-cell-specific guide for the prevention of CMV infection in patients of low risk of CMV infection. Clinical trial sponsored by Consejería de Sanidad y Bienestar Social de Andalucía, Spain.
- ▶ Biomarkers for BKV in urine sample: Determination of a diagnostic and prognostic biomarker in urine by proteomics of nephropathy by BK virus in renal transplant receptors, sponsored by the Infectious Diseases Department, Vall d'Hebron University Hospital, Barcelona, Spain.

Infectious Pathologies

Restricted-use Antibiotic and Antimicrobial Policies

- ▶ To minimize resistance, reduce cost and improve compliance with surgical prophylaxis (at the time of administration) through suitable use of antimicrobial agents.

Epidemic Cutbreaks and Infections Caused by Multiresistant Microorganisms and Microorganisms Requiring Isolation

- ▶ To study epidemiology for our hospital.
- ▶ To reduce incidence.
- ▶ To prevent/contain epidemic outbreaks and work with the Microbiology Unit in epidemiology and molecular studies.

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 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).
- ▶ Database for monitoring CMV infections after renal transplantation.
- ▶ Database for monitoring BK virus infections after renal transplantation.
- ▶ Observational and multicentre case-controlled (1:2) study to compare the evolution of renal transplantation in patients with HIV infection (Dr Canal, Dr Facundo and Dr Serra), sponsored by the Andalusian Organ and Tissue Transplantation Society.
- ▶ Observational, epidemiological and retrospective study of management of CMV infection in a cohort of patients receiving solid organ transplantation in Catalonia (Dr Canal, Dr Facundo and Dr Serra), sponsored by the Catalan Transplantation Society.

Collaborations

External Collaborations

- ▶ Quality control agreement as referral centre for the Spanish Society of Clinical Microbiology and Infectious Diseases (SEIMC), Jan 2013.
- ▶ Study of *Bacillus cereus* var. *toyoi* resistance to tetracycline and chloramphenicol, collaboration Agreement with Rubinum SA, 2013-2014.
- ▶ Evaluation of new commercial preparations, agreement with Izasa Distribuciones Técnicas SA, 2013-2014.

- ▶ Validation of reactive syphilis BIOFLASH-BIO-FLASH HBeAg, Anti-HBe BIO-FLASH, all chemiluminescence immunoassays operating in the autoanalyzer BIO-FLASH, as well as other serological markers. Cooperation agreement, Biokit SA, 2014.

Microbiology and Infectious Diseases

Active Grants

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- Mercè Gurguí Ferrer. Red Española de Investigación en Patología Infecciosa (REIPI). Grupo Clínico. Retics 2006. RD06/0008/0007. Duration: 01/01/08-31/12/14. €30,000.
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Theses

- Noemí Alonso Louro. Caracterización molecular de los genes blaAmpC cromosómicos y adquiridos en aislados clínicos de *Escherichia coli* en el área de Barcelona. Universitat Autònoma de Barcelona. Directors: Beatriz Mirelis, Alba Rivera.

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Multi-organ Damage

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Domingo Ruiz HSCSP
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Olga Herminia Torres HSCSP



Main Lines of Research

Bone Metabolism and Osteoporosis

- ▶ Analysis of genetic influence on osteoporosis by means of aggregation studies in families of three or more generations with a minimum of 15 members.
- ▶ Bone structure study with quantitative CT of hip and spine, analysing the contribution of trabecular and cortical components using HRCT.
- ▶ Description of fat values and percentages in a normal population (in collaboration with the HIV Unit and CETIR Medical Group).
- ▶ Analysis of the influence of an intervention (physical exercise) on changes in the muscle compartment of patients with cirrhosis measured by DXA and HRQCT (in collaboration with the Gastroenterology Department).
- ▶ Description of bone structure in patients with a history of acromegaly assessed by DXA and HRQCT.

Hypertension and Vascular Risk

- ▶ Hypertension and quality of life.
- ▶ Refractory hypertension.
- ▶ Use of alirocumab in hypercholesterolaemia.

Clinical Management, Internal Medicine and Geriatrics

- ▶ Health care quality indexes (mortality, readmissions, etc).
- ▶ Perioperative medicine.
- ▶ Potentially inappropriate prescribing to older patients admitted to hospital.

Rheumatology and Rheumatoid Arthritis

- ▶ Immunomodulation due to anti-CD20 (rituximab) treatment and study of polymorphisms.

- ▶ Pharmacokinetics of methotrexate.
- ▶ Evaluation of baricitinib in patients with moderately to severely active rheumatoid arthritis who have had an inadequate response to methotrexate or antiTNF therapy.
- ▶ Evaluation of tofacitinib in patients with moderately to severely active rheumatoid arthritis with inadequate response to biologic DMARD.
- ▶ Evaluation of the JAK-STAT pathway in patients with rheumatoid arthritis treated with tocilizumab.

Systemic Sclerosis

- ▶ Capillaroscopy patterns and correlation with auto-antibodies and pulmonary function tests.
- ▶ Evidence-based detection of pulmonary arterial hypertension in systemic sclerosis: the DETECT study.
- ▶ Use of endothelin receptor antagonism to prevent pulmonary arterial hypertension (in collaboration with Vall d'Hebron University Hospital, Barcelona, Spain).
- ▶ Genetic studies in systemic sclerosis and collaboration with DUO Registry and LAUDES study.
- ▶ Study of capillaroscopy patterns in diffuse connective tissue diseases: QuantiCAP study.

Gout

- ▶ Epidemiology of hyperuricaemia and gout.

Sjögren Syndrome

- ▶ Clinical and epidemiological findings in Spanish patients with primary Sjögren syndrome (in collaboration with Spanish Society of Rheumatology).

Challenges	▶ To establish stable work relations between the HSCSP Bone Metabolism and Genomics of Complex Diseases Groups and the Bone Metabolism Unit of Hospital del Mar-Municipal Institute for Medical Research and the Faculty of Biology of the University of Barcelona. ▶ To strengthen ties between the HSCSP Rheumatology and Immunology departments regarding the study of immunological diseases.	
Collaborations	Collaborations with other IIB Sant Pau Groups ▶ Digestive Diseases (Dr Germán Soriano), Study by densitometry and ergospirometry of the effects of an exercise programme in overweight patients with liver cirrhosis. ▶ Orthopaedic Surgery and Traumatology Service (Dr José Carlos González Rodríguez), Randomized, double-blind, placebo-controlled clinical trial of parallel groups assessing the efficacy of subcutaneous denosumab for periprosthetic resorption decrease in patients with total knee prosthesis, IIB-SP-DEN-2012-24, Eudra No: 2012-001285-15. ▶ Cardiovascular Risk Group (Dr Laiz Matas), Longitudinal epidemiological study for the assessment of arterial stiffness in patients with renal insufficiency and treatment with vitamin D3 and vitamin D analogues, IIBSP- VIT-2013-138.	External Collaborations ▶ Dr Luis del Rio, Standardized measures of different tissues using dual-energy X-ray absorptiometry, CETIR Medical Group, Barcelona, Spain. ▶ Internal Medicine Pneumonia Study (ENEMI), coordinated by the Hospital General Universitario Gregorio Marañón, Madrid, Spain. ▶ Dr César Díaz Torné, panellist for the Guidelines to Clinical Practice for Gout (GuipClinGot), Spanish Rheumatology Society.
Active Grants	▶ Jordi Casademont Pou. Fenotipos intermediarios en el riesgo de desarrollar osteoporosis. El proyecto GAO (Genetic Analysis of Osteoporosis). MINECO-ISCI Project 2011. PI11/01175. Duration: 01/01/12-31/12/14. €139,955. ▶ Olga Torres Bonafonte. Estudio sobre la utilización inapropiada de medicamentos en pacientes de edad avanzada hospitalizados en servicios de medicina interna de diferentes hospitales españoles. Ministerio de Sanidad, Servicios Sociales e Igualdad: EC 2010. EC10-077. Duration: 01/01/11-30/06/15. €22,790.88. Note: Total amount granted to PI. It does not include indirect costs.	
Grants Awarded in 2014	▶ Jordi Casademont Pou. Estudio GAO: de los fenotipos intermediarios al análisis global del genoma. Proyectos de Investigación en Salud 2014. PI14/01036. €76,000. Note: Total amount granted to PI. It does not include indirect costs.	Awards ▶ Casademont J. Situación actual de la enseñanza de la Patología General en España. Premio de Educación Médica 2014 al mejor proyecto o trabajo en la enseñanza de grado. Cátedra de Educación Médica Fundación Lilly-Universidad Complutense de Madrid.
Theses	▶ César Díaz Torné. Avenços clínics i immunològics en la resposta al tractament amb teràpia deplectora de limfòcits B (Rituximab) en pacients amb artritis reumatoide. Universitat Autònoma de Barcelona. Directors: César Díaz López, Silvia Vidal Alcorisa, Jordi Casademont Pou. Date of defense: 27 January 2014. ▶ Iván Castellví Barranco. Utilidad de los antagonistas de los receptores de la endotelina para prevención primaria de hipertensión pulmonar en pacientes afectados de esclerosis sistémica. Universitat Autònoma de Barcelona. Directors: Carmen Pilar Simeon Aznar, Héctor Corominas Macías, Jordi Casademont Pou. Date of defense: 4 December 2014.	

Multi-organ Damage

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Chronic Respiratory Diseases

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Main Lines of Research

Asthma

- ▶ Asthma exacerbations.
- ▶ Severe asthma.
- ▶ Good clinical practice guidelines for asthma.
- ▶ Bronchial inflammation.
- ▶ Experimental asthma and pathogenic mechanisms.
- ▶ Multicentre biobank specializing in bronchial biopsies for research into asthma.
- ▶ Bronchial thermoplasty.
- ▶ Clinical trials.

COPD and Respiratory Failure

- ▶ Non-invasive mechanical ventilation.
- ▶ Respiratory rehabilitation.
- ▶ Pathophysiology.
- ▶ Exacerbation.

Obstructive Sleep Apnoea (OSA)

- ▶ Physiology and clinical, diagnostic and treatment consequences of sleep disorders.
- ▶ Obesity-hypoventilation syndrome.
- ▶ Analysis of airway inflammation in patients with OSA.

Challenges

- ▶ Consolidate a leading clinical trial unit in respiratory diseases.
- ▶ Capture pre-clinical development contracts from the pharmaceutical and biotech industry, using the capabilities of our basic research lab and experimental animal models.
- ▶ Recruit research trainees seeking a doctoral degree.
- ▶ Support the development of multidisciplinary research networks such as the Barcelona Respiratory Network and the Programme for Integrated Research for Asthma of the Spanish Society of Pneumology and Thoracic Surgery (SEPAR), and collaborate with or become involved in existing networks such as CIBER-Respiratory Disorders.

Theses

- ▶ Óscar Amor Carro. Role of the effector and regulatory arms of the adaptive immune response in the pathophysiology of experimental asthma. Universidad de Santiago de Compostela. Director: David Ramos Barbón. Date of defense: 24 January 2014.
- ▶ Ana M. Fortuna Gutiérrez. Utilidad de la medición de óxido nítrico en aire espirado en la patología respiratoria. Universitat Autònoma de Barcelona. Directors: Pere Casan Clará, Mercedes Mayos Pérez. Date of defense: 5 December 2014.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Ear, Nose and Throat Cancers (collaboration of Dr. V. Plaza in the EPONA study).
- ▶ Genetics and Vascular Surgery Departments (collaboration of Dr. V. Plaza in the TAGA study).

External Collaborations

- ▶ Dr. V. Plaza, Emergent Asthma Group, SEPAR.
- ▶ Dr. V. Plaza, INASMA Group.
- ▶ Drs. V. Plaza and D. Ramos Barbón, Integrated Research Programme (PII) for Asthma, SEPAR.
- ▶ Drs. V. Plaza and D. Ramos Barbón, group associated with CIBER-Respiratory.
- ▶ Dr. D. Castillo Villegas, National Institute for Rare Diseases, Instituto de Salud Carlos III, Madrid, Spain.
- ▶ Dr. D. Castillo Villegas, International Working Group on Langerhans Cell Histiocytosis and EUROHISTIONET.

- ▶ Dr. D. Ramos Barbón (PI), Multicentre Biobank of Bronchial Biopsies for Asthma Research, with collaborators as follows:
 - Dr. Carlos Martínez Rivera from Hospital Universitario Germans Trias i Pujol, Badalona, Spain.
 - Dr. Antolín López Viña from Hospital Universitario Puerta de Hierro, Madrid, Spain.
 - Dr. Francisco Javier González Barcala from Complejo Hospitalario de Pontevedra, Spain.
 - Dr. Teresa Bazús González from Hospital Universitario Central de Asturias, Oviedo, Spain.
 - Dr. Luis Pérez de Llano from Hospital Lucus Augusti, Lugo, Spain (pending approval).
 - Dr. Patrick Berger from Université Bordeaux 2, Bordeaux, France.
 - Dr. James G Martin from McGill University, Montreal, Canada.

- ▶ Astrid del Carmen Crespo Lessmann. Expresión de receptores Toll-Like 2 y 4 en pacientes asmáticos. Relación con el fenotipo inflamatorio, la gravedad y el nivel de control del asma. Beca Maria Ravà 2012. Duration: 01/01/12-31/12/14. €5,555.55.

Active Grants

- ▶ David Ramos. Interacción entre regulación inmunitaria y mecanismos de remodelación de vías respiratorias en el asma: efectos patogénicos versus potencial terapéutico. Ayudas para proyectos de investigación SEPAR 2013. Duration: 30/05/13-29/05/15.
- ▶ M. Teresa Garriga. Estudio EPONA: Evaluación y nuevas perspectivas en la fisiopatogenia, detección y uso del óxido nítrico nasal y la nariz electrónica. Ayudas para proyectos de investigación SEPAR 2013. Duration: 30/05/13-29/05/15.
- ▶ Anna Mola. Estudio de los cambios hemodinámicos cerebrales en pacientes con síndrome de apnea hipopnea obstructiva del sueño (SAHS) mediante técnicas de espectroscopia óptica transcraneal. Ayudas para proyectos de investigación SEPAR 2013. Duration: 30/05/13-29/05/15.
- ▶ Fátima Morante. Impacto de la rehabilitación respiratoria precoz en las exacerbaciones, en los pacientes con Enfermedad Pulmonar Obstructiva Crónica (EPOC) reingresadores. Ayudas para proyectos de investigación SEPAR 2013. Duration: 30/05/13-29/05/15.
- ▶ Diego Castillo. Caracterización genética y funcional de la histiocitosis pulmonar de células de langerhans: Implicaciones diagnósticas y terapéuticas. Ayudas a la Investigación EPID-FUTURO 2013. Duration: 21/06/13-20/06/16. €4,361.80.

- ▶ Diego Castillo. Caracterización genética y funcional de la histiocitosis pulmonar de células de langerhans: implicaciones diagnósticas y terapéuticas. X Convocatoria de Ayudas a la Investigación Médica FMM 2013. Duration: 09/10/13-09/10/15. €23,161.
- ▶ Maria Rosa Güell Rous. Efectes de l'entrenament després de la cirurgia de resecció en malalts amb càncer de pulmó. Beca Boehringer. SOCAP 2012. Duration: 01/08/12-31/07/15. €48,000.
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- ▶ Alfonso Torrego Fernández. Ensayo aleatorizado del rendimiento diagnóstico y seguridad de la biopsia pulmonar transbronquial con criosondas frente a pinzas convencionales en el diagnóstico de enfermedades pulmonares difusas. FIS Project 2010. PI10/0100. Duration: 01/01/11-30/06/14. €45,700.

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- ▶ Mercedes Mayos Perez. Proyecto PASHOS: Plataforma Avanzada para el estudio del Síndrome de Apnea Hipopnea del Sueño (SAHS): Estudio de validación de un modelo de criba del SAHS en Atención Primaria. Proyectos de Investigación en Salud 2014. PI14/01985. €19,400.
- ▶ David Ramos Barbon. Mecanismos patogénicos versus terapéuticos de las células madre mesenquimales sobre la remodelación bronquial en asma: prueba de concepto para subsiguiente de-

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- ▶ Astrid del Carmen Crespo Lessmann. Caracterización fenotípica del asmático hipersecretor. Papel de las mucinas y de los receptores Toll-Like. BECA VIFOR PHARMA / FUCAP 2014. Duration: 01/06/2014-31/05/2016. €5,181.82.

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Chronic Respiratory Diseases

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Research Group in HIV and AIDS

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Main Lines of Research

- ▶ 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.

Challenges

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 (adipo-

cyte 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.

Challenges	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 in the pathogenesis and prognosis of adult bacterial meningitis and meningococcal disease.
Collaborations	Collaborations with other IIB Sant Pau Groups ▶ Microbiology and Infectious Diseases (Dr. Pere Coll)
Active Grants	▶ Pere Domingo Pedrol. Determinación de niveles de FGF23 en pacientes con infección por VIH y su posible relación con comorbilidades asociadas en la infección o al tratamiento. Estudio observacional, transversal. I Convocatoria de Proyectos de Investigación en VIH y Hepatitis - ISCIII and Gilead España. Duration: 26/07/13-16/01/15. €37,731.48. ▶ Pere Domingo Pedrol. Estudio piloto, prospectivo, transversal y observacional sobre la implicación de los fenómenos de senescencia adipocitaria en la patogénesis de la lipoatrofia asociada al VIH-1 y al TARGA. MINECO-ISCIII Project 2011. P111/02512. Duration: 01/01/12-31/12/14. €63,636. ▶ Pere Domingo Pedrol. Red de SIDA. Retics 2006. RD06/0006/0022. 01/01/07-28/02/14. €202,883.25. ▶ Pere Domingo Pedrol. Contractes per a la intensificació de l'activitat investigadora en el SNS 2013. INT13/00232. Duration: 01/01/14-31/12/14. €30,000. ▶ Joan Villarroya Terrade. FIS Contracte Postdoc "Sara Borrell" 2011. CD11/00029. Duration: 16/01/12-15/01/15. €75,600. Note: Total amount granted to PI. It does not include indirect costs.
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Research Group in HIV and AIDS

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Other Publications

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► Pomar V., Domingo P., Acute viral meningitis. (2014) CNS Infections: A Clinical Approach, 9781447164012, 45-55.

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AREA 3

Haematological and Oncological D

118 Clinical Oncology

122 Oncogenes and Antitumour Drugs

126 Haematological Diagnosis

128 Molecular Pathology of Gynaecologic Cancer

132 Ear, Nose and Throat Cancers

134 Oncology/Haematology and Transplantation

iseases



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Main Lines of Research

Clinical

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

Translational

- ▶ 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).

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Oncogenesis and Antitumour Drugs (Dr. Ramon Mangués).
- ▶ Molecular Pathology of Gynaecologic Cancer (Dr. Jaime Prat).
- ▶ Genetic Diseases (Dr. Montserrat Baiget).

- ▶ Breast Cancer (Dr. E. Lleras).

External Collaborations

- ▶ Tumoural progression modelling group at the Biomedical Research Institute (IRB) (Dr. A. Nebreda).
- ▶ Methylation and resistance to chemotherapy in ovarian cancer (Dr. M. Esteller).

Active Grants

- ▶ Escuin Borrás, Daniel. Mecanismos de acción y resistencia a los taxanos en cáncer de mama. FIS Project 2010. PI10/00307. Duration: 01/01/11-31/03/14. €146,500.
- ▶ Barnadas Molins, Agustí. Desarrollo de un algoritmo predictor de la respuesta al tratamiento en pacientes con carcinoma escamoso de cabeza y cuello localmente avanzado. MINECO-ISCIII Project 2011. PI11/00525. Duration: 01/01/12-31/12/15. €182,409.
- ▶ Escuin Borrás, Daniel. Perfil de expresión de miRNAs en tumor primario de mama y sus ganglios linfáticos centinela: implicaciones en los mecanismos de invasión y su valor como marcadores metastásicos.

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- ▶ Arroyo Solera, Irene. Desenvolupament d'una signatura genética per predir la resposta al tractament de quimioradioteràpia en pacients amb carcinoma escatós de cap i coll localment avançat. AGAUR Ajuts per contractar personal investigador novell any 2013 (FI-DGR). 2013 FI00188. Duration: 01/02/13-31/01/16. €39,306.
- ▶ Sullivan, Ivana Gabriela. FIS Contratos Río Hortega 2013. CM13/00117. Duration: 01/01/14-31/12/15. €53,732.

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► Judit Sanz i Buxó. Estudi epidemiològic, genètic i clínic del registre de famílies amb càncer de mama i ovari hereditaris de l'Hospital de la Santa Creu i Sant Pau (1995-2005). Universitat Autònoma de Barcelona Director: M. Teresa Puig Reixach. Date of defense: 12 June 2014.

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Other Publications

► Hidalgo A., Guerra J.M., Gallego O., Franquet T., Microwave ablation of a sarcoma lung metastasis in a patient with a pacemaker. (2014) RADIOLOGIA, 56 (2), 171-174.

► Sullivan I., Salazar J., Majem M., Pallares C., Del Rio E., Paez D., Baiget M., Barnadas A., Pharmacogenetics of the DNA repair pathways in advanced non-small cell lung cancer patients treated with platinum-based chemotherapy. (2014) CANCER LETTERS, 353 (2), 160-166.

Oncogenesis and Antitumour Drugs

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Main Lines of Research

- ▶ Development of novel animal models of disseminated disease in solid tumours and haematological neoplasms for the mechanistic study of metastases and preclinical drug development.
- ▶ Identification of prognostic biomarkers in head and neck squamous cell carcinoma and their functional validation in vivo.
- ▶ Development of nanoconjugates for targeted delivery of antitumour drugs or toxins to metastasis stem cells.

Challenges

- ▶ Obtain funding to ensure stable employment of senior researchers, attract post-doctoral fellows and reinforce current collaborations with clinicians.
- ▶ Develop molecular markers for therapeutic decision-making in head and neck carcinomas.
- ▶ Achieve antimetastatic effects by targeting antitumour drugs to metastasis stem cells in solid tumors and haematological neoplasms.
- ▶ Enhance international collaboration and participation in EU networks and industrial projects.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Desarrollo de un algoritmo predictor de la respuesta al tratamiento en pacientes con carcinoma escamoso de cabeza y cuello localmente avanzado. IP: Agustí Barnadas. PI11/00525. Duration: 2012-2014. €220,715.
- ▶ Irene Arroyo Solera (GOA). Beca AGAUR. Desenvolupament de models metastàtics de carcinoma de cap i coll i paper de Serpina1 en disseminació. AGAUR, Generalitat de Catalunya. FI DGR-2013. Duration: 2012-2015.
- ▶ Isolda Casanova (GOA). La Enfermedad Mínima Residual en Leucemia Mieloide Aguda: implicación del microambiente de la médula ósea y evaluación de nuevas nanopartículas para terapia génica dirigida. PI11/00872. IP: Jordi Sierra. Duration: 2012-2014. €213,565.
- ▶ María José Moreno Jiménez (GOA). Contrato de Formación de Personal Investigador. Desarrollo de modelos animales en linfoma difuso de células grandes y papel de CXCR4 en disseminación, Instituto de Salud Carlos III. FPI FI10/00758. Duration: 2011-2014.

- ▶ Miguel Ángel Pavón (GOA) Desarrollo de un algoritmo predictor de la respuesta al tratamiento en pacientes con carcinoma escamoso de cabeza y cuello localmente avanzado. PI11/00525. IP: Agustí Barnadas. Duration: 2012-2014. €220,715.

National Collaborations

- ▶ Eduard Batlle, Biomedical Research Institute (IRB) and Barcelona Scientific Park (PCB).
- ▶ Roger Gomis, Biomedical Research Institute (IRB) and Barcelona Scientific Park (PCB).

International Collaborations

- ▶ Achilea Bittencourt. Visiting Researcher, International Cooperation with Brasil, MCT/CNPq 046/2010.
- ▶ Paolo Micheli, Institute for Cancer Research and Treatment, Candioli, Turin (Italy).
- ▶ Arne Östman, Cancer Center Karolinska, Karolinska Institutet, Stockholm (Sweden).
- ▶ Alberto Bardelli, University of Torino, Medical School, Turin (Italy).

Active Grants

- ▶ Ramon Mangués Bafalluy. Ajuts de suport als Grups de Recerca de Catalunya. Grup Oncogènesi i Antitumors. AGAUR 2009. SGR 1437. Duration: 29/09/09-30/04/14. €69,680.
- ▶ Ramon Mangués Bafalluy. Genotoxic nanoparticles targeting colorectal cancer stem cells. MARATÓ TV3 Ajuts per a la recerca biomèdica en càncer 2013. 20132030. Duration: 15/04/14-14/04/17. €142,000.
- ▶ Ramon Mangués Bafalluy. La enfermedad residual mínima en leucemia mieloide aguda: implicación del microambiente de la médula ósea y evaluación de nuevas nanopartículas para terapia dirigida. MINECO-ISCIII Project 2011. PI11/00872. Duration: 01/01/12-30/06/15. €182,400.
- ▶ Ramon Mangués Bafalluy. Modelos de cáncer de colon metastásico para el estudio de la recidiva tumoral. FIS Project 2012. PI12/01861. Duration: 01/01/13-31/12/15. €181,500.
- ▶ Ramon Mangués Bafalluy. Oncogenesis por HTLV-1 inhibición de las adhesiones focales como estrategia terapéutica. MICINN Proyectos Internacionales Bilaterales 2010. PIB2010BZ-00563. Duration: 15/12/10-14/12/14. €90,000.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2014

- ▶ Mangués Bafalluy, Ramon. Grup d'oncogènesi i antitumors (GOA). AGAUR 2014. SGR 1041. 04/09/14-31/12/16. €30,000.
- ▶ Mangués Bafalluy, Ramon. Terapia de nanoconjugados dirigida a células iniciadoras de metástasis en cáncer colorectal. MINECO Acciones de Dinamización Europea Investigación 2014. EUIN2013-50829. 01/10/14-30/09/16. €22,000.
- ▶ Mangués Bafalluy, Ramon. NM13. NanoMets. Drug nanconjugates and nanovesicles for the treatment of metastatic colorectal cancer. CIBER-BBN Intramural Project. 2014-2015.*
- ▶ Carme Cabrera Rodríguez (GOA). Ayudas para personal técnico de apoyo a infraestructuras. Plataforma de Servicios en Nanotoxicología. Centro de Investigación en Red en Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN). MINECO. PTA2013-8426-I. Duration: 2014-2017. €36,000.

Note: Total amount granted to PI. It does not include indirect costs.

* Grant applied for by other research institutes.

Research Network Participation

- ▶ COST Action CM1106. European Union. Chemical Approaches to Targeting Drug Resistance in Cancer Stem Cells. EU RTD Framework Programme. MC Member: Ramon Mangués. Management Committee Member & Biology and Pharmacology Working Group Member, Duration: 28/03/12-27/03/16.
- ▶ ATMP-EATRIS, European Union. Member of the Working Group on Advanced therapies and biologicals of ATMP (Advanced Therapy Medicinal Products), EATRIS (European Infrastructure for Translational Medicine) Network.
- ▶ ETP Nanomedicine, European Union, Member of the European Technology Platform on Nanomedicine.
- ▶ TME-AACR member. Member of the Tumor Microenvironment Working Group, American Association for Cancer Research (AACR).
- ▶ CB06/01/1031. Centro de Investigación Biomédica en Red de Bioingeniería, Biomateriales y Nanomedicina (CIBER-BBN). Instituto de Salud Carlos III. 2010-2015. €80,000-117,000/year.
- ▶ ICTS 141007: NANBIOSIS. Recognition by MINECO as Infraestructura Científica y Técnica Singular (ICTS) en Ciencias de la Salud y Biotecnología (Producción y Caracterización de Nanomateriales, Biomateriales y Sistemas en Biomedicina), Unitat de Natotoxicologia, Institut d'Investigacions Biomèdiques Sant Pau and CIBER-BBN. Coordinators: Centro de Investigación Biomédica en Red (CIBER-BBN) y Centro de Cirugía Mínima Invasiva Jesus Usón (JUSMISC). Financing agency: MINECO. Grant date: 8/10/14.
- ▶ OncoCat. Member of the Catalan Cancer Research Network. Xarxa ConnectEU, Biocat, Generalitat de Catalunya.
- ▶ NanoBioMed. Member of the Catalan Network on Nanobio-technology, Xarxa Connect-EU. Biocat.

Doctoral Theses

- ▶ María José Moreno Jiménez. Desenvolupament de models animals de linfoma difús de cèl·lula gran i paper de CXCR4 en la disseminació. Universitat de Barcelona. Directors: Ramon Mangués, Isolda Casanova. Date of defense: 10 June 2014.

Oncogenesis and Antitumour Drugs

*TIF: 70.4580 **MIF: 10.0654

Scientific Production

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IF: 19.6790

Haematological Diagnosis

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Main Lines of Research

Malignant Haemopathologies

- ▶ Diagnostic activities: morphological, immunophenotyping, cytogenetic and molecular characterization (particularly of acute leukaemias).
- ▶ Biological characteristics responding to therapy.
- ▶ New treatments using cell line models aimed at molecular targets.
- ▶ Genomic (microarrays) and proteomic platforms for diagnosis.
- ▶ Murine models development.

Noncancerous Haemopathologies

- ▶ 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.
- ▶ 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 characterization of haematological tumours and complex, rare and genetic noncancerous haemopathologies.
- ▶ Include the results of mass-analysis genomic and proteomic platforms in diagnostic algorithms and establish prognostic factors for haematological disorders, preferably complex or genetic neoplasms and noncancerous pathologies.
- ▶ Develop functional cell culture and animal (murine) models.
- ▶ Consolidate cooperation with the GAIT-2 project, especially regarding platelet and other blood cell participation in thrombosis generation.
- ▶ Promote interaction and stable links with internal groups (clinical haematology, pathology, gastrointestinal, haemostasis and thrombosis, complex disease genomics areas) and with other groups in Spain and abroad, especially those with complementary technologies.

Collaborations

Collaborations with other IIB Sant Pau Group

- ▶ Oncology / Haematology and Transplantation (PI: Jordi Sierra).
- ▶ Genetic Diseases (PI: Baiget).
- ▶ Molecular Bases of Disease (PI: Pablo Fuentes Prior).

External Collaborations

- ▶ Dr. Anna Bigas, IMIM Hospital del Mar.
- ▶ Dr. Pablo Menéndez, Josep Carreras Foundation (Hospital Clínic).
- ▶ Dr. Alberto Villanueva, IDIBELL-Bellvitge Biomedical Research Institute.

Active Grants

- Josep Nomdedéu Guinot. Niveles de ARNm de WT1 en neoplasias mieloides. Aplicación de los métodos de PCR digital en la estratificación pronóstica y en el manejo de las recaídas. Proyectos de Investigación en Salud 2013. PI13/02729. Duration: 01/01/14-31/12/16. €57,500.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2014

- Josep Nomdedéu Guinot. Ajuts de suport als Grups de Recerca de Catalunya. Grup Diagnòstic Hematològic. AGAUR 2014. SGR 383. 04/09/14-31/12/16. €30,000.

Note: Total amount granted to PI. It does not include indirect costs.

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Scientific Production

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Pujol-Moix N., Noris P., Schlegel N., Klersy C., Heller P.G., Civaschi E., Pujol-Moix N., Fabris F., Favier R., Gresele P., Latger-Cannard V., Cuker A., Nurden P., Greinacher A., Cattaneo M., De Candia E., Pecci A., Hurtaud-Roux M.-F., Glembotsky A.C., Muniz-Díaz E., Randi M.L., Trillot N., Bury L., Lecompte T., Marconi

C., Savoia A., Balduini C.L., Bayart S., Bauters A., Benabdallah-Guedira S., Boehlen F., Borg J.-Y., Bottega R., Bussel J., De Rocco D., de Maistre E., Faleschini M., Falcinelli E., Ferrari S., Ferster A., Fierro T., Fleury D., Fontana P., James C., Lanza F., Duchez V.L.C., Loffredo G., Magini P., Martin-Coignard D., Menard F., Mercier S., Mezzasoma A., Minuz P., Nichele I., Notarangelo L.D., Pippucci T., Podda G.M., Pouymayou C., Rigouzzo A., Royer B., Sie P., Siguret V., Trichet C., Tucci A., Saposnik B., Veneri D., Analysis of 339 pregnancies in 181 women with 13 different forms of inherited thrombocytopenia. (2014) HAEMATOLOGICA, 99 (8), 1387-1394.

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Remacha A.F., Sarda M.P., Canals C., Queralto J.M., Zapico E., Remacha J., Carrascosa C., Role of serum holotranscobalamin (holoTC) in the diagnosis of patients with low serum cobalamin. Comparison with methylmalonic

acid and homocysteine. (2014) ANN HEMATOLOGY, 93 (4), 565-569.

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Molecular Pathology of Gynaecologic Cancer

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Main Lines of Research

- ▶ Pathogenic mechanisms of gynaecological cancer (endometrial/ovarian cancer).
- ▶ Molecular mechanisms of stromal response and immunosuppression in endometrial 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.
- ▶ Cooperate with other groups at the national and international levels.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Experimental Immunology (Silvia Vidal).

External Collaborations

Molecular alterations related with progression in endometrial cancer (Spanish Association Against Cancer, AECC):

- ▶ Dr. Jaume Reventós, Vall d'Hebron Hospital Research Institute (VHIR), Barcelona, Spain.
- ▶ Dr. Xavier Matias-Guiu, Institute for Biomedical Research, Lleida (IRB Lleida), Spain.
- ▶ Dr. Miguel Abal, Santiago de Compostela University Hospital Complex (CHUS), Spain.
- ▶ Dr. Gema Moreno, Fundación MD Anderson Internacional, Madrid, Spain.

Active Grants

- ▶ Prat Díaz de Losada, Jaime. Interacción tumor-estroma en la progresión del carcinoma de endometrio: papel de los miRNAs en la invasión miometrial. MINECO-ISCI Project 2011. PI11/01561. Duration: 01/01/12-30/06/15. €119,364.
- ▶ Espinosa, Íñigo. La importancia de la vía CSF1 en los leiomiomas uterinos. FIS Proyectos de Investigación en Salud 2012. PI12/01645. Duration: 01/01/13-31/12/15. €70,000.
- ▶ Prat Díaz de Losada, Jaime. Red Temática de Investigación Cooperativa de Cáncer (RTICC). Retics 2006. RD06/0020/0015. Duration: 01/01/07-31/12/14. €415,115.89.
- ▶ Prat Díaz de Losada, Jaime. Red Temática de Investigación Cooperativa en Cáncer (RTICC). Retics 2012. RD12/0036/0011. Duration: 01/01/13-31/12/16. €38,500.
- ▶ Prat Díaz de Losada, Jaime. Alteraciones moleculares relacionadas con la progresión tumoral en el cáncer de endometrio. AECC 2011. Duration: 08/09/11-07/09/16. €262,000.

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- Jaime Prat. Method to predict risk of recurrence in endometrial carcinoma. IR Sant Pau, IRB Lleida, VHIR, Servicio Andaluz de Salud, Servizo Galego de Saúde, Fundación MD Anderson Internacional España. Application number: EP14155510. 2014.

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IF: 1.5370

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Molecular Pathology of Gynaecologic Cancer

Other Publications

- ▶ Matias-Guiu X., Prat J., Molecular pathology of endometrial cancer. (2014) MOLECULAR SURGICAL PATHOLOGY, 151-170.
- ▶ Salgado-Lopez L., de Quintana-Schmidt C., Gomez-Anson B., Bague-Rosell S., Molet-Teixido J., Inflammatory myofibroblastic tumor in the brain. (2014) REVISTA DE NEUROLOGIA, 59 (6), 281-282.

Ear, Nose and Throat Cancers

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Main Lines of Research

- ▶ Genetic and molecular predictors of response to head and neck cancer (with the Oncogenesis and Antitumour Drugs group).
- ▶ Molecular mechanisms of inflammation in head and neck cancer (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 into head and neck cancer with a very large database of head and neck cancers.
- ▶ Study relevant clinical issues in depth (second-third neoplasms, staging concerns, prognostic factors, etc) and investigate translational aspects such as genetic and molecular predictors.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Angiology, Vascular Biology and Inflammation (Dr Vila).
- ▶ Oncogenesis and Antitumour Drugs (Dr Mangues).
- ▶ Translational Molecular Oncology (Dr Matilde Parreño).

External Collaborations

- ▶ Catalan Institute of Oncology: Epidemiology (Dr X Bosch).
- ▶ Catalan Institute of Oncology: Oncology (Dr Ricard Mesia).
- ▶ Hospital Joan XXIII: Head and Neck Cancer (Dr FJ Avilés).
- ▶ Hospital Central de Asturias: Head and Neck Cancer (Dr C Suárez).

Active Grants

- ▶ León Vintró, Francisco J. Papel del EJE IL-1/NF-κB en los carcinomas escamosos de cabeza y cuello. MINECO-ISCI Project 2011. PI11/02380. Duration: 01/01/12-31/12/14. €69,500.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2014

- ▶ León Vintró, Francisco J. Herramienta de predicción de respuesta a la radioterapia basada en la expresión de genes relacionados con la transición epitelial-mesenquimal en cáncer de cabeza y cuello. FIS Project 2014. PI14/01918. €71,500.

Note: Total amount granted to PI. It does not include indirect costs.

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Scientific Production

Esteller E., Agüero A., Martel M., López M., Quer M., León X., Stomal recurrence in head and neck cancer patients with temporary tracheostomy. (2014) AURIS NASUS LARYNX, 41 (5), 467-470.

IF: 1.1350

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Other Publications

- ▶ Bothe C., Lopez M., Quer M., León X., Garcia J., Lop J., Aetiology and treatment of vocal fold paralysis: Retrospective study of 108 patients. (2014) ACTA OTORRINOLARINGOLOGICA ESPANOLA, 65 (4), 225-230.

- ▶ Gras-Cabrerizo J.R., Gras-Albert J.R., Monjas-Canovas I., Garcia-Garrigos E., Montserrat-Gili J.R., Sanchez del Campo F., Kolanczak K., Massegur-Solench H., Pedicle flaps based on the sphenopalatine artery: Anatomical and surgical study. (2014) ACTA OTORRINOLARINGOLOGICA ESPANOLA, 65 (4), 242-248.

- ▶ Lop Gros J., Garcia Lorenzo J., Quer Agusti M., Bothe Gonzalez C., Sarcoidosis and true vocal fold paresis: 2 Cases and a review of the literature. (2014) ACTA OTORRINOLARINGOLOGICA ESPANOLA, 65 (6), 378-380.

Oncology/Haematology and Transplantation

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Main Lines of Research

- ▶ Study of the molecular and cellular pathophysiology of haematological cancers.
- ▶ Study of the prognostic value of clinical and biological parameters in haematological malignancies.
- ▶ Design of new modalities of chemotherapy, biotherapy and drug treatment targeting molecular mechanisms.
- ▶ Design of new modalities of haematopoietic stem-cell transplantation and cell therapy.
- ▶ Psychological intervention and quality of life in patients with haematological malignancies.

Challenges

- ▶ Identify new prognostic parameters for risk and therapeutic stratification.
- ▶ Evaluate targeted therapy in cell lines and animal models (with the Oncogenesis and Antitumour Drugs group).
- ▶ Reduce toxicity and increase availability of allogeneic transplants.
- ▶ Molecularly characterize acute myeloid leukaemia and determine the prognostic value of known genes and other genes of uncertain significance (with the Haematology Laboratory).
- ▶ Model leukaemia and lymphoma in animals to better understand cell pathophysiology and test new drugs (with the Oncogenesis and Antitumour Drugs group).
- ▶ Molecularly characterize and determine the prognostic significance of cell pathophysiology and immunotherapy for lymphoproliferative diseases and evaluate antitumour immunotherapy in animals and humans.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Oncogenesis and Antitumour Drugs (Dr. Ramon Mangués).
- ▶ Haematological Diagnosis (Dr. Josep Nomdedéu).
- ▶ Microbiology and Infectious Diseases (Dr. Pere Coll).

External Collaborations

- ▶ Haematologic cancer programme groups, Carlos III Health Institute Cooperative Cancer Research Network (RTICC): J.Sierra, coordinator.

- ▶ European Research Initiative on Chronic Lymphocytic Leukemia (ERIC): C. Moreno, coordinator.
- ▶ Spanish lymphoma transplantation groups (GELTAMO): J. Briones, S. Novelli
- ▶ Spanish haematologic malignancies consortium (PETHEMA): J. Sierra, M. Granell, S. Brunet
- ▶ Spanish CETLAM acute myeloid leukaemia and myelodysplasia group hospitals: coordinator, S. Brunet.
- ▶ European Leukaemia Network of Excellence groups.

Active Grants

- ▶ Sierra Gil, Jordi. Ajuts de suport als Grups de Recerca de Catalunya. Grup Hematologia Oncològica i Trasplantament. AGAUR 2009 SGR 1246. Duration: 04/09/09-30/04/14. €46,800.
- ▶ Sierra Gil, Jordi. Avaluació de les adhesions focals com a noves dianes terapèutiques en leucèmia mieloide aguda. MARATÓ TV3 2010 Malalties minoritàries. 100830. Duration: 04/03/11-31/12/14. €219,000.
- ▶ Briones, Javier. Memory stem T cells transduced with a chimeric antigen receptor targeting CD30 for the treatment of Hodgkin lymphoma. MARATÓ TV3 Ajuts per a la recerca biomèdica en càncer 2013. 20130710. Duration: 15/04/14-14/04/17. €153,970.
- ▶ Moreno Atanasio, Carolina. Caracterización inmunofenotípica de las células residuales leucémicas post-tratamiento en pacientes con leucemia linfática crónica (LLC). MINECO-ISCI Projecte 2011. PI11/01740. Duration: 01/01/12-31/12/14. €61,250.
- ▶ Sierra Gil, Jordi. La enfermedad residual mínima en leucemia mieloide aguda: implicación del microambiente de la médula ósea y evaluación de nuevas nanopartículas para terapia dirigida. MINECO-ISCI Projecte 2011. PI11/00872. Duration: 01/01/12-31/12/14. €26,100.
- ▶ Sierra Gil, Jordi. Red Temática de Investigación Cooperativa de Cáncer. (RTICC). Retics 2006. RD06/0020/0101. Duration: 01/01/07-31/12/14. €337,286.73.
- ▶ Sierra Gil, Jordi. Red Temática de Investigación Cooperativa en Cáncer (RTICC). Retics 2012. RD12/0036/0071. Duration: 01/01/13-31/12/16. €79,000.
- ▶ Brunet Mauri, Salut. Tratamiento de la leucemia mieloide aguda de novo con la combinación de idarrubicina en dosis creciente, citarabina y sensibilización ("priming") con G-CSF. Estudio prospectivo en fase I/II de toxicidad y eficacia. MSSSI EC 2011. EC11-364. Duration: 01/01/12-30/06/15. €93,135.
- ▶ Moreno Jiménez, M^a José. FIS Contracte Predoc formació 2010. FI10/00758. Duration: 01/09/10-31/08/14. €85,200.
- ▶ Del Canto González, Alejandra. MINECO-ISCI Contracte Predoc formació 2012. FI12/00037. Duration: 01/09/12-31/08/14. €15,600.
- ▶ García Cadenas, Irene. Becas de investigación en universidades o centros en el extranjero 2013. Alfonso Martín Escudero 2013. Duration: 31/01/14-30/01/15. €25,200.

Note: Total amount granted to PI. It does not include indirect costs.

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- ▶ Sierra Gil, Jordi. Terapia dirigida de Auristatina E o Ara-C a células de leucemia mieloide aguda que expresan CXCR4, receptor implicado en adhesión al estroma y quimiorresistencia. FIS. Proyectos de Investigación en Salud 2014. PI14/00450. €191,500.
- ▶ Pallares López, Víctor. Contratos Sara Borrell 2013. FIS. CD13/00074. Duration: 01/01/14-31/12/16. €80,598.
- ▶ Jordi Sierra Gil. Ajuts de suport als Grups de Recerca de Catalunya, Grup Hematologia Oncològica i Trasplantament. AGAUR 2014 SGR 1281. Duration: 2014-2017. €18,000.

Note: Total amount granted to PI. It does not include indirect costs.

Doctoral Theses

- ▶ David Valcárcel Ferreira. Transplante de progenitores hematopoyéticos con acondicionamiento de intensidad reducida: aplicabilidad en leucemia mieloide aguda y síndromes mielodisplásicos. Universitat Autònoma de Barcelona. Directors: Jordi Sierra Gil, Rodrigo Martino Bofarull. Date of defense: 9 April 2014.
- ▶ Isabel Sánchez-Ortega. Avances en la profilaxis antifúngica primaria en la fase precoz del trasplante alogénico. Universitat Autònoma de Barcelona. Directors: Jordi Sierra Gil, Rafael F. Duarte Palomino. Date of defense: 24 July 2014.
- ▶ Pere Barba Suñol. Evaluación de la función hepática en el trasplante alogénico de progenitores hematopoyéticos con acondicionamiento de toxicidad reducida. Universitat Autònoma de Barcelona. Directors: Jordi Sierra Gil, Rodrigo Martino Bofarull. Date of defense: 14 October 2014.
- ▶ Montserrat Hoyos Colell. Impacto de las alteraciones moleculares en el pronóstico de la Leucemia Mieloide Aguda (LMA) "de novo". Universitat Autònoma de Barcelona. Directors: Jordi Sierra Gil, Josep Francesc Nomdedéu Guinot. Date of defense: 25 November 2014.

Oncology/Haematology and Transplantation

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Scientific Production

Barba P., Martino R., Perez-Simon J.A., Fernandez-Aviles F., Castillo N., Pinana J.L., Lopez-Anglada L., Rovira M., Bosch F., Carreiras E., Corral L.L., Sierra J., Valcarcel D., Combination of the Hematopoietic Cell Transplantation Comorbidity Index and the European Group for Blood and Marrow Transplantation Score Allows a Better Stratification of High-Risk Patients Undergoing Reduced-Toxicity Allogeneic Hematopoietic Cell Transplantation. (2014) *BIOL BLOOD MARROW TR*, 20 (1), 66-72.

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AREA 4

Neurological, Mental and Ageing

- 
- 140** Cerebrovascular Diseases
 - 144** Neuromuscular Diseases
 - 148** Parkinson Disease and Movement Disorders
 - 152** Molecular Neuropharmacology
 - 154** Pharmacological Research in Humans
 - 156** Clinical Psychiatry
 - 160** Genetics in Neurodegenerative Diseases

tal Disorders

164 Human Neuropsychopharmacology

166 Neurobiology of Dementia

170 Neuroradiology

172 Ageing Institute

176 Addictive Behaviours

178 Molecular Physiology of the Synapse

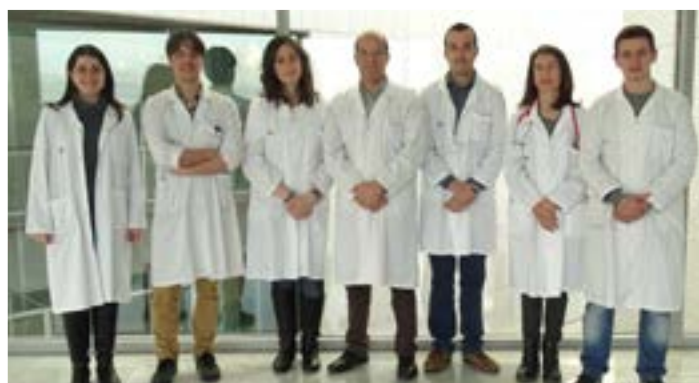
Cerebrovascular Diseases

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Main Lines of Research

- ▶ Brain neurorepair after stroke.
- ▶ Role of statins in ischemic and haemorrhagic stroke.
- ▶ Prevention of cerebral haemorrhage with anticoagulants.
- ▶ Endothelial progenitor cells in stroke.
- ▶ Aetiological classification of brain haemorrhage.
- ▶ Pathophysiology of hematoma growth in acute cerebral haemorrhage.
- ▶ Benefits and risks of intravenous thrombolysis.
- ▶ Sonothrombolysis.
- ▶ Non-invasive monitoring of cerebral flow with applied optic methods.
- ▶ Participation in clinical trials.

Challenges

- ▶ Enhance cooperation with other groups in the framework of Spanish stroke research.
- ▶ Network (RETICS/INVICTUS) and also intrahospital cooperation (the Catalan Institute of Cardiovascular Sciences and the Haemostasis-Thrombosis group) 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

- ▶ Joan Martí Fàbregas. Sonothrombolysis potentiated by microbubbles as a novel treatment of acute ischemic stroke: a prospective randomized study. TELEMA-RATÓ 2011. Lesions Medul·lars i Cerebrals. 112410. Duration: 11/06/12-10/06/15. €159,939.
- ▶ Joan Martí Fàbregas. Hemorragia cerebral por anticoagulantes orales en la prevención secundaria del ictus: Valor predictivo de la leucoaraiosis y los micro-sangrados detectados mediante Resonancia Magnética. MINECO-ISCI Project 2011. PI11/00296. Duration: 01/01/12-31/12/14. €31,191.
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Note: Total amount granted to PI. It does not include indirect costs.

Collaborations with other IIB Sant Pau Groups

- ▶ Neuroradiology.
- ▶ Thrombosis and Haemostasis.
- ▶ Cardiovascular Biochemistry.
- ▶ Neurobiology of Dementia.
- ▶ Molecular Pathology and Therapeutic of Ischaemic and Atherothrombotic Diseases.

External Collaborations

- ▶ Dr. García-Verdugo, Universidad de Valencia, Spain.
- ▶ Dr. Carles Arús, Facultad de Ciencias, Universidad Autónoma de Barcelona, Spain.
- ▶ Dr. Turgut Durduran, Instituto de Ciencias Fotónicas, Castelldefels, Barcelona, Spain.
- ▶ Dr. Tomás Sobrino, Hospital General Universitario, Santiago de Compostela, Spain.
- ▶ Dr. Israel Fernández, Dr. Joan Montaner, Hospital Vall d'Hebron, Barcelona, Spain.
- ▶ Dr. Blanca Fuentes, Hospital La Paz, Madrid, Spain.

- ▶ Dr. Patricia Martínez, Hospital La Paz, Madrid, Spain.
- ▶ Dr. Antonio Gil, Hospital Gregorio Marañón, Madrid, Spain.
- ▶ Dr. Ángel Chamorro, Hospital Clínico de Barcelona, Spain.
- ▶ Dr. Antonio Dávalos, Hospital Germans Trias i Pujol, Badalona, Spain.
- ▶ Dr. Francesc Purroy, Hospital Arnau de Vilanova, Lleida, Spain.
- ▶ RETICS (cooperative health research network) / INVICTUS (ictus research)
- ▶ Clinical trials:
 - IMPACT-24b: Implant in the sphenopalatine ganglion to increase cerebral blood flow 24 hours after stroke onset.
 - IMPACT-24Bt: Implant in the sphenopalatine ganglion to increase cerebral blood flow 24 hours after stroke onset (rt-PA port).
 - CLEAR III: Evaluation of thrombolytic therapy in intraventricular haemorrhage.
 - LIFE: Multicentre, randomized, double-blind, parallel group, placebo-controlled study of the effect of treatment with F2695 (75 mg OD) in 3 months to improve functional capacity in patients with ischaemic stroke.

*TIF: 79.3280 **MIF: 5.6663

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Cerebrovascular Diseases

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Scientific Production

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Lago A., Maestre J., Masjuan J., Marti-Fabregas J., Martinez-Sanchez P., Martinez-Vila E., Molina C., Morales A., Nombela F., Purroy F., Ribo M., Rodriguez-Yanez M., Roquer J., Rubio F., Segura T., Serena J., Simal P., Tejada J., Vivancos J., Larracochea J., Matias-Guiu J., Correias Callero E., Frutos R., Quintana F., Maria Roda J., Ximenez-Carrillo A., Clinical management guidelines for subarachnoid haemorrhage. Diagnosis and treatment. (2014) NEUROLOGIA, 29 (6), 353-370.

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Neuromuscular Diseases

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Main Lines of Research

Autoimmune neuromuscular diseases

- ▶ Characterization of new target antigens in Myasthenia Gravis, and immune neuropathies (CIDP, GBS, MMN). Their use as diagnostic and therapeutic biomarkers.
- ▶ Pathogenesis of newly recognized paraneoplastic antigens in CIDP.
- ▶ Analysis of the innate immunity in inflammatory myopathies.
- ▶ Analysis of the impact of new immunomodulating therapies on IgG4 mediated Neuromuscular Diseases (NMD).
- ▶ Functional aspects of immune system cells (response to ligands, production of antibodies, etc).
- ▶ IGOS data base for Guillain Barre syndrome.
- ▶ NMD-ES Spanish registry for neuromuscular diseases.

Muscular dystrophy, dysferlinopathy and distal myopathies

- ▶ Muscle MRI analysis as a biomarker of different muscular dystrophies.
- ▶ Study of miRNA profiles and muscle secretome in muscular dystrophies.
- ▶ Role of PDGF in muscular dystrophies fibrosis.
- ▶ Natural history of Dysferlinopathies. The international COS-study Jain Foundation.
- ▶ To evaluate the frequency of carriers of mutations in the dyferlin gene in normal population.

Amyotrophic lateral sclerosis

- ▶ Epidemiology of ALS in Catalonia.
- ▶ Gene profile of ALS patients in Spain.
- ▶ Biomarkers profile in different phenotypes of ALS.

Challenges

- ▶ Advance in the knowledge of the immunological mechanisms involved in the pathogenesis of autoimmune neuromuscular diseases (MG, CIDP, MMN).
- ▶ Advance in the knowledge of the pathogenetic mechanisms of inflammatory myopathies (DM, PM, IBM).
- ▶ Search for new antigens and develop diagnostic tests with new biomarkers in immune-mediated neuropathies and Myasthenia Gravis.
- ▶ Implement new diagnostic and disease follow-up methods for muscular dystro-

phies resulting from dysferlinopathy and other myopathies research (biomarkers (miRNA, secretome), MRI, etc).

- ▶ Advance in the knowledge of the pathogenetic mechanisms involved in muscular dystrophy resulting from dysferlin deficiency and other muscular dystrophies.
- ▶ Cleanroom access to manipulate cells for use in humans.
- ▶ Use of the NMD.ES registry to perform research in different NMD.

Collaborations	External Collaborations ▶ Jerome Devaux, Marseilles, France. ▶ Silvere van der Maarel, Leiden, The Netherlands. ▶ Xavier Navarro, Dept Medicina, UAB, Barcelona, Spain. ▶ R. Martí, Hospital Vall Hebron, Barcelona, Spain. ▶ AFM TÉLÉTHON 2013. Aida Alejandre Monforte. New biomarkers in dysferlinopathies.. Duration: 01/10/13-30/09/14. €16,500.	
Awards	▶ Luis Querol. PK Thomas award to the best presentation on neuropathies at the EFNS meeting in Istanbul. ▶ Isabel Illa Sendra. Premio Sociedad Española de Neurología - Enfermedades Neuromusculares por su trabajo en el proyecto nacional de bases de datos de pacientes con ENM-ES. May 2014.	Doctoral Theses ▶ Eugenia Martínez Hernández. Biomarcadores en el diagnóstico y tratamiento de la miastenia. Universitat Autònoma de Barcelona. Director: Isabel Illa Sendra.
Active Grants	▶ Eduard Gallardo Vigo. Ajuts de suport als Grups de Recerca de Catalunya. Grup Malalties Neuromusculars. AGAUR 2009. SGR 1004. Duration: 17/09/09-30/04/14. €43,680. ▶ Isabel Illa Sendra. Role of RLR innate immunity in initiating and perpetuating dermatomyositis. Research Grant Application 2013. Duration: 01/01/14-31/12/15. €28,744.40. ▶ Isabel Illa Sendra. Estudios inmunológicos relevantes para el desarrollo de estrategias terapéuticas en enfermedades neuromusculares. FIS Project 2009. PI09/1964. Duration: 01/01/10-28/02/14. €499,500. ▶ Eduard Gallardo Vigo. Búsqueda de biomarcadores de distrofias musculares con debilidad de cinturas. Proyectos de Investigación en Salud 2012. PI12/02291. Duration: 01/01/13-31/12/15. €90,500. ▶ Ricardo Rojas. Base de datos española de enfermedades neuromusculares. Proyectos de Investigación en Salud 2013. PI13/00772. Duration: 01/01/14-31/12/16. €21,000.	▶ Isabel Illa Sendra. Nuevas reactividades antigénicas y estudios de inmunidad innata en enfermedades neuromusculares autoinmunes. Proyectos de Investigación en Salud 2013. PI13/00937. Duration: 01/01/14-31/12/16. €160,250. ▶ Gisela Nogales Gadea. Contracte Postdoc Sara Borrell 2010. Instituto de Salud Carlos III. CD10/00027. Duration: 01/01/2011-31/12/2014. €144,000. ▶ Luis Antonio Querol Gutiérrez. Contratos Juan Rodés 2013. Instituto de Salud Carlos III. JR13/00014. Duration: 30/01/2014-31/12/2016. €135,000. Note: Total amount granted to PI. It does not include indirect costs.
Grants Awarded in 2014	▶ Isabel Illa Sendra. Identification of Novel Biomarkers Treatments for Inflammatory Demyelinating Neuropathies. AFM TÉLÉTHON 2013. 17215. Duration: 30/04/14-31/12/15. €21,000. ▶ Eduard Gallardo Vigo. Recerca en Malalties Neuromusculars. AGAUR 2014. SGR 272. Duration: 04/09/14-31/12/16. €30,000. ▶ Ricardo Rojas Garcia. Biomakers profile in different phenotypes of Motor Neuron Disease. Ajudes a la recerca biomèdica sobre malalties neurodegeneratives 2014. 544/U/2014 MARATO. Duration: 01/01/15-31/12/17. €120,500.	▶ Isabel Illa Sendra. Contratos para la intensificación de la actividad investigadora en el SNS 2014. Instituto de Salud Carlos III. INT14/00079. Duration: 08/01/15-31/12/15. €30,000. ▶ Xavier Suárez Calvet. New therapeutic targets in dermatomyositis. Research Grant Application 2014. The Myositis Association. Duration: 23/01/15-22/01/17. €63,136.98. Note: Total amount granted to PI. It does not include indirect costs.

Neuromuscular Diseases

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Scientific Production

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jas-Garcia R., Hankiewicz K., Negrão L., Loppinen T., Nokelainen P., Karppa M., Penttilä S., Screen M., Suominen T., Richard I., Hackman P., Udd B., Atypical phenotypes in titinopathies explained by second titin mutations. (2014) *ANN NEUROL*, 75 (2), 230-240.

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Parkinson Disease and Movement Disorders

Coordinator

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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 to detect subtle changes in cognitive performance and treatment response.
- ▶ Prospective follow-up analysis of cognition and mood in patients with deep-brain stimulation of the subthalamic nucleus.
- ▶ Physiological correlates and pharmacological approach to apathy in Parkinson disease and other movement disorders.
- ▶ Neurophysiological and cognitive correlates of impulse control disorders in Parkinson disease and other movement disorders. Behavioral and pharmacological treatment.
- ▶ Surgery and treatments of continuous infusion in Parkinson disease.
- ▶ Follow-up and etiologic study of weight loss in patients treated with continuous infusion of intraduodenal levodopa.
- ▶ 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 FXTAS (fragile X-associated tremor/ataxia syndrome).

Translational Research - Parkinsonian Animal Models

- ▶ Assessment of behavioural and cognitive • 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).
- ▶ Assessment of behavioural and cognitive traits of murine models of HD

Translational Research - Cell Models

- ▶ Assessment of cell cultures of neurons derived of induced pluripotent cells (iPSCs) obtained from skin fibroblast as in vitro model for the modulation of key factors associated to both cognitive and neurotransmitter disturbances in Parkinson disease.

Huntington Disease

- ▶ Study of the metabolic correlates (18-FDG PET) of disease progression from the pre-manifested to early-stages.
- ▶ Study of the metabolic correlates (18-FDG PET) of apathy and depression in pre-manifested gene carriers.
- ▶ Functional magnetic resonance imaging study of reward sensitivity in pre-manifested an early-stage Huntington's disease.
- ▶ Determination of the prevalence and clinical significance of neuropsychiatric features in Huntington's disease.
- ▶ Development of new instruments for cognitive and functional assessment in Huntington's disease.
- ▶ Prospective observational study of Huntington's disease in a European cohort (Registry Study).
- ▶ Molecular, clinical, behavioural and cognitive characterisation of the BACHD rat model of Huntington's disease.

Main Lines of Research	▶ Collaboration in multicentre and Spanish coordinated projects: - Relationship between intermediate alleles and clinical manifestations (PI: Esther Cubo, Burgos). - Validation of the Spanish version of the Problem Behaviour Assessment Scale (PBA-S; PI: Jesús Ruiz, Barcelona). - Study of dietary intake in Huntington's disease (PI: Esther Cubo, Burgos). - A multimodal neuroimaging approach to delineate emotional, motor and cognitive cortico-striatal pathways. IDIBELL (PI: Ruth de Diego-Balaguer, Barcelona).	Progressive Supranuclear Palsy ▶ Development of a cognitive rating scale. ▶ Development of a standardized eye movement evaluation.
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. Huntington's Disease ▶ Study of the dynamics of mutant Htt protein aggregation and related neural and cognitive correlates along disease stages in Huntington's disease. ▶ Validation of new instruments to assess and track subtle cognitive changes in pre-manifested and early-stage Huntington's disease population.	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 ▶ Active collaboration with the Research groups of Neuroradiology and Nuclear Medicine (Huntington's disease).	External Collaborations ▶ Active collaboration with the Cognition and Brain Plasticity Group at the Bellvitge Health Science Campus at the University of Barcelona adscribed to the Department of Basic Psychology, Faculty of Psychology - University of Barcelona and the IDIBELL (Institut d'Investigació Biomèdica de Bellvitge).
Active Grants	▶ García Sánchez. Early implementation of music therapy in rehabilitation of Aphasic patients after acute acquired brain injury/ Efectivity of music therapy in the rehabilitation of acute aphasic patients. TELEMARATÓ 2011 Lesions Medul·lars i Cerebrals. 112610. Duration: 16/05/12-15/05/15. €84,073. ▶ Jaime Kulisevsky Bojarski. Desarrollo, validación y estudio de la sensibilidad al cambio de una versión alternativa de la Parkinson's Disease - Cognitive Rating Scale. Proyectos de Investigación en Salud 2012. PI12/03005. Duration: 01/01/13-31/12/15. €23,500. ▶ Jesús Pérez Pérez. Instituto de Salud Carlos III, Contratos Río Hortega 2013. CM13/00284. Duration: 23/01/14-22/01/16. €53,732.	▶ Juan Marín Lahoz. Fundació Privada Hospital de la Santa Creu i Sant Pau. MIA 2013-1. Duration: 01/06/2013-31/05/2014. €45,222.91. ▶ Roser Ribosa Nogué. Agència de Gestió d'Ajuts Universitaris i de Recerca, Contractes FI 2010, Duration: 01/02/2011-31/01/2014. €61,833.80. Note: Total amount granted to PI. It does not include indirect costs.

Parkinson Disease and Movement Disorders

Grants Awarded in 2014

- ▶ Jaime Kulisevsky Bojarski. Grup de Trastorns del Moviment de l'Hospital de la Santa Creu i Sant Pau. AGAUR 2014. SGR 1203. Duration: 04/09/14-31/12/16. €21,000.
- ▶ Jaime Kulisevsky Bojarski. Prediction of apathy and impulse control disorders in Parkinson's disease based on Feedback related negativity. Ajudes a la recerca biomèdica sobre malalties neurodegeneratives 2014. 477/U/2014 MARATÓ. Duration: 01/01/15-31/12/17. €159,686.
- ▶ Javier Pagonabarraga Mora. Blood-based and neurophysiological markers of cognitive deterioration and dementia in

Parkinson's disease. Ajudes a la recerca biomèdica sobre malalties neurodegeneratives 2014. 484/U/2014 MARATÓ. Duration: 01/01/15-31/12/17. €159,589.

- ▶ Javier Pagonabarraga Mora. Marcadores en sangre y neurofisiológicos de la progresión del deterioro cognitivo en la enfermedad de Parkinson. Proyectos de Investigación en Salud 2014. PI14/02058. €54,500.

Note: Total amount granted to PI. It does not include indirect costs.

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Scientific Production

Carceller-Sindreu M., Portella M.J., Carmona C., Rametti G., Puigdemont D., Figueras M., Fernandez-Vidal A., Villalta L., Alvarez E., Neuropsychological effects of maintenance treatment with Clozapine in treatment-resistant psychotic disorder. (2014) ACTAS ESP PSIQUIATRI, 42 (2), 68-73.

IF: 1.2000

de Quintana-Schmidt C., Pascual-Sedano B., Alvarez-Holzapfel M.J., Gironell A., Leidinger A., Benito N., Rodriguez-Rodriguez R., Molet-Teixido J., Complications related with implanted devices in patients with Parkinson's disease treated with deep brain stimulation. A study of a series of 124 patients over a period of 16 years. (2014) REV NEUROLOGIA, 59 (2), 49-56.

IF: 0.8300

Eberling J., Vincent L., Goldman J.G., Weintraub D., Kulisevsky J., Marras C., Stebbins G., Kieburz K., Therapeutic development paths for cognitive impairment in Parkinson's disease: Report of a regulatory roundtable. (2014) J PARKINSON DIS, 4 (4), 585-589.

IF: 1.9100

Emre M., Poewe W., De Deyn P.P., Barone P., Kulisevsky J., Pourcher E., Van Laar T., Storch A., Micheli F., Burn D., Durif F., Pahlwa R., Callegari F., Tenenbaum N., Strohmaier C., Long-term safety of rivastigmine in parkinson disease dementia: An open-label, randomized study. (2014) CLIN NEUROPHARMACOL, 37 (1), 9-16.

IF: 2.0090

Gasso P., Mas S., Papagianni K., Ferrando E., De Bobadilla R.F., Arnaiz J.A., Bioque M.,

Bernardo M., Lafuente A., Effect of CYP2D6 on risperidone pharmacokinetics and extrapyramidal symptoms in healthy volunteers: Results from a pharmacogenetic clinical trial. (2014) PHARMACOGENOMICS, 15 (1), 17-28.

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Gironell A., Martinez-Horta S., Aguilar S., Torres V., Pagonabarraga J., Pascual-Sedano B., Ribosa-Nogue R., Transcranial direct current stimulation of the cerebellum in essential tremor: A controlled study. (2014) BRAIN STIMUL, 7 (3), 491-492.

IF: 4.3990

Marras C., Troster A.I., Kulisevsky J., Stebbins G.T., The tools of the trade: A state of the art "How to Assess Cognition" in the patient with Parkinson's disease. (2014) MOVEMENT DISORD, 29 (5), 584-596.

IF: 5.6800

Martinez-Horta S., Riba J., de Bobadilla R.F., Pagonabarraga J., Pascual-Sedano B., Antonijoan R.M., Romero S., Mananas M.A., Garcia-Sanchez C., Kulisevsky J., Apathy in parkinson's disease: Neurophysiological evidence of impaired incentive processing. (2014) J NEUROSCI, 34 (17), 5918-5926.

IF: 6.3440

Pagonabarraga J., Kulisevsky J., Dopaminergic treatment in Parkinson's disease: What has each therapeutic family got to offer? (2014) REV NEUROLOGIA, 58 (1), 25-34.

IF: 0.8300

Pagonabarraga J., Soriano-Mas C., Llebaria G., Lopez-Sola M., Pujol J., Kulisevsky J., Neural correlates of minor hallucinations in non-demented patients with Parkin-

son's disease. (2014) PARKINSONISM RELAT D, 20 (3), 290-296.

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Rami L., Mollica M.A., Garcia-Sanchez C., Saldafia J., Sanchez B., Sala I., Valls-Pedret C., Castellvi M., Olives J., Molinuevo J.L., The subjective cognitive decline questionnaire (SCD-Q): A validation study. (2014) J ALZHEIMERS DIS, 41 (2), 453-466.

IF: 4.1510

Spataro N., Calafell F., Cervera-Carles L., Casals F., Pagonabarraga J., Pascual-Sedano B., Campolongo A., Kulisevsky J., Lleo A., Navarro A., Clarimon J., Bosch E., Mendelian genes for Parkinson's disease contribute to the sporadic forms of the disease†. (2014) HUM MOL GENET, 24 (7), 2023-2034.

IF: 6.3930

Tolosa E., Hernandez B., Linazasoro G., Lopez-Lozano J.J., Mir P., Marey J., Kulisevsky J., Efficacy of levodopa/carbidopa/entacapone versus levodopa/carbidopa in patients with early Parkinson's disease experiencing mild wearing-off: A randomised, double-blind trial. (2014) J NEURAL TRANSM, 121 (4), 357-366.

IF: 2.4020

Molecular Neuropharmacology

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Main Lines of Research

- ▶ Neuropharmacology of acute and chronic pain.
- ▶ Biochemical and molecular mechanisms involved in drug interactions.
- ▶ New strategies in the treatment of painful diabetic neuropathy.
- ▶ Identification of new targets in the modulation of emotional behavior.

Challenges

- ▶ Investigate new approaches for the treatment of acute and chronic pain (arthritis, neuropathy...).
- ▶ Advance knowledge in the molecular mechanisms involved in the antinociceptive actions of heme oxygenase 1 inducers combined with opioids and cannabinoids.
- ▶ Identify new pharmacological treatments of neuropathic pain and oxidative stress induced by diabetes.
- ▶ Evaluate the contribution of gaseous neurotransmitters in the modulation of emotional behavior.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Metabolic Bases of Cardiovascular Risk (PI: Francisco Blanco)

External Collaborations

- ▶ Prof. Christie Leite-Panissi, Dept. Morphology, Physiology and Basic Pathology, Ribeirão Preto Dentistry School, University of São Paulo, Brazil.

- ▶ Prof. Ana Baamonde, Dept. Farmacología, Facultad de Medicina, Universidad de Oviedo, Spain.

- ▶ Dr. Arnau Hervera, Department of Medicine, Restorative Neurosciences, Imperial College of London, England.

Active Grants	▶ Olga Pol Rigau. Estudio de nuevas dianas terapéuticas en el tratamiento del dolor crónico. FIS Projecte 2009. PI09/0968. Duration: 01/01/10-30/06/14. €55,500. Note: Total amount granted to PI. It does not include indirect costs.						
Grants Awarded in 2014	▶ Olga Pol Rigau. Nuevas estrategias en el tratamiento de la neuropatía diabética. Proyectos de Investigación en Salud 2014. PI14/00927. €71,500. Note: Total amount granted to PI. It does not include indirect costs.						
Patents	▶ Olga Pol Rigau. Use of heme oxygenase 1 and cannabinoid 2 receptor inducers or delta-opioid receptor agonists in inflammatory pain. Entity headline: Fundació Institut de Recerca de l'Hospital Santa Creu i Sant Pau & Universitat Autònoma de Barcelona. Patent office: European Patent Office. Application number: EP14183542.1.						
*TIF: 10.3790 **MIF: 3.4597							
Scientific Production	<table><tr><td>Carcole M., Castany S., Leanez S., Pol O., Treatment with a heme oxygenase 1 inducer enhances the antinociceptive effects of α-opioid, δ-opioid, and cannabinoid 2 receptors during inflammatory pain. (2014) J PHARMACOL EXP THER, 351 (1), 224-232. IF: 3.9720</td><td>Gou G., Leanez S., Pol O., The role of gaseous neurotransmitters in the antinociceptive effects of morphine during acute thermal pain. (2014) EUR J PHARMACOL, 737, 41-46. IF: 2.5320</td><td>ing molecule inhibits chronic inflammatory pain in mice: Nitric oxide contribution. (2014) PSYCHOPHARMACOLOGY, 231 (5), 853-861. IF: 3.8750</td></tr><tr><td></td><td>Negrete R., Hervera A., Leanez S., Pol O., Treatment with a carbon monoxide-releas-</td><td></td></tr></table>	Carcole M., Castany S., Leanez S., Pol O., Treatment with a heme oxygenase 1 inducer enhances the antinociceptive effects of α -opioid, δ -opioid, and cannabinoid 2 receptors during inflammatory pain. (2014) J PHARMACOL EXP THER, 351 (1), 224-232. IF: 3.9720	Gou G., Leanez S., Pol O., The role of gaseous neurotransmitters in the antinociceptive effects of morphine during acute thermal pain. (2014) EUR J PHARMACOL, 737, 41-46. IF: 2.5320	ing molecule inhibits chronic inflammatory pain in mice: Nitric oxide contribution. (2014) PSYCHOPHARMACOLOGY, 231 (5), 853-861. IF: 3.8750		Negrete R., Hervera A., Leanez S., Pol O., Treatment with a carbon monoxide-releas-	
Carcole M., Castany S., Leanez S., Pol O., Treatment with a heme oxygenase 1 inducer enhances the antinociceptive effects of α -opioid, δ -opioid, and cannabinoid 2 receptors during inflammatory pain. (2014) J PHARMACOL EXP THER, 351 (1), 224-232. IF: 3.9720	Gou G., Leanez S., Pol O., The role of gaseous neurotransmitters in the antinociceptive effects of morphine during acute thermal pain. (2014) EUR J PHARMACOL, 737, 41-46. IF: 2.5320	ing molecule inhibits chronic inflammatory pain in mice: Nitric oxide contribution. (2014) PSYCHOPHARMACOLOGY, 231 (5), 853-861. IF: 3.8750					
	Negrete R., Hervera A., Leanez S., Pol O., Treatment with a carbon monoxide-releas-						

Pharmacological Research in Humans

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Main Lines of Research

Clinical Trials with no Therapeutic Benefits to Volunteer Participants

- ▶ Phase I clinical trials (healthy volunteers) whose main objectives include: first-time-in-humans, safety and tolerability (local, 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 the same or different characteristics (elderly, obese, postmenopausal, with liver or kidney failure).
- ▶ Collaboration with clinical services to conduct phase II/III studies.

Neuro-Physio-Pharmacology of Sleep/Wake States

- ▶ Investigate human brain activity in sleep and wakefulness, mechanisms involved in these states, problems derived from sleep disturbances and possible interventions.
- ▶ Approach the phenomenon as a continuum: 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.
- ▶ Develop studies that consider the 24-hour day/night cycle as the phenomenon under study cannot be evaluated without taking this interactivity into account.
- ▶ Develop 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 the neuro-physio-pharmacology of sleep/wake states, focusing on pharmacotherapeutic objectives and also on physiopathologic objectives in related fields, such as dreams.
- ▶ Develop neurophysiologic recording performance 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 dual objective: to return knowledge generated to society and 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 our two main research lines: the application of good clinical practices in clinical research into sleep medicine and its medical (pathology, and treatment) and social (quality of life, prevention of accident risk) consequences.

Collaborations	External Collaborations Phase I clinical trials for national and international pharmaceutical companies (12 in total).
Active Grants	- Rosa M. Antonijoan Arbos. POLYFARMA: Nuevas Terapias Parkinson. INNPACTO 2011. IPT-2011-1048-900000. Duration: 01/06/11-28/02/14. €84,245.70. - Rosa M. Antonijoan Arbos. Supresión de la expresión de alfa-sinucleína y de la actividad de PDE10 como estrategia terapéutica combinada para el tratamiento del Parkinson y mejora de las disfunciones cognitivas derivadas. INNPACTO 2012. IPT-2012-1208-300000. Duration: 01/08/12-31/03/15. €53,096. Note: Total amount granted to PI. It does not include indirect costs.
Grants Awarded in 2014	Sandra Gimenez Badia. ADENOASMA: Investigación y desarrollo de nuevos moduladores de los receptores de adenosina como medicamentos para tratar enfermedades respiratorias. MINECO. RTC-2014-19871. Duration: 01/01/2015-31/12/2016. €137,130. Note: Total amount granted to PI. It does not include indirect costs.

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Scientific Production	Balsells M., Garcia-Patterson A., Gich I., Corcoy R., Ultrasound-guided compared to conventional treatment in gestational diabetes leads to improved birthweight but more insulin treatment: Systematic review and meta-analysis. (2014) ACTA OBSTET GYN SCAN, 93 (2), 144-151. IF: 2.4260 Catala A., Garces J.R., Alegre M., Gich I.J., Puig L., Mohs micrographic surgery for basal cell carcinomas: Results of a Spanish retrospective study and Kaplan-Meier survival analysis of tumour recurrence. (2014) J EUR ACAD DERMATOL, 28 (10), 1363-1369. IF: 2.8260 Garcia-Gea C., Martinez J., Ballester M.R., Gich I., Valiente R., Antonijoan R.M., Psychomotor and subjective effects of bilastine, hydroxyzine, and cetirizine, in combination with alcohol: A randomized, double-blind, crossover, and positive-controlled and placebo-controlled Phase I clinical trials.. (2014) HUM PSYCHOPHARM CLIN, 29 (2), 120-132. IF: 2.1920 Garin N., De Pourcq J.T., Martin-Venegas R., Cardona D., Gich I., Mangues M.A., Viscosity differences between thickened beverages suitable for elderly patients with dysphagia. (2014) DYSPHAGIA, 29 (4), 483-488. IF: 2.0330 Gutarra-Vilchez R.B., Barajas-Nava L., Aleman A., Sola I., Gich I., Bonfill X., Alonso-Coello P., Systematic evaluation of the quality of clinical practice guidelines on the use of assisted reproductive techniques. (2014) HUM FERTIL, 17 (1), 28-36. IF: 0.9090 Kotzeva A., Guillamon I., Gracia J., Diaz Del Campo P., Gich I., Calderon E., Gaminde I., Louro-Gonzalez A., Martinez F., Orrego C., Rotaache R., Salcedo F., Alonso-Coello P., Use of clinical practice guidelines and factors related to their uptake: A survey of health professionals in Spain. (2014) J EVAL CLIN PRACT, 20 (3), 216-224. IF: 1.0840 Martinez-Horta S., Riba J., de Bobadilla R.F., Pagonabarraga J., Pascual-Sedano B., Antonijoan R.M., Romero S., Mananas M.A., Garcia-Sanchez C., Kulisevsky J., Apathy in parkinson's disease: Neurophysiological evidence of impaired incentive processing. (2014) J NEUROSCI, 34 (17), 5918-5926. IF: 6.3440 Puente A., Hernandez-Gea V., Graupera I., Roque M., Colomo A., Poca M., Aracil C., Gich I., Guarner C., Villanueva C., Drugs plus ligation to prevent rebleeding in cirrhosis: An updated systematic review. (2014) LIVER INT, 34 (6), 823-833. IF: 4.8500 Rico S., Antonijoan R.-M., Ballester M.R., Gutierrez I., Ayani I., Martinez-Gonzalez J., Borrell M., Fontcuberta J., Gich I., Pharmacodynamics assessment of Bemiparin after multiple prophylactic and single therapeutic doses in adult and elderly healthy volunteers and in subjects with varying degrees of renal impairment. (2014) THROMB RES, 133 (6), 1029-1038. IF: 2.4470 Robleda G., Sillero-Sillero A., Puig T., Gich I., Banos J.-E., Influence of preoperative emotional state on postoperative pain following orthopedic and trauma surgery. (2014) REV LAT-AM ENFERM, 22 (5), 785-791. IF: 0.5340
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Clinical Psychiatry

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Main Lines of Research

- ▶ Psychotic disorders (first episodes and persistent hallucinations).
- ▶ Affective disorders (major depression and validation of scales).
- ▶ Borderline personality disorder.

Challenges

- ▶ Foster research that reduces the health-care, 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 first 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.
- ▶ Study of treatment resistance in schizophrenia.

Research into Affective Disorders

- ▶ Identification and evaluation of new therapeutic targets in depression.
- ▶ Neuroimaging studies in first 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 (BPD).
- ▶ Efficacy and effectiveness studies of psychotherapy for treating borderline personality disorder.

Awards

- ▶ A. Fernández Vidal, E. Salagre, A. Ancochea, A. Feliu, D. Puigdemont, M.J. Portella, J. Trujols, E. Álvarez, V. Pérez, J. de Diego-Adeliño. Remissió en depressió: la felicitat i salut mental positiva del pacient hi tenen res a dir? Premi accésit a la millor comunicació de la Jornada de Cloenda de Psiquiatria 2014, Societat Catalana de Psiquiatria i Salut Mental. 5-6 June 2014.
- ▶ Joana Bauzá, Sara Vieira, Alexandra Roldán, Conrad Molins, Eva Grasa, Santiago Durán-Sindreu, Anna Díaz, María J. Portella, Enric Álvarez, Iluminada Corripio. Podríem preveure el perfil de remissió dels pacients psicòtics a través del seu rendiment neuropsicològic? Premi a la millor comunicació de la Jornada de Cloenda de Psiquiatria 2014, Societat Catalana de Psiquiatria i Salut Mental. 5-6 June 2014.

Collaborations	Collaborations with other IIB Sant Pau Groups ▶ Addictive Behaviours. ▶ Neuroradiology. ▶ Neurosurgery. ▶ Hypophysis Diseases. ▶ CIM – Sant Pau. ▶ Pain Clinic Sant Pau. ▶ Genetics. ▶ Internal Medicine.	External Collaborations ▶ Hospital Clínic de Barcelona, Psychiatry Department. ▶ Hospital Parc Taulí, Sabadell, Psychiatry Department. ▶ Universidad Complutense de Madrid, Medicine-Pharmacology Department. ▶ Hospital Universitario de la Princesa, Madrid, Psychiatry Department. ▶ Universidad de Valencia, Medicine-Psychiatry Department. ▶ Leipzig University, Medicine-Psychiatry Department. ▶ Universidad de Cádiz, Medicine-Pharmacology Department. ▶ Hospital Benito Menni – FIDMAG, Barcelona, Psychiatry Department. ▶ University of Oxford, Medicine-Psychiatry Department.
Doctoral Theses	▶ Albert Feliu Soler. Caracterización del Trastorno Límite de la Personalidad y efectos del entrenamiento en mindfulness. Universitat Autònoma de Barcelona. Directors: Joaquim Soler, Xavier Borràs. Date of defense: 11 April 2014.	
Active Grants	▶ Francisco Javier de Diego Adeliño. Recerca farmacogenètica de la difusió sexual induïda per antidepressius. Beca JPC-SCPiSM al millor Projecte Original de Recerca. JPC 2013. Duration: 01/09/13-30/09/15. €2,700. ▶ M. Jesús Portella Moll. PREDI-NU Preventing Depressions and Improving Awareness through Netwrking in the EU. Health Programme. 20101214. Duration: 01/09/11-31/08/14. €35,168.52. ▶ Enric Álvarez Martínez. Estimulación Cerebral Profunda en el tratamiento de la esquizofrenia refractaria: Estudio piloto aleatorizado, controlado y cruzado. Proyectos de Investigación en Salud 2012. PI12/00042. Duration: 01/01/13-31/12/15. €91,500. ▶ Joaquín Soler. Efectos del Mindfulness en la Actividad y Conectividad Funcional de la Default Mode Network en Pacientes con Trastorno Límite de la Personalidad. Proyectos de Investigación en Salud 2013. PI13/00134. Duration: 01/01/14-31/12/16. €46,150. ▶ M. Jesús Portella. Estudio longitudinal de cambios cerebrales en pacientes con un primer episodio de depresión mayor. Proyectos de Investigación en Salud 2013. PI13/01057. Duration: 01/01/14-31/12/16. €56,300. ▶ Enric Álvarez Martínez. Ajuts de suport als Grups de Recerca de Catalunya. Grup Psiquiatria Clínica. AGAUR 2009. SGR 179. Duration: 29/09/09-30/04/14. €42,640. ▶ Juan Carlos Pascual Mateos. Estudio de la sensibilidad genética al ambiente en pacientes con trastorno límite de la personalidad: estudio caso-control de la interacción gen-ambiente. FIS Proyecto 2010. PI10/00253. Duration: 01/01/11-31/12/14. €124,000.	▶ Iluminada Corripio Collado. Determinantes clínicos y neurobiológicos de segundos episodios de esquizofrenia. Estudio longitudinal de primeros episodios psicóticos. MINECO-ISCI Projecte 2011. PI11/00260. Duration: 01/01/12-31/12/14. €75,727. ▶ Maria Jesús Portella Moll. Study of structural and functional brain changes after deep brain stimulation of treatment resistant depression: Biomarkers of DBS antidepressant effects and optimization of parameters (localization and stimulation). FIS Contratos Miguel Servet 2010. CP10/00393. Duration: 01/01/11-30/06/15. €121,300. ▶ Josefina Pérez Blanco. Metilfenidato de liberación inmediata en la mejoría sintomática de la manía aguda. Ministerio de Sanidad y Política Social: EC 2010. EC10-297. Duration: 01/01/11-30/06/15. €5,980. ▶ Maria Serra Blasco. AGAUR Contract FI 2011. 2012 FI-DGR. Duration: 01/03/2012-28/02/2015. €61,863.60. ▶ Francisco Javier de Diego Adeliño. Contrato Postdoc Río Hortega 2011. Instituto de Salud Carlos III. CM11/00287. Duration: 30/01/2012-29/01/2014. €43,200. ▶ M. Jesús Portella Moll. Contrato SNS Miguel Servet 2010. Instituto de Salud Carlos III. MS10/00393. Duration: 20/01/2011-19/01/2017. €151,875. Note: Total amount granted to PI. It does not include indirect costs.

Clinical Psychiatry

Grants Awarded in 2014

- ▶ Iluminada Corripio Collado. Mobile Therapeutic Attention for Patients with Treatment Resistant Schizophrenia (m-RESIST). H2020-PHC-2014-single-stage. PHC26-2014(2). Duration: 01/01/15-31/12/17.
- ▶ Juan Carlos Pascual Mateos. Estudio Epigenómico en el Trastorno Límite de la Personalidad: estudio del patrón de metilación (EWAS-Epigenome-wide association study) y su relación con antecedentes traumáticos. Proyectos de Investigación en Salud 2014. PI14/00214. €81,500.
- ▶ Iluminada Corripio Collado. m-RESIST: Programa de Atención Terapéutica m-Health en Pacientes con Esquizofrenia Resistente. Acciones de Dinamización Europea Investigación 2014. EUIN2013-50935. Duration: 18/09/14-30/09/15. €25,000.
- ▶ Maria del Mar Carceller Sindreu. Contratos predoctorales en investigación en salud 2014. Instituto de Salud Carlos III. FI14/00201. Duration: 30/01/15-29/01/19. €82,400.
- ▶ Francisco Javier de Diego Adeliño. Contratos Juan Rodés 2014. Instituto de Salud Carlos III. JR14/00011. Duration: 31/01/15-30/01/18. €135,000.

Note: Total amount granted to PI. It does not include indirect costs.

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- Gonzalez-Garcia M., Ferrer M.J., Borrás X., Munoz-Moreno J.A., Miranda C., Puig J., Perez-Alvarez N., Soler J., Feliu-Soler A., Clotet B., Fumaz C.R., Effectiveness of mindfulness-based cognitive therapy on the quality of life, emotional status, and CD4 cell count of patients aging with HIV infection. (2014) AIDS BEHAV, 18 (4), 676-685.
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- Granero R., Hilker I., Agüera Z., Jimenez-Murcia S., Sauchelli S., Islam M.A., Fagundo A.B., Sanchez I., Riesco N., Dieguez C., Soriano J., Salcedo-Sanchez C., Casanueva F.F., De La Torre R., Menchon J.M., Gearhardt A.N., Fernandez-Aranda F., Food addiction in a Spanish sample of eating disorders: DSM-5 diagnostic subtype differentiation and validation data. (2014) EUR EAT DISORD REV, 22 (6), 389-396.
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- Hervas A., Toma C., Romaris P., Ribases M., Salgado M., Bayes M., Balmana N., Cormand B., Maristany M., Guijarro S., Arranz M.J., The involvement of serotonin polymorphisms in autistic spectrum symptomatology. (2014) PSYCHIAT GENET, 24 (4), 158-163.
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Trujols J., De Diego-Adelino J., Feliu-Soler A., Iraurgi I., Puigdemont D., Alvarez E., Perez V., Portella M.J., The Spanish version of the Quick Inventory of Depressive Symptomatology-Self-Report (QIDS-SR16): A psychometric analysis in a clinical sample. (2014) *J AFFECT DISORDERS*, 169, 189-196.

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Other Publications

- De Diego-Adelino J., Microstructural white-matter abnormalities associated with treatment resistance, severity and duration of illness in major depression. (2014) *PSYCHOLOGICAL MEDICINE*, 44 (6), 1171-1182.

Genetics in Neurodegenerative Diseases

Coordinator

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Members

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CIBERNED



Main Lines of Research

- ▶ Use of state-of the-art genomic strategies to study the genetic architecture of complex diseases caused by neurodegenerative processes, including Alzheimer disease and other dementias, Parkinson disease, and neuromuscular disorders.
- ▶ Cloning and evaluation of novel genes associated with neurodegenerative disorders through genomic analyses on families with Mendelian pattern of inheritance.
- ▶ Study of the relationship between biomarkers and endophenotypes at the individual genetic background.
- ▶ Evaluation of the effect of novel genes related to neurodegenerative disorders in the Spanish population through multi-centre collaborative studies.

Challenges

- ▶ Assemble a research team of excellence in the international field of genetics of neurodegenerative disorders.
- ▶ Increase our capacity of funding through EU support.
- ▶ Develop a comprehensive genomic database from well-characterized Spanish patients of European origin suffering from neurodegenerative disorders.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Neurobiology of Dementia (Alberto Lleó).
- ▶ Parkinson Disease and Movement Disorders (Jaime Kulisevsky).
- ▶ Neuromuscular Diseases (Isabel Illa).

External Collaborations

National and international consortiums

- ▶ European Early Onset Dementia Consortium (EU-EOD).
- ▶ European Alzheimer Disease Initiative (EADI).
- ▶ International Genomics of Alzheimer Project (IGAP).
- ▶ Dementia Genetics Spanish Consortium (DEGESCO).
- ▶ CIBER-Neurodegenerative Diseases (CIBERNED).

Collaborations with international centres

- ▶ Dr. John Hardy, University College of London, UK.
- ▶ Dr. Andrew Singleton, National Institutes of Health, USA.
- ▶ Dr. Coro Paisán-Ruiz, Mount Sinai School of Medicine, USA.
- ▶ Dr. Ekaterina Rogaeva, University of Toronto, Canada.
- ▶ Dr. Mikko Hiltunen, Kuopio University, Finland.
- ▶ Dr. Martin Ingelsson, Uppsala University, Sweden.
- ▶ Dr. Liana Fidani, Aristotle University of Thessaloniki, Greece.
- ▶ Dr. Philippe Amouyel, Institut Pasteur de Lille, France.
- ▶ Dr. Christine Van Broekhoven, University of Antwerp, Belgium.

Active Grants

- ▶ Jordi Clarimon Echevarria. Variantes genéticas raras y su implicación en la enfermedad de Alzheimer: uso de nuevas tecnologías de ultrasecuenciación para el estudio de genes implicados en la enfermedad. Proyectos de Investigación en Salud 2012. PI12/01311. Duration: 01/01/13-31/12/15. €91,000.
- ▶ Jordi Clarimon Echevarria. Contracte SNS Miguel Servet 2007. Instituto de Salud Carlos III. CP07/00010. Duration: 01/02/08-26/01/14. €150,380.10.
- ▶ Jordi Clarimon Echevarria. Contratos Miguel Servet 2013 (II). Instituto de Salud Carlos III. MSII13/00005. Duration: 27/01/14-26/01/17. €101,250.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2014

- ▶ Jordi Clarimon Echevarria. Grup de Recerca en Demències. AGAUR SGR 2014. SGR 235. Duration: 04/09/14-31/12/16. €18,000.
- ▶ Jordi Clarimon Echevarria. Convocatoria de proyectos de investigación sobre enfermedades poco frecuentes de RTVE 2014. "Todos somos raros 2014". Duration: 07/01/15-06/01/17. €90,748.

Note: Total amount granted to PI. It does not include indirect costs.

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Scientific Production

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Gkampeta A., Fidani L., Clarimon J., Kalinderi K., Katopodi T., Zafeiriou D., Pavlou E., Association of brain-derived neurotrophic factor (BDNF) and elongator protein complex 4 (ELP4) polymorphisms with benign epilepsy with centrotemporal spikes in a

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Suarez-Calvet M., Belbin O., Pera M., Badiola N., Magrane J., Guardia-Laguarta C., Munoz L., Colom-Cadena M., Clarimon J., Lleo A., Autosomal-dominant Alzheimer's disease mutations at the same codon of amyloid precursor protein differentially alter A β production. (2014) J NEUROCHEM, 128 (2), 330-339.

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hoven C., Molinuevo J.L., Blesa R., Clarimon J., Lleo A., Plasma phosphorylated TDP-43 levels are elevated in patients with frontotemporal dementia carrying a C9orf72 repeat expansion or a GRN mutation. (2014) J NEUROL NEUROSUR PS, 85 (6), 684-691.

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Van Der Zee J., Van Langenhove T., Kovacs G.G., Dillen L., Deschamps W., Engelborghs

Genetics in Neurodegenerative Diseases

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poulos P., Frisoni G.B., Bonvicini C., Synofzik M., Maetzler W., Vom Hagen J.M., Schols L., Haack T.B., Strom T.M., Prokisch H., Dols-Icardo O., Clarimon J., Lleó A., Santana I., Almeida M.R., Santiago B., Heneka M.T., Jessen F., Ramirez A., Sanchez-Valle R., Llado A., Gelpi E., Sarafov S., Tournev I., Jordanova A., Parobkova E., Fabrizi G.M., Testi S., Salmon E., Strobel T., Santens P., Robberecht W., De Jonghe P., Martin J.-J., Cras P., Vandenberghe R., De Deyn P.P.,

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Other Publications

- ▶ Alcolea D., Carmona-Iragui M., Suarez-Calvet M., Sanchez-Saudinos M.B., Sala I., Anton-Aguirre S., Blesa R., Clarimon J., Fortea J., Lleó A., Relationship between β -Secretase, inflammation and core cerebrospinal fluid biomarkers for Alzheimer's disease. (2014) JOURNAL OF ALZHEIMER'S DISEASE : JAD, 42 (1), 157-167.

Human Neuropsychopharmacology

Coordinator

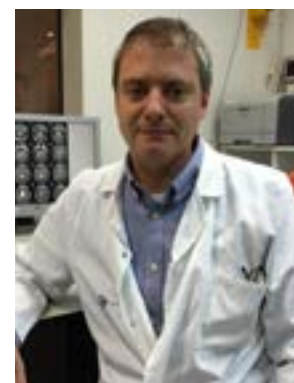
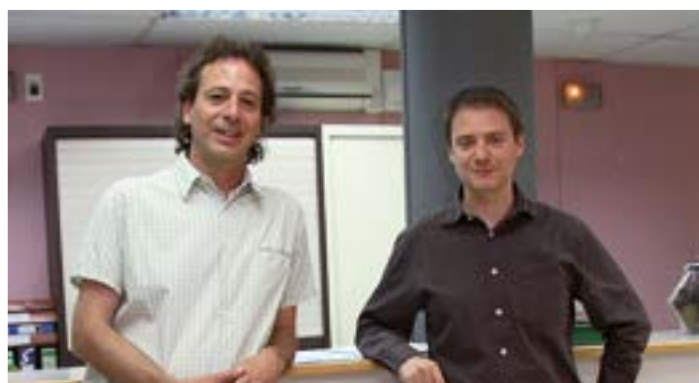
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HSCSP RI

Members

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Main Lines of Research

General Neuropsychopharmacology

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

Neuropsychopharmacology of Abused Substances

- ▶ 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 on brain function (fMRI) and structure (VBM, DTI).

Challenges

- ▶ Consolidate and extend existing research lines through possible cooperation agreements with other groups and according to internal growth.
- ▶ Obtain emerging-group recognition.
- ▶ Obtain stable funding and supporting technical staff.
- ▶ Communicate activities.
- ▶ Maintain existing external cooperation agreements.
- ▶ Establish new cooperation agreements within HSCSP RI.

Collaborations

Collaborations with other IIB Sant Pau Groups

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

External Collaborations

- ▶ Cognition and Brain Plasticity Group (IDIBELL Bellvitge Biomedical Research Institute), Spain.
- ▶ Biomedical Engineering Research Centre, Universitat Politècnica de Catalunya (UPC), Spain.
- ▶ Brain Institute, Federal University of Rio Grande do Norte, Natal, Brazil.
- ▶ Neuroscience and Behaviour Department, Ribeirão Preto Medical School, University of São Paulo, Brazil.
- ▶ Psychiatry and Behavioral Sciences Department, Johns Hopkins School of Medicine, USA.
- ▶ Department of Comparative Biomedical Sciences, Louisiana State University, USA.

Active Grants

- Jordi Riba Serrano. Farmacología humana de la salvinorina-A: estudio farmacodinámico y de mecanismo de acción mediante bloqueo farmacológico de los efectos. Proyectos de Investigación en Salud 2012. PI12/02758. Duration: 01/01/13-31/12/15. €66,500.

Note: Total amount granted to PI. It does not include indirect costs.

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Scientific Production

Martinez-Horta S., Riba J., de Bobadilla R.F., Pagonabarraga J., Pascual-Sedano B., Antonijuan R.M., Romero S., Mananas M.A., Garcia-Sanchez C., Kulisevsky J., Apathy in parkinson's disease: Neurophysiological evidence of impaired incentive processing. (2014) J NEUROSCI, 34 (17), 5918-5926.
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Neurobiology of Dementia

Coordinator

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HSCSP

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Raul Núñez	HSCSP RI
Isabel Sala	HSCSP
M. Belén	
Sánchez-Saudinós	HSCSP RI
Eduard Vilaplana	CIBERNED



Main Lines of Research

- ▶ Biomarkers in Alzheimer disease and other neurodegenerative dementias:
 - CSF biomarkers in Alzheimer disease, dementia with Lewy bodies and fronto-temporal dementia.
 - Amyloid imaging in neurodegenerative dementias.
- Novel MRI markers in preclinical Alzheimer disease.
- ▶ Biomarkers of Alzheimer disease in Down syndrome
- ▶ Molecular basis of neurodegenerative diseases.

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 to increase number of applications for European and international projects.
- ▶ Establish links with technological innovation groups and companies to foster patent applications and contracts.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Genetics in Neurodegenerative Diseases (PI: Jordi Clarimon).
- ▶ Molecular Physiology of the Synapse (PI: Alex Bayes).
- ▶ Cerebrovascular Diseases (PI: Joan Martí-Fabregas).
- ▶ Neuromuscular Diseases (PI: Isabel Illa).
- ▶ Parkinson Disease and Movement Disorders (PI: Jaume Kulisevsky).
- ▶ Nuclear Medicine (PI: Ignasi Carrió).

External Collaborations

- ▶ Ellen Gelpi, José L. Molinuevo, Hospital Clínic-IDIBAPS, Barcelona, Spain.
- ▶ Jordi Magrané, Cornell University, New York, USA.
- ▶ Tiago Outeiro, University Medical Centre, Goettingen, Germany.
- ▶ Martin Ingelsson, MD, PhD, Uppsala University, Sweden.
- ▶ Tara Spire-Jones, University of Edinburgh, UK.
- ▶ Kaj Blennow, Göteborg, Sweden.
- ▶ Pieter J Visser, Amsterdam University, The Netherlands.

Active Grants

- ▶ Alberto Lleó Bisa. Complejo gamma-secretasa: efecto de mutaciones genéticas y papel como diana terapéutica en la enfermedad de Alzheimer. FIS Project 2010. PI10/00018. Duration: 01/01/11-31/12/14. €215,650.
- ▶ Rafael Blesa González. Depósito de amiloide cerebral en la enfermedad de Alzheimer: papel de los factores de riesgo genético y de los genes que intervienen en neuroplasticidad y sinaptogénesis. FIS Project 2010. PI10/01878. Duration: 01/01/11-30/06/15. €271,500.
- ▶ Juan Fortea Ormaechea. Estudios multimodales de líquido cefalorraquídeo y resonancia magnética en la enfermedad de Alzheimer preclínica. MINECO-ISCIII Project 2011. PI11/02425. Duration: 01/01/12-30/06/16. €93,009.
- ▶ Alberto Lleó Bisa. Biomarkers for Alzheimer's disease and Parkinson's disease (BIOMARKAPD). MINECO-ISCIII Joint Programming. PI11/03035. Duration: 01/01/12-31/12/15. €97,000.
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- ▶ Martí Colom Cadena. Contrato predoctoral de formación 2011. Instituto de Salud Carlos III. FI11/00436. Duration: 15/09/11-14/09/15. €85,200.
- ▶ Daniel Andrés Alcolea Rodríguez. Ayudas para contratos de formación en investigación Río Hortega 2012. Instituto de Salud Carlos III. CM12/00143. Duration: 15/07/13-14/07/15. €43,200.
- ▶ Olivia Belbin. Contratos Miguel Servet 2013 - Tipo I. Instituto de Salud Carlos III. MS13/00091. Duration: 15/01/14-14/01/19. €202,500.

Note: Total amount granted to PI. It does not include indirect costs.

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- ▶ Juan Fortea Ormaechea. Alzheimer's disease in Down's syndrome. CSF, MRI, EEG and PET multimodal studies. Ajudes a la recerca biomèdica sobre malalties neurodegeneratives 2014. 531/U/2014 MARATO. Duration: 01/01/15-31/12/17. €159,200.
- ▶ Juan Fortea Ormaechea. Bolsa d'Ampliació d'Estudis 2014. BA14/00047. €10,500.
- ▶ Alberto Lleó Bisa. Marcadores sinápticos en la enfermedad de Alzheimer. Proyectos de Investigación en Salud 2014. PI14/01561. €111,500.
- ▶ Juan Fortea Ormaechea. La estructura cerebral y el metabolismo en la enfermedad de Alzheimer preclínica. Interacciones entre "nuevos y viejos" biomarcadores. Proyectos de Investigación en Salud 2014. PI14/01126. €101,500.
- ▶ Maria Carmona Iragui. Ayudas para contratos de formación Río Hortega 2014. Instituto de Salud Carlos III. CM14/00029. Duration: 15/01/15-14/01/17. €53,732.

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- Camacho V, Lleó A, Amyloid imaging in depression: A predictor of Alzheimer's disease?. (2014) EUR J NUCL MED MOL I, 41 (4), 711-713.
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Neurobiology of Dementia

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Other
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- ▶ Alcolea D., Carmona-Iragui M., Suarez-Calvet M., Sanchez-Saudinos M.B., Sala I., Anton-Aguirre S., Blesa R., Clarimon J., Fortea J., Lleó A., Relationship between β -Secretase, inflammation and core cerebrospinal fluid biomarkers for Alzheimer's disease. (2014) JOURNAL OF ALZHEIMER'S DISEASE : JAD, 42 (1), 157-167.
- ▶ Darba J., Kaskens L., Lacey L., Lleó A., Anderson P., Evaluation of the socioeconomic consequences of progression of Alzheimer's disease in patients with dementia and cognitive impairment. Exploratory analysis of the effectiveness valuation of five clinical measures. (2014) PHARMACOECONOMICS - Spanish Research Articles, 11 (2), 39-50.

Neuroradiology

Coordinator

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Members

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Main Lines of Research

- ▶ Ours is a multidisciplinary research group, which has the added value of combining neuroimaging skills of the members of the Neuroradiology clinical unit at Hospital de la Santa Creu i Sant Pau with technological knowledge from PIC/IFAE investigators at the Universitat Autònoma de Barcelona (Spain).
- ▶ Our main focus is the search for neuroimaging biomarkers in diseases involving

the central nervous system, including neurodegenerative and neuropsychiatric conditions.

- ▶ A secondary focus is the implementation of automatic procedures and software tools to improve neuroradiological practice.

Challenges

- ▶ Achieve visibility for our research group and for neuroradiology –often considered by clinicians more a technical tool rather than a discipline in itself– as a defined field of knowledge.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Pituitary Gland Disorders.
- ▶ Clinical Psychiatry.
- ▶ Digestive Diseases.
- ▶ Parkinson Disease and Movement Disorders.
- ▶ Cerebrovascular Diseases.

External Collaborations

- ▶ PIC (Information Science Port) / IF AE (Institute for High Energy Physics), Universitat Autònoma de Barcelona, Spain.
- ▶ COST-Action in ASL (European project), National Hospital for Neurology and Neurosurgery, London, UK.

Active Grants

- ▶ Beatriz Gómez Anson. Predicció de resposta a la teràpia cognitiuconduccional en pacients esquizofrèncics amb al·lucinacions auditives persistents, utilitzant RMf. Fundació la Marató TV3. 091230. Duration: 25/05/10-15/06/14. €138,592.80.

Note: Total amount granted to PI. It does not include indirect costs.

Doctoral Theses

- ▶ Esther Granell Moreno. Correlación entre los cambios estructurales cerebrales (RM) y el deterioro cognitivo en el síndrome del temblor y ataxia ligada al síndrome del

cromosoma X frágil (FXTAS). Universitat Autònoma de Barcelona. Directors: Beatriz Gómez Anson, Antonio Martínez Noguera. Date de defensa: 30 June 2014.

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Ageing Institute

Coordinator

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Main Lines of Research

- ▶ Health research into ageing:
 - Healthy ageing: physical activity, nutrition and cognition.
 - Frequent health problems in 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 into caregivers of older adults.
- ▶ Promotion of active ageing among older people.
- ▶ ICT applications to health, social services and active ageing.

Challenges

Health Research Area

- ▶ Area mainly focused on health promotion and disability prevention to improve quality of life among older people.
- ▶ Clinical and epidemiological research undertaken includes both observational and intervention studies, with the main lines of research referring to mobility, nutrition and cognition.

- Comprehensive needs assessment.
- Care quality.
- Good caregiving practices.
- Assessment of dependence.
- Home care services.
- Analysis of economic costs.

Research into ICT Applications to Health, Social Services and Active Ageing

- ▶ 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 ageing.

Health and Social Services Research

- ▶ Social care and healthcare as key for the maintenance of autonomy, with a focus on the following topics:
 - Models of social care and healthcare.
 - The organization of health and social services.

Awards

- ▶ XV Premi FiraGran en l'Àmbit Cívic i Social (Entitat), awarded to the Institut de l'Entornament UAB, in 16th edition of Saló de la Gent Gran de Catalunya (2014 Fira Gran), for its task of research on improving the quality of life of older people.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ FRAPEM: FIS Fragilitat. EAP Sardenya.
- ▶ FIS Memory Workshops. Public Health Agency of Barcelona and EAP Sardenya.

External Collaborations

- ▶ The group participates usually in CE-funded projects. During 2014 there were two collaborative projects in progress:
 - Profound
 - SAAPHO

- ▶ The Group belongs to the Global Research Network of the International Association of Geriatrics and Gerontology, which jointly organize in Barcelona a yearly course and in 2014 the International Conference on Frailty & Sarcopenia Research.
- ▶ Participation in european groups. Currently:
 - The group of nutrition and cognitive decline of the EUGMS (European Union Geriatric Medicine Society)
 - MOBEX group: about mobility and falls

Active Grants

- ▶ Antoni Salvà Casanovas. Cribado de fragilidad en personas mayores según estado cognitivo. MINECO-ISCIII Proyecto 2011. Duration: 01/01/12-31/12/14. €61,372.
- ▶ Antoni Salvà Casanovas. Secure Active Aging: Participation and Health for the Old (SAAPHO). European Commission. AAL-010000-2011-12. Duration: 2011-2014. €3,078,799.34.*
- ▶ Antoni Salvà Casanovas. Prevention of Falls Network for Dissemination (PROFOUND). European Commission. CIP 325087. Duration: 2012-2015. €1,026,569.*

- ▶ Antoni Salvà Casanovas. Frailty screening in the elderly according to cognitive status. (FRAPEM). FIS Project. PI11/02001. Duration: 2012-2014. €74,266.*
- ▶ Antoni Salvà Casanovas. Active aging, citizenship and participation: Fundación CSIC. Duration: 2012-2014. €207,719.*

* Grants applied for by other research institutes.

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Tobias A., CatalaLopez F., Roque M., Development of an excel spreadsheet for metaanalysis of indirect and mixed treatment comparisons. (2014) REV ESP SALUD PUBLIC, 88 (1), 5-15.

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Torrego A., Sola I., Munoz A.M., Roque I Figuls M., Yepes-Nunez J.J., Alonso-Coello P., Plaza V., Bronchial thermoplasty for moderate or severe persistent asthma in adults.. (2014) COCHRANE DB SYST REV, 3.

IF: 6.0320

Ageing Institute

Other Publications

- ▶ Osuna-Pozo C.M., Serra-Rexach J.A., Vina J., Gomez-Cabrera M.D.C., Salva A., Ruiz D., Masanes F., Lopez-Soto A., Formiga F., Cuesta F., Cruz-Jentoft A., Prevalence of sarcopenia in geriatric outpatients and nursing homes. The ELLI study. (2014) REVISTA ESPANOLA DE GERIATRIA Y GERONTOLOGIA, 49 (2), 72-76.
- ▶ Salva A., Roque M., Valles E., Bustins M., Rodo M., Sanchez P., Description of the clinical complexity of patients admitted to long term care hospitals in Catalonia during 2003-2009. (2014) REVISTA ESPANOLA DE GERIATRIA Y GERONTOLOGIA, 49 (2), 59-64.
- ▶ Salva A., Roque M., Valles E., Bustins M., Rodo M., Sanchez P., Erratum to Description of the clinical complexity of patients admitted to long term care hospitals in Catalonia during 2003-2009. (2014) REVISTA ESPANOLA DE GERIATRIA Y GERONTOLOGIA, 49 (6), 306.

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 outcomes 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.
- ▶ Pharmacological-epidemiological, non-interventional, prospective, multicenter study with Selincro® in alcohol dependence, to determine patterns of use and consumption of alcohol in routine clinical practice in Spain.
- ▶ Prospective observational study for reducing the negative consequences associated with excessive alcohol use (RINCA) through the treatment program to reduce alcohol consumption with nalmefene.

Cocaine

- ▶ Evaluation of cocaine craving during hospitalization conditions.

Smoking

- ▶ Evaluation of the neuropsychiatric safety and efficacy of varenicline and bupropion hydrochloride for smoking cessation in subjects with and without a history of psychiatric disorders.
- ▶ Non-treatment follow-up for cardiac assessments following use of smoking cessation treatments in subjects with and without a history of psychiatric disorders.

Opiates

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

Challenges

- ▶ Establish bidirectional links between clinical practice and investigation both to suggest hypotheses and 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

Collaborations with other IIB Sant Pau Groups

- ▶ Clinical Epidemiology and Healthcare Services.
- ▶ Clinical Psychiatry.
- ▶ Genetic Diseases.

External Collaborations

- ▶ DeustoPsych, R+D+I in Psychology and Health, University of Deusto, Bilbao, Spain.

Active Grants

- ▶ José Pérez de los Cobos. Hacia la identificación de los mecanismos que permiten inhibir el craving de cocaína: valoración de factores motivacionales y cognitivos potencialmente relacionados con la ausencia de craving. Proyectos de Investigación en Salud 2012. PI12/00105. Duration: 01/01/13-31/12/15. €74,500.
- ▶ Joan Trujols Albet. Satisfacción con el tratamiento de mantenimiento con agonistas opioides: Revisión sistemática de instrumentos de medida y síntesis cuantitativa de las diferencias en los

niveles de satisfacción en función del medicamento y de la escala. Projectes de investigació sobre drogodependències 2013. 2013I060. Duration: 01/01/14-31/12/16. €15,630.

Note: Total amount granted to PI. It does not include indirect costs.

*TIF: 18.7010 **MIF: 2.6716

Scientific Production

Cobos J.P.D.L., Trujols J., Sinol N., Batlle F., Development and validation of the scale to assess satisfaction with medications for addiction treatment-methadone for heroin addiction (SASMAT-METHER). (2014) DRUG ALCOHOL DEPEND, 142, 79-85.

IF: 3.4230

Perez De Los Cobos J., Sinol N., Perez V., Trujols J., Pharmacological and clinical dilemmas of prescribing in co-morbid adult attention-deficit/hyperactivity disorder and addiction. (2014) BRIT J CLIN PHARMACOL, 77 (2), 337-356.

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Perez de los Cobos J., Trujols J., Sinol N., Vasconcelos e Rego L., Iraurgi I., Batlle F., Psychometric properties of the Spanish version of the Cocaine Selective Severity Assessment to evaluate cocaine withdrawal

in treatment-seeking individuals. (2014) J SUBST ABUSE TREAT, 47 (3), 189-196.

IF: 1.9960

Plans P., Alvarez E., De Ory F., Campins M., Paya T., Balfagon P., Godoy P., Cayla J., Carreras R., Cabero L., Dominguez A., Prevalence of antibody to bordetella pertussis in neonates and prevalence of recent pertussis infection in pregnant women in Catalonia (Spain) in 2003 and 2013. (2014) PEDIATR INFECT DIS J, 33 (11), 1114-1118.

IF: 2.7230

Tejedor R., Feliu-Soler A., Pascual J.C., Cebolla A., Portella M.J., Trujols J., Soriano J., Perez V., Soler J., Psychometric properties of the Spanish version of the Philadelphia Mindfulness Scale. (2014) REV PSIQUIATR SALUD, 7 (4), 157-165.

IF: 1.6220

Trujols J., De Diego-Adelino J., Feliu-Soler A., Iraurgi I., Puigdemont D., Alvarez E., Perez V., Portella M.J., The Spanish version of the Quick Inventory of Depressive Symptomatology-Self-Report (QIDS-SR16): A psychometric analysis in a clinical sample. (2014) J AFFECT DISORDERS, 169, 189-196.

IF: 3.3830

Trujols J., Iraurgi I., Oviedo-Joekes E., Guardia-Olmos J., A critical analysis of user satisfaction surveys in addiction services: Opioid maintenance treatment as a representative case study. (2014) PATIENT PREFERENCE ADHER, 8, 107-117.

IF: 1.6760

Molecular Physiology of the Synapse

Coordinator

Àlex Bayés

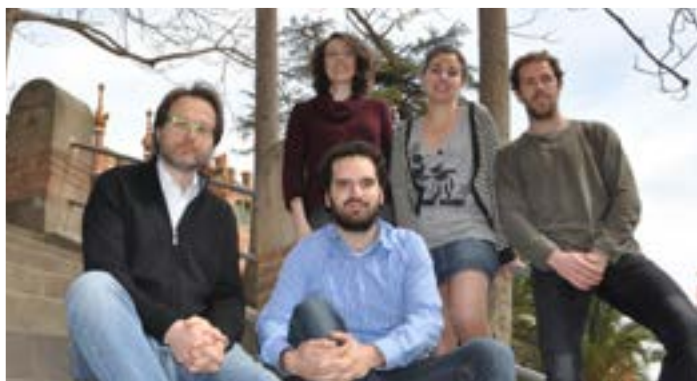
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Main Lines of Research

- ▶ Molecular and cellular analyses of the vertebrate synapse.
- ▶ Molecular and cellular dysfunctions underlying intellectual disability and autism.
- ▶ Research into animal models of mental and behavioural disorders.
- ▶ Development of new biochemical methods to study the synapse.

Challenges

- ▶ Characterize the molecular roots of cognition and behaviour.
- ▶ Identify the synaptic molecules and mechanisms involved in mental and behavioural disorders, mainly intellectual disabilities and autism spectrum disorders.
- ▶ Identify drugs which might help treat mental and behavioural disorders.
- ▶ Study the reversibility after birth of neurodevelopmental disorders affecting cognition.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Neurobiology of Dementias
- ▶ Molecular Physiology of Synapse. (Alejandro Bayés. AGAUR 2014. SGR 297. Duration: 2014-2016. €19.200.)

External Collaborations

- ▶ Prof. Seth GN Grant. University of Edinburgh, UK.
- ▶ Dr. Noboru Komiyama. University of Edinburgh, UK.
- ▶ Dr. Gavin Rumbaugh. Scripps Research Institute, USA.
- ▶ Dr. Richard Emes, University of Nottingham, UK.
- ▶ Dr. Nael Nadif-Kasri. Radboud University. The Netherlands
- ▶ Dr. Montserrat Milà. Hospital Clínic de Barcelona.
- ▶ Dr. Àngels García-Cazorla. Hospital Sant Joan de Déu, Barcelona.
- ▶ Dr. Mark Collins, University of Sheffield, UK.

Active Grants	▶ Alejandro Bayés. Proteomic and Bioinformatic Studies of Synaptic Function and Dysfunction in the Context of Human Intellectual Disabilities. Ministerio de Economía y Competitividad. Program to support non-oriented research projects. BFU2012-34398. Duration: 2013-2015. €150,000.* ▶ Alejandro Bayés. Molecular Analysis of Synaptic Dysfunctions Underlying Human Intellectual Disabilities. European Commission, FP7 Career Integration Grant (CIG). Duration: 2012-2016. Project reference: 304111. €100,000.* ▶ Alejandro Bayés. Proteomic and Bioinformatic Studies of Synaptic Function in the Context of Human Mental and Behavioural Disorders. Spanish Ministry of Economy and Competitivity, Start-up associated to Ramon y Cajal Career Development Fellowship. 2012-2014. Project Reference: RYC-2011-08391. €15,000.* ▶ Gemma Gou Alsina. Contratos Predoctorales para la Formación de Doctores 2013. MINECO BES-2013-063720. Duration: 12/12/13-11/12/17. ▶ Alejandro Bayés. Contrato Ramón y Cajal 2011. Ministerio de Economía y Competitividad. RYC-2011-08391. Duration: 02/05/2012-01/05/2017. €168,600. * Grants applied for by other research institutes. Note: Total amount granted to PI. It does not include indirect costs.
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Grants Awarded in 2014	▶ Alejandro Bayés. Acciones de dinamización "Redes de Excelencia" 2014. Ministerio de Economía y Competitividad. SAF2014-52624-REDT. Duration: 01/12/2014-30/11/2016. €32,000. Note: Total amount granted to PI. It does not include indirect costs.
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*TIF: 7.4340 **MIF: 3.7170

Scientific Production	Bayés A., Collins M., Galtrey C., Simonnet C., Roy M., Croning M., Gou G., van de Lagemaat L., Milward D., Whittle I., Smith C., Choudhary J., Grant S. Human post-mortem synapse proteome integrity screening for proteomic studies of postsynaptic complexes. MOLECULAR BRAIN 2014 Nov 28;7(1):88. Gou G., Leanez S., Pol O., The role of gaseous neurotransmitters in the antinociceptive effects of morphine during acute thermal pain. (2014) EUR J PHARMACOL, 737, 41-46. IF: 2.5320 Sindreu C., Bayes A., Altafaj X., Perez-Clausell J., Zinc transporter-1 concentrates at the postsynaptic density of hippocampal synapses. (2014) MOL BRAIN, 7 (1). IF: 4.9020
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Other Publications	▶ Soto D., Altafaj X., Sindreu C., Bayés A. Glutamate Receptor Mutations in Psychiatric and Neurodevelopmental Disorders. COMMUNICATIVE AND INTEGRATIVE BIOLOGY. 2014 Jan 1;7(1):e27887.
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AREA 5

Uronephrology and Experimental S

182 General and Digestive Surgery

186 Neurosurgery

188 Nephrology

Surgery



General and Digestive Surgery

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Pilar Solé HSCSP
Eduard Targarona HSCSP



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 to biliary lithiasis.
- ▶ Surgery for sarcomas: participation in GIST research through the Spanish Sarcoma Research Group (GEIS) 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 for polytraumatized patients.

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

- ▶ 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.

Doctoral
Theses

- Sonia Fernández Ananin. Abordage laparoscópico en el cáncer de recto. Factores predictivos de la calidad del mesorrecto. Universitat Autònoma de Barcelona. Directors: Manel Trias Folch, Eduard Maria Targarona Soler. Date of defense: 30 October 2014.

Active
Grants

- Eduard Targarona Soler. Design of a 3D model to evaluate 2 volumetric variables (sleeve diameter and antrum size) after sleeve gastrectomy and its influence on weight loss. 2011 EAES (UE). 2011 EAES. Duration: 19/07/12-30/06/15. €45,455.
- Manel Trias Folch. Development of nanomedicines for substitute enzymatic replacement therapy on Fabry disease. TELEMAR-ATÓ 2010 Malalties minoritaries. 101233. Duration: 23/03/11-31/12/14. €44,888.
- Carlos Rodríguez-Otero Luppi. MIA 2013-2. Contracte MIA 2013. Duration: 01/06/13-31/05/14. €45,222.91.

Note: Total amount granted to PI. It does not include indirect costs.

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Scientific Production

Alamo P, Gallardo A., Pavon M.A., Casanova I., Trias M., Mangues M.A., Vazquez E., Villaverde A., Mangues R., Cespedes M.V., Subcutaneous preconditioning increases invasion and metastatic dissemination in mouse colorectal cancer models. (2014) DIS MODEL MECH, 7 (3), 387-396.

IF: 4.9730

Estalella L., Rodriguez-Otero C., Garriga J., Donate T., Targarona E., Hydrocele after peritoneal dialysis: Persistence of the peritoneal-vaginal duct. (2014) CIR ESPAN, 92 (6), 443-444.

IF: 0.7430

Fernandez Ananin S., Targarona E.M., Martinez C., Pernas J.C., Hernandez D., Gich I., Sancho F.J., Trias M., Predicting the pathological features of the mesorectum before the laparoscopic approach to rectal cancer. (2014) SURG ENDOSC, 28 (12), 3458-3466.

IF: 3.2560

Garay M., Bollo J., Balague C., Targarona E., Trias M., Gastrointestinal bleeding as a first symptom of a focal jejunal amyloidosis. (2014) CIR ESPAN, 92 (10), 696-698.

IF: 0.7430

Gonzalez Lopez J.A., Artigas Raventos V., Rodriguez Blanco M., Lopez-Pousa A., Bague S., Abellan M., Trias Folch M., Differences between en bloc resection and enucleation of retroperitoneal sarcomas. (2014) CIR ESPAN, 92 (8), 525-531.

IF: 0.7430

Lopez J., Vilallonga R., Targarona E.M., Balague C., Enriquez L., Rivera R., Balibrea J.M., Perez-Ochoa F., Rodriguez K., Baeza M., Reyes A., Can ligasure™ be used to perform sleeve gas-

trectomy?-Tensile strength and histological changes. (2014) MINIM INVASIV THER, 23 (3), 144-151.

IF: 1.2710

Marinello F.G., Targarona E.M., Balague C., Poca M., Mones J., Trias M., Laparoscopic approach of achalasia. Long-term clinical and functional results and quality of life. (2014) CIR ESPAN, 92 (3), 188-194.

IF: 0.7430

Mato E., Gonzalez C., Moral A., Perez J.I., Bell O., Lerma E., de Leiva A., ABCG2/BCRP gene expression is related to epithelial-mesenchymal transition inducer genes in a papillary thyroid carcinoma cell line (TPC-1). (2014) J MOL ENDOCRINOL, 52 (3), 289-300.

IF: 3.0810

Mocanu S.N., Gonzalez Lopez J.A., Villalba Aunon J., Artigas Raventos V., Percutaneous treatment of a tumour obstruction of the afferent loop of a hepaticojejunostomy. (2014) CIR ESPAN, 92 (3), 209-210.

IF: 0.7430

Moreno-Sanz C., Tenias-Burillo J.M., Morales-Conde S., Balague-Ponz C., Diaz-Luis H., Enriquez-Valens P., Manuel-Palazuelos J.C., Martinez-Cortijo S., Olsina-Kissler J., Socas-Macias M., Toledano-Trincado M., Vidal-Perez O., Noguera-Aguilar J.F., Salvador-Sanchis J.L., Feliu-Pala X., Targarona-Soler E.M., 25 years of laparoscopic surgery in Spain. (2014) CIR ESPAN, 92 (4), 232-239.

IF: 0.7430

Navarro S., Koo M., Orrego C., Munoz-Vives J.M., Rivero M., Montmany S., Prat S., Poboperis A., Puig S., Monerri Mdel M., Caballero F., Caceres E., Study on the improvement of

trauma patient care: TRAUMACAT project. (2014) MED CLIN-BARCELONA, 143, 25-31.

IF: 1.4170

Pallares-Segura J.L., Balague-Pons C., Dominguez-Agustin N., Martinez C., Hernandez P., Bollo J., Targarona-Soler E.M., Trias-Folch M., The role of sentinel lymph node in colon cancer evolution. (2014) CIR ESPAN, 92 (10), 670-675.

IF: 0.7430

Palliser A., Jorba R., Ramia J.M., Rodriguez J.A., Subirana H., De Zarate L.O., Gonzalez J.A., Navarro S., Biological markers of severity in acute pancreatitis. (2014) CENT EUR J MED, 9 (4), 550-555.

IF: 0.1530

Regimbeau J.M., Fuks D., Pessaux P., Bachellier P., Chatelain D., Diouf M., Raventos A., Manton G., Gigot J.-F., Chiche L., Pascal G., Azoulay D., Laurent A., Letoublon C., Boleslawski E., Rivoire M., Mabrut J.-Y., Adham M., Le Treut Y.-P., Delpéro J.-R., Navarro F., Ayav A., Boudjema K., Nuzzo G., Scotte M., Farges O., Tumour size over 3 cm predicts poor short-term outcomes after major liver resection for hilar cholangiocarcinoma. by the HC-AFC-2009 group. (2014) HPB, 17 (1), 79-86.

IF: 2.6750

Trias M., Gonzalez-Calatayud M., Targarona E.M., Balague C., Rodriguez-Luppi C., Martin A.B., Trias M., Minimally invasive therapy for epiphrenic diverticula: Systematic review of literature and report of six cases. (2014) J MINIM ACCESS SURG, 10 (4), 169-174.

IF: 0.8050

General and Digestive Surgery

Other Publications

- ▶ De Vinatea de Cárdenas, J., Velásquez Hawkins C., Huamán Egoávil E. Cirugía del bazo. In: Ciencia y Práctica en Cirugía Laparoscópica. Ed. Amolca. ISBN 978-958-8816-46-3.
- ▶ Marinello F.G., Targarona E.M., Balague C., Poca M., Mones J., Trias M., Long-term clinical status, quality of life and functional outcomes after laparoscopic approach to achalasia. (2014) MINIMALLY INVASIVE SURGERY: EVOLUTION OF OPERATIVE TECHNIQUES, SAFETY EFFECTIVENESS AND LONG-TERM CLINICAL OUTCOMES, 109-124.
- ▶ Park A.E., Targarona E.M., Belyansky I. Spleen (chapter 34). In: Schwartz's Principles of Surgery, 10th Edition, The McGraw-Hill Companies, 2014. ISBN 978-0-07179674-3.
- ▶ Targarona E.M., Luppi C.R., Monclova J.L., Balague C., Trias M., Splenectomy. (2014) REDUCED PORT LAPAROSCOPIC SURGERY, 271-281.
- ▶ Targarona E.M., Luppi C.R., Pallares L., Monclova J.L., Balague C., Trias M., Single-access laparoscopic splenectomy. (2014) SINGLE-ACCESS LAPAROSCOPIC SURGERY: CURRENT APPLICATIONS AND CONTROVERSIES, 9783319069296, 89-100.

Neurosurgery

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Main Lines of Research

- ▶ Biomaterials: comparative study of two different cranial bone fixations.
- ▶ Tumour biology: gliomas (prognostic value of different mutations in anaplastic astrocytoma and GBM), pituitary gland adenomas.
- ▶ Biomarkers in anaplastic astrocytomas and glioblastoma multiforme.
- ▶ 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-resistant depression treated using deep brain stimulation techniques (jointly with psychiatry).
- ▶ Evaluate neurostimulation for other disorders: cluster headache.

Collaborations

- ▶ Joan Molet. MOBI-KITS study. Prospective multicentre worldwide study of the relationship between cell phone use and brain tumour development in the youth population, 7th Framework Programme ENV-2008-226873. Coordinators Spain: Carlos Díaz Acedo and Sandra Plans, Coordinator Catalonia: CREAL.
- ▶ Fernando Muñoz, Ignasi Català. IMPACT-24 study. Effects of pterygopalatine ganglion stimulation on cerebral perfusion in patients with stroke, Brainsgate. Principal researcher: Joan Martí (Neurology Group)
- ▶ Fernando Muñoz, Cristian de Quintana, Ignasi Català, Carles Asencio. CLEAR III. Clot Lysis: Evaluating Accelerated Resolution of Intraventricular Hemorrhage Phase III. John Hoppinkgs Hospital. Principal researcher: Joan Martí (Neurology Group).
- ▶ Joan Molet, Rodrigo Rodríguez. Estimulación Cerebral Profunda en el tratamiento de la esquizofrenia refractaria: Estudio piloto aleatorizado, controlado y cruzado. Fondo de Investigaciones Sanitarias PI12/00042. Duration: 2013-2015. Principal researcher: Enric Álvarez.
- ▶ Fernando Muñoz i Carles Asencio. Estudi MISTIE III. Minimally Invasive Surgery Plus rt-PA for Intracerebral Hemorrhage Evacuation. Principal researcher: Joan Martí Fàbregas.

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Scientific Production

Asencio-Cortes C., De Quintana-Schmidt C., Clavel-Laria P., Antunez I.C., Graciano G.M., Teixido J.M., Spinal cord metastasis from gliosarcoma. Case report and review of the literature. (2014) NEUROCIRUGIA, 25 (3), 132-135.

IF: 0.2930

Canas-Ventura A., Marquez L., Ricart E., Domenech E., Gisbert J.P., Garcia-Sanchez V., Marin-Jimenez I., Rodriguez-Moranta F., Gomollon F., Calvet X., Merino O., Garcia-Planella E., Vazquez-Romero N., Esteve M., Iborra M., Gutierrez A., Vera M., Andreu M., Panes J., Garcia V., Penalva M., Garcia-Planella E., Vera I., Nos P., Vazquez N., Gento E., Fernandez-Salazar L., Barrio J., Martin M.D., Munoz F., Ponferrada A., Hinojosa J., Piqueras M.,

Mendoza J.C., Cabriada J.L., Munoz C., Vilar P., Montoro M.A., Algaba A., Botella B., Saro C., Barreiro M., Aldegue X., Risk of colectomy in patients with ulcerative colitis under thiopurine treatment. (2014) J CROHNS COLITIS, 8 (10), 1287-1293.

IF: 6.2340

Perez-Caballero L., Perez-Egea R., Romero-Grimaldi C., Puigdemont D., Molet J., Caso J.-R., Mico J.-A., Perez V., Leza J.-C., Berrocoso E., Early responses to deep brain stimulation in depression are modulated by anti-inflammatory drugs. (2014) MOL PSYCHIATR, 19 (5), 607-614.

IF: 14.4960

de Quintana-Schmidt C., Pascual-Sedano B., Alvarez-Holzapfel M.J., Gironell A., Leidinger A., Benito N., Rodriguez-Rodriguez R., Molet-Teixido J., Complications related with implanted devices in patients with Parkinson's disease treated with deep brain stimulation. A study of a series of 124 patients over a period of 16 years. (2014) REV NEUROLOGIA, 59 (2), 49-56.

IF: 0.8300

Salgado-Lopez L., de Quintana-Schmidt C., Gómez-Anson B., Bague-Rosell S., Molet-Teixido J. Inflammatory myofibroblastic tumor in the brain. REV NEUROLOGIA, 59 (6): 281-2.

IF: 0.8300

Other Publications

► Julia A., Domenech E., Chaparro M., Garcia-Sanchez V., Gomollon F., Panes J., Manosa M., Barreiro-De Acosta M., Gutierrez A., Garcia-Planella E., Aguas M., Munoz F., Esteve M., Mendoza J.L., Vera M., Marquez L., Tortosa R., Lopez-Lasanta M., Alonso A., Gelpi J.L., Garcia-Montero A.C., Bertranpetit J., Absher D., Myers R.M., Gisbert J.P., Marsal S., A genome-wide association study identifies a novel locus at 6q22.1 associated with ulcerative colitis. (2014) HUMAN MOLECULAR GENETICS, 23 (25), 6927-6934.

► Salgado-Lopez L., de Quintana-Schmidt C., Gomez-Anson B., Bague-Rosell S., Molet-Teixido J., Inflammatory myofibroblastic tumor in the brain. (2014) REVISTA DE NEUROLOGIA, 59 (6), 281-282.

Nephrology

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Patricia Fernández-Llama	F. Puigvert
Elena Guillén	F. Puigvert
Olga Sancho	F. Puigvert
Irene Silva	F. Puigvert
Roser Torra	F. Puigvert



Main Lines of Research

Proteomics Applied to Nephrology and Hypertension

- ▶ Water and sodium renal transport analysed from urinary exosomes, urinary proteomic characterization in diabetic nephropathy: evaluation of renal-angiotensin blockade.

Hereditary Kidney Diseases

- ▶ Genetic and clinical studies in cystic and glomerular inherited kidney diseases such as polycystic kidney disease, Alport, corticoid-resistant nephrotic syndrome, Fabry disease, tuberous sclerosis and familial nephropathies of uncertain origin.

Glomerular Disorders

- ▶ Molecular and clinical studies in disorders such as membranous glomerulopathy and vasculitis with renal involvement, among others.

Kidney Transplantation

- ▶ Protocol biopsies, chronic transplant nephropathy, kidney transplant and associated cardiovascular risk factors, pharmacogenetic and genomic studies.

Chronic Kidney Disease (CKD)

- ▶ Early diagnosis of CKD, epidemiological and clinical studies in CKD-related complications such as renal anaemia, CKD mineral and bone disorders (CKD-MBD) and associated cardiovascular risk; haemodialysis techniques and studies of genetic damage in patients with CKD.
- ▶ Mechanisms of epithelial-mesenchymal transition and renal fibrosis.

Challenges

- ▶ Maintain the level of national and international publication.
- ▶ Continue with both clinical and basic research in all the previously described areas.
- ▶ Participate in the elaboration of clinical nephrology guidelines.
- ▶ Continue with active collection of research samples from CKD and transplant patients.
- ▶ Maintain participation in national working groups and increase international cooperation.
- ▶ Engage in new pharmaceutical clinical studies, including clinical trials.

Collaborations

Collaborations with other IIB Sant Pau Groups**Active collaborations in basic and clinical research projects**

- ▶ Inflammatory Diseases Group: renal fibrosis.
- ▶ Anaesthesiology Group (in collaboration with the Catalan ANES-CARDIOCAT Group): risk of major adverse cardiovascular and cerebrovascular events in non-cardiac surgery associated with the preoperative estimated glomerular filtration rate.
- ▶ Paediatrics Group: nephrotic syndrome evolution, Ig A nephropathy and inherited kidney diseases.
- ▶ Andrology Group: infertility.
- ▶ Urology Group: genetic predisposition to prostate cancer and transplant.

Platforms

- ▶ Biobank platform.

External Collaborations**Participation in national networks**

- ▶ Ars, E. Biobank Network. 2010-2014. Instituto de Salud Carlos III. RD09/0076/00064. €138,000.
- ▶ Ballarín, J. RedinRen. 2007-2014. Instituto de Salud Carlos III. R06/0016/0001. €33,590.
- ▶ Ballarín, J. Kidney research Network. 2013. Instituto de Salud Carlos III. RD12/0021/0033. €69,700.

Other national academic collaborations

- ▶ Department of Biochemistry and Molecular Biology, Universitat de Barcelona, Institute of Biomedicine and Oncology Programme, National Biomedical Research Institute of Liver and Gastrointestinal Diseases (CIBER EHD): renal fibrosis.
- ▶ Laboratory of Proteomics CSIC/Universitat Autònoma de Barcelona: diabetic nephropathy.
- ▶ Mutagenesis Department of Universitat Autònoma de Barcelona: renal impairment in chronic kidney disease.
- ▶ Genomic Regulation Center (CRG): inherited kidney diseases.
- ▶ Universidad de Salamanca: acute kidney injury.

- ▶ Universitat de Lleida: chronic kidney disease.
- ▶ National Scientific Societies (such as Sociedad Española de Nefrología) and investigators of other centres: basic and clinical studies (including public grants, clinical trials, observational studies...) promoted by them.

International academic collaborations

- ▶ Biochemistry and Microbiology Institute UACH (Chile): renal fibrosis and diabetic nephropathy
- ▶ Mayo Clinic (Rochester, USA): Autosomal Dominant Polycystic Kidney Disease (ADPKD)
- ▶ Hospital Tenon (Paris, France): Nephrotic syndrome
- ▶ EURenOmics Platform: membranous nephropathy and nephrotic syndrome.
- ▶ Toronto General Hospital (Canada): molecular genetics of idiopathic nephrotic syndrome
- ▶ University of Melbourne (Australia): Alport syndrome
- ▶ University Medicine Goettingen (Germany): Alport Syndrome
- ▶ EDTA (multinational, Europe): inherited kidney diseases and Chronic Kidney Disease- Mineral and Bone Disorders
- ▶ Addenbrooke's Hospital, Cambridge University Hospitals NHS (United Kingdom): vasculitis
- ▶ EUVAS Group (multinational collaborative Group): vasculitis.

Private national and international collaborations

- ▶ Participation in clinical studies including clinical trials and post-authorisation studies promoted by national and International pharmaceutical companies.
- ▶ Research Joint-Venture with VU Medisch Centrum (Amsterdam, The Netherlands); Medizinische Klinik I (Aachen, Germany) and San Paolo Hospital (Milan, Italy) sponsored by Abbvie Co on effects of vitamin D derivatives in CKD-MBD.

Other collaborations

- ▶ Patient organisations: inherited diseases (AIRG), lupus (ACLECA) and chronic kidney disease (ALCER).

Awards

- ▶ Canal C., Facundo C., Serra N., Guirado L. ¿Which patients are more liable to present subclinical acute rejection? Best Communication. 3rd National Congress of the Spanish Society of Transplant.
- ▶ Bover J, et al. Diagnostic Method of renal insufficiency. IX Award of University to Society Transfer Acknowledgement. Universidad de Alcalá Social Board.
- ▶ Górriz JL, Molina P, Bover J et al. Characteristics of bone mineral metabolism in patients with stage 3-5 chronic kidney disease not on dialysis: results of the OSERCE study. Nefrología 2013;

33(1) 46-60. César Llamazares 2014. Award To The Best 2013 Published Article in the Journal.

- ▶ Ars E, Torra R, Ballarín J and Santin S. Clinical utility of podocyte gene-analysis in children and adults with cortico-resistant nephrotic syndrome. Iñigo Álvarez de Toledo Award to Nephrology Research. Fundación Iñigo Álvarez de Toledo.
- ▶ Guirado L. Promotion of crossed transplants in Spain. 25TH Anniversary of the National Organisation of Transplants Award. Organización Nacional de Trasplantes.

Nephrology

Active Grants

- ▶ Elisabeth Ars. Enfermedades renales hereditarias quísticas y glomerulares: secuenciación masiva de un panel de genes para mejorar su diagnóstico y del exoma para identificar nuevos genes. FIS Project 2013. PI13/01731. Duration: 01/01/14-31/12/16. €82,280.
- ▶ P. Fernández-Llama. Diabetic nephropathy: characterisation of urinary proteoma and evaluation of renin angiotensin blocker treatment. Instituto de Salud Carlos III. PI10/01261. Duration: 2011-2015. €181,742.*
- ▶ M. Díaz. Involvement of nucleoside transporter ENT1 in the modulation of macrophage-mediated renal fibrosis. Instituto de Salud Carlos III. PI12/01524. Duration: 2013-2015. €41,745.*

- ▶ R. Torra. Genomic study of familial nephropathies of uncertain etiology. Instituto de Salud Carlos III. PI12/01523. Duration: 2013-2015. €109,505.*
- ▶ E. Coll. Prognostic biomarkers and strategies to decrease the morbimortality in chronic kidney disease patients. Instituto de Salud Carlos III. PI12/02559. Duration: 2013-2015. €126,445.*
- ▶ Ballarin, J. Grup d'Investigació en Nefrologia (grup de recerca consolidat). AGAUR 2014. SGR 1441. Duration: 2014-2016.*

* Grants applied for by other research institutes.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2014

- ▶ Roser Torra Balcells. Contractes per a la intensificació de l'activitat investigadora en el SNS. INT14/00214. €30,000.

Note: Total amount granted to PI. It does not include indirect costs.

Patents

- ▶ J. Bover (co-inventor). Diagnostic Method of renal insufficiency. Co-titularity: Universidad de Alcalá, Fundació Puigvert and Biomedical Research Foundation, Hospital Gregorio Marañón. Application number: 201131506. Publication number: ES2403755

(Spanish Patent and Trademark Office). Concession date: 19/03/2014.

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Scientific Production

Bouchireb K., Boyer O., Gribouval O., Nevo F., Huynh-Cong E., Moriniere V., Campait R., Ars E., Brackman D., Dantal J., Eckart P., Gigante M., Lipska B.S., Liutkus A., Megarbane A., Mohsin N., Ozaltin F., Saleem M.A., Schaefer F., Soulami K., Torra R., Garcelon N., Mollet G., Dahan K., Antignac C., NPHS2 mutations in steroid-resistant nephrotic syndrome: A mutation update and the associated phenotypic spectrum. (2014) HUM MUTAT, 35 (2), 178-186.

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tinine concentration. (2014) NEFROLOGIA, 34 (2), 223-229.

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Cases-Amenos A., Martinez-Castelao A., Fort-Ros J., Bonal-Bastons J., Ruiz M.P., Vallés-Prats M., Coll-Piera E., Galceran-Gui J.M., Arias M., Perello M., Samon R., Agraz I., Bayes B., Canas L., Castellote E., Craver L., Garcia R., Felipe A., Lauzurica R., Pou M., Ballarin J., Puig J.M., Puig C., Cao H., Colado S., Barbosa F., Martinez-Vea A., Prevalence of anaemia and its clinical management in patients with stages 3-5 chronic kidney disease not on dialysis in catalonia: MICENAS I study. (2014) NEFROLOGIA, 34 (2), 189-198.

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Nephrology

Other Publications

- ▶ Bover J., Dasilva I., Furlano M., Lloret M.J., Diaz-Encarnacion M.M., Ballarin J., Clinical Uses of 1,25-dihydroxy-19-nor-vitamin D(2) (Paricalcitol). (2014) CURR-ENT VASCULAR PHARMACOLOGY, 12 (2), 313-323.
- ▶ Martinez-Castelao A., Gorriz J.L., Bover J., Segura-de la Morena J., Cebollada J., Escalada J., Esmatjes E., Facila L., Gamarra J., Gracia S., Hernandez-Moreno J., Llisterri-Caro J.L., Mazon P., Montanes R., Morales-Olivas F., Munoz-Torres M., de Pablos-Velasco P., de Santiago A., Sanchez-Celaya M., Suarez C., Tranche S., Consensus document for the detection and management of chronic kidney disease. (2014) ENDOCRINOLOGIA Y NUTRICION, 61 (9), e25-e43.
- ▶ Martinez-Castelao A., Gorriz J.L., Bover J., Segura-de la Morena J., Cebollada J., Escalada J., Esmatjes E., Facila L., Gamarra J., Gracia S., Hernandez-Moreno J., Llisterri-Caro J.L., Mazon P., Montanes R., Morales-Olivas F., Munoz-Torres M., de Pablos-Velasco P., de Santiago A., Sanchez-Celaya M., Suarez C., Tranche S., Consensus document for the detection and management of chronic kidney disease. (2014) SEMERGEN, 40 (8), 441-459.
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- ▶ Martinez-Castelao A., Gorriz J.L., Bover J., Segura-de la Morena J., Cebollada J., Escalada J., Esmatjes E., Facila L., Gamarra J., Gracia S., Hernandez-Moreno J., Llisterri-Caro J.L., Mazon P., Montanes R., Morales-Olivas F., Munoz-Torres M., de Pablos-Velasco P., de Santiago A., Sanchez-Celaya M., Suarez C., Tranche S., Consensus document for the detection and management of chronic kidney disease. (2014) HIPERTENSION Y RIESGO VASCULAR, 31 (4), 143-161.
- ▶ Mases A., Sabate S., Guilera N., Sadurni M., Arroyo R., Fau M., Rojo A., Castillo J., Bover J., Sierra P., Canet J., ANESCAR-DIOCAT Group, Preoperative estimated glomerular filtration rate and the risk of major adverse cardiovascular and cerebrovascular events in non-cardiac surgery.. (2014) BRITISH JOURNAL OF ANAESTHESIA, 113 (4), 644-651.
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AREA T1

Epidemiology, Public Health and Healthcare Services

196 Clinical Epidemiology and Healthcare Services

202 Evaluation of Public Health Policies and Programmes

206 Transport and Health: Injuries and Mobility

208 Transmissible Diseases

212 Health Inequalities

216 Epidemiology of Addictions

218 Primary Care Research

Public Health and

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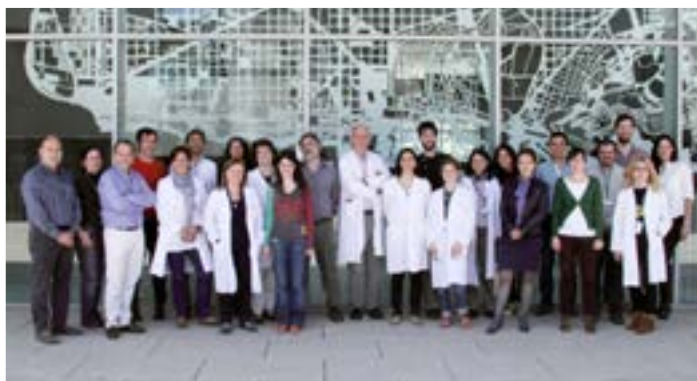
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Margarita Posso	
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M. Jesús Quintana	HSCSP
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David Rigau	HSCSP RI
Marta Roqué	HSCSP RI
Juliana Sanabria	HSCSP RI
Anna Selva	HSCSP RI
Ivan Solà	HSCSP
Judit Sola	ACCIB
Maroussia Tzanova	ACCIB
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Main Lines of Research

- ▶ Evidence-based medicine: systematic reviews, clinical practice guidelines and clinical trials.
- ▶ Health service evaluations.
- ▶ Methodological research.

Areas of interest

- ▶ Evidence-based medicine.
- ▶ Cancer.
- ▶ Perioperative medicine.
- ▶ Cardiovascular medicine.
- ▶ Public health.
- ▶ Appropriateness.

Challenges

- ▶ Become a reference group in Spain and 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.
- ▶ 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.
- ▶ 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 the group's own initiative or through networked relationships with similar groups.
- ▶ 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 applying for additional public funding for new projects aimed at consolidating these research lines.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Locomotor System Research
- ▶ Urology
- ▶ Palliative Care
- ▶ Angiology, Vascular Biology and Inflammation
- ▶ Anaesthesiology
- ▶ Public Health Agency of Barcelona
- ▶ Blood and Tissue Bank
- ▶ Ageing Institute
- ▶ EAP Sardenya

External Collaborations

- ▶ Population Health Research Institute, McMaster University (Canada).
- ▶ Clinical Trial Service Unit and Epidemiological Studies Unit, University of Oxford (United Kingdom).
- ▶ World Health Organization.
- ▶ European Respiratory Society.
- ▶ Facultad de Ciencias de la Salud, Universidad Tecnológica Equinoccial (Ecuador).

Doctoral Theses

- ▶ Judit Sanz i Buxó. Estudi epidemiològic, genètic i clínic del registre de famílies amb càncer de mama i ovari hereditaris de l'Hospital de la Santa Creu i Sant Pau (1995-2005). Universitat Autònoma de Barcelona Director: M. Teresa Puig Reixach. Date of defense: 12 June 2014.
- ▶ Salvador Rico Amaro. Pharmacological characterization of unconventional heparins. Universitat Autònoma de Barcelona. Director: Ignasi Gich Saladich. Date of defense: 15 July 2014.
- ▶ Xavier Basurto Oña. Manejo farmacológico del dolor agudo en urgencias. Compendio de evidencias. Universitat Autònoma de Barcelona. Director: Xavier Bonfill Cosp. Date of defense: 31 October 2014.
- ▶ Manel Balcells Diaz. Anàlisi de l'estructura i el procés d'innovació de quatre grans hospitals de Barcelona. Director: Xavier Bonfill Cosp. Date of defense: 7 November 2014.
- ▶ Pamela Serón Silva. Actividad física y ejercicio en la enfermedad cardiovascular. Universitat Autònoma de Barcelona. Director: Xavier Bonfill Cosp. Date of defense: 11 November 2014.
- ▶ Evelina Chapman Heller. Análisis y generación de evidencias científicas en relación a la salud materna. Universitat Autònoma de Barcelona Director: Xavier Bonfill Cosp. Date of defense: 19 November 2014.

Active Grants

- ▶ Pablo Alonso Coello. La toma de decisiones compartida en cáncer de pulmón. Proyectos singulares 2013. Duration: 01/02/14-31/01/16. €54,000.
- ▶ Xavier Bonfill Cosp. Ajuts de suport als Grups de Recerca de Catalunya. Grup Epidemiologia Clínica i Serveis Sanitaris. AGAUR 2009. SGR 786. Duration: 29/09/09-30/04/14. €41,600.
- ▶ Pablo Alonso Coello. Developing and Evaluating Communication strategies to support Informed Decisions and practice based on Evidence. DECIDE. FP7-HEALTH-2010. 258583. Duration: 01/01/11-31/12/15. €215,649.75.
- ▶ Xavier Bonfill Cosp. Multicentric, controlled, randomized clinical trial to assess the efficacy and cost-effectiveness of urinary catheters with silver alloy coating versus conventional catheters in spinal cord injured patients. TELEMARATÓ 2011 Lesions Medul·lars i Cerebrals. 112210. Duration: 19/04/12-18/04/15. €158,881.
- ▶ M. José Martínez Zapata. Evaluación de calidad de vida en pacientes con fracturas subcapitales de fémur. Ayudas a la Investigación 2012. MAPFRE 2012. Duration: 14/02/13-30/05/14. €10,101.
- ▶ Pablo Alonso Coello. Evaluación de la vigencia y estrategias de actualización de guías de práctica clínica: análisis del Programa Nacional de GPC para el Sistema Nacional de la Salud. FIS Project 2010. PI10/00346. Duration: 01/01/11-30/06/15. €85,650.
- ▶ Xavier Bonfill Cosp. Análisis y mejora del grado de adecuación de la cirugía programada del aneurisma de aorta abdominal. Proyectos de Investigación en Salud 2012. PI12/02530. Duration: 01/01/13-31/12/15. €48,500.00
- ▶ Maria Teresa Puig Reixac. Retos en salud pública: transferencia del conocimiento en obesidad, enfermedades cardiovasculares y consumo de alcohol. Proyectos de Investigación en Salud 2012. PI12/02257. Duration: 01/01/13-31/12/15. €51,500.00
- ▶ Gerard Urrutia Cuchi. Cohorte prospectiva internacional de evaluación de los eventos vasculares en pacientes sometidos a cirugía cardiaca (estudio CardioVISION). Proyectos de Investigación en Salud 2013. PI13/00502. Duration: 01/01/14-31/12/16. €20,600.
- ▶ Pablo Alonso Coello. Retos globales en el desarrollo de recomendaciones en las guías de práctica clínica: recursos y costes, y valores y preferencias de los pacientes. Proyectos de Investigación en Salud 2013. PI13/02848. Duration: 01/01/14-31/12/16. €25,011.40.
- ▶ Pablo Alonso Coello. Eventos vasculares en cirugía en pacientes sometidos a cirugía no cardíaca. El estudio VISION. FIS Contratos Miguel Servet 2009. CP09/00137. Duration: 01/01/10-30/06/14. €30,000.
- ▶ Pablo Alonso Coello. Ensayo clínico sobre la evaluación de la prescripción diferida de antibióticos en las infecciones respiratorias agudas no complicadas en pediatría (PDA-Pediatría). Ministerio de Sanidad y Servicios Sociales e Igualdad: EC 2011. EC11-339. Duration: 01/01/12-30/06/15. €29,655.
- ▶ M. José Martínez Zapata. Prevención del sangrado postoperatorio: Ensayo clínico, multicéntrico, aleatorizado, controlado, paralelo, que evalúa la eficacia del ácido tranexámico y la cola de fibrina fracturas subcapitales de fémur. Ministerio de Sanidad y Servicios Sociales e Igualdad: EC 2011. EC11-341. Duration: 01/01/12-30/06/15. €57,010.
- ▶ Pablo Alonso Coello. FIS Contratos Miguel Servet 2009. CP09/00137. Duration: 01/02/10-31/01/16. €151,875.
- ▶ Laura Martínez García. Ayudas para Contratos de Formación en Investigación Río Hortega 2011. CM11/00035. Duration: 16/01/12-15/01/14. €43,200.
- ▶ Andrea Juliana Sanabria Uribe. Ayudas para Contratos de Formación en Investigación Río Hortega 2012. CM12/00168. Duration: 31/01/13-30/01/15. €43,200.

Note: Total amount granted to PI. It does not include indirect costs.

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- ▶ Pablo Alonso Coello. Retos metodológicos en la elaboración de guías de práctica clínica (GPC) del Sistema Nacional de Salud. Proyectos de Investigación en Salud 2014. PI14/02006. €36,500.
- ▶ Anna Selva Olid. Contratos Río Hortega 2014. CM14/00032. €53,732.

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Evaluation of Public Health Policies and Programmes

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Main Lines of Research

Evaluation of Public Health Policies and Programmes

- ▶ Monitoring of behaviours and other health risk factors such as environmental exposure.
- ▶ Process and impact evaluation of public health programmes and services (school-based prevention programmes for obe-

sity, smoking, alcohol and cannabis consumption, breast cancer screening programmes and memory training workshops for elderly people).

- ▶ Evaluation of ICT innovation in public health.
- ▶ Evaluation of food contaminants.

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 evaluation of health protection interventions.

- ▶ Develop a theoretical corpus of concepts, principles, methods and examples that contribute to filling the gap in under- and postgraduate teaching regarding the design and evaluation of risk prevention and health promotion interventions.

Awards

- ▶ Prevenció de l'obesitat infantil a Barcelona - Creixem sans POIBA. Premi "Diario Médico" categoría "Las mejores ideas del año". 27 October 2014.

- ▶ POIBA, Proyecto de Prevención de la Obesidad en Barcelona. Primer accesit VIII Premios "Estrategia NAOS" 2014, Agencia Española de Consumo, Seguridad Alimentaria y Nutrición (AECOSAN).

Active Grants

- ▶ Anna Pérez Giménez. Ensayo clínico aleatorizado para evaluar la eficacia de los talleres de entrenamiento de la memoria en personas de 65 a 80 años. MINECO-IS-CIII Projecte 2011. PI11/02060. Duration: 01/01/12-31/12/14. €43,750.

Note: Total amount granted to PI. It does not include indirect costs.

Collaborations with other IIB Sant Pau Groups

- ▶ Clinical Epidemiology and Healthcare Services (PI: Xavier Bonfill).
- ▶ Transport and Health: Injuries and Mobility (PI: Catherine Pérez).
- ▶ Health Inequalities (PI: Carme Borrell).
- ▶ Epidemiology of Addictions (PI: M. Teresa Brugal).

External Collaborations

- ▶ CIBER-Epidemiology and Public Health (Group 18: Evaluation of public health policies and programmes).
- ▶ AGAUR Consolidated Research Group (Evaluation of public health policies and programmes).
- ▶ Tobacco Working Group of the Spanish Epidemiology Society.
- ▶ Social Determinants Group of the Spanish Epidemiology Society.
- ▶ Foreign universities: Johns Hopkins University, USA.
- ▶ Spanish universities: Universitat Pompeu Fabra, Universitat

Ramon Llull, Universitat de Vic, Universitat Internacional de Catalunya, Universitat Oberta de Catalunya, Universidad de Santiago de Compostela.

- ▶ Primary care centres: Ciutat Meridiana, Roquetes, Sant Rafael i Sardenya (Barcelona).
- ▶ Catalan Institute of Oncology (ICO).
- ▶ Municipal bodies: Barcelona Sports Institute (IBE), Barcelona Municipal Institute of Education (IME).
- ▶ Regional bodies: Public Health Agency of Catalonia (ASPCAT) (Promoting Health through Physical Activity and Healthy Eating Plan) and Catalan Health Information and Quality Agency (AQUAS).
- ▶ Other bodies: Catalan Recreation Foundation (FCE).
- ▶ Companies: Fontvella and Danone (Health Affairs Departments).

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Evaluation of Public Health Policies and Programmes

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Other Publications

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Transport and Health: Injuries and Mobility

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Main Lines of Research

- ▶ Public health injury surveillance.
- ▶ Evaluation of road safety strategies at the 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.
- ▶ Health impact assessment of active transport (walking and cycling).

Research Projects in the Planning and Design Phase

- ▶ Record linkage of health and police registers to study road traffic injury determinants.
- ▶ Inter-sector policies in transport: impact on sustainable environment, health and equity

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.
- ▶ Evaluate road safety policies and interventions.
- ▶ Calculation of risk indicators using mobility exposure.
- ▶ Study motorized and non-motorized mobility and its impact on health.

Doctoral Theses

- ▶ Eva Cirera. Evolució de les lesions en la gent gran. Espanya 2000-2010. Universitat Pompeu Fabra. Director: Catherine Pérez. Date of defense: 17 October 2014.

Grants Awarded in 2014

- ▶ Caterine Pérez. Ajuts de suport als Grups de Recerca de Catalunya. Transport i salut: lesions i mobilitat. AGAUR 2014. SGR 1337. €20,000.*

* Grants applied for by other research institutes.

Note: Total amount granted to PI. It does not include indirect costs.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Health Inequalities (PI: Carme Borrell)
- ▶ Safety indicators for cities IRTAD Cities (Joint Transport Research Centre of the OECD and the International Transport Forum (JTRC)).

External Collaborations

- ▶ All members of the group are members of the Working Group for Health Impact Evaluation of Injuries in Spain (Sociedad Española de Epidemiología), which is leaded by the IP of the group (Catherine Pérez).
- ▶ All members of the group are members of the group of Social Inequalities of CIBERESP (Consorcio de Investigación Biomédica de Epidemiología y Salud Pública).

- ▶ The IP of the group is member of the European Committee of The Transport and Health Study Group (THSG) (UK).
- ▶ Catherine Pérez. Semi-separación de calzadas en carretera convencional: análisis de diferentes sistemas y evaluación de intervenciones ya realizadas. Dirección General de Tráfico. 0100DGT22160. Duration: 2013-2014. €38,701.85. (external contract)
- ▶ Catherine Pérez. Promoció i desenvolupament d'estudis específics d'accidentalitat a la ciutat de Barcelona. Servei de Mobilitat. Ajuntament de Barcelona. Duration: 2014. €27,534.99.
- ▶ Joint action on monitoring injuries in Europe (JAMIE) (European Agency for Health and Consumers).

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Scientific Production

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the evolution of annual fatality numbers in 30 European countries. (2014) ACCIDENT ANAL PREV, 71, 327-336.

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Lopez-Ruiz M., Martinez J.M., Perez K., Novoa A.M., Tobias A., Benavides F.G., Impact of road safety interventions on traffic-related occupational injuries in Spain, 2004-2010. (2014) ACCIDENT ANAL PREV, 66, 114-119.

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Olabarria M., Perez K., Novoa A.M., Perez K., Santamarina-Rubio E., Daily mobility patterns of an urban population and their relationship to overweight and obesity. (2014) TRANSPORT POLICY, 32, 165-171.

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Perez K., Segui-Gomez M., Arrufat V., Barbe-ria E., Cabeza E., Cirera E., Gil M., Martin C., Novoa A.M., Olabarria M., Lardelli P., Suelves J.M., Santamarina-Rubio E., Definition of hospital discharge, serious injury and death from traffic injuries. (2014) GAC SANIT, 28 (3), 242-245.

IF: 1.1860

Santamarina-Rubio E., Perez K., Olabarria M., Novoa A.M., Gender differences in road traf-fic injury rate using time travelled as a mea-sure of exposure. (2014) ACCIDENT ANAL PREV, 65, 1-7.

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Other Publications

- ▶ Pérez K, Santamariña-Rubio E. Col·lisions i lesions de trànsit a Barcelona 2002-2013. Barcelona: Agència de Salut Pública de Barcelona, 2014. DL: B. 27318-2014.

- ▶ Santamariña-Rubio E, Pérez K. Persones lesionades per trànsit ateses a serveis d'urgències a Barcelona 1997-2013. Barcelona: Agència de Salut Pública de Barcelona, 2014. DL: B.18942-2014.

- ▶ Santamariña-Rubio E, Pérez K, Castellà J. Persones mortes a Barcelona per lesions per col·lisió de trànsit, 1997-2013. Barcelona: Agència de Salut Pública de Barcelona, 2014. DL: B.15532-2014.

Transmissible Diseases

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Main Lines of Research

Application of New Technologies to Tuberculosis Control

- ▶ International diffusion of the new technologies. Google Analytics offers a highly effective system for analysing website visits that enables us to profile visitors (2007, 13,429 visitors, 21% from Latin America).
- ▶ Production of scientific knowledge of relevance on the control, diagnosis, treatment and prevention of tuberculosis (key role in Spain and South America).

Clinical Trials for Tuberculosis Prevention and Treatment

- ▶ Our centre, which is the only such centre in Europe, is part of a network of international centres (in Canada, Brazil, 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 tuberculosis and tubercular infection. Preliminary results have recently been presented at the ICAAC and other important international conferences e.g., the American Thoracic Society (the article with definitive study data is pending publication). A major research line aims to fix the bases for shortening treatment times for tubercular infection and, by extension, ensure compliance and control over the disease.

Community Health Worker's and Notifiable Disease Control

- ▶ The experiment regarding the community health worker's role in the control of notifiable diseases has been presented at tuberculosis and primary care conferences and workshops and in journals (Emerging Infectious Diseases; Ethnicity and Health). Results of a comparative study have recently been 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 final review before publication).
- ▶ The inclusion of community health workers in tuberculosis programme teams has led to the creation of new tuberculosis consensus protocols. Institute of Health studies are under development with sponsorship from the authorities and we are participating as instructors and students in the first intercultural mediation course in the healthcare arena. The concept of the community health worker has been included in the framework 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.

Challenges

- ▶ Prevent sexually transmitted infections and other transmissible diseases.
- ▶ Evaluate HIV screening programmes in gay saunas.
- ▶ Improve detection and research into causes of hepatitis C.
- ▶ Improve detection and control measures of outbreaks.

Collaborations

External Collaborations

- ▶ CDC.
- ▶ CASCADE.
- ▶ GEMES.
- ▶ SANCO.
- ▶ COHERE.

Awards

- ▶ García de Olalla P, Molas E, Barberà MJ, Martín S, Gosh M, Knobel H, Caylà JA. Efectividad de un programa piloto de estudio de contactos de los nuevos diagnósticos de VIH. Premio a la mejor comunicación. Una visión Multidisciplinar en el Tratamiento y la calidad de vida del paciente con VIH. Madrid, 26 June 2014.

Active Grants

- ▶ Joan A. Caylà Buqueras. Cribado de las enfermedades transmisibles en población inmigrante de un barrio con bajo nivel socio-económico: comparación de dos estrategias. Proyectos de Investigación en Salud 2012. PI12/02573. Duration: 01/01/13-31/12/15. €43,500.

Note: Total amount granted to PI. It does not include indirect costs.

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Scientific Production

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Health Inequalities

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Main Lines of Research

- ▶ In-depth health inequalities according to social class in Spain and worldwide.
- ▶ Exploitation of information at the census section level as the maximum disaggregation unit and at higher geographic aggregation levels such as the neighbourhood, town and region.

Gender Inequalities in Health

- ▶ Sexual division between productive and reproductive work (gender roles) and differences in male and female identities as the 2 main structural factors that generate gender inequalities in health.

Social and Political Determinants of Health and Their Impact on Policy Building and Interventions

- ▶ Evidence of the macroeconomic determinants of health inequalities between countries.
- ▶ The impact of the political context on the health of the population and the conclusion that countries with better developed welfare states have better levels of health.

Challenges

Health-Inequalities According to Different Inequality Axes

- ▶ Study of social determinants of health in terms of social class and gender, with the purpose of integrating these 2 axes and analysing inequalities among immigrants.
- ▶ Research into the impact of area of residence, especially smaller urbanized areas, on the health of the population.

Gender Inequalities in Health

- ▶ Further explore the theoretical framework and explanatory charts 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

- ▶ Study the influence of policies on the health of populations and on social inequalities in health.

Sex and Reproductive Inequalities in Health

- ▶ Establish a line of research to investigate different aspects of sexual and reproductive health (sexuality, contraception, pregnancy, birth, miscarriage, abortion, birth rates, etc).

Doctoral Theses

- ▶ Marco Antonio Cornejo. Salud bucal y su atención en las personas mayores institucionalizadas de Barcelona y el impacto en su calidad de vida. Universitat Pompeu Fabra. Directors: Glòria Pérez, Carme Borrell. Date of defense: 24 April 2014.

- ▶ Roshanak Mehdipanah. Urban Renewal and Health: The effects of the Neighbourhoods Law on health and health inequalities in Barcelona. Universitat Pompeu Fabra. Director: Carme Borrell. Date of defense: 23 May 2014.

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Health Inequalities

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Epidemiology of Addictions

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Main Lines of Research

Epidemiology of Drug Consumption and Patterns of Use

- ▶ Estimating cocaine use incidence and consumption patterns.
- ▶ Estimating heroin incidence and consumption patterns.
- ▶ Estimating the prevalence of problematic cocaine, heroin and alcohol users.

Health Problems Associated with Drug Use

- ▶ Quality of life and psychiatric comorbidity in cocaine users.
- ▶ Service use in cocaine and alcohol users.
- ▶ Factors associated with cocaine addict and alcoholic retention in treatment programmes.
- ▶ Violent behaviour and aggressive attitudes in young cocaine consumers.

- ▶ Mortality and its determinants in cohorts with substance abuse disorders (alcohol, heroin and cocaine).
- ▶ Factors associated with acute health problems developing after cocaine and heroin use.
- ▶ Social and health discrepancies between immigrants and native drug users.

Health Policies

- ▶ Social inequalities in the evaluation of results and adherence to treatment.
- ▶ Infectious diseases related to drug use.
- ▶ Brief motivational intervention programs as a treatment alternative for teenage users of psychoactive substances.
- ▶ Role of the workplace in drug consumption.

Challenges

Epidemiology of Drug Consumption and Patterns of Use

- ▶ Determine incidence and patterns of cocaine use.
- ▶ Determine incidence and patterns of heroin use.
- ▶ Determine prevalence of cocaine, heroin and alcohol use.

Health Problems Associated with Drug Use

- ▶ Analyse aggressive and violent attitudes and behaviour in young cocaine users.
- ▶ Assess quality of life in users with psychiatric comorbidity.
- ▶ Determine use of services among young heroin, cocaine and alcohol users.
- ▶ Analyse factors associated with retention in treatment programmes for cocaine and alcohol addiction.

- ▶ Assess mortality and its determinants in cohorts of alcohol and cocaine-dependent subjects.
- ▶ Analyse factors associated with acute health problems following cocaine use.
- ▶ Analyse differential social and health determinants among immigrant users of illegal drugs.

Health Policies

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

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Evaluation of Public Health Policies and Programmes (PI: Carlos Ariza)
- ▶ Health Inequalities (PI: Carme Borrell)

External Collaborations

- ▶ Several CIBERSAM and CIBERESP groups.

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Other Publications

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Primary Care Research

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Main Lines of Research

- ▶ Cardiovascular prevention in primary care settings.
- ▶ Health promotion in primary care settings.
- ▶ Ageing.
- ▶ Hypertension.
- ▶ Diabetes.
- ▶ Paediatric immunization.

Challenges

- ▶ Enlarge the research team by linking up with other primary care centres associated with the ACEBA Family Medicine Teaching Unit.
- ▶ Cooperate with other research teams in IIB Sant Pau.
- ▶ Cooperate with other European institutions in implementing projects on risk prevention and health promotion in primary care settings.
- ▶ Encourage research into medical ethics in family medicine training.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Clinical Epidemiology and Health Care Services
- ▶ Evaluation of Public Health Policies and Programmes
- ▶ Ageing Institute

External Collaborations

- ▶ FATE project (fall detection in the elderly): Universitat Politècnica de Catalunya, Sistema d'Emergències Mèdiques, TicSalut. Project number: 297178, European Commission, ICT-PSP. Duration: 2011-2015.

Grants Awarded in 2014

- ▶ Carles Brotons Cuixart. Desarrollo de una ecuación de riesgo cardiovascular de por vida en población laboral. Proyectos de Investigación en Salud 2014. PI14/01177. €45,500.

Note: Total amount granted to PI. It does not include indirect costs.

*TIF: 47.6790 **MIF: 3.6676

Scientific Production

Brotos C., Calvo-Bonacho E., Moral I., Garcia-Margallo M.T., Cortes-Arcas M.V., Puig M., Vazquez-Pirillo G., Ruilope L.M., Impact of the New American and British guidelines on the management and treatment of dyslipidemia in a Spanish working population. (2014) REV ESP CARDIOL, 67 (11), 906-911.

IF: 3.7920

Brotos C., EUROPREV (European Network for Prevention and Health Promotion). (2014) ATEN PRIM, 46 (SUPPL. 4), 2.

IF: 0.9530

Brotos C., Moral I., Soriano N., Cuixart L., Osorio D., Bottaro D., Puig M., Joaniquet X., Marcos A., Casasa A., Impact of using different score tables for estimating cardiovascular risk. (2014) REV ESP CARDIOL, 67 (2), 94-100.

IF: 3.7920

Castellano J.M., Sanz G., Penalvo J.L., Bansilal S., Fernandez-Ortiz A., Alvarez L., Guzman L., Linares J.C., Garcia F., D'Aniello F., Arnaiz J.A., Varea S., Martinez F., Lorenzatti A., Imaz I., Sanchez-Gomez L.M., Roncaglioni M.C., Baviera M., Smith S.C., Taubert K., Pocock S., Brotos C., Farko M.E., Fuster V., A polypill strategy to improve adherence. (2014) J AM COLL CARDIOL, 64 (20), 2071-2082.

IF: 16.5030

Gabriel R., Brotos C., Tormo M.J., Segura A., Rigo, Elosua R. et al. on behalf of the ERICE Study Group. La ecuación ERICE: primera ecuación autóctona de riesgo cardiovascular para una población mediterránea envejecida y de bajo riesgo en España. (2014) REV ESP CARDIOL, 68, 205-215.

IF: 3.7920

Galan A.M., Cuixart C.B., Alvarez F.V., Rioboo E.M., Banegas J.R.B., Perez J.N., Sanchez J.J.A., Lobos-Bejarano J.M., Sanchez-Pinilla R.O., Orozco-Beltran D., Guillen V.G., Recommendations on prevention of cardiovascular disease. (2014) ATEN PRIM, 46 (SUPPL. 4), 3-15.

IF: 0.9530

Lobos Bejarano J.M., Galve E., Royo-Bordonada M.A., Alegria Ezquerra E., Armario P., Brotos Cuixart C., Camafort Babkowski M., Cordero Fort A., Maiques Galan A., Mantilla Morato T., Perez Perez A., Pedro-Botet J., Villar Alvarez F., Gonzalez-Juanatey J.R., Spanish interdisciplinary committee for cardiovascular disease prevention and the Spanish society of cardiology position statement on dyslipidemia management. Differences between the European and American guidelines. (2014) REV ESP CARDIOL, 67 (11), 913-919.

IF: 3.7920

Marquez-Contreras E., Gil-Guillen V.F., De La Figuera-Von Wichmann M., Franch-Nadal J., Llisterri-Caro J.L., Martell-Claros N., Martin-De Pablos J.L., Casado-Martinez J.J., Bertomeu-Gonzalez V., Pertusa Martinez S., Caratala-Munuera C., Orozco-Beltran D., Lopez-Pineda A., Non-compliance and inertia in hypertensive Spaniards at high cardiovascular risk: CUMPLE study. (2014) CURR MED RES OPIN, 30 (1), 11-17.

IF: 2.6530

Monteserin R., Roberts H.C., Sayer A.A., Role of primary care professionals in the management of sarcopenia. (2014) ATEN PRIM, 46 (9), 455-456.

IF: 0.9530

Mortsiefer A., Ludt S., Pentzek M., Wilm S., Brotos C., Patients' needs and expectations concerning prevention and health advice in primary care results from the EUROPREVIEW survey. (2014) GESUNDHEITSWESSEN, 76 (7), 417-422.

IF: 0.7410

Reyes C., Estrada P., Nogues X., Orozco P., Cooper C., Diez-Perez A., Formiga F., Macias J.G., Prieto-Alhambra D., The impact of common co-morbidities (as measured using the Charlson index) on hip fracture risk in elderly men: A population-based cohort study. (2014) OSTEOPOROSIS INT, 25 (6), 1751-1758.

IF: 4.1690

Reyes C., Estrada P., Nogues X., Orozco P., Cooper C., Diez-Perez A., Formiga F., Gonzalez-Macias J., Prieto-Alhambra D., Erratum to: The impact of common co-morbidities (as measured using the Charlson index) on hip fracture risk in elderly men: A population-based cohort study (Osteoporosis International DOI: 10.1007/s00198-014-2682-9). (2014) OSTEOPOROSIS INT, 25 (9), 2333.

IF: 4.1690

Royo-Bordonada M.A., Lobos J.M., Brotos C., Villar F., De Pablo C., Armario P., Cortes O., Gil Nunez A., Lizcano A., De Santiago A., Sans S., The condition of the cardiovascular prevention in Spain. (2014) MED CLIN-BARCELONA, 142 (1), 7-14.

IF: 1.4170

Other Publications

► Lobos Bejarano J.M., Galve E., Royo-Bordonada M.A., Alegria Ezquerra E., Armario P., Brotos Cuixart C., Camafort Babkowski M., Cordero Fort A., Maiques Galan A., Mantilla Morato T., Perez Perez A., Botet J.P., Villar Alvarez F., Ramon Gonzalez-Juanatey J., Spanish interdisciplinary committee for cardiovascular disease prevention and the Spanish society of cardiology position statement on dyslipidemia management. Differences between the

European and American guidelines. (2014) PEDIATRIA DE ATENCION PRIMARIA, 16 (64), e161-e172.

► Vinyoles E., De La Figuera M., Ferre J., Differential characteristics of the approach to hypertension in the elderly. (2014) FMC FORMACION MEDICA CONTINUADA EN ATENCION PRIMARIA, 21 (1), 38-45.

AREA T2

Molecular, Genomic Kinetic-Dynamic Bases and their Treatment

222 Genomics of Complex Diseases

224 Molecular Bases of Disease

226 Pharmacokinetic/Pharmacodynamic Modelling and Simulation

228 Generation of Advanced Therapy Medicines

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Genomics of Complex Diseases

Coordinator

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Members

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Laura Martín HSCSP RI
Ángel Martínez HSCSP RI
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Main Lines of Research

Genetic Epidemiology and Bioinformatics

- ▶ Algorithms to risk assessment.

Genomics 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).

- ▶ Modelling Individuals Risk of Thrombosis in Oncology (MIRTO, ONCOTHROMB).

Epigenomics

- ▶ miRNAs as a novel biomarkers in Thromboembolic diseases.

Pharmacogenomics

- ▶ Markers of genetic susceptibility and pharmacogenomics of cardiovascular diseases.

Challenges

- ▶ Consolidate the epigenomic, genetic epidemiology and bioinformatics research lines.
- ▶ Increase human and material resources to achieve the goals defined for different
- ▶ Projects in which we are involved.

- ▶ Coordinate an international cardiovascular genomic project.
- ▶ Continue the agreements with biopharmaceutical companies.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Thrombosis and Haemostasis: Projects: GAIT, MIRTO, RETROVE.
- ▶ Multiorgan Damage – Internal Medicine: Project GAO.
- ▶ Angiology, Vascular Biology and Inflammation: Projects TAGA and GAIT.
- ▶ Inflammation an Vascular Remodelling: Project TAGA.
- ▶ Metabolic Bases of Cardiovascular Risk: Project GAIT.
- ▶ Haematological Diagnosis: Project GAIT.

External Collaborations

- ▶ Clinical Oncology Department, Hospital Gregorio Marañón, Madrid. Project Oncothomb.
- ▶ Centre de Recerca en Enginyeria Biomèdica, Universitat Politècnica de Catalunya, Barcelona. Project SUMMIT.
- ▶ Laboratory Haematology, Hospital Timone Marseille, France. Project GAIT.
- ▶ Department of Genetic, University of Genève, Switzerland. Project GAIT.
- ▶ Department of Cardiology, Karolinska Institut, Sweden. Project GAIT.
- ▶ INSERN UMRS 937, Université Pierre et Marie Curie, Paris. Project GAIT.
- ▶ Haematology Department, Karolinska Hospital, Sweden. Project VEREMA.

Active Grants	▶ José Manuel Soria Fernández. Ajuts de suport als Grups de Recerca de Catalunya. Grup Genòmica i bioinformàtica de malalties de base genètica complexa. AGAUR 2009. SGR 1240. Duration: 17/09/09-30/04/14. €41,600. ▶ José Manuel Soria Fernández. Identificación de los determinantes genéticos de la vía intrínseca de la coagulación y su implicación en enfermedad tromboembólica. MINECO-ISCIII Project 2011. PI11/00184. Duration: 01/01/12-31/12/14. €236,955. ▶ Georgios Athanasiadis. Contratos Juan de la Cierva 2010. MICINN. JCI-2010-07202. Duration: 03/01/11-02/01/14. €100,980.	▶ Laura Martín Fernández. Contrato FIS Pre-Doc Formación. MINECO-ISCIII Contracte Predoc formació 2012. FI12/00322. Duration: 26/09/12-25/09/16. €85,200. ▶ José Manuel Soria. Redes Temáticas de Investigación Cooperativa (RETIC) 2009, Innovación en Tecnologías Médicas y sanitarias. ITEMAS. Instituto de Salud Carlos III – FIS. Duration: 01/01/10-31/12/14.*
	* Grants applied for by other research institutes. Note: Total amount granted to PI. It does not include indirect costs.	

Grants Awarded in 2014	▶ José Manuel Soria Fernández. Identificación de Mecanismos de Regulación de la Expresión Génica (microRNAs) en la Enfermedad Tromboembólica Venosa. Proyectos de Investigación en Salud 2014. PI14/00582. €111,500. ▶ José Manuel Soria Fernández. Global Omics Linked to an Integral Action on Thrombosis. Acciones de Dinamización Europea Investigación 2014. EUIN2013-50833. Duration: 18/09/14-31/03/15. €18,000.	Note: Total amount granted to PI. It does not include indirect costs.

*TIF: 23.0560 **MIF: 3.8427

Scientific
Production

Athanasiadis G., Malouf J., Hernandez-Sosa N., Martin-Fernandez L., Catalan M., Casademont J., Soria J.M., Linkage and association analyses using families identified a locus affecting an osteoporosis-related trait. (2014) BONE, 60, 98-103.
IF: 3.9730

Hernandez-de Sosa N., Athanasiadis G., Malouf J., Laiz A., Marin A., Herrera S., Farrerons J., Soria J.M., Casademont J. Heritability of bone mineral density in a multivariate family-based study. (2014). CALCIF TISSUE INT, 94(6).
IF: 3.2720

Lopez S., Buil A., Souto J.C., Casademont J., Martinez-Perez A., Almasy L., Soria J.M., A

genome-wide association study in the genetic analysis of idiopathic thrombophilia project suggests sex-specific regulation of mitochondrial DNA levels. (2014) MITOCHONDRION, 18 (1), 34-40.
IF: 3.2490

Soria J.M., Morange P.E., Vila J., Souto J.C., Moyano M., Trégouët D.A., Mateo J., Saut N., Salas E., Elosua R. Multilocus genetic risk scores for venous thromboembolism risk assessment. (2014). J AM HEART ASSOC, 23;3(5).
IF: 4.3060

Sosa N.H.-D., Athanasiadis G., Malouf J., Laiz A., Marin A., Herrera S., Farrerons J., Soria J.M., Casademont J., Heritability of bone

mineral density in a multivariate family-based study. (2014) CALCIFIED TISSUE INT, 94 (6), 590-596.
IF: 3.2720

Souto J.C., Pena G., Ziyatdinov A., Buil A., Lopez S., Fontcuberta J., Soria J.M., A genomewide study of body mass index and its genetic correlation with thromboembolic risk. Results from the GAIT project. (2014) THROMB HAEMOSTASIS, 112 (5), 1036-1043.
IF: 4.9840

Molecular Bases of Disease

Coordinator

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Jonatan Dorca HSCSP RI



Main Lines of Research

Thrombosis and Haemostasis

- ▶ Structural and functional investigations of blood coagulation factors, with emphasis on thrombin generation by the prothrombinase complex and on 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).

Lipid Metabolism and Dyslipidemias

- ▶ Structural and functional analysis of mutant apoA-V proteins identified in individuals with hypertriglyceridaemia.

Neurodegenerative Diseases

- ▶ Analysis of mutations that affect the SMN genes, whose deficiency results in spinal muscular atrophy.
- ▶ Structural and functional investigations of proteins associated with inherited forms of Parkinson disease (PINK1, DJ-1 and Parkin).

Cancer and Innate Immune Responses

- ▶ Structural and functional 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 implications for acute myeloid leukaemia.
- ▶ Structural and functional analysis of the microsomal prostaglandin G synthase (mPGES-1) as a target for the generation of novel anti-inflammatory drugs with fewer side effects.

Challenges

- ▶ Consolidate and extend research 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, the group needs to participate in at least one financed structure-and-function project in each of three major research areas (cardiovascular diseases, neurodegenerative diseases and cancer and innate immune responses).

Collaborations	Collaborations with other IIB Sant Pau Groups ▶ Metabolic Bases of Cardiovascular Risk ▶ Parkinson Disease and Movement Disorders ▶ Haematological Diagnosis ▶ Genetic Diseases ▶ Angiology, Vascular Biology and Inflammation	External Collaborations ▶ Dr. Pereira. Institute of Molecular and Cellular Biology, Porto, Portugal. ▶ Dr. Paul E. Bock. Vanderbilt University, Nashville, Tennessee, USA. ▶ Dr. Ricardo Gutiérrez-Gallego. IMIM-UPF, Barcelona, Spain.
Active Grants	▶ SAF2010-15668. Pablo Fuentes Prior. Bases estructurales de la generación, actividad e inhibición de la trombina. Duration: 01/01/11-31/12/14. Ministerio de Economía y Competitividad. SAF2010-15668. €110,000. Note: Total amount granted to PI. It does not include indirect costs.	

Pharmacokinetic/Pharmacodynamic Modelling and Simulation

Coordinator

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Members

Javier Estévez HSCSP RI



Main Lines of Research

- ▶ Populational pharmacokinetic analysis aimed at establishing the pharmacokinetic characteristics of drugs and at differentiating and quantifying the degree of intra- and inter- 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, such as categorical responses, survival, frequency and censored responses.
- ▶ Simulation of clinical trials and therapy applications aimed at assisting with the design of clinical trials to help the development new drugs (for pharmaceutical companies) and at improving the design of clinical trials (basic research and non-profit clinical studies) and to help in applications of therapeutic monitoring.

Challenges

- ▶ Obtain recognition as an emerging group.
- ▶ Maintain existing external cooperation agreements.
- ▶ Establish new cooperation agreements within the HSCSP RI.
- ▶ Generate sufficient financial resources to maintain and expand group staffing.
- ▶ Communicate the group's activities.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Human Neuropsychopharmacology.
- ▶ Pharmacological Research in Humans.
- ▶ Pharmacy.
- ▶ HIV and AIDS.
- ▶ Epidemiology and Traumatology Services.

External Collaborations

- ▶ Lluita Contra la SIDA Foundation, Germans Trias i Pujol Hospital, Badalona, Spain.
- ▶ Pharmacy Service, Hospital Quiron, Mallorca, Spain.
- ▶ Department of Pharmacology, Liverpool University, UK.
- ▶ Anaesthesiology Service, Hospital del Mar, Barcelona, Spain.

Active
Grants

- Marta Valle Cano. Contracte Programa d'Estabilització i Intensificació. Departament de Salut - Sistema Nacional de Salut. CES10/010. Duration: 01/01/11-31/12/15. €260,740.

Note: Total amount granted to PI. It does not include indirect costs.

Doctoral
Theses

- Maria Rita Moreira da Silva. Análisis farmacocinético poblacional de vancomicina en neonatos: diseño de una nueva estrategia de dosificación. Universitat Autònoma de Barcelona. Directors: Maria Antònia Mangues, Marta Valle. Date of defense: 16 December 2014.

*TIF: 5.3130 **MIF: 5.3130

Scientific
Production

Molto J., Valle M., Ferrer E., Domingo P., Curran A., Santos J.R., Mateo M.G., Di Yacovo M.S., Miranda C., Podzamczar D., Clotet B., Coll J., Gel S., Llibre J.M., Mothe B., Negredo E., Perez-Alvarez N., Sirera G., Rozas N., Vila A., Del Mar Gutierrez M., Mateo G., Burgos J., Navarro J., Ribera E., Reduced darunavir dose is as effective in maintaining HIV suppression as the standard dose in virologically suppressed HIV-infected patients: A randomized clinical trial. (2014) J ANTIMICROB CHEMOTH, 70 (4), 1139-1145.
IF: 5.3130

Generation of Advanced Therapy Medicines

Coordinator

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Irene Oliver BST
Arnau Pla BST
Noèlia Pujals BST
Luciano Rodríguez BST
Joaquim Vives BST



Main Lines of Research

- ▶ Bioprocessing for cell and tissue production.
- ▶ Regeneration of locomotor systems.
- ▶ Stem cell therapy for the lymphohaematopoietic system.
- ▶ Stem cell therapy for multiple sclerosis.

Challenges

- ▶ Create a section within the Blood and Tissue Bank (BST) with the structure of a pharmaceutical enterprise, capable of developing, trialling, registering and commercializing advanced therapeutic drugs.

Collaborations

- ▶ Enric Cáceres Palou, Hospital Vall d'Hebron, Joan Garcia Lopez, BST (PIs), Prospective randomized clinical trial comparing spinal fusion in patients with degenerative pathology of the lumbar spine, using autologous mesenchymal stem cells immobilized in human bone particles versus autologous iliac crest bone graft from the patient, EC10-209, Spanish Ministry of Health, Social Services and Equality, 2012-2014. One of the recruiting sites is HSCSP (Dr. del Arco).
- ▶ Màrius Aguirre Canyadell (PI, Hospital Vall d'Hebron), Joaquim Vives Armengol,

Marta Caminal Bobet (BST). Estudi experimental de teràpia cel·lular amb cèl·lules mare adultes expandides "ex vivo" immobilitzades en matriu òssia en el tractament de defectes ossis segmentaris. Instituto de Salud Carlos III. PI11/02231. Duration: 2012-2014.

- ▶ Màrius Aguirre Canyadell (PI, Hospital Vall d'Hebron), Arnau Pla Calvet (BST). Tractament de l'osteonecrosi del cap femoral amb teràpia cel·lular avançada i biomaterials en un model experimental oví. Fundació la Marató de TV3. 61/C/2012. Duration: 2013-2015.

Doctoral Theses

- ▶ Marta Caminal-Bobet. Tissue engineering for bone regeneration: in vitro development and in vivo testing in sheep. Directors: Joaquim Vives, Francesc Gòdia. Universitat Autònoma de Barcelona. Date of defense: 3 December 2014.

Active Grants

- ▶ Joan Garcia López. REDONTAP-Continuous Proliferation & Simultaneous Maturation of Haematopoietic Stem Cells into Blood Cell Lineages. Entitat finançadora: European Commission. 229328. Duration: 2010-2014.*
- ▶ Joan Garcia López. Os injectable combinant hidrogels d'última generació i productes al·logènics bioactius per al tractament de fractures. Ministerio de Economía y Competitividad. IPT-2012-0745-300000. Duration: 2013-2015.*
- ▶ Joan Garcia López. Incorporació a la xarxa TERCEL (Teràpia Cel·lular) de la RETICS. Instituto de Salud Carlos III. RD12/0019/0015. Duration: 2013-2016.*

* Grants applied for by other research institutes.

*TIF: 6.2410 **MIF: 2.0803

Scientific Production

Caminal M., Fonseca C., Peris D., Moll X., Rabanal R.M., Barrachina J., Codina D., Garcia F., Cairo J.J., Godia F., Pla A., Vives J., Use of a chronic model of articular cartilage and meniscal injury for the assessment of long-term effects after autologous mesenchymal stromal cell treatment in sheep. (2014) NEW BIOTECHNOL, 31 (5), 492-498.

F: 2.8980

Caminal M., Moll X., Codina D., Rabanal R.M., Morist A., Barrachina J., Garcia F., Pla A., Vives

J., Transitory improvement of articular cartilage characteristics after implantation of polylactide:Polyglycolic acid (PLGA) scaffolds seeded with autologous mesenchymal stromal cells in a sheep model of critical-sized chondral defect. (2014) BIOTECHNOL LETT, 36 (10), 2143-2153.

IF: 1.5910

Fonseca C., Caminal M., Peris D., Barrachina J., Fabregas P.J., Garcia F., Cairo J.J., Godia F., Pla A., Vives J., An arthroscopic approach for

the treatment of osteochondral focal defects with cell-free and cell-loaded PLGA scaffolds in sheep. (2014) CYTOTECHNOLOGY, 66 (2), 345-354.

IF: 1.7520

Associated Groups

232 Emerging Processes in Prevalent Diseases

236 Radiophysics and Radioprotection

238 Paediatrics

240 Ophthalmology

242 Nuclear Medicine

244 Intensive Medicine

248 Pharmacy

250 Dermatology

254 Anaesthesiology

258 Plastic Surgery

260 Palliative Care

- 
- 262 Andrology
 - 264 Urology
 - 268 Radiation Oncology
 - 270 Locomotor System Research
 - 272 Multiple Sclerosis and Epilepsy Research
 - 274 Pain and Neurosciences
 - 276 Nursing Care Research
 - 278 Reproductive Health
 - 280 Translational Molecular Oncology
 - 282 Cardiac Surgery

Emerging Processes in Prevalent Diseases

Coordinator

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Noemí Cerdán HSCSP
Andrés Ceresuela HSCSP
Iván Díaz HSCSP
Verónica Díez HSCSP
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Héctor Hernández HSCSP
Sergio Herrera HSCSP
Leopoldo Higa HSCSP
Laura Lozano HSCSP
Miriam Mateo HSCSP
Albert Mauri HSCSP
Josep A. Montiel HSCSP
Rosa Moreno HSCSP
Mireia Puig HSCSP
Josep Ris HSCSP
Miguel Santaló HSCSP
Sonia Serradell HSCSP
Olga Trejo HSCSP
Miquel Turbau HSCSP
Esther Vendrell HSCSP



Main Lines of Research

Emerging Processes in Prevalent Diseases

- ▶ Study and analysis of processes frequently observed in emergency departments so as to transfer the results to clinical practice and 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.
- ▶ Short-stay unit. PI: JM Guargiola.

Organ Donation and Coordination (Francisco Caballero and Jesús Leal)

Respiratory System Disorders (Salvador Benito)

- ▶ Respiratory pattern analysis in the return to spontaneous breathing. PI: Iván Díaz.
- ▶ Ventilatory pattern analysis in heart failure. PI: Sergio Herrera.
- ▶ Pneumonia in the emergency department. PI: Miriam Mateo.
- ▶ Noninvasive ventilation. PI: Miquel Turbau.
- ▶ Pulmonary embolism. PI: Laura Lozano.

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, M. Rizzi.
- ▶ Supraventricular arrhythmias. PI: Aitor Alquézar.

Community Disorders

- ▶ Diabetes care in emergency departments. PI: Iván Agra.
- ▶ Infection in emergency departments. PI: José M. Guardiola.
- ▶ Drug abuse and HIV
- ▶ HCV in patients with HIV. PI: José M. Guardiola.
- ▶ Acute intoxication. PI: Héctor Hernández.

Collaborations

- ▶ Programa ACCORD (Achieving Comprehensive Coordination on Organ Donation throughout the European Union). Prácticas clínicas la final de la vida en pacientes fallecidos con daño cerebral catastrófico y donación de órganos – Accord España. Organización Nacional de Trasplantes and Comisión de Trasplantes del Consejo Interterritorial de Salud.

Doctoral Theses

- Aitor Alquezar Arbé. Troponina T d'elevada sensibilitat per a l'exclusió precoç de l'infart agut de miocardi sense elevació del segment st. Universitat Autònoma de Barcelona. Directors: Salvador Benito, Miquel Santaló. Date of defense: 23 May 2014.

Awards

- Guardiola Tey J, Vilanova Rotllant S, Gali Juan M, Güell Espigol L, Mauri Plana A, Montiel Dacosta J, Puig Capmany M. Cultivo Positivo (CP) en Urgencias como factor predictivo independiente asociado a un ingreso de mayor duración en la UEC. Premio a las mejores comunicaciones en enfermedades infecciosas. Congreso SEMES 2014. Málaga, June 2014.

*TIF: 66.1990 **MIF: 3.3100

Scientific Production

Alquezar A., Martin-Sanchez F.J., Carbajosa V., Llorens P., Herrero P., Jacob J., Perez-Dura M.J., Alonso H., Torres Murillo J.M., Garrido M., Lopez-Grima M.L., Pinera P., Epelde F., Alquezar A., Fernandez C., Miro O., Prolonged hospitalization in patients admitted for acute heart failure in the short stay unit (EPICA-UCE study): Study of associated factors. (2014) MED CLIN-BARCELONA, 143 (6), 245-251.

IF: 1.4170

Alquezar Arbe, A., Rodriguez, S., Martinez, D., Gonzalez-Martin, J. Space occupying lesions in the liver and spleen in a 41-year-old man. (2014) MED CLIN, 142 (1), 33-39.

IF: 1.4170

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Emerging Processes in Prevalent Diseases

*TIF: 66.1990 **MIF: 3.3100

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Other Publications

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► Penacoba Toribio P., Corica Albani M.E., Mayos Perez M., Rodriguez de la Serna A., Rituximab in the treatment of shrinking lung syndrome in systemic lupus erythematosus. (2014) REUMATOLOGIA CLINICA, 10 (5), 325-327.

► Santaló Bel M., Alquézar Arbé A., Sionis A. Marcadores bioquímicos en el Síndrome

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► Téllez J.P., Herrera S., Benito S., Giraldo B.F. Analysis of the breathing pattern in elderly patients using the Hurst exponent applied to the respiratory flow signal. 2014 CONF PROC IEEE ENG MED BIOL SOC, 3422-5.

► Vendrell E., Lanau P., Salat D., Perez V., Serra-Prat M., De Gracia J., Almirall J., Influence of environmental conditions and

exercise on serum immunoglobulin levels in a mushing race. (2014) ARCHIVOS DE MEDICINA DEL DEPORTE, 31 (160), 80-84.

Radiophysics and Radioprotection

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Main Lines of Research

External beam radiotherapy

- ▶ Characterization of various in vivo dose measurement detectors for radiation therapy treatments with intensity modulation (IMRT).
- ▶ Validation of dose calculation algorithms for external beam radiotherapy planning systems.
- ▶ Optimization of QA procedures for IMRT, stereotactic body radiation therapy (SBRT) and gating respiratory treatments.

Computed tomography dosimetry

- ▶ Index dose assessment for multislice CT.

Biological dosimetry

- ▶ Cytogenetic evaluation of the relative biological efficacy of low-energy X-rays (in co-operation with the Universitat Autònoma de Barcelona team led by Dr. María Rosa Caballín).

Collaborations

External Collaborations

- ▶ Grup d'estudis citogenètics i moleculars dels efectes de les radiacions ionitzants i del càncer. 2014 SGR 534. Montserrat Ribas, Pablo Carrasco, Teresa Eudaldo, Núria Jornet, Artur Latorre, Agustín Ruiz. 2014-2016.

Active Grants

- ▶ Monsterrat Ribas Morales. Impacto dosimétrico del movimiento respiratorio durante la administración del tratamiento de IMRT dinámica. FIS Project 2012. PI12/00521. Duration: 01/01/13-31/12/15. €16,500.
- ▶ Pablo Carrasco. Dosimetría "in vivo" en radioterapia de intensidad modulada en

tratamientos de cáncer de mama. Ayudas para la investigación en oncología 2012. AECC 2012. Duration: 07/02/13-07/02/15. €16,200.

Note: Total amount granted to PI. It does not include indirect costs.

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Scientific Production

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IF: 4.3630

Paediatrics

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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 diagnostic and clinical monitoring network for rare anaemias due to major haemoglobinopathies
- ▶ Minimal residual disease in risk assessment in the treatment of children with acute lymphoblastic leukaemia in the SHOP protocol (in collaboration with the HSCSP Haematology Department).

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 UAB, Barcelona)
- ▶ Apply adaptive cell immunotherapy to tumours
- ▶ Intervention in postasphyxia neuronal damage in infants with asphyxia by applying therapeutic hypothermia (in the context of a Catalan network)
- ▶ Polytraumatized patient care programme. PPT implementation code in HSCSP and in CatSalut central register
- ▶ Implement a multidisciplinary institutional massive transfusion protocol in the HSCSP.

Collaborations

- ▶ Grupo de investigación clínica vinculado al Centro de Investigación Biomédica en la Red de Enfermedades Raras (CIBERER).
- ▶ G. Fraga (collaborator). Estudio multicéntrico europeo (París, Roma, Barcelona): estudio de Asociación de Genoma Completo (GWAS) para la identificación de factores genéticos de riesgo en pacientes con síndrome nefrótico córtico-sensible (SNCS)/ síndrome nefrótico por lesiones mínimas (SNLM).
- ▶ Grupo de trabajo de la Guía de Práctica Clínica sobre Manejo del Paciente con Reflujo Vesicoureteral primario o esencial. Guía de Práctica Clínica. Manejo del Paciente con Reflujo Vesicoureteral primario o esencial. Actualización. Asociación Española de Nefrología Pediátrica. 2014.
- ▶ Project "Compromiso por la Calidad de las Sociedades Médicas" (coordinated by Ministerio de Sanidad, Servicios Sociales e Igualdad, Sociedad Española de Medicina Interna and GuíaSalud).
- ▶ E. Carreras, S. Brió, E. Moliner. Programa VINCAt. Resultats de la vigilància estandaritzada de la incidència de bacterièmia relacionada amb catèter venós central (BRCVC) a les Unitats de Cures Intensives Pediàtriques (UCIP) i Neonatals (UCIN) dels Hospitals de Catalunya.

Active Grants

- Isabel Badell Serra. Creation of a catalan network for the diagnosis and clinical management of haemoglobinopathies. TELEMARATÓ 2010 Malalties minoritàries. 101731. Duration: 27/01/11-31/07/14. €64,445.23.

Note: Total amount granted to PI. It does not include indirect costs.

Grants Awarded in 2014

- Gemma Ginovart. Ajuts de suport als Grups de Recerca de Catalunya. Grup Pedagogia Hospitalària en Neonatologia i Pediatria. AGAUR 2014 SGR 806. Duration: 2014-2016.*
- Isabel Badell. Infusión profiláctica de linfocitos del donante en trasplante de sangre de cordón. Fundació La Marató de TV3. Duration: 2014-2016.*

* Grants applied for by other research institutes.

*TIF: 23.6490 **MIF: 1.8192

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Carreras-Gonzalez E., Brio-Sanagustin S. Prevención de complicaciones en el transporte interhospitalario aéreo del paciente crítico pediátrico. (2014) AN PEDIATR, 2014;81:205-11.

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Diaz de Heredia C., Gonzalez M., Verdeguer A., Elorza I., Rodriguez A., Martinez A., Perez J.M., Badell I., Gonzalez M.E., Olive T., Fernandez J.M., Maldonado M.S., Diaz M.A., Sanchez De Toledo J., Long-term outcome and prognostic factors of unrelated cord blood transplantation in children with haematological malignancies: A retrospective study using the Spanish Working Party for BMT in Children (GETMON) database. (2014) BONE MARROW TRANSPL, 49 (6), 767-772.

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Hurtado Suazo J.A., Garcia Reymundo M., Calvo Aguilar M.J., Ginovart Galiana G., Jimenez Moya A., Trincado Aguinalgalde M.J., Demestre Guasch X., Recommendations for the perinatal management and follow up of late preterm newborns. (2014) AN PEDIATR, 81 (5), 327.e1-327.e7.

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Moliner Calderon E., Scheibl A., Garcia Borrau M.J., Lopez Bernal E., Ginovart Galiana G., Seizures and influenza virus A H1N1 infection in very low birth weight preterm infant. (2014) AN PEDIATR, 80 (1).

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Montañes R., Gracia S., Fraga G.M., J. Escribano, MJ Diez, A. Alonso, V. Garcia. Documento de consenso: recomendaciones sobre la utilización de ecuaciones para la

estimación del filtrado glomerular en niños. (2014) AN PEDIATR (BARC); 80(5): 326.

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Trilla C.C., Medina M.C., Ginovart G., Betancourt J., Armengol J.A., Calaf J., Maternal risk factors and obstetric complications in late preterm prematurity. (2014) EUR J OBSTET GYN R B, 179, 105-109.

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Verd S., Garcia M.-J., Acid-base equilibrium in premature infants: Don't forget feeding type. (2014) EUR J PEDIATR, 174 (1), 55.

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Verd S., Garcia M., Gutierrez A., Moliner E., Lopez E., Ginovart G., Blood biochemical profile of very preterm infants before and after trophic feeding with exclusive human milk or with formula milk. (2014) CLIN BIOCHEM, 47 (7-8), 584-587.

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Verd S., Ginovart G., Turon L., Breastfeeding and brain development, is breastfeeding a cause or an effect? (2014) REV NEUROLOGIA, 58 (CONGRESO1), C20-C27.

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Verd S., Porta R., Ginovart G., Human milk feeding. (2014) ARCH DIS CHILD-FETAL, 99 (2).

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Other Publications

- Fraga Rodríguez G.M., Huertes Díaz B. Evaluación básica de la función renal en Pediatría. (2014) PROTOC DIAGN TER PEDIATR; 1:21-35.
- Infante Pina D., Segarra Canton O., Vilalta Casas R., Carnicer de la Pardina J., Lopez Linan M.J., Molera Busoms C., Efficacy, tolerance and safety of polyethylene glycol 3350 plus electrolytes for the treatment of functional constipation in children. (2014) ANALES DE PEDIATRÍA, 80 (5), 278-284.
- Poliquistosis renal autosómica dominante. 2014. Editrain. IPREM (Instituto de Postgrado de Estudios de Medicina y Salud). ISBN: 978-84-15498-94-0.

Ophthalmology

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Main Lines of Research

- ▶ Optimization of the functional rehabilitation of patients after cataract surgery using multifocal intraocular lens, and evaluation of vision quality in terms of parameters such as visual acuity, sensitivity to contrast and aberrometry.
- ▶ Comparación de la eficacia y seguridad de ranibizumab en inyección intravítrea frente a la fotocoagulación láser en pacientes con alteración visual secundaria a edema macular diabético.
- ▶ Ocular repercussions of allogeneic medullary transplants and evaluation of the different clinical manifestations and response to treatment in graft-versus-host disease.

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Scientific Production

Marchino T., Ibanez N., Prieto S., Novelli S., Szafranska J., Mozos A., Graell X., Buil J.A., An aggressive primary orbital natural killer/T-cell lymphoma case: Poor response to chemotherapy. (2014) OPTHAL PLAST RECONS, 30 (5), e131-e134.

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Martinez-Zapata M.J., Marti-Carvajal A.J., Sola I., Pijoan J.I., Buil-Calvo J.A., Cordero J.A., Evans J.R., Anti-vascular endothelial growth factor for proliferative diabetic retinopathy. (2014) COCHRANE DB SYST REV, 11.

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Varon C., Gil M.A., Alba-Bueno F., Cardona G., Vega F., Millan M.S., Buil J.A., Stereo-acuity in

patients implanted with multifocal intraocular lenses: Is the choice of stereotest relevant? (2014) CURR EYE RES, 39 (7), 711-719.

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Zenteno J.C., Crespi J., Buentello-Volante B., Buil J.A., Bassaganyas F., Vela-Segarra J.I., Diaz-Casajosa J., Marieges M.T., Next generation sequencing uncovers a missense mutation in COL4A1 as the cause of familial retinal arteriolar tortuosity. (2014) GRAEF ARCH CLIN EXP, 252 (11), 1789-1794.

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Other Publications

- ▶ Garcia Vilaro M., Bassaganyas Vilarrassa F., Vela Segarra J.I., Buil Calvo J.A., Early treatment of idiopathic vasculitis, aneurysms and neuroretinitis (IRVAN). A case report. (2014) ARCHIVOS DE LA SOCIEDAD ESPANOLA DE OFTALMOLOGIA, 89 (3), 117-120.

*Total Impact Factor **Mean Impact Factor

Nuclear Medicine

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Main Lines of Research

Oncology

- ▶ New diagnostic methods based on the identification and visualization of molecular targets employing metabolic mechanisms, receptor systems, hypoxia, angiogenesis and apoptosis.
- ▶ New applications for sentinel node detection 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.

Functional Neuroimaging

- ▶ Development of new functional imaging methods for evaluating neurodegenerative diseases (Parkinson, Parkinson-Plus, Alzheimer, MCI).
- ▶ Dopaminergic system studies using IBZM and Datscan.

Challenges

- ▶ Introduce new technologies to clinical research (given that imaging techniques are evolving very rapidly towards multimodal systems that integrate biological, molecular, anatomical and functional information in a single examination) and include these technologies, mainly PET/CT and PET/MR, in the group and hospital's research activities.

New Molecular Imaging Techniques

- ▶ Develop new hybrid molecular imaging technologies, mainly PET/CT and PET/MR,

building on pre-clinical and clinical molecular imaging models developed using SPECT and conventional nuclear medicine technologies.

PET Imaging Biomarkers

- ▶ Develop new PET radioactive tracers to be used as biomarkers in new imaging technologies building on our experience with radioactive tracers to view in vivo diagnostic and therapeutic targets.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Neuroradiology: research into neurological and mental disorders and ageing (Dr. Camacho, member).
- ▶ Oncology, Gynaecology, Surgery, Radiology, Radiotherapy, Nuclear Medicine and Pathology: evaluation of the usefulness of PET CT with 18F-FDG in the staging of locally advanced breast carcinoma (Dr. Duch, PI).

- ▶ Cerebrovascular Diseases (Dr. Carrió, member).

External Collaborations

- ▶ Zhejiang University, Hangzhou, China. Molecular imaging (Prof. Hong Zhang, Prof. Mei Tian)

Doctoral
Theses

- ▶ Paloma Pifarré Montaner. Técnica de relajación vs fármaco de síntesis en el tratamiento de la ansiedad del paciente oncológico: estudio del metabolismo cerebral mediante PET con FDG. Universitat Autònoma de Barcelona. Director: Alejandro Fernández. Date of defense: June 2014.
- ▶ M. del Valle Camacho Martí. Utilidad de la gammagrafía de intervención miocárdica con 123I-MIBG en el diagnóstico clínico de la demencia de cuerpos de Levy. Universitat Autònoma de Barcelona. Director: Montserrat Estorch Cabrera. Date of defense: September 2014.

*TIF: 38.6720 **MIF: 3.2227

Scientific Production

- Achury C., Domenech A., Estorch M., Jaller R., Montes A., Carrio I., Ectopic supernumerary kidney. A casual finding. (2014) REV ESP MED NUCL IMA, 33 (6), 384-385.
IF: 1.0540
- Achury C., Estorch M., Domenech A., Camacho V., Flotats A., Jaller R., Geraldo L., Deportos J., Montes A., Carrio I., Interpretation of thyroid incidentalomas in 18F-FDG PET/CT studies. (2014) REV ESP MED NUCL IMA, 33 (4), 205-209.
IF: 1.0540
- Beyer T., Flux G., Sattler B., Delaloye A.B., Carrio I., EJNMMI physics - Access is open for open access. (2014) EUR J NUCL MED MOL I, 41 (2), 197-198.
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- Knuuti J., Bengel F., Bax J.J., Kaufmann P.A., Le Guludec D., Perrone Filardi P., Marcassa C., Ajmone Marsan N., Achenbach S., Kit-siou A., Flotats A., Eeckhout E., Minn H., Hesse B., Risks and benefits of cardiac imaging: An analysis of risks related to imaging for coronary artery disease. (2014) EUR HEART J, 35 (10), 633-638.
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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.
- ▶ Extracorporeal CO₂ removal in ARDS patients.
- ▶ High-flow oxygen administration by nasal cannula in postextubation phase.
- ▶ Prevalence of drug interactions in critical care unit.

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

Collaboration with other IIB Sant Pau Groups

- ▶ Pharmacological Research in Humans.

Awards

- Jordi Mancebo. Bernhard Dräger Award for Advanced Treatment of Acute Respiratory Failure: GUERIN Claude (FR) - Trans-Pulmonary Pressure and Prone position in ards patients. T3P study. ES-ICM & Industry Research Awards 2014.

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Other Publications

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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., antitumour agents.
- ▶ Actively cooperate in independent clinical trials performed in the HSCSP.

Collaborations

Collaboration with other IIB Sant Pau Groups

- ▶ Oncogenesis and Antitumour Drugs.
- ▶ Spanish Hospital Pharmacy Society (SEFH).
- ▶ Intensive Medicine.
- ▶ Clinical Haematology.
- ▶ Dermatology.
- ▶ Orthopaedics and Traumatology.
- ▶ Digestive Diseases.
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- ▶ Delgado O, Genúa MI, Ibarra O, Morillo R. Madrid (coordinators), Montse Masip (collaborator), SEFH model for the selection and pharmaceutical care of chronic patients, Spanish Hospital Pharmacy Society (SEFH), 2013.
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Awards

- ▶ Pagès N, Gomis M, Masip M, Mediavilla MM, García-Planella E, Lozano P, Ruppman H, Tuneu L, Mangués MA. Programa de mejora de la adherencia terapéutica en pacientes con enfermedad inflamatoria intestinal mediante el uso de una aplicación móvil. Según premi en la I Convocatoria Proyectos de

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Note: Total amount granted to PI. It does not include indirect costs.

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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.
- ▶ Estudi de la immunitat innata i adquirida en malalties dermatològiques mitjades immunològicament.

Challenges

- ▶ Ensure a stable clinical research infrastructure and staff.
- ▶ Foster interdepartmental collaborative research.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Parkinson Disease and Movement Disorders.

Awards

- ▶ "Best in Class" award (*Gaceta Médica*) to the Best Psoriasis Unit of Spain.

Active Grants

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Anaesthesiology

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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.

Perioperative medicine

- ▶ Epidemiological study of perioperative morbidity and mortality in collaboration with the epidemiology department of the HSCSP (Iberoamerican Cochrane Centre) and the European Society of Anaesthesiology.

Rationalization of perioperative fluid therapy and blood products

- ▶ Institutional protocolization of massive transfusions.
- ▶ Monitoring of critical perioperative coagulopathy.

- ▶ Identification and recovery from preoperative anaemia.
- ▶ Study of the Prevalence of perioperative transfusions.
- ▶ Monitoring of perioperative fluid therapy.

New health service delivery systems

- ▶ Professional team preoperative evaluations.
- ▶ Zero preoperative stay.

Physiology, pharmacology and anaesthetic techniques

- ▶ Intraoperative respiratory physiology.
- ▶ Peripheral nerve blocking for postoperative analgesia in CMA
- ▶ Lipid Rescue due systemic complications after ALR

Challenges

- ▶ Critical analysis of new clinical technologies.
- ▶ Patient blood management.
- ▶ Perioperative medicine.
- ▶ Development of new health service systems.
- ▶ Clinical and preclinical research into physiology, pharmacology and anaesthetic/analgesic techniques.

Collaborations with other IIB Sant Pau Groups

- ▶ MANAGE (Management of myocardial injury alter non cardiac surgery): Randomized clinical trial. Centro Cochrane. ClinicalTrials.gov: NCT01661101.

External Collaborations

- ▶ POPULAR (Postanesthesia PULmonary complications After use of muscle Relaxants in Europe), multicentre observational study. European Society of Anaesthesiology (ESA).
- ▶ Analysis of the Hemostatic Potential of Coagulation Factor Concentrates in an In Vitro Model of Extreme Hemodilution. Beca Heimburger.

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Anaesthesiology

Other Publications

- ▶ Arguis M.J., Navarro R., Regueiro A., Arbelo E., Sierra P., Sabate S., Galan J., Ruiz A., Matute P., Roux C., Gomar C., Rovira I., Mont L., Fita G., Perioperative management of atrial fibrillation. (2014) REVISTA ESPANOLA DE ANESTESIOLOGIA Y REANIMACION, 61 (5), 262-271.
- ▶ Cegarra-Sanmartin V., Gonzalez-Rodriguez R., Paniagua-Iglesias P., Santamaria-Ortiz A., Cueva L.F., Galan-Serrano J., Moral-Garcia M.V., Fondaparinux as a safe alternative for managing heparin-induced thrombocytopenia in postoperative cardiac surgery patients. (2014) JOURNAL OF CARDIOTHORACIC AND VASCULAR ANESTHESIA, 28 (4), 1008-1012.
- ▶ Ferrandiz Mach M., Santeularia Verges M.T., Catala Puicbo E., Tratamiento analgésico de las metástasis óseas. (2014) DOLOR, 29 (2), 67-85.
- ▶ Fita G., Maestre M.L., Role of intraoperative transesophageal echocardiography in the cardiac surgery. (2014) CIRUGIA CARDIOVASCULAR, 21 (1), 6-8.
- ▶ Gonzalez-Rodriguez R., Munoz Martinez A., Galan Serrano J., Moral Garcia M.V., Health worker exposure risk during inhalation sedation with sevoflurane using the (AnaConDa®) anaesthetic conserving device. (2014) REVISTA ESPANOLA DE ANESTESIOLOGIA Y REANIMACION, 61 (3), 133-139.
- ▶ Kinast N.D., Nebot Galindo A., Cantalops Pericas B., Moral Garcia M.V., Patient with human immunodeficiency virus and an unexpected difficult airway. (2014) REVISTA ESPANOLA DE ANESTESIOLOGIA Y REANIMACION, 61 (7), 407-408.
- ▶ Paniagua Iglesias P., Blood transfusion and infection after cardiac surgery. (2014) CIRUGIA CARDIOVASCULAR, 21 (3), 223-224.
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Plastic Surgery

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Main Lines of Research

- ▶ Application of imaging techniques to intraoperative studies of perforators with the aim to improve the design of flaps, evaluate the suitability and viability of perfusion avoiding secondary postoperative complications and vascular complications.
- ▶ Anatomical studies of the variability of perforators in the following regions: internal mammary artery, inferior epigastric system and internal superficial circumflex system.
- ▶ Study of the perioperative and postoperative factors that influence on the viability of the microsurgical free flaps.
- ▶ Research by indocyanine green angiography of the concept of post-vascular balance post dissection of perforator flap.
- ▶ Research by indocyanine green angiography of the relationship between the different anatomical patterns of lymphatic vessels in the upper extremity and its readiness to develop lymphedema in the affected breast cancer patients.
- ▶ Feasibility of the research in animal models of major surgical and nonsurgical techniques existing today to treat secondary lymphatic insufficiency: fat transplant autologous stem cells, stem cell transplantation autologous bone marrow, lymphatic-venous anastomosis flap free vascularised autologous lymph node.

Challenges

- ▶ Consolidate and optimize preoperative management techniques for locating perforating vessels suitable for each microsurgical flap.
- ▶ Minimize intra- and postoperative complications in perforator flaps using new imaging techniques to visualize intraoperatively patterns of vascularisation of the flaps and vascular dominance.
- ▶ Lymphedema prevention in those patients with mastectomy in which we perform searching procedures of sentinel node and / or axillary lymph node dissections using new techniques of surgical treatment for this disease (lymphatic venous anastomosis, transfer of vascularised nodes).
- ▶ Identification by indocyanine green angiography for those patients affected with breast cancer with a major risk of developing secondary lymphedema.

Active Grants

- ▶ Jaume Masia Ayala. European School of Lymphatic Diseases. ERASMUS mobility strategies and removal of barriers to mobility in higher education. E-LYMPH - ERASMUS 527658-LLP-1-2012-1. Duration: 01/10/12-30/09/15. €3,590.
- ▶ Jaume Masia. Modelo experimental comparativo entre trasplante de células madre de tejido adiposo/médula ósea, anastomosis linfaticovenosas, trasplante de ganglios

vascularizados en el linfedema. Proyectos de Investigación en Salud 2013. PI13/02793. Duration: 01/01/14-31/12/16. €29,000.

Note: Total amount granted to PI. It does not include indirect costs.

*TIF: 4.2270 **MIF: 1.4090

Scientific
Production

Masia J., Olivares L., Koshima I., Teo T.C., Suominen S., Van Landuyt K., Demirtas Y., Becker C., Pons G., Garusi C., Mitsunaga N., Barcelona consensus on supermicrosurgery. (2014) J RECONSTR MICROSURG, 30 (1), 53-58.

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Pons G., Masia J., Loschi P., Nardulli M.L., Duch J., A case of donor-site lymphoedema after lymph node-superficial circumflex iliac artery perforator flap transfer. (2014) J PLAST RECONSTR AES, 67 (1), 119-123.

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Pons G., Masia J., Sanchez-Porro L., Larranaga J., Clavero J.A., Paramuscular perforators in DIEAP flap for breast reconstruction. (2014) ANN PLAS SURG, 73 (6), 659-661.

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Other Publications

- ▶ Tratamiento quirúrgico (chapter 12). In: Libro Blanco sobre Patología Venosa y Linfática. EDMISA, S.A. Editores Médicos. ISBN 978-84-7714-398-7
- ▶ Lymphovenular anastomosis combined with vascularized lymph node transfer for breast cancer-related lymphedema (chapter XIII). In: World Clinics in Plastic Surgery. Elsevier. ISSN 0094-198.
- ▶ Surgical management of post mastectomy lymphedema. In: Neligan P. (ed) Plastic Surgery 4th edition: Breast volume. Elsevier.

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, euthanasia.
- ▶ Psychosocial care for patients and families: adaptation to the terminal situation, grief, spiritual needs.
- ▶ Training in palliative care: training needs, outcomes.
- ▶ Art therapy.

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.

Doctoral Theses

- ▶ Nadia Collette. Art therapy for terminal patients. Universidad de Valencia Director: Pilar Barreto Martín.

Active Grants

- ▶ Antoni Pascual López. Tratamiento quimioterápico vs un programa de apoyo integral (PAI) en pacientes con cáncer avanzado tratados previamente con quimioterapia: ensayo clínico aleatorizado multicéntrico.

MINECO-ISCIII Proyecto 2011. PI11/01366. Duration: 01/01/12-31/12/14. €125,100.

Note: Total amount granted to PI. It does not include indirect costs.

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Scientific Production

Benito E., Oliver A., Galiana L., Barreto P., Pascual A., Gomis C., Barbero J., Development and validation of a new tool for the assessment and spiritual care of palliative care patients. (2014) J PAIN SYMPTOM MANAG, 47 (6).
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*Total Impact Factor **Mean Impact Factor

Andrology

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Main Lines of Research

- Genetics applied to male infertility.
- Optimisation of preimplantation genetics diagnosis and in vitro fertilization techniques.
- Clinical research into new surgical procedures, drugs and medical devices applied

to andrological diseases and conditions (male sexual dysfunction, hypogonadism, Peyronie disease, premature ejaculation, sexually transmitted diseases).

Challenges

- Our multidisciplinary team of professionals develops translational research in the field of diagnosis and treatment of andrological disorders. To improve our knowledge and thereby improve healthcare for patients, we seek to continue active projects, develop new lines of investigation,

increase the number of international publications, train professionals and enhance collaboration with hospital and university groups inside and outside the IIB Sant Pau.

Collaborations

Collaborations with other IIB Sant Pau Groups

- Nephrology.

External Collaborations

National

- Medical and Molecular Genetics Centre (RI)-IDIBELL: genetics applied to infertility.
- Cellular Biology and Medical Genetics Unit-UAB: preimplantation genetic diagnosis techniques.

International

- Mario Serio Experimental and Clinical Biomedical Sciences Unit, University of Florence: genetics applied to male infertility.
- Reproductive Genomics Laboratory, Human Genetics Centre (KU Leuven): genetics applied to male infertility.
- New England Research Institutes: hypogonadism.
- European Academy of Andrology: radiology examinations of the male genital tract.

Private

- Participation in clinical studies including clinical trials and postauthorization studies sponsored by national and international pharmaceutical companies.

Grants Awarded
in 2014

- Csilla Gabriella Krausz. Estudio genético y genómico de subtipos específicos de azoospermia secretora: desarrollo de nuevas herramientas diagnósticas y pronósticas. Proyectos de Investigación en Salud 2014. PI14/01250. €86,500.

Note: Total amount granted to PI. It does not include indirect costs.

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Scientific Production

Bonache S., Algaba F., Franco E., Bassas L., Larriba S., Altered gene expression signature of early stages of the germ line supports the pre-meiotic origin of human spermatogenic failure. (2014) ANDROLOGY-US, 2 (4), 596-606.

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Chianese C., Gunning A.C., Giachini C., Daquin F., Balercia G., Ars E., Lo Giacco D., Ruiz-Castane E., Forti G., Krausz C., X chromosome-linked CNVs in male infertility: Discovery of overall duplication load and recurrent, patient-specific gains with potential clinical relevance. (2014) PLOS ONE, 9 (6).

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Krausz C., Chianese C., Lo Giacco D., Tuttelmann F., Ferlin A., Ntostis P., Vinci S., Balercia G., Ars E., Ruiz-Castane E., Giglio S., Kliesch S., Forti G., Reply: Y-chromosome microdele-

tions are not associated with SHOX haploinsufficiency. (2014) HUM REPROD, 29 (5), 1114-1115.

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Urology

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Main Lines of Research

- ▶ Tissue engineering applied to urological oncology and congenital urogenital malformations.
- ▶ Genetic and immunohistochemistry analyses applied to urological cancers (diagnostic and prognostic biomarkers in urine, blood and tissues).
- ▶ Clinical research of new surgical procedures, drugs and medical device products applied to urological oncology, kidney transplantation and benign urogenital pathology (e.g. incontinence, benign hyperplasia of the prostate, lithiasis).

Challenges

- ▶ Translational research in the field of diagnosis and treatment of urological disorders. 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 to improve our knowledge about kidney disorders and thereby improve healthcare for patients.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Nephrology: genetic predisposition to prostate cancer.
- ▶ Clinical Epidemiology and Healthcare: epidemiological studies of urological cancers.
- ▶ Clinical Oncology: detection of prognosis biomarkers for drug response in kidney cancer.

External Collaborations

National academic

- ▶ IDIBELL Molecular Genetics Laboratory: cystine lithiasis.
- ▶ CNIO: biomarkers in bladder cancer.
- ▶ National scientific societies (Spanish Urology Association, etc): clinical studies.

International academic

- ▶ Aarhus University Molecular Genetics Department: bladder cancer.
- ▶ International Robotic Cystectomy Consortium: robotic cystectomy.
- ▶ International Renal Cell Carcinoma-Venous Thrombus Consortium: renal-cava thrombus in kidney cancer.

Private national and international collaborations

- ▶ Clinical trials and postauthorization studies promoted by national and international pharmaceutical companies.

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Radiation Oncology



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HSCSP

Members

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HSCSP



Main Lines of Research

Research is partially conducted on the premises of the Translational Research Laboratory of the Catalan Oncology Institute (ICO)-Bellvitge Biomedical Research Institute (IDIBELL) under a framework agreement between the HSCSP and the ICO.

Modulation of Radiosensitivity

- ▶ 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.

SBRT for Patients with Lung Cancer and with Oligometastases

- ▶ Stereotactic body radiotherapy techniques in

radical treatment of patients with early-stage non-surgical lung cancer and selected patients with non-surgical oligometastases.

Radiation Therapy Based on PET/CT Functional Imaging of Tumours

- ▶ Implementation of planning techniques for radiotherapy treatment with PET/CT for chest locations and head and neck tumours squamous cell tumours.
- ▶ Image-guided radiotherapy and respiratory movement control.
- ▶ Salvage brachytherapy for local recurrence after external beam radiotherapy in prostate cancer.
- ▶ Hypofractionated intensity-modulated GRT in prostate cancer.

Challenges

- ▶ Establish relatively radioresistant cell lines compared with the parental cells from which they derive (by clonal selection).
- ▶ Determine the resistant phenotype in cultures and xenografts.
- ▶ Determine molecular radioresistance.
- ▶ Evaluate the effect on carcinomas of SRC and HMG-CoA reductase inhibitors in combination with anti-EGFR.
- ▶ Explore signal transduction changes in the EGFR-MAPK pathway and SRC-EGFR/SRC-STAT3 cooperation induced by SRC and HMG-CoA reductase inhibitors.

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Scientific Production	Henriquez-Hernandez L.A., Valenciano A., Foro-Arnalot P, alvarez-Cubero M.J., Cozar J.M., Suarez-Novo J.F., Castells-Estevé M., Fernandez-Gonzalo P, De-Paula-Carranza B., Ferrer M., Guedea F, Sancho-Pardo G., Craven-Bartle J., Ortiz-Gordillo M.J., Cabrerá-Roldan P, Herrera-Ramos E., Rodríguez-Gallego C., Rodríguez-Melcon J.I., Lara P.C., Single nucleotide polymorphisms in DNA repair genes as risk factors associated to prostate cancer progression. (2014) BMC MED GENET, 15 (1). IF: 2. 0830
Other Publications	▶ Baro M., de Llobet L.I., Figueras A., Skvortsova I., Mesia R., Balart J., Dasatinib worsens the effect of cetuximab in combination with fractionated radiotherapy in FaDu- and A431-derived xenografted tumours.. (2014) British journal of cancer, 111 (7), 1310-1318. ▶ de Llobet L.I., Baro M., Mesia R., Balart J., Simvastatin enhances the effects of radiotherapy and cetuximab on a cell line (FaDu) derived from a squamous cell carcinoma of head and neck. (2014) TRANSL ONCOL, 7 (4), 513-522.

Locomotor System Research

Coordinator

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 José Carlos González HSCSP
 Isidre Gracia HSCSP
 Joan C. Monllau HSCSP
 M. Josefa Nadal HSCSP
 Ana Peiro HSCSP
 Ignacio Proubasta HSCSP
 Laura Soria HSCSP
 M. Teresa Torrades HSCSP

Main Lines of Research

Research is partially conducted on the premises of the Translational Research Laboratory of the Catalan Oncology Institute (ICO)-Bellvitge Biomedical Research Institute (IDIBELL) under a framework agreement between the HSCSP and the ICO.

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 pole necrosis in scaphoid pseudarthrosis.

Active Grants

- ▶ Ana Peiró Ibáñez. Prevención del sangrado postoperatorio en cirugía de resección masiva de tumores óseos: Ensayo clínico multicéntrico, aleatorizado, abierto, paralelo de tres brazos de tratamiento, que evalúa la eficacia del ácido tranexámico tópico versus Evidel tópico. Ministerio de Sanidad, Servicios Sociales e Igualdad: EC 2011. EC11-340. Duration: 01/01/12-30/06/15. €76,960.

- ▶ Pablo E. Gelber Ghertner. Contract with Asociación Española Artroscopia 2011. Duration: 20/12/11-31/12/14. €2,777.77.

Note: Total amount granted to PI. It does not include indirect costs.

*TIF: 21.9660 **MIF: 2.4407

Scientific Production

Abat F., Gelber P.E., Polidori F., Monllau J.C., Sanchez-Ibanez J.M. Clinical results after ultrasound-guided intratissue percutaneous electrolysis (EPI®) and eccentric exercise in the treatment of patellar tendinopathy. *KNEE SURG SPORTS TRAUMATOL ARTHROSC* 2014; 23(4): 1046-52.

IF: 3.0530

Benito N., Franco M., Coll P., Galvez M.L., Jordan M., Lopez-Contreras J., Pomar V., Monllau J.C., Mirelis B., Gurgui M., Etiology of surgical site infections after primary total joint arthroplasties. (2014) *J ORTHOP RES*, 32 (5), 633-637.

IF: 2.9860

Castellet E., Ares O., Celaya F., Valenti-Azcarate A., Salvador A., Torres A., Sesma P., Macule F., Leon V., Montanez E., Freire A., Hinarejos P., Montserrat F., Amillo J.R., Transcultural adaptation and validation of the "Hip and Knee" questionnaire into Spanish. (2014) *HEALTH QUAL LIFE OUT*, 12 (1).

IF: 2.1200

Gelber P.E., Batista J., Millan-Billi A., Patthauer L., Vera S., Gomez-Masdeu M., Monllau J.C., Magnetic resonance evaluation of

TruFit® plugs for the treatment of osteochondral lesions of the knee shows the poor characteristics of the repair tissue. (2014) *KNEE*, 21 (4), 827-832.

IF: 1.9360

Ivorra J.L., Rivero O., Costas J., Iniesta R., Arrojo M., Ramos-Rios R., Carracedo T., Palomo T., Rodriguez-Jimenez R., Cervilla J., Gutierrez B., Lebourg M., Martinez-Diaz S., Garcia-Giralt N., Torres-Claramunt R., Ribelles J.L.G., Vila-Canet G., Monllau J.C., Cell-free cartilage engineering approach using hyaluronic acid-polycaprolactone scaffolds: A study in vivo. (2014) *J BIOMATER APPL*, 28 (9), 1304-1315.

IF: 2.1970

Molina E., Arango C., Alvarez M., Pascual J.C., Perez V., Saiz P.A., Garcia-Portilla M.P., Bobes J., Gonzalez-Pinto A., Zorrilla I., Haro J.M., Bernardo M., Baca-Garcia E., Gonzalez J.C., Hoenicka J., Molto M.D., Sanjuan J., Replication of previous genome-wide association studies of psychiatric diseases in a large schizophrenia case-control sample from Spain. (2014) *SCHIZOPHR RES*, 159 (1), 107-113.

IF: 3.9230

Proubasta I.R., Lamas C.G., Natera L., Millan A., Silicone proximal interphalangeal joint arthroplasty for primary osteoarthritis using a volar approach. (2014) *J HAND SURG-AM*, 39 (6), 1075-1081.

IF: 1.6670

Renom M., Conrad A., Bascunana H., Cieza A., Galan I., Kesselring J., Coenen M., Content validity of the Comprehensive ICF Core Set for multiple sclerosis from the perspective of speech and language therapists. (2014) *INT J LANG COMM DIS*, 49 (6), 672-686.

IF: 1.4710

Roman E., Torrades Ma.T., Nadal Ma.J., Cardenas G., Nieto J.C., Vidal S., Bascunana H., Juarez C., Guarner C., Cordoba J., Soriano G., Randomized pilot study: Effects of an exercise programme and leucine supplementation in patients with cirrhosis. (2014) *DIGEST DIS SCI*, 59 (8), 1966-1975.

IF: 2.6130

Other Publications

▶ Abat F., Diesel W.-J., Gelber P.-E., Polidori F., Monllau J.-C., Sanchez-Ibanez J.-M., Effectiveness of the Intratissue Percutaneous Electrolysis (EPI®) technique and isoinertial eccentric exercise in the treatment of patellar tendinopathy at two years follow-up. (2014) *MUSCLES, LIGAMENTS AND TENDONS JOURNAL*, 4 (2), 188-193.

▶ Abat F., Valles S.L., Gelber P.E., Polidori F., Stitik T.P., Garcia-Herreros S., Monllau J.C., Sanchez-Ibanez J.M., Molecular repair mechanisms using the intratissue percutaneous electrolysis technique in patellar tendonitis. (2014) *REVISTA ESPANOLA DE CIRUGIA ORTOPEDICA Y TRAUMATOLOGIA*, 58 (4), 201-205.

▶ Aguilera X., Gonzalez J.C., Celaya F., Jordan M., Diaz-Torne C., Monllau J.C., Total knee arthroplasty in a patient with subcutaneous and intra-articular tophaceous gout - A case report. (2014) *BULLETIN OF THE NYU HOSPITAL FOR JOINT DISEASES*, 72 (2), 173-175.

▶ Cisneros L.N., Gomez E.M., Lucena G.G., Trullols L., Soria L., Peiro A., Calcaneal psuedarthrosis in catastrophic foot. (2014) *REVISTA CUBANA DE ORTOPEDIA Y TRAUMATOLOGIA*, 28 (1), 116-121.

▶ García A.J., Proubasta I., Arriaga N., Gracia I.A. Sarcoma fibroblástico mixoinflamatorio acral: caso clínico y revisión bibliográfica. *REV IBERAMER CIR MANO* 2014; 42 : 157-161.

▶ Malagelada F., Tarrago L.T., Tibrewal S., Ibanez A.P., Jeyaseelan L., Alegria I.G., Pathological fracture in osteosarcoma: Is it always an indication for amputation? (2014) *ORTOPEDIA TRAUMATOLOGIA REHABILITACIO*, 16 (1), 67-74.

▶ Natera L., Gelber P.E., Erquicia J.I., Monllau J.C. Primary lipoma arborescens of the knee may involve the development of early osteoarthritis if prompt synovectomy is not performed. *J ORTHOP TRAUMATOL*. 2014; 16(1): 47-53.

▶ Natera L., Gómez M., Lamas C., Proubasta I. Luxación palmar de la articulación metacarpofalángica del pulgar. *TRAUMA FUND MAPFRE* 2014; 25: 1-3.

▶ Natera L., Moya-Gómez E., Lamas-Gómez C., Proubasta I. Proximal interphalangeal joint replacement: A comparison between the volar and dorsal approach. *REV ESP CIR ORTOP TRAUMATOL* 2014; 58:303-308.

▶ Natera L., Sarasquete J.R., Abat F. Anatomic Reconstruction of Chronic Coracoclavicular Ligament Tears: Arthroscopic-Assisted Approach With Nonrigid Mechanical Fixation and Graft Augmentation. *ARTHROSCOPY TECHNIQUES* 2014; 3 (5): e583-e588.

▶ Proubasta I., Natera Cisneros L., Gomez M., Lamas C., Proubasta I., Palmar dislocation of the metacarpophalangeal joint of the thumb. (2014) *TRAUMA (SPAIN)*, 25 (2), 74-76.

▶ Proubasta I., Lamas C., Millán A. Calcificación idiopática digital. *REVISTA IBEROAMERICANA DE CIRUGÍA DE LA MANO* 2014; 42 (1): 47-49.

▶ Proubasta I., Pagonabarraga J., Lamas C., Millan A. Distonia focal de mano. *REV IBERAMER CIR MANO* 2014; 42: 172-182.

Multiple Sclerosis and Epilepsy Research

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Members

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Main Lines of Research

- ▶ Neuropsychological impairment in patients with multiple sclerosis.
- ▶ Pharmacogenetics in epilepsy.
- ▶ Neuropsychological impairment in juvenile myoclonic epilepsy.
- ▶ Basic research line.

Challenges

- ▶ Study cognitive evoked potentials in early detection of cognitive impairment in patients with radiologically isolated syndrome, clinically isolated syndrome and newly diagnosed multiple sclerosis.
- ▶ Study the effects of immunomodulatory and immunosuppressive treatments on the cognitive functions of patients with multiple sclerosis.
- ▶ Determine pharmacogenetic variations involving different responses to antiepileptic treatment.
- ▶ Study neuropsychological alterations in patients diagnosed with juvenile myoclonic epilepsy.

*TIF: 33.9170 **MIF: 5.6528

Scientific Production

Diaz-Manera J., Querol L., Alejaldre A., Rojas-García R., Ramos-Fransi A., Gallardo E., Illa I., Severe exacerbation of Andersen-Tawil syndrome secondary to thyrotoxicosis. (2014) J HUM GENET, 59 (8), 465-466.

IF: 2.4620

Gallardo E., Martínez-Hernández E., Titulaer M.J., Huijbers M.G., Martínez M.A., Ramos A., Querol L., Diaz-Manera J., Rojas-García R., Hayworth C.R., Verschuuren J.J., Balice-Gordon R., Dalmau J., Illa I., Contactin autoantibodies in myasthenia gravis. (2014) AUTOIMMUN REV, 13 (10), 1003-1007.

IF: 7.9330

Labasque M., Hivert B., Nogales-Gadea G., Querol L., Illa I., Faivre-Sarrailh C., Specific contactin N-glycans are implicated in neurofascin binding and autoimmune targeting in peripheral neuropathies. (2014) J BIOL CHEM, 289 (11), 7907-7918.

IF: 4.5730

Nogales-Gadea G., Ramos-Fransi A., Suarez-Calvet X., Navas M., Rojas-García R., Mosquera J.L., Diaz-Manera J., Querol L., Gallardo E., Illa I., Analysis of serum miRNA profiles of myasthenia gravis patients. (2014) PLOS ONE, 9 (3).

IF: 3.2340

Querol L., Nogales-Gadea G., Rojas-García R., Diaz-Manera J., Pardo J., Ortega-Moreno A., Sedano M.J., Gallardo E., Berciano J., Blesa R., Dalmau J., Illa I., Neurofascin IgG4 antibodies in CIDP associate with disabling tremor and poor response to IVIg. (2014) NEUROLOGY, 82 (10), 879-886.

IF: 8.2860

Suarez-Calvet X., Gallardo E., Nogales-Gadea G., Querol L., Navas M., Diaz-Manera J., Rojas-García R., Illa I., Altered RIG-I/DDX58-mediated innate immunity in dermatomyositis. (2014) J PATHOL, 233 (3), 258-268.

IF: 7.4290

*Total Impact Factor **Mean Impact Factor

Pain and Neurosciences

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Main Lines of Research

- ▶ Involvement of brain areas and release of substances in acute and chronic neuropathic pain (in conjunction with HSCSP neuroradiology unit and the Autonomous University of Barcelona).
- ▶ Sleep disturbance on initiating systemic opioid treatment in patients with severe chronic pain and altered sleep patterns.
- ▶ Influence of herniated lumbar disc anatomy on the effectiveness of epidural corticosteroids by the interlaminar, paramedial, transforaminal and caudal routes.
- ▶ Profile in terms of demographics, comorbidities, kind of pain, physical and mental status and disability of patients.

Challenges

- ▶ Establish the possible differences in brain area involvement between acute and chronic pain.
- ▶ Establish the different brain substances expressed in patients affected by acute and chronic neuropathic pain.
- ▶ Determine the extent of chronic pain according to the involvement of different brain areas.
- ▶ Determine whether the intensity of chronic neuropathic pain assessed by the patient is correlated with the patient's psychopathology, essentially anxiety, depression and catastrophizing.
- ▶ Determine the profile of patients who would benefit from treatment with major systemic opioids in relation to night rest and establish the recommendable opioid.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Neuroradiology.

Awards

- ▶ Mercè Genové Cortada. Estudi de les alteracions cerebrals en pacients amb dolor neuropàtic secundari a la infecció pel virus de la Varicel·la Zoster: Herpes Zoster i Neuràlgia Postherpètica. Premi Fernando Vidal 2014. Societat Catalana de Dolor. Acadèmia de Ciències Mèdiques i de la Salut de Catalunya i Balears.
- ▶ Martha Melo. Eficacia y seguridad del parche hemático epidural para el tratamiento de la cefalea hipotensiva. Premi a la millor comunicació oral en la III Reunió de l'Abordatge del Dolor per a Residents i Adjunts Joves. Societat Catalana de Dolor. ACMCB.

Other Publications

- ▶ Ferrandiz Mach M., Santeularia Verges M.T., Catala Puicbo E., Tratamiento analgésico de las metástasis óseas. (2014) DOLOR, 29 (2), 67-85.
- ▶ Puigbo E.C., Canudas M.V.R.E., Imagen y dolor. (2014) DOLOR, 29 (3), 134-136.

Nursing Care Research

Coordinator

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Laura López HSCSP

Josefa Mitjans HSCSP

M. Carmen Peñalba HSCSP

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Marta Romero HSCSP

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Montserrat Serra HSCSP

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Maria Solà HSCSP



Main Lines of Research

- ▶ 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 discourse analysis.
- ▶ Patient satisfaction with nursing care.
- ▶ Attention to the family.
- ▶ Pain.

Challenges

- ▶ Strengthen implemented 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 analyses of text and discourse as tools in health science research.
- ▶ Create the synergies necessary to consolidate the group's activities.

Collaborations

External Collaborations

- ▶ Gemma Robleda. Estudio multicéntrico de validez y fiabilidad de la Escala de Conductas Indicadoras de Dolor (ESCID) para medir el dolor en pacientes críticos, no comunicativos y sometidos a ventilación mecánica. Instituto de Investigación clínica, Hospital Universitario Puerta de Hierro Majadahonda. Madrid. PI11-00766. Duration: 2012-15.

Active Grants

- ▶ Marta Romero García. Calidad percibida de los cuidados enfermeros por los pacientes críticos: un abordaje mixto. MINECO-IS-CIII Project 2011. PI11/00447. Duration: 01/01/12-31/05/15. €15,500.

Note: Total amount granted to PI. It does not include indirect costs.

Awards

- M. Navarro-Colom, M.A. Sendra-Lluís, A.M. Castillo-Masa, G. Robleda. Fiabilidad interobservador de la Behavioral Pain Scale en pacientes con ventilación mecánica. Primer Premio a Póster Oral. X Congreso Panamericano e Ibérico de Medicina Crítica y Terapia Intensiva. Madrid, 2014.

*TIF: 15.2710 **MIF: 5.0903

Scientific Production

De-La-Cueva-Ariza L., Romero-Garcia M., Delgado-Hito P., Acosta-Mejuto B., Jover-Sancho C., Ricart-Basagana M.-S.-O.-S.-C.T., Juando-Prats C., Sola-Sole N., Sola-Ribo M., Development of an instrument to measure the degree of critical patient's satisfaction with nursing care: Research protocol. (2014) J ADV NURS, 70 (1), 201-210.

IF: 1.7410

Puntillo K.A., Max A., Timsit J.-F., Vignoud L., Chanques G., Robleda G., Roche-Campo F.,

Mancebo J., Divatia J.V., Soares M., Ionescu D.C., Grintescu I.M., Vasiliu I.L., Maggiore S.M., Rusinova K., Owczuk R., Egerod I., Pappathanassoglou E.D.E., Kyranou M., Joynt G.M., Burghi G., Freebairn R.C., Ho K.M., Kaarlola A., Gerritsen R.T., Kesecioglu J., Sulaj M.M.S., Norrenberg M., Benoit D.D., Seha M.S.G., Hennein A., Periera F.J., Benbenishty J.S., Abroug F., Aquilina A., Monte J.R.C., An Y., Azoulay E., Determinants of procedural pain intensity in the intensive care unit: The Eu-

ropain® study. (2014) AM J RESP CRIT CARE, 189 (1), 39-47.

IF: 12.9960

Robleda G., Sillero-Sillero A., Puig T., Gich I., Banos J.-E., Influence of preoperative emotional state on postoperative pain following orthopedic and trauma surgery. (2014) REV LAT-AM ENFERM, 22 (5), 785-791.

IF: 0.5340

Reproductive Health

Coordinator

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M. del Carmen Medina HSCSP

Pere Pares F. Puigvert

Juan Parra HSCSP

Ana María Polo F. Puigvert

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Main Lines of Research

- ▶ Qualitative study of foetal motility by means of 2D ultrasound in fetuses with spinal muscular atrophy.
- ▶ Value of foetal nuchal translucency as a marker of neuromuscular diseases and other monogenic diseases.
- ▶ Usefulness 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 fetuses affected by genetic diseases, particularly neuromuscular disorders, given that the HSCSP is a referral centre for a particular group of rare diseases.
- ▶ Screen 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.

Active Grants

- ▶ Joan Espinós Gómez. Impacto de la dieta hipocalórica y ejercicio en mujeres con obesidad que se sometan a un ciclo de FIV. MINECO-ISCIII Project 2011. PI11/02816. Duration: 01/01/12-31/12/15. €42,909.

Note: Total amount granted to PI. It does not include indirect costs.

*TIF: 10.7560 **MIF: 1.5366

Scientific Production

Alcantara-Aragon V., Martinez-Couselo S., Tundidor-Rengel D., Webb S.M., Carreras G., Espinos J.J., Chico A., Blanco-Vaca F., Corcoy R., Genetic analysis does not confirm non-classical congenital adrenal hyperplasia in more than a third of the women followed with this diagnosis. (2014) HORM-INT J ENDOCRINO, 13 (4), 585-587.

IF: 1.1980

Calaf J., Lete I., Canals I., Crespo C., Espinos B., Cristobal I., Cost-effectiveness analysis in the treatment of heavy menstrual bleeding in Spain. (2014) EUR J OBSTET GYN R B, 184, 24-31.

IF: 1.6950

Lete I., Calaf J., Lopez-Arregui E., Is there a need for a new abortion law in Spain? (2014) EUR J CONTRACEP REPR, 19 (2), 75-77.

IF: 1.3940

Martorell M.R., Martinez-Pasarell O., Lopez O., Polo A., Sandalinas M., Garcia-Guixé E., Bassas L., Chromosome 16 abnormalities in embryos and in sperm from a male with a fragile site at 16q22.1. (2014) CYTOGENET GENOME RES, 142 (2), 134-139.

IF: 1.5610

Remacha A.F., Zapico E., Sarda M.P., Rojas E., Simo M., Remacha J., Homs R., Queralto J.M., Immune complexes and persistent high levels of serum vitamin B12. (2014) INT J LAB HEMATOL, 36 (1), 92-97.

IF: 1.8190

Trilla C., Senosiain R., Calaf J., Espinos J.J., Effect of changes to cost and availability of emergency contraception on users' profiles in an emergency department in Catalunya. (2014) EUR J CONTRACEP REPR, 19 (4), 259-265.

IF: 1.3940

Trilla C.C., Medina M.C., Ginovart G., Betancourt J., Armengol J.A., Calaf J., Maternal risk factors and obstetric complications in late preterm prematurity. (2014) EUR J OBSTET GYN R B, 179, 105-109.

IF: 1.6950

Other Publications

- Rams N., Munoz R., Soler C., Parra J., Results of the Gynecologic Imaging Reporting and Data System classification in adnexal masses. (2014) PROGRESOS DE OBSTETRICIA Y GINECOLOGIA, 58 (3), 125-129.

Translational Molecular Oncology

Coordinator

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Members

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Main Lines of Research

- ▶ In vitro and in vivo studies by genetic manipulation of putative biomarkers of prognosis in squamous cell carcinoma (SCC) in tumour progression and as potential therapeutic targets.
- ▶ Preclinical cancer models to study alternative strategy of treatments in leukemia.

Challenges

- ▶ Evaluate survival pathways and epithelial-mesenchymal transition involving the studied genes.
- ▶ Improve a mouse model of cancer, based on implantation of human primary tumour.
- ▶ Reinforce and encourage translational research in tumour progression through collaboration with internal and external research groups.

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Haematological Diagnosis (Josep Nomdedéu):
 - Establishment of "in vivo" model of leukomogenesis.
 - Ajuts de suport als Grups de Recerca de Catalunya. Grup de Diagnòstic Hematològic. AGAUR 2014. SGR 383 2014-SGR-383. Duration: 2014- 2016. €30,000.
- ▶ Ear, Nose and Throat Cancers (Xavier Leon): studies of HNSCC.

- ▶ Angiology, Vascular Biology and Inflammation (Luis Vila, Mercedes Camacho): studies of HNSCC.

External Collaborations

- ▶ Translational Research Laboratory, Institut Català d'Oncologia (ICO) - IDIBELL (Alberto Villanueva): studies of orthotopic tumor models.
- ▶ Cell signalling and checkpoints, Faculty of Medicine, IDIBAPS (Neus Agell and Montserrat Jaumot)

Active Grants

- ▶ Matilde Parreño Gómez. Estudio de marcadores de mal pronóstico en carcinoma escamoso de cabeza y cuello (CECC) y búsqueda de alternativas terapéuticas. FIS Projecte 2009. PI09/0334. Duration: 01/01/10-30/06/14. €151,500.

Note: Total amount granted to PI. It does not include indirect costs.

Cardiac Surgery

Coordinator

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Members

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José Montiel

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HSCSP

Main Lines of Research

- ▶ Off-pump coronary artery by-pass grafting surgery
- ▶ Mitral repair surgery
- ▶ Ascending aorta pathology
- ▶ Pathogenesis of atrial fibrillation after cardiac surgery: electrophysiologic and mitochondrial analysis
- ▶ Follow-up of sutureless aortic valve prosthesis: Perceval S
- ▶ Follow-up of surgical check-list implementation
- ▶ Use of erythropoietin before cardiac surgery
- ▶ Participation in VISION study (Vascular events In Surgery patients cOhort evaluation)-Cardiac Surgery

Challenges

- ▶ Consolidation as a research group in different cardiac surgery-related fields, specific sutureless valve prosthesis
 - Perioperative myocardial infarction
- ▶ Participation in the assessment and validation of new products employed in cardiac surgery: haemostatics, sutures, systems for sternal closure...
- ▶ Collaboration with different national and international research teams involved in our lines of study

Collaborations

Collaborations with other IIB Sant Pau Groups

- ▶ Leif Hove-Madsen, ICCS-CSIC.
- ▶ M. Luz Maestre Hittinger. Department of Anaesthesiology.

External Collaborations

- ▶ Elena Domínguez Garrido. Unit of Molecular Diagnosis. Fundación Rioja Salud, La Rioja, Spain.
- ▶ Elisabeth Berastegui. Department of Cardiac Surgery. Hospital Germans Trias i Pujol, Badalona, Spain.

- ▶ Mercé Cladellas Capdevila. Department of Cardiology. Hospital del Mar, Barcelona, Spain.
- ▶ Ignasi Julià Amill. Follow-up of sutureless aortic valve prosthesis Perceval S. Palex Medical, June 2013-June 2014.
- ▶ Elena Roselló Díez. Follow-up of sutureless aortic valve prosthesis Perceval S. Palex Medical, June 2014-September 2015.

Other Publications

- ▶ Catala A., Barnadas M.A., Munoz C., Puig L., Cutaneous leishmaniasis in a patient receiving infliximab for psoriatic arthritis: Treatment with cryotherapy and intraleisional meglumine antimonate. (2014) Actas Dermo-Sifiliograficas, 105 (7), 714-716.



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