2017

SCIENTIFIC REPORT



INCLIVA | VLC

Health Research Institute

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INCLIVA Health Research Institute
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Introduction

It is my pleasure to share INCLIVA's 2017 Annual Scientific Report with you, my first as General and Scientific Director. As in previous years, this document evaluates scientific activity carried out during 2017 by INCLIVA research groups at the *Hospital Clínico Universitario* of Valencia and its Department of Health, the University of Valencia and the IUIVI (Valencia Fertility Institute).

The purpose of this report is to help analyze 2017's results in research and administration, as a basis for implementing the new approaches and changes needed to rise to our future challenges. **This year represents an important milestone for several reasons.**

Changes in INCLIVA management

The board of INCLIVA has renewed its management, and I am proud to be appointed the new General Director, also taking over the responsibilities of Scientific Director. The appointment was proposed by the Institute's Governing Board on accepting the resignations of Dr. Rafael Carmena and Dr. Josep Redón.

Dr. Josep Redón held the position of Scientific Director from June 2010 and Dr. Rafael Carmena was Director General from May 2012. It was during Dr. Josep Redón's term as Scientific Director that INCLIVA was accredited as Health Research Institute, and this accreditation was renewed in February 2017. Both the Board of Trustees and INCLIVA's researcher community have great respect and appreciation for the achievements of both men during these years, a key period for the Institute in which scientific and research activity has grown significantly and INCLIVA has established itself as a center of reference.

This Board also appointed an Economic Director, Mr. Vicente de Juan, previously the financial-administrative director.

Reaccreditation as a Health Research Institute

In 2016 INCLIVA applied for renewal of accreditation, as established by the June 24 Royal Decree 279/2016 on biomedical or health research institute accreditation, and after a successful audit INCLIVA's accreditation as a Health Research Institute was renewed through the Carlos III Health Institute on March 13, 2017.

Increased quality research output

Turning to scientific output, during 2017 INCLIVA produced 584 documents and surpassed the impact factor barrier of 3,600, thus continuing the upward trend seen in recent years. The quality of published scientific output was also remarkable: articles published in magazines of the first and second quartiles of their respective categories represented 56% and 20% of total output, respectively.

In terms of **competitive funding** for new scientific research projects, INCLIVA groups obtained 19 projects within the National R&D & Innovation Plan framework, four international projects, one Valencian Government-funded project and five competitive grants from privately-financed institutions. The grants received for health and technological development research projects in the Strategic Action in Health framework, and the Research Challenges project have provided INCLIVA with nearly **two million euros** of funding for the next three years, in addition to the funding received for the institute to continue working in three Platforms supporting research in technology and health sciences (the Biobanks platform, the Clinical research and clinical trials units platform, and the Innovation platform) with a total of **€455,400** in funding. During 2017 INCLIVA maintained almost 160 competitive projects active.

INCLIVA research groups also participate in cooperative research networks such as **CIBER**, with a presence in most of the thematic areas (diabetes, oncology, cardiovascular, aging, respiratory, rare), as well as forming part of groups in **RETIC**.

In clinical research, since the 2016 approval of new Royal Decree 1090/2015 the **Clinical Research Ethics Committee of the *Hospital Clínico*** has acted as reference committee in 16 studies, and in 2017 143 new clinical studies were initiated, resulting in a total of 391 active clinical studies during the year.

Among its initiatives to promote research and training culture, during 2017 INCLIVA continued with its **Training Plan,**

collaborating with different hospital departments in organizing and coordinating 42 training initiatives, including 16 courses, 21 workshops, three seminars and two conferences. In addition, as per every year, the Institute supported training in centers of excellence, awarding a total of 21 grants for research stays aimed at learning new clinical and research techniques.

During 2017, grants have been obtained from different **Human Resource Programs**, such as the **Joan Rodés** Program, which awarded the first funding of this kind to the institution enabling us to contract an oncology specialist with extensive research experience. Others include the **Río Hortega** Program, the **Miguel Servet** Program, the Ministry of Education **Predoctoral and Post-doctoral** Programs, as well as private grants such as the Spanish Cancer Association Predoctoral grants. Finally, participation in postgraduate programs has led to **80 doctoral theses** defended in 2017.

Encouraging collaborative research

This year the **VLC-Bioclinic Program**, together with the University of Valencia, has again funded five innovative collaborative projects and nine preparatory actions for cooperative research projects. The main aim of this initiative is to support translational research between researchers and physicians from the two institutions.

Thanks to the **REDIT-INCLIVA Program** four initiatives have also been funded, in collaboration with the Institute of Information Technology (ITI), AINIA and the Technological Institute of Plastics.

Broad international scope

INCLIVA management's recent commitment to internationalize research activity is now bearing fruit. As of 2017 INCLIVA is a partner in several collaborative projects funded by the European Commission under the H2020 program (BIGMEDILYTICS, BODYPASS, MOTRICOLOR, INTRACOLOR), in joint actions (ADVANTAGE, Innovative Partnership on Action against Cancer), in the Innovative Medicines Initiative (BigData@Heart, PainCare), and in cooperative actions with CONACYT-Paraguay and COST Actions, aimed towards helping create thematic networks among researchers (EPICHEM, MuTaLig or MOUSEAGE). These activities focus on areas such as cardiovascular medicine, personalized, aging, oncology, frailty and big data, with funding of more than **2.5 million euros**. Another success is our researchers' participation in international networks such as the Big Data Value Association (BDVA), the European Infrastructure for Translational Medicine (EATRIS) and the global initiative Networking in Personalized Cancer Medicine (WIN).

Quality in management

Accreditation as a Health Research Institute already certifies the quality of the institution; nonetheless, INCLIVA has opted to implement quality management systems in all areas where certification is appropriate. Thus, in 2017 we obtained the **Quality Certificate in Innovation Management, UNE 166002: 2014**, and previous certificates in management structure - the central medical research unit (UCIM), the Biobank and the Clinical Research Ethics Committee - have all been renewed.

Commitment to Equality

INCLIVA's Equality Plan obtained the quality seal "Doing Business. Equal Opportunities" granted by the Vice Presidency and Ministry of Equality and Inclusive Policies of the Valencian Government. INCLIVA is the first Valencian health research foundation to obtain this seal. Our Equality Plan monitors gender equality compliance in situations such as personnel selection, internal promotion, remuneration, non-sexist language and prevention of harassment.

INCLIVA's current privileged position has been made possible thanks to the efforts of our researchers, 180 of whom are employed directly by the Foundation. Our challenge, however, is to continue generating knowledge and guiding excellence in research for society's benefit: Under the maxim **"integrating talent"** the future couldn't look brighter.

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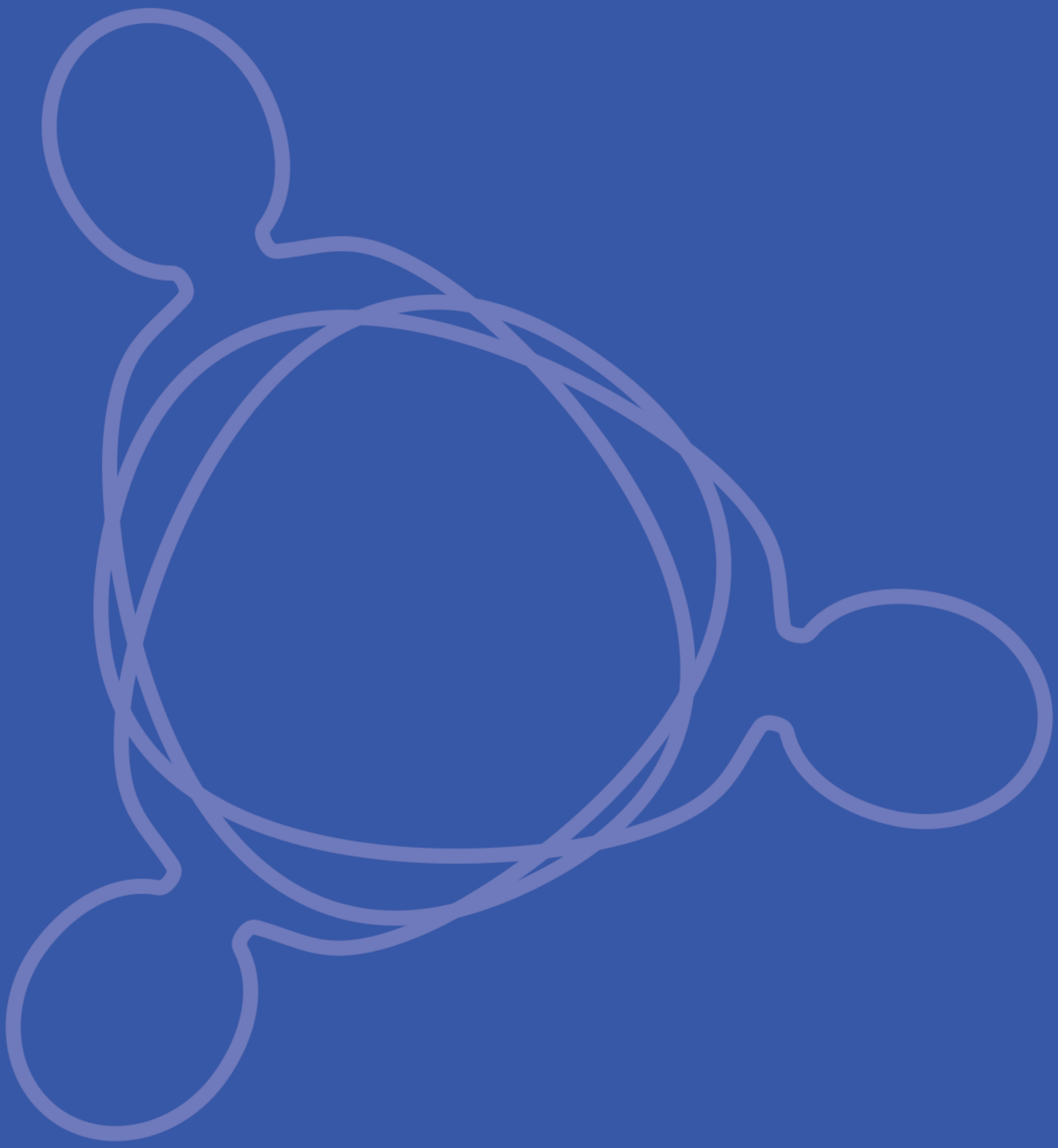





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INCLIVA origin and structure

2.1. History

The *Hospital Clínico Universitario* of Valencia Research Foundation was constituted in the year 2000 as the first Valencian research foundation affiliated to a public hospital. Ten years later, various centers of excellence in biomedical research from the University of Valencia and IUIVI (Valencian Infertility Institute) joined the Foundation through the establishment of specific agreements, and thus INCLIVA Health Research Institute was created.

INCLIVA's main aims are to manage the biomedical research carried out by the *Hospital Clínico Universitario* of Valencia and its Health Department, and to encourage teaching and scientific activities, thus improving patient treatment and knowledge sharing.

In 2011 INCLIVA was accredited as a Health Research Institute by the Ministry of Science and Innovation (*Ministerio de Ciencia e Innovación*) thus obtaining preferential treatment from the Carlos III Health Institute (*Instituto de Salud Carlos III*), in recognition of its excellence in research.

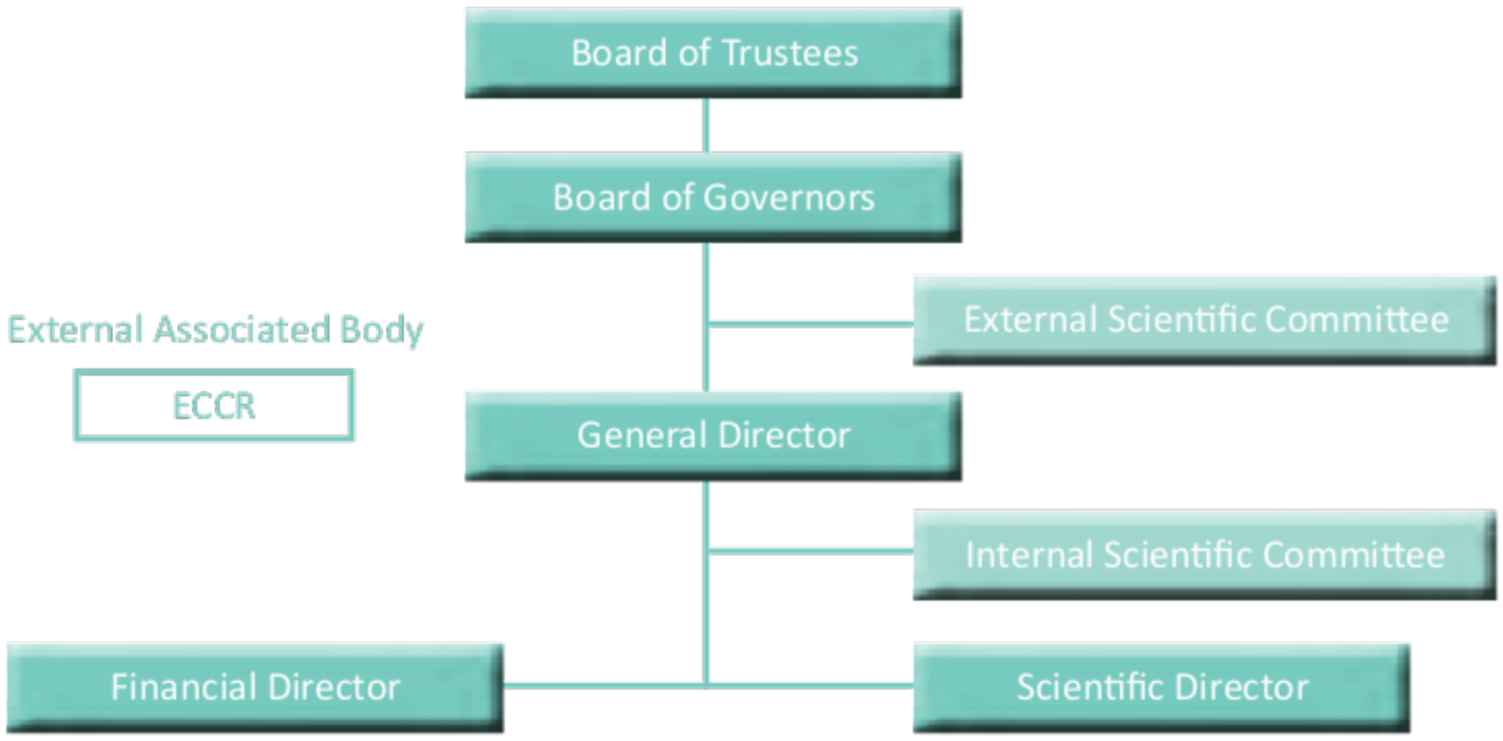
On March 13, this accreditation as a Health Research Institute was renewed for a further five years.



2.2. Organizational structure

2.2.1. Government structure

The highest government body in the Foundation, the Board of Trustees is headed by the Regional Minister for Health of the Valencian Government. This body appoints a Board of Governors –headed by the Chief Executive Officer of the Health Department– the General Director, the Scientific Director and the Financial Director. These are guided by two Research Committees: the External Scientific Committee and the Internal Scientific Committee.



2.2.1.1 Board of Trustees

With a strong representation from the Valencian community, it is the highest collegiate body in the Institute and its function is to establish INCLIVA strategy and policies.

As at December 31st 2017, its members are as follows:

President:

- Ms. Carmen Montón, Regional Minister for Health of the Valencian Government.

Vice-president:

- Mr. Álvaro Bonet, Chief Executive Officer of the *Hospital Clínico Universitario* of Valencia and of the *Valencia Clínico – Malvarrosa* Health Department.

Board members by position:

- Mr. Esteban Morcillo, Distinguished Dean of the University of Valencia.
- Mr. Manuel Broseta, Social Council of the University of Valencia.
- Mr. Juan López-Trigo, Cañada Blanch Foundation.
- Mr. Rafael Alcón, Bancaja Foundation.
- Mr. José Noblejas, Valencia Chamber of Commerce.
- Mr. José Remohí, Scientific Director of the Valencian Infertility Institute.
- Ms. Ana María Ávila, General Director of Research, Innovation, Technology and Quality of the *Consellería de Sanidad Universal y Salud Pública* of the Valencian Government.
- Mr. Narcis Vázquez, Secretary of the *Consellería de Sanidad Universal y Salud Pública* of the Valencian Government.
- Mr. Martín Quirós, Valencian Council for Culture.
- Mr. Federico Pallardó, Distinguished Dean of the Faculty of Medicine.
- Mr. Jesús Fernández Crespo, Carlos III Health Institute.
- Mr. Andrés Cervantes, INCLIVA General Director.

Board members under own name:

- Mr. Carlos Pascual.
- Mr. Joaquín Ortega.
- Mr. Tomás Trenor.
- Mr. Manuel Montánchez.

The Scientific Director and Financial Director participate as nonvoting members.

2.2.1.2 Board of Governors

The Board of Governors executes and enforces the Board of Trustees agreements. Other duties are to prepare and pass activities and research project proposals and to decide on and allocate the budgetary means.

As at December 31st 2017, its members are as follows:

President:

- Dr. Álvaro Bonet, Chief Executive Officer, *Hospital Clínico Universitario* of Valencia.

Vice-president:

- Prof. Federico Pallardó, Most Illustrious Dean of the Faculty of Medicine.

Board members:

- Prof. Andrés Cervantes, INCLIVA General Director.
- Dr. Ana María Ávila. General Director of Research, Innovation, Technology and Quality of the *Consellería de Sanidad Universal y Salud Pública* (universal and public health department) of the Valencian Government.
- Prof. José Remohí, Scientific Director *Instituto Universitario* IVI.
- Prof. Josep Redón, INCLIVA Scientific Director.
- Dr. Jorge Navarro, Medical Director, *Hospital Clínico Universitario* of Valencia.
- Dr. Ana Sanmartin, Director of Primary Health Care, Health Service Department in *Valencia Clínico-Malvarrosa*.
- Prof. Salvador Lluch, Department of Physiology, University of Valencia.
- Dr. Marina Soro, President of the Ethical Committee in Clinical Research (ECCR), *Hospital Clínico Universitario* of Valencia.
- Dr. Manuel Alós Almiñana, Head of the Pharmacy Department, *Hospital Clínico Universitario* of Valencia.
- Dr. Pascual Medina, Coordinator of Research Support Platform (UCIM), University of Valencia.

2.2.1.3 General Director

The most senior person responsible for implementing scientific, economic and administrative policies is the Foundation's General Director.

In May 2017, Professor Rafael Carmena, who had served for the past five years, submitted his resignation and Professor Andrés Cervantes Ruipérez was appointed.

He is Professor of Medicine at the University of Valencia, Head of the Oncology Service of the University Clinical Hospital of Valencia and Director of the Cancer Area at the INCLIVA Health Research Institute. His training as a resident medical intern took place at the *Hospital Clínico Universitario* of Valencia. After completing this residency he obtained a predoctoral fellowship at the Free University Hospital in Amsterdam, where he obtained his Doctorate in the laboratory of cellular pharmacology, with work on multidrug resistance.

His areas of interest and research are gastrointestinal and gynecological cancer, as well as phase I trials and new drug development. As a clinical researcher in rectal cancer, he has published several papers on the quality of multidisciplinary work as well as on evaluating the quality of mesorectal surgery, how to optimize initial therapy choices and especially, how to treat cancer of the upper third of the rectum.

He is President of the Educational Steering Committee of ESMO (European Society of Medical Oncology) and since January 2014 he is also an Associate Editor in the gastrointestinal cancer section of the Annals of Oncology Journal.

2.2.1.4 Scientific Director

The Scientific Director is appointed by government bodies.

In May 2017, Professor Josep Redón, who had served for the past seven years, submitted his resignation, with the Director General Dr. Andrés Cervantes Ruipérez assuming his duties.

2.2.1.5 External Scientific Committee

The External Scientific Committee assesses the collegiate government bodies on research carried out and safeguards the quality of that research.

Its national and international members are appointed by the Board of Trustees, who chooses at least one expert in every INCLIVA priority area of research. It is constituted by well-known professionals renowned within the scientific community.

The composition of the External Scientific Committee as at December 31st 2017 is as follows:

President:

- Prof. Javier Díez. Professor of Medicine, University of Navarra. Director of the Cardiovascular Sciences Area, Applied Medical Research Center (CIMA).

Members:

- Prof. José Baselga. Physician in Chief of the Memorial Sloan-Kettering of New York (U.S.A.). Professor of Medicine, Autonomous University of Barcelona.
- Prof. Nick S. Macklon. Professor in Obstetrics and Gynecology. Division of Developmental Origins of Adult Diseases (DOHaD). University of Southampton. Princess Anne Hospital. Coxford Road, Southampton (United Kingdom).
- Prof. Antonio Vidal-Puig. Professor in Molecular Nutrition and Metabolism. University of Cambridge. Honorary Consultant in Metabolic Medicine. Metabolic research laboratories. Addenbrooke's Hospital, Cambridge (United Kingdom).
- Prof. Josep Tabernero. Chief of Medical Oncology Department. Vall d'Hebrón Hospital, Barcelona.
- Prof. José María Medina. Professor in Biochemistry and Molecular Biology. University of Salamanca. Castilla y León Neuroscience Institute (INCYL).
- Prof. Juan Carlos Lacal. Research Professor in Biomedical Research Institute (CSIC), Madrid.
- Prof. Manuel Tena-Sempere. Professor in Cell Biology, Physiology, and Immunology Department. University of Córdoba.
- Prof. Alberto Zanchetti. Professor Emeritus of Internal Medicine. Università di Milano. Director of the Istituto Auxologico Italiano (Italy). Consultant in WHO.

During 2017, the INCLIVA External Scientific Committee evaluated the entity's research groups, holding several teleconference sessions and a two-day, face-to-face meeting in Valencia on December 13 and 14.

2.2.1.6 Internal Scientific Committee

INCLIVA's Internal Scientific Committee is advisory to the General Director and the Scientific Director, evaluating and supervising the scientific content of the research areas.

As at December 31st 2017, the Committee composition is as follows:

President:

- Dr. Josep Redón i Mas

General Director:

- Dr. Andrés Cervantes Ruipérez

Medical Director of the *Hospital Clínico Universitario* of Valencia:

- Dr. Jorge Navarro Pérez

Priority research area coordinators:

- Dr. Andrés Cervantes Ruipérez
- Dr. José Viña Ribes
- Dr. Carlos Simón Vallés
- Dr. Javier Chorro Gascó

Members:

- Dr. Esteban Morcillo Sánchez
- Dr. Pilar Eroles Asensio
- Dr. Carlos Hermenegildo Caudevilla
- Dr. Ana Lluch Hernández
- Dr. Javier Chaves Martínez
- Dr. Eduardo Otero Coto
- Dr. Daniel Monleón Salvado
- Dr. Gloria Ribas Despuig
- Dr. Nicolás Garrido Puchalt
- Dr. Carlos Estella Sagrado
- Dr. Carlos Solano
- Dr. Rosa Zaragozá
- Dr. Fernando Martínez García
- Dr. Federico Pallardó Calatayud

2.2.1.7 Clinical Research Ethics Committee

The Clinical Research Ethics Committee (ECCR) of the *Hospital Clínico Universitario* of Valencia is an independent body tasked with safeguarding the rights, security and welfare of subjects taking part in a clinical trial or research project.

Among others tasks, this Committee assesses protocol, the aptitude of the participating researchers, the adequacy of the center's facilities, and ensures the use and quality of the Patients

Fact Sheet in order to assure informed consent.

The members of the ECCR in the *Hospital Clínico Universitario* of Valencia, as at December 31st 2017, are as follows:

President:

- Dr. Marina Soro Domingo. Head of Section of the Anesthesiology and Reanimation Unit.

Vice-president:

- Dr. Cristina Gomis Gozalbo. Specialist of the Gynecology Department.

Secretary:

- Mr. Diego V. Cano Blanquer. Pharmacist.

Substitute Secretary:

- Ms. Mª José Tarín Blasco. Graduate in Law.

Members:

- Dr. José Álvaro Bonet Pla. Hospital Chief Executive Officer.
- Dr. Jorge Navarro Pérez. Medical Director of the *Hospital Clínico Universitario* of Valencia.
- Prof. Esteban Morcillo Sánchez. Dean of the University of Valencia. Professor of Pharmacology.
- Prof. Miguel Mínguez Pérez. Head of Section of Gastroenterology Department.
- Prof. Andrés Cervantes Ruipérez. Head of Oncology Department.
- Dr. Ricardo Ruiz Granell. Head of Section of Cardiac stimulation Department.
- Dr. Julio Palmero Da Cruz. Head of Radiology Department.
- Prof. Joaquín Ortega Serrano. Head of General Surgery Department.
- Dr. Mª Jesús Puchades Montesa. Specialist of Nephrology Department.
- Dr. Mª José Fabiá Valls. Specialist of Internal Medicine Department.
- Dr. Luis González Luján. Specialist in Primary Health Care.
- Dr. Patricia Roselló Millet. Specialist of Pediatrics Department.
- Dr. Rafael Fernández-Delgado. Pediatrics Specialist.
- Ms. Mª Ángeles Mora Plà. Nurse.
- Ms. Almudena Amaya Rubio. Nurse
- Dr. Manuel Alós Almiñana. Head of Pharmacy Department.
- Dr. José Luis Trillo Mata. Primary Health Care Pharmaceutics.
- Dr. Antonio Peláez Hernández. Allergy Specialist.
- Dr. Francisco Dasí Fernández. Established Miguel Servet Researcher.
- Ms. Dolores Iglesias Ferri. Pharmacist

2.2.2. Management structure

The organizational chart is comprised of two sub-directorates, economic and scientific, as well as a new area of innovation within the latter sub-directorate.

The first sub-directorate is in charge of the administrative area, which deals with the financial and administrative matters as well as with human resource management.

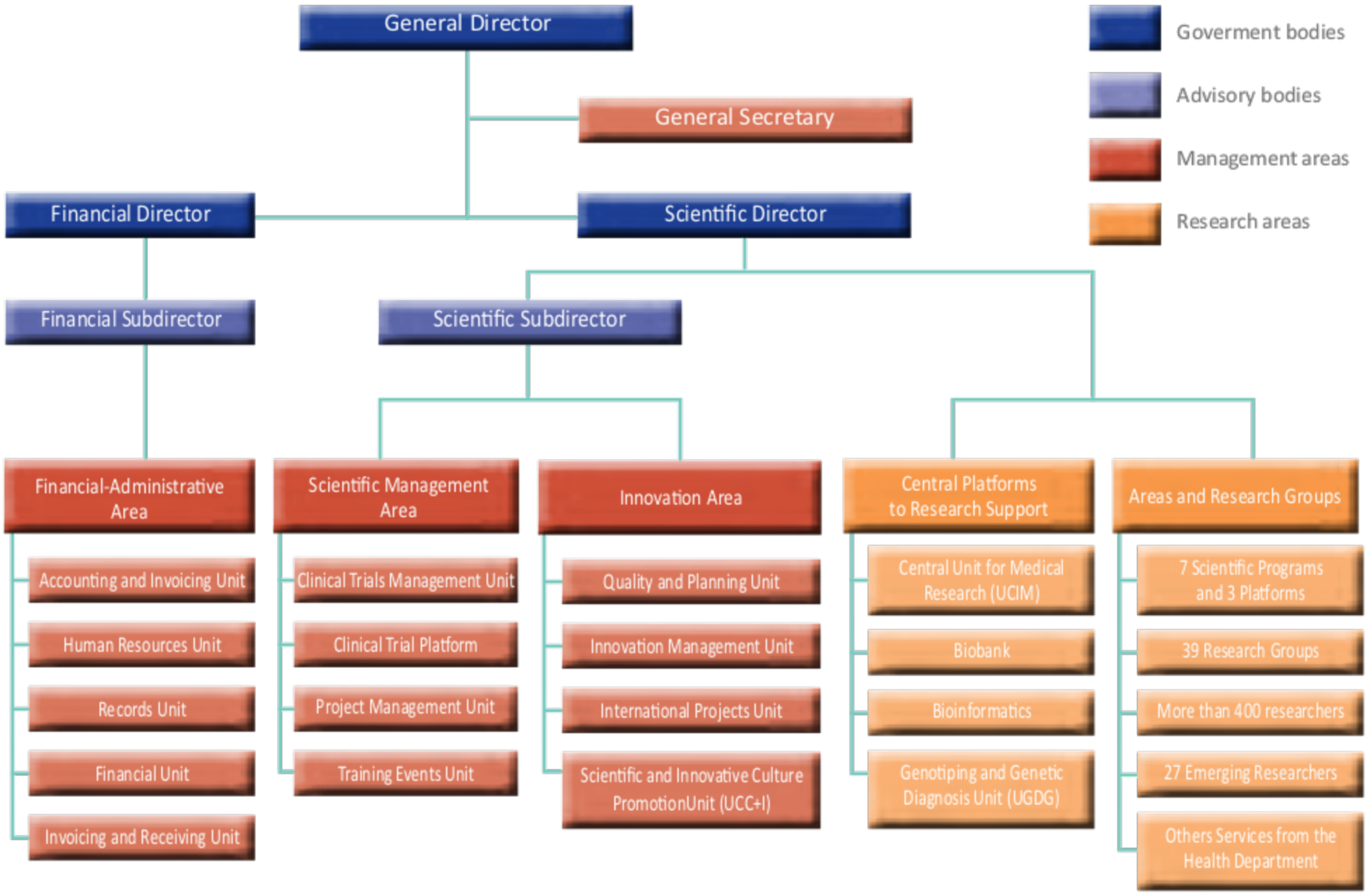
The second is in charge of scientific activity management and innovation. It is responsible for integral scientific management that includes controlling and monitoring clinical trials and research projects, organizing courses, conferences and seminars, and several tasks related to general administration. Furthermore, it acts as an administrative support to the different affiliated scientific committees and to the Medical Research Central Unit. Finally, it comprises the new innovation area in charge of quality and planning, innovation management, international programs and scientific and innovative culture promotion (UCCI).

Administrative Area:

- Financial-Administrative Director: Mr. Vicente de Juan
- Financial-Administrative Subdirector: Ms. Consuelo López
- Accounting and Invoicing Unit: Ms. Mª José Rosalén
- Financial Unit: Ms. Consuelo López and Ms. Karen Iglesias
- Invoicing and Receiving Unit: Ms. Vera Marín
- Records Unit: Ms. Alicia Belenguer
- Purchasing Unit: Ms. Isabel Gomis
- Human Resources Unit: Ms. Ruth Cano and Ms. Anabel Gil
- Receptionists: Ms. Carmen Montagud, Mr. Julio Expósito

Scientific Management Area:

- Scientific Subdirector: Dr. Marta Peiró



- Projects Unit: Ms. Mayca Román, Ms. Noemí Hidalgo and Mr. Bernat Navarro
- Clinical Trials Management Unit: Ms. Dolores Iglesias, Mr. Roberto Martínez and Ms. Maialen Llopis
- Clinical Trials Platform: Ms. Ana Portolés, Ms. Laura Silla, Ms. Mireia Hernández, Mr. Bernat Navarro

Innovation Area:

- Coordination: Dr. Enrique Cremades
- Quality and Planning Unit: Mr. Rafael Barajas
- Innovation Management Unit: Dr. Pedro Fernández
- International projects: Dr. Ana Ferrer, Dr. Javier Gámez
- OPESVAL: Dr. Javier Gámez
- Scientific and innovative culture promotion (UCCI): Ms. Clara Badenas, Mr. Justo Giner

Secretary General:

- Head: Ms. Maite Saenz
- Technician: Ms. Lorena Munuera

2.3 Core facilities

In 2004 INCLIVA and the Central Service for Experimental Research Support (SCIE) of the University of Valencia signed a collaboration agreement aimed at enhancing cooperation between both institutions, with special emphasis on research projects and collective research activities. It gives Hospital Clínico Universitario of Valencia research staff access to and use of the Central Unit for Medical Research facilities as well as research stay opportunities.

The Central Unit for Medical Research (UCIM) was created thanks to FEDER funds in 1990. From its inception, it has received several grants from both University of Valencia and INCLIVA funds, as well as from external funds (Comisión Interministerial de Ciencia y Tecnología, Generalitat Valenciana and Fondo de Investigaciones Sanitarias).

In addition to these support units, INCLIVA has four additional platforms: the Biobank, the Genotyping and genetic diagnosis unit, the Cytogenetics lab and the Bioinformatics unit. The latter was created as such in 2013, through a Carlos III Health Institute (Instituto de Salud Carlos III) *PROMIIS* grant program to improve infrastructures.

These laboratories are supported by several research technicians and technical assistants included in the organization's structure thanks to diverse public grants or directly from the University budget.

The research support platforms are:

- Cell Culture Unit
- Flow Cytometric Unit
- Multigenic Analysis Unit
- Confocal Microscopy Unit
- Sequenom Platform
- Laboratory of Molecular Imaging and Metabolomics
- Animal Housing and Experimental Operating Theaters Unit
- Proteomics Unit
- Small Animals PET/CT Camera and Laboratory for Radioactive Isotopes
- Personal Autonomy, Dependence and Severe Mental Disorders Assessment Unit

INCLIVA Platforms are:

- Biobank
- Bioinformatics Unit
- Genotyping and Genetic Diagnosis Unit
- Cytogenetics Laboratory

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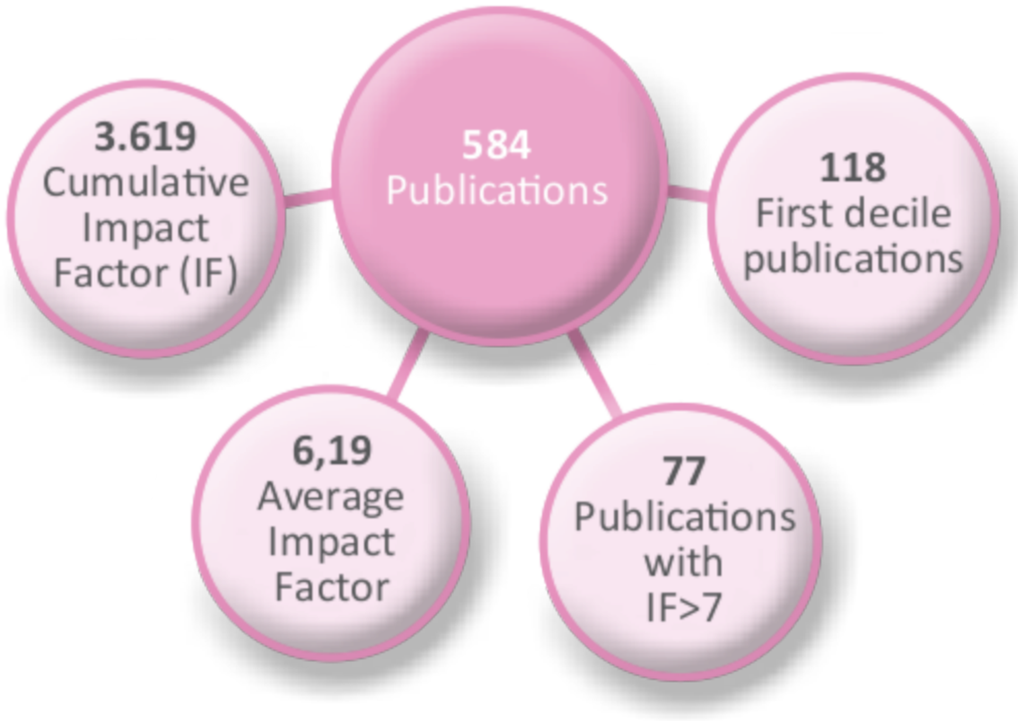
3



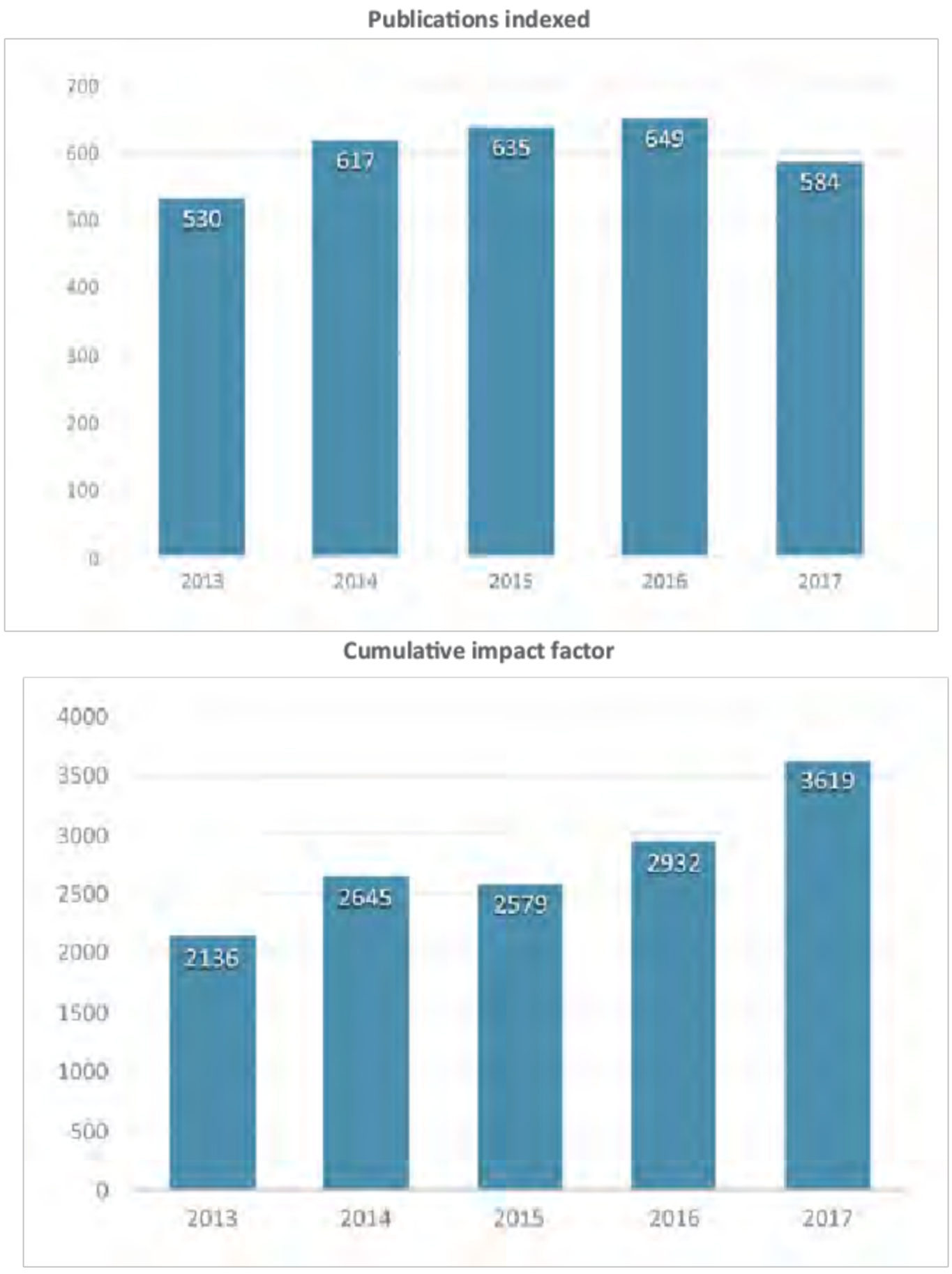
INCLIVA
global
analysis

3.1 Scientific output - global analysis

As in previous years, in 2017 INCLIVA continued an upward trend in quality of scientific output. Although the number of publications is lower than the previous year, the cumulative impact factor has increased (2.932 to 3.618), which translates into an average impact factor greater than in 2016 (4,51 to 6,19). This shows that despite being smaller in number, the publications are of higher quality. The number of works indexed in the Medline database reached 584 in 2017.

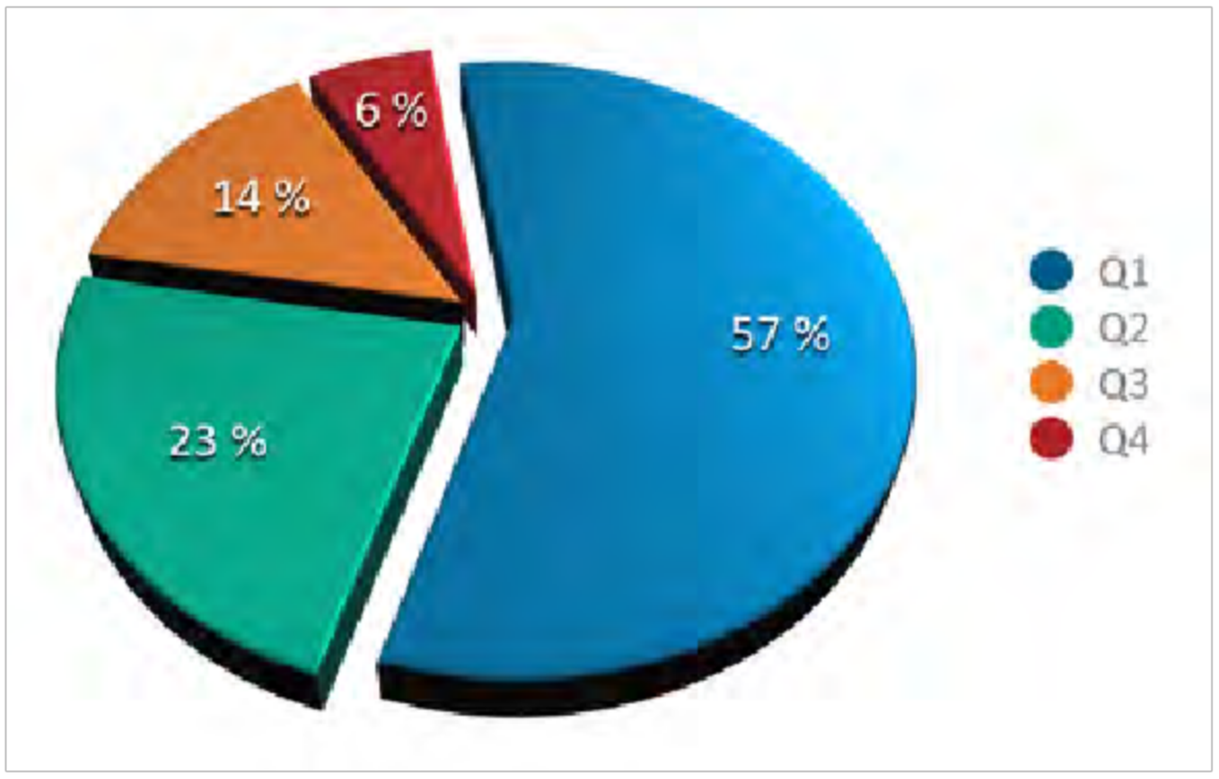


To show this trend, the following figures depict the number and quality of the published manuscripts expressed in terms of total and average impact factor.



The distribution by quartiles within their thematic categories is shown below. In 2017, 80% of the papers that were published in indexed journals belong to the first and second quartiles of their corresponding thematic categories:

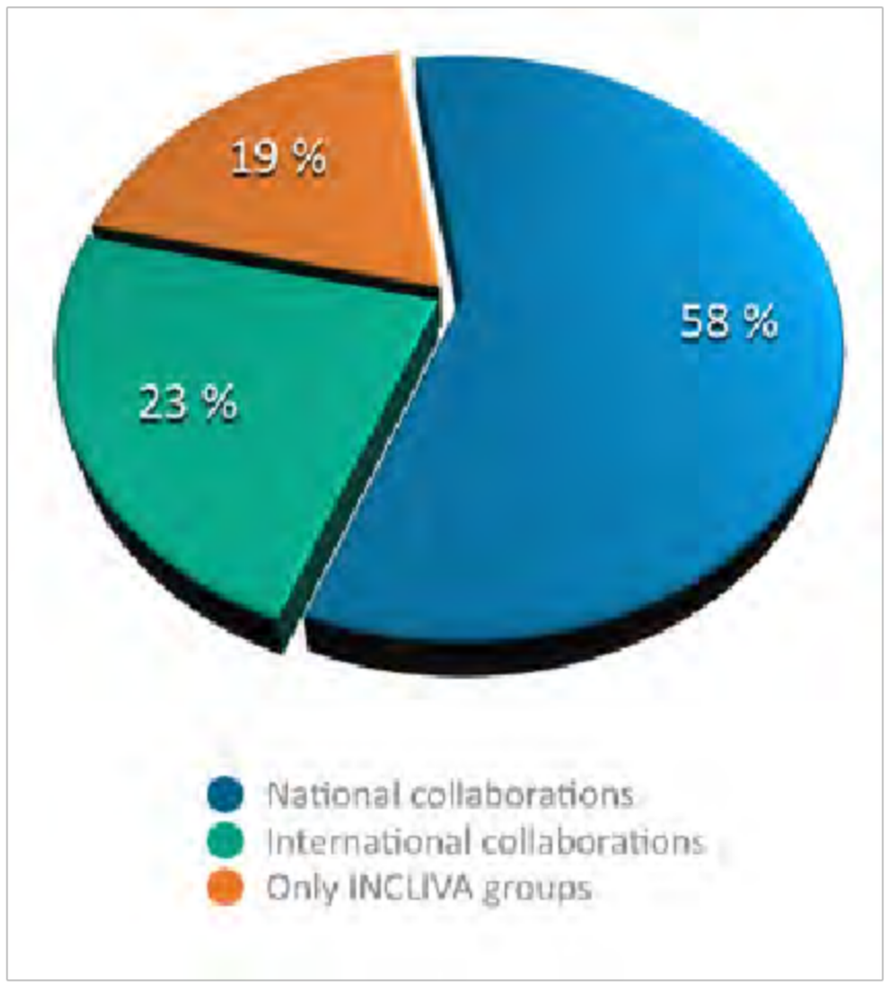
Quartile distribution



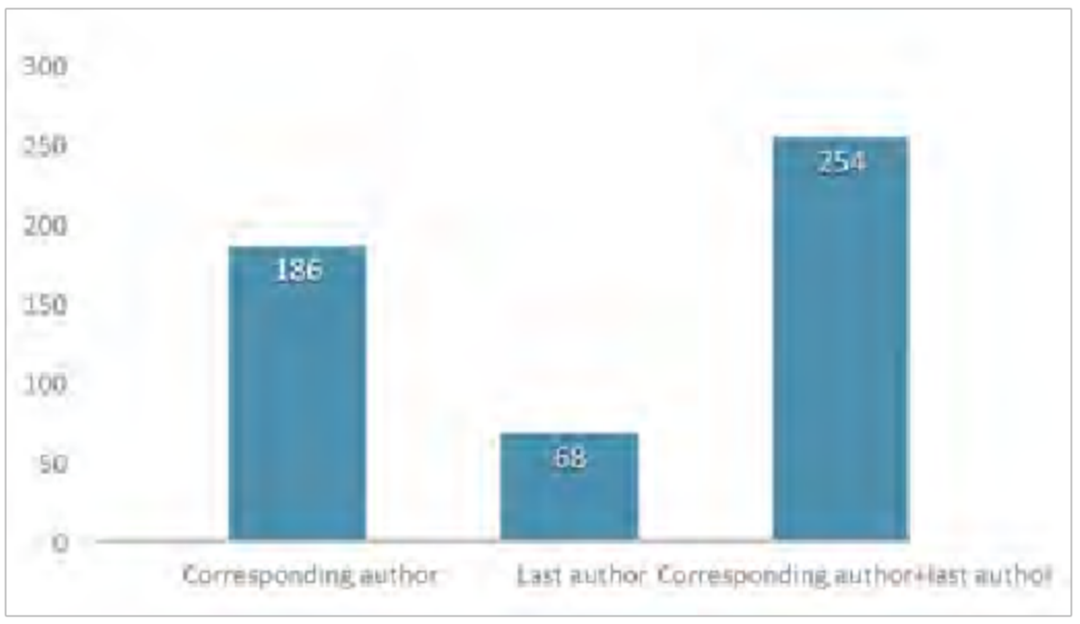
One of the main success factors for a biomedical research institution is its potential to establish high-level scientific collaborations. The percentage of national and international collaborations which led to scientific output in 2017 is listed below.

Another key performance indicator is the leadership role in scientific publications. The chart below shows the number of published articles in which INCLIVA researchers sign as last author, corresponding author or both at the same time.

Collaborations

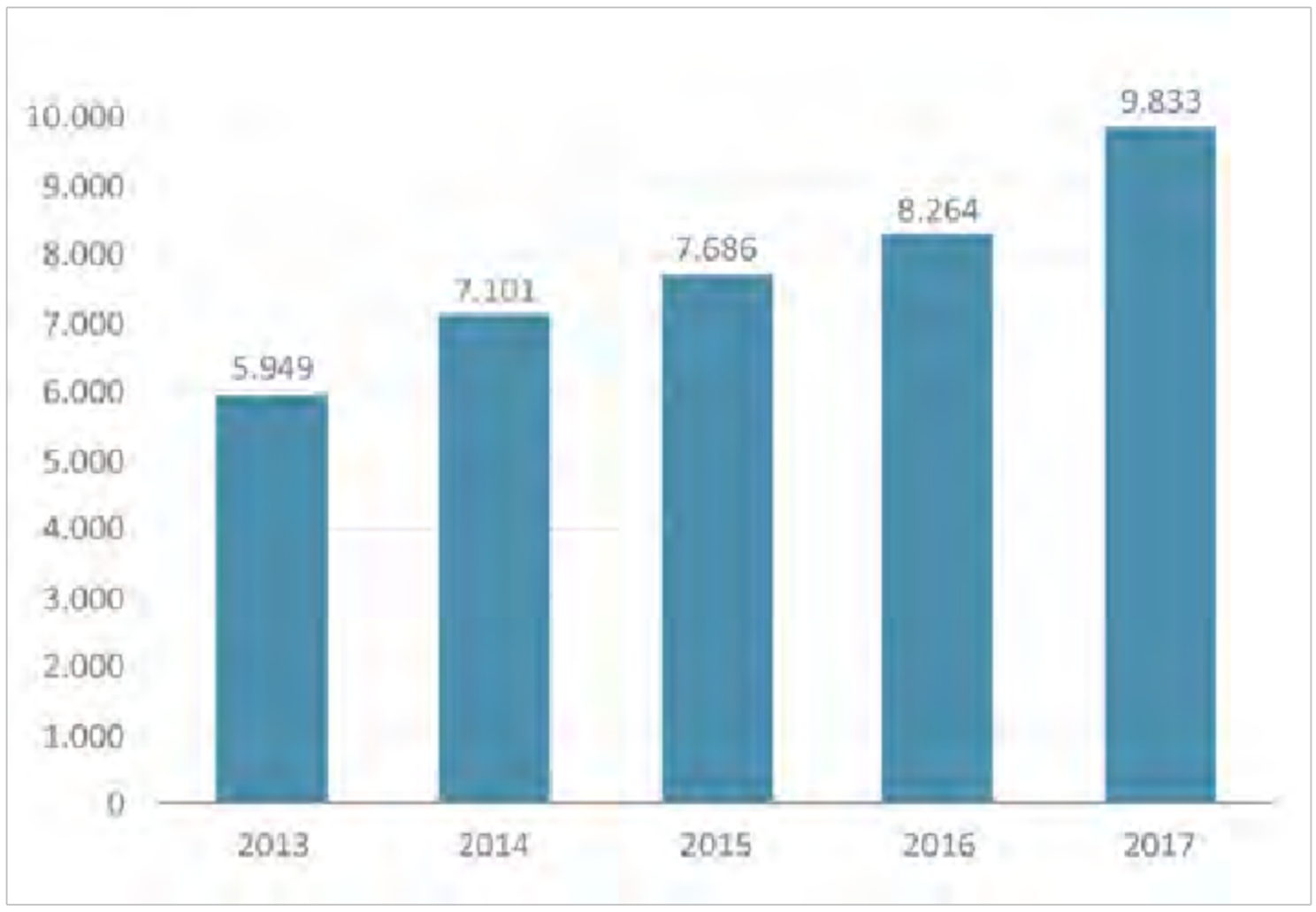


Leadership in scientific output



3.2. Financial resources

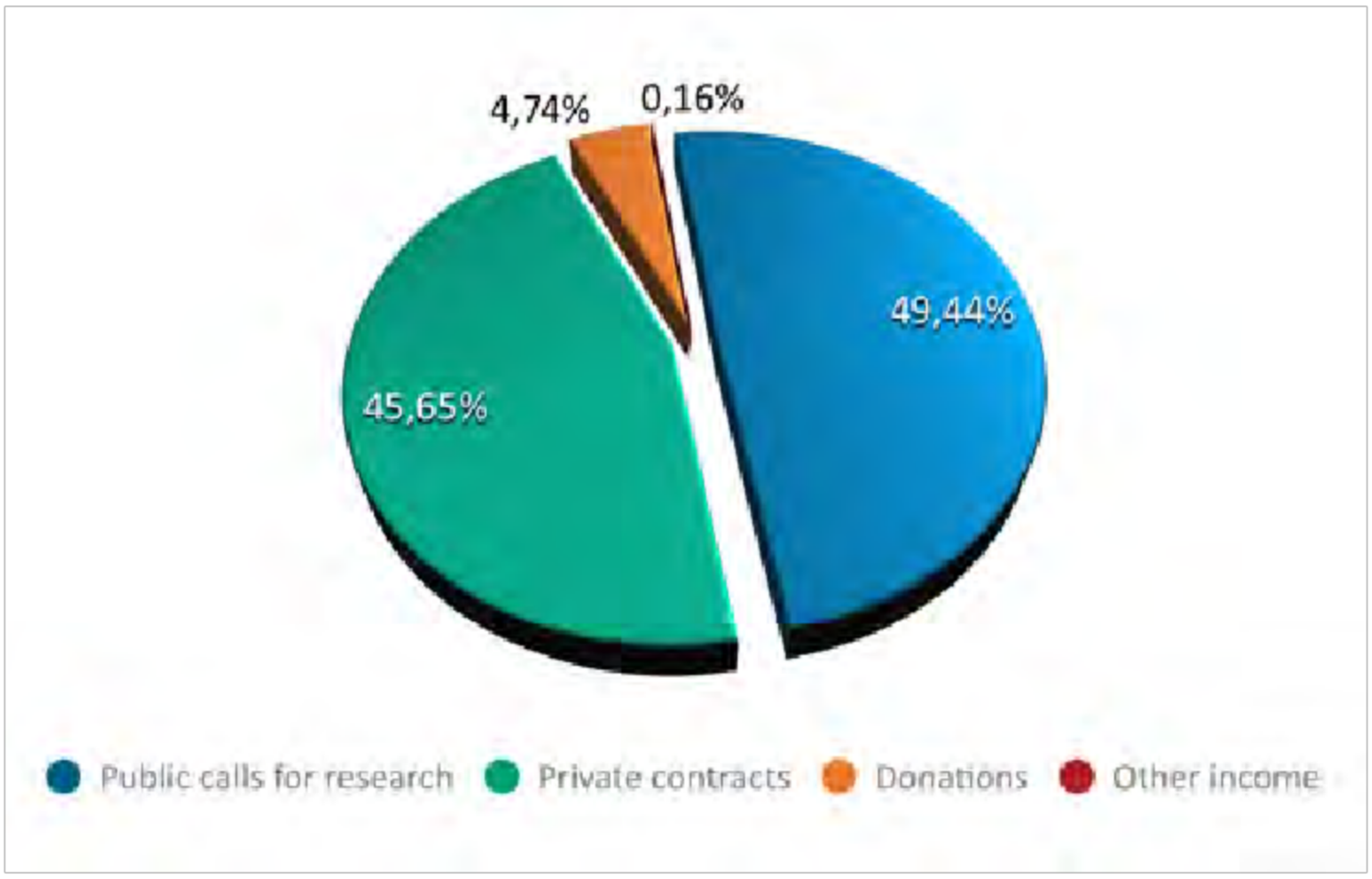
INCLIVA's funding during 2017 totaled 9.832.908€. The funds raised from competitive sources continued to be higher than the average in recent years.



Funding source in the indicated period is shown below.



The remaining income corresponds to private sources of funding, clinical trial revenues and grants, among others. The graph below shows the distribution in 2017.



3.2.2 Knowledge transfer to the National Health System

One of INCLIVA's foundational is aims is transferring research to society. Given a medical need, researchers and clinicians use their knowledge to come up with ideas that can be transformed through research and development into real products or processes that overcome the existing problem.

INCLIVA's Innovation Unit supports this process by detecting ideas, assessing them and paving the way for their transformation into real products or services that can be transferred to society (normally to the market). This track is known as the innovation funnel because it starts with a broad range of ideas and gradually refines and selects from among them, creating a handful of formal development projects that can be pushed to completion and transfer.

Plot of the INCLIVA innovation funnel in 2017

	Detection	Assessment	Development	Transfer	Market
Organizational	4	0	0	0	0
ITC	3	2	0	0	0
Device	5	1	0	1	0
Imaging	3	0	1	0	0
Pharma	4	1	1	1	0
Bio	23	4	2	1	4
Total	42	8	4	3	4

3.2.3 Intellectual Assets

Knowledge protection is the first step to move scientific findings and ideas from researchers to industry and the most common way to protect new, inventive technologies that have industrial application are with patents. Research institutions can exploit the patents they hold by licensing them to companies. The following intellectual assets have been registered during 2017:

Patent applications

Title: Easy one-step amplification and labeling (EOSAL)
Inventors: Chaves FJ, Blesa S, Ivorra C, Olivares MD
Applicant: INCLIVA, Seqplexing Multiplex SL
Application number: EP17382141.4
Priority Date: 2017/03/21
Territory: Europe.

Title: P15/P16 Agonists
Inventors: González Navarro H, Martínez Hervás S, Vinué Visús MA
Applicant: INCLIVA
Application number: EP17382251.1
Priority Date: 2017/05/05
Territory: Europe.

Title: Benzopiranos prenilados agonistas de PPAR
Inventors: Cortés D, Sanz MJ, Cabedo N, Bermejo A, Piquera L, Collado A, Gomes P
Applicant: INCLIVA, UV
Application number: P201731470
Priority Date: 2017/12/26
Territory: Spain.

Software

Title: Cardiac Extracellular Volume CARECVV1
Authors: Bodí V, Gavara J, Moratal D, Monemeneu JV
Applicant: INCLIVA, UV, UPV, ERESA
Registration number: 35444
Priority Date: 2017/03/27

3.3 Cooperative research networks

Through the Sub directorate-General of Networks and Centers for Cooperative Research, Carlos III Health Institute (*Instituto de Salud Carlos III*) facilitates the creation of stable research network structures such as *RETICS* (Thematic Networks of Cooperative Research) and CIBER (Network of Centers for Biomedical Research). INCLIVA participates in many of these research structures through its associated groups.

The following table shows participation in scientific networks according to the prioritized research area, the center and its principal investigator (PI).

CIBER

Research Area	INCLIVA PI	Scientific Network		Reference
Cardiovascular	Juan Francisco Ascaso Gimilio	CIBERdem	ciberdem	CB07/08/0018
	Empar Lurbe i Ferrer	CIBERobn	ciberobn	CB06/03/0039
	Francisco Javier Chorro Gascó	CIBERcv	cibercv	CB16/11/00486
	Juan Sanchis Forés	CIBERcv		CB16/11/00420
Metabolism and Organ Damage	Guillermo Sáez Tormo	CIBERobn	ciberobn	CB12/03/30016
	Esteban Morcillo Sánchez	CIBERres	ciberes	CB06/06/0027
	Federico V. Pallardó Calatayud	CIBERrer	ciberer	CB06/07/0073
	Julio Sanjuán Arias	CIBERsam	cibersam	CB07/09/006
	Rafael Tabarés Seisdedos	CIBERsam		CB07/09/0021
	Juan Vicente Esplugues Mota	CIBERehd	ciberehd	CB06/04/0071
	José Viña Ribes	CIBERfes	ciberfes	CB16/10/00435
Oncology	Andrés Cervantes Ruipérez	CIBERonc	ciberonc	CB16/12/00473
	Ana Lluch Hernández	CIBERonc		CB16/12/00481
	Rosa Noguera Salvá	CIBERonc		CB16/12/00484

RETIC

Research Area	INCLIVA PI	Scientific Network		Reference
Oncology	Samuel Navarro Fos	RTICC	RTICC	RD12/0036/0020
	Ana Lluch Hernández	RTICC	RTICC	RD12/0036/0070
Cardiovascular	Francisco Javier Chorro Gascó	RIC	RIC	RD12/0042/0048
	Juan Sanchis Forés	RIC	RIC	RD12/0042/0010
	Carlos Hermenegildo Caudevilla	RIC	RIC	RD12/0042/0052
Metabolism and Organ Damage	José Viña Ribes	RETICEF	red envejecimiento y fragilidad	RD12/0043/0029
Others	Francisco Taberner Alberola	RTICC	RTICC	RD12/0036/0053

In addition to research network structures, INCLIVA is member of three research platforms promoted by Carlos III Health Institute (*Instituto de Salud Carlos III*): biobank, clinical research and innovation platforms.

Reference: **PT13/0010/0004**
Title: Biobank Platform
Principal Investigator: Josep Redón i Mas
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2014 - 2017
Total budget: 46.500€

Reference: **PT13/0002/0031**
Title: Clinical Research and Trials Platform
Principal Investigator: Andrés Cervantes Ruipérez
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2014 - 2017
Total budget: 65.550€

Reference: **PT13/0006/0023**
Title: Innovation Platform
Principal Investigator: Josep Redón i Mas
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2014 - 2017
Total budget: 38.985€

3.4 Knowledge transfer activities

As part of its organizational mission INCLIVA Health Research Institute is fully committed to knowledge transfer, both to the National Health System and to industry.

3.4.1 Knowledge transfer to the National Health System

Clinical guidelines and consensus documents are one of the best indicators of knowledge transfer from research to clinical practice. The following table shows guidelines published in indexed journals with participation from authors affiliated to INCLIVA.

Clinical guidelines	FI
4	4.45

1. Pedrón Giner C, Cuervas-Mons Vendrell M, Galera Martínez R, Gómez López L, Gomis Muñoz P, Irastorza Terradillos I, Martínez Costa C, Moreno Villares JM, Pérez-Portabella Maristany C, Pozas Del Río MªT, Redecillas Ferreiro SE, Prieto Bozano G, Grupo de Estandarización de la Senpe S. Guía de práctica clínica SENPE/SEGHNP/SEFH sobre nutrición parenteral pediátrica. Nutrición Hospitalaria. 2017 Jun 5; 34(3): 745-758. IF: 0,747
2. García-Marco JA, Delgado J, Hernández-Rivas JA, Ramírez Payer Á, Loscertales Pueyo J, Jarque I, Abrisqueta P, Giraldo P, Martínez R, Yáñez L, Terol MJ, González M, Bosch F; en nombre del Grupo Español de Leucemia Linfocítica Crónica (GELLC). Update of the Grupo Español de Leucemia Linfocítica Crónica clinical guidelines of the management of chronic lymphocytic leukemia. Medicina Clínica. 2017 Apr 21; 148(8): 381.e1-381.e9. IF: 1,125
3. Mearin F, Ciriza C, Mínguez M, Rey E, Mascort JJ, Peña E, Cañones P, Júdez J; en nombre de la SEPD; la semFYC; la SEMERGEN y la SEMG; Sociedad Española de Patología Digestiva (SEPD); Sociedad Española de Medicina de Familia y Comunitaria (semFYC); Sociedad Española de Médicos de Atención Primaria (SEMERGEN); Sociedad Española de Médicos Generales y de Familia (SEMG). Clinical practice guidelines: Irritable bowel syndrome with constipation and functional constipation in adults: Concept, diagnosis, and healthcare continuity. (Part 1 of 2). Atención Primaria. 2017 Jan; 49(1): 42-55. IF: 1,042
4. Albaladejo P, Bonhomme F, Blais N, Collet JP, Faraoni D, Fontana P, Godier A, Llau J, Longrois D, Marret E, Mismetti P, Rosencher N, Roullet S, Samama CM, Schved JF, Sié P, Steib A, Susen S; French Working Group on Perioperative Hemostasis (GIHP). Management of direct oral anticoagulants in patients undergoing elective surgeries and invasive procedures: Updated guidelines from the French Working Group on Perioperative Hemostasis (GIHP) - September 2015. Anaesthesia, Critical Care & Pain Medicine. 2017 Feb; 36(1): 73-76. IF: 1,542
5. Jackson A, Siegfried N, Adair LS, Briend A, Haider R, Jamiyan B Karrar Z, Martínez Costa C, Reilly J, Nsungwa J, Sachdev, HPS, Sal MG, Singh M, Stasii E. Guideline. Assessing and managing children at primary health-care facilities to pre-

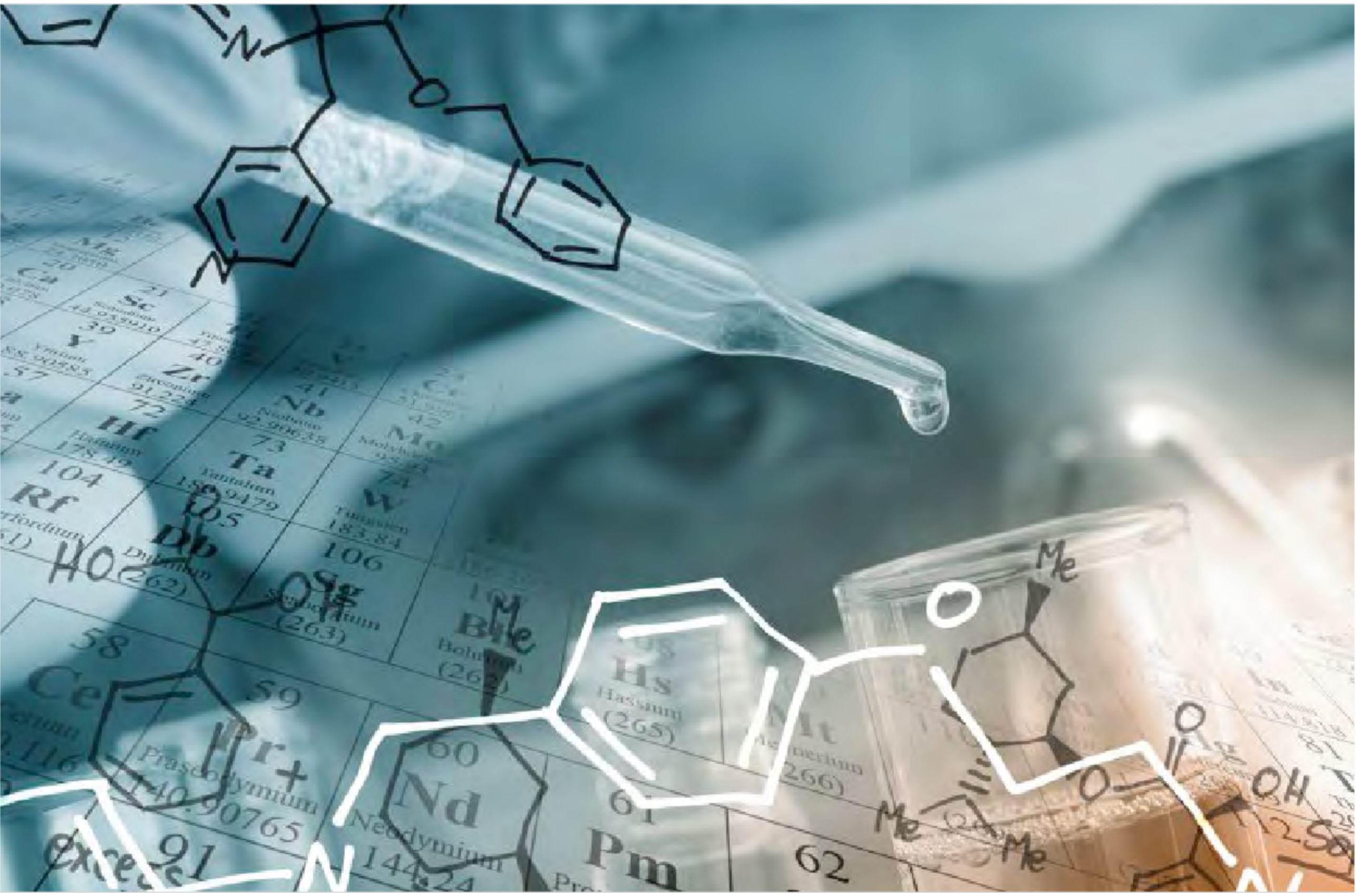
vent overweight and obesity in the context of the double burden of malnutrition. Geneva: World Health Organization 2017. ISBN 978-92-4-155012-3

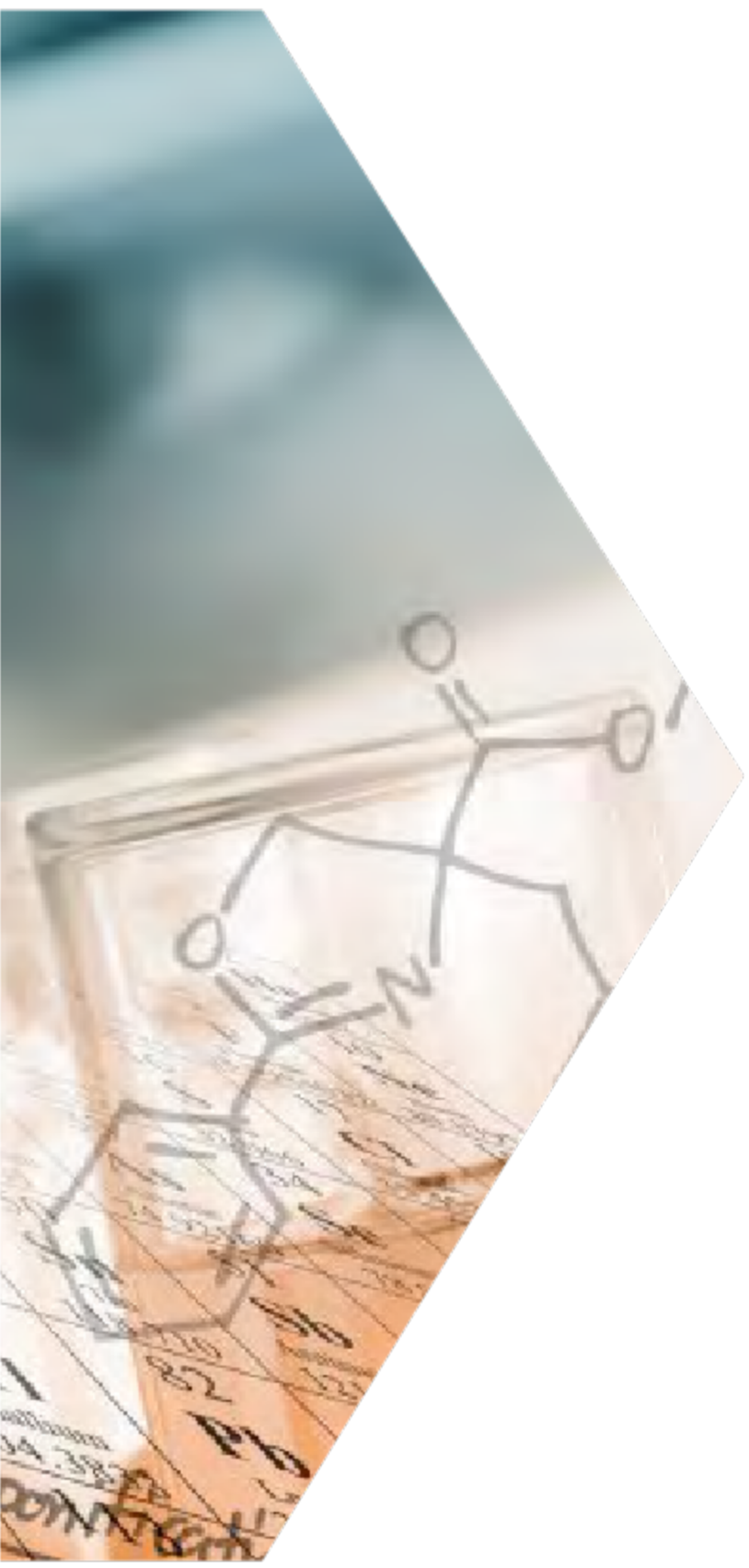
Consensus documents	FI
11	43.54

1. Caso V, Falorni A, Bushnell CD, Acciarresi M, Remohí J, Sprigg N, Gerli S. Pregnancy, hormonal treatments for infertility, contraception, and menopause in women after ischemic stroke: a consensus document. Stroke. 2017 Feb; 48(2): 501-506. IF: 6,032
2. Glynne-Jones R, Wyrwicz L, Tiret E, Brown G, Rödel C, Cervantes A, Arnold D; ESMO Guidelines Committee. Pan-Asian adapted ESMO consensus guidelines for the management of patients with metastatic colorectal cancer: a JSMO-ESMO initiative endorsed by CSCO, KACO, MOS, SSO and TOS. Annals of Oncology. 2017 Jul 1; 28(suppl 4): iv22-iv40. IF: 11,855
3. Perrone-Filardi P, Coca A, Galderisi M, Paolillo S, Alpendurada F, de Simone G, Donal E, Kahan T, Mancia G, Redón J, Schmieder R, Williams B, Agabiti-Rosei E. Noninvasive cardiovascular imaging for evaluating subclinical target organ damage in hypertensive patients: a consensus article from the European Association of Cardiovascular Imaging, the European Society of Cardiology Council on Hypertension and the European Society of Hypertension. Journal of Hypertension. 2017 Sep; 35(9): 1727-1741. IF: 4,085
4. Perrone-Filardi P, Coca A, Galderisi M, Paolillo S, Alpendurada F, de Simone G, Donal E, Kahan T, Mancia G, Redón J, Schmieder R, Williams B, Agabiti-Rosei E. Non-invasive cardiovascular imaging for evaluating subclinical target organ damage in hypertensive patients: A consensus paper from the European Association of Cardiovascular Imaging (EACVI), the European Society of Cardiology Council on Hypertension, and the European Society of Hypertension (ESH). European Heart Journal Cardiovascular Imaging. 2017 Sep 1; 18(9): 945-960. IF: 5,99
5. Rey E, Mearin F, Alcedo J, Ciriza C, Delgado-Aros S, Freitas T, Mascarenhas M, Mínguez M, Santos J, Serra J. Optimizing the Use of Linaclotide in Patients with Constipation-Predominant Irritable Bowel Syndrome: An Expert Consensus Report. Advances in Therapy. 2017 Mar; 34(3): 587-598. IF: 2,709
6. Negredo E, Domingo P, Gutiérrez F, Galindo MJ, Knobel H, Lozano F, Martínez E, Masiá M, Polo R, Estrada V. Executive summary of the consensus document on osteoporosis in HIV-infected individuals. Enfermedades Infecciosas y Microbiología Clínica. 2017 May 31. IF: 1,714
7. Vera R, Ferrández A, Ferrer CJ, Flores C, Joaquín C, López S, Martín T, Martín E, Marzo M, Sarrión A, Vaquero E, Zapatero A, Aparicio J. Procedures and recommended times in the care process of the patient with pancreatic cancer: PAN-TIME consensus between scientific societies. Clinical and Traslational Oncology. 2017 Jul; 19(7): 834-843. IF: 2,353
8. Vera R, Ferrández A, Ferrer CJ, Flores C, Joaquín C, López S, Martín T, Martín E, Marzo M, Sarrión A, Vaquero E, Zapatero A, Aparicio J. Erratum to: Procedures and recommended times in the care process of the patient with pancreatic cancer: PAN-TIME consensus between scientific societies. Clinical and Traslational Oncology. 2017 Sep; 19(9): 1173. IF: 2,353
9. Pemán J, Aguilar G, Valía JC, Salavert M, Navarro D, Zaragoza R; Jávea Intra-Abdominal Fungal Infection Group. Jávea consensus guidelines for the treatment of Candida peritonitis and other intra-abdominal fungal infections in non-neutropenic critically ill adult patients. Revista Iberoamericana de Micología. 2017 Jul - Sep; 34(3): 130-142. IF: 1,33
10. Millán Núñez-Cortés J, Cases Amenós A, Ascaso Gimilio JF, Barrios Alonso V, Pascual Fuster V, Pedro-Botet Montoya JC, Pintó Sala X, Serrano Cumplido A. Consensus on the Statin of Choice in Patients with Impaired Glucose Metabolism: Results of the DIANA Study. American Journal of Cardiovascular Drugs. 2017 Apr; 17(2): 135-142. IF: 2,768
11. González A, Lluch A, Aba E, Albanell J, Antón A, Álvarez I, Ayala F, Barnadas A, Calvo L, Ciruelos E, Cortés J, de la Haba J, López-Vega JM, Martínez E, Muñoz M, Peláez I, Redondo A, Rodríguez Á, Rodríguez CA, Ruíz A, Llombart A. A definition for aggressive disease in patients with HER-2 negative metastatic breast cancer: an expert consensus of the Spanish Society of Medical Oncology (SEOM). Clinical & Translational Oncology. 2017 May; 19(5): 616-624. IF: 2,353

Position statements	FI
1	4.47

1. Harris T, Sandford R, de Coninck B, Devuyst O, Drenth JPH, Ecder T, Kent A, Gansevoort RT, Górriz JL, Ong ACM, Pirson Y, Torres VE, Budde K, Clément D, Derchi LE, Eleftheroudi M, Levtchenko E, Peters D, Van Poppel H, Vanholder R. European ADPKD Forum multidisciplinary position statement on autosomal dominant polycystic kidney disease care: European ADPKD Forum and Multispecialist Roundtable participants. Nephrology Dialysis Transplantation. 2017 Dec 22. IF: 4,47





4

Scientific activity

• 4.1 Scientific structure

INCLIVA articulates its research in 4 areas of research, 7 scientific programs and 3 platforms.

Areas of research constitute the basis on which to articulate the scientific work of the groups:

- Research area in oncology.
- Research area in cardiovascular.
- Research area in metabolism and organ damage.
- Research area in reproductive medicine.

Scientific programs are aimed at specific diseases from a translational perspective:

- Program in overweight and cardiovascular and renal risk.
- Program in myocardial ischemic damage.
- Program in rare diseases.
- Program in neurological impairment.
- Program in translational oncology.
- Program in reproductive medicine.
- Program in aging and its associated diseases.

Platforms are based on the provision of research services to the whole institute:

- Inflammation platform.
- Metabolomics platform.
- Genomics, epigenomics and transcriptomics platform.



• 4.2 Scientific translational programs

• 4.2.1 Overweight and cardiovascular and renal risk

Obesity and overweight is a field in which new strategies are developed both for prevention and treatment with the use of traditional resources and the new technologies. The present program is focused on the study of pathology on the first stages of obesity (overweight with or without metabolic syndrome) integrating different clinical and experimental research studies.

Coordinators:

Juan F. Ascaso and Josep Redón

INCLIVA research groups involved

Clinical groups:

- Research Group on the Study of Cardiometabolic and Renal Risk (Dr. Redón)
- Research Group on Cardiometabolic Risk (Dr. Ascaso)
- Research Group on the Study of Cardiovascular Risk in Children and Adolescents (Dr. Lurbe)
- Translational Research Group on Nutrition and Metabolism (Dr. Hernández)
- Cardiometabolic Research Group on Primary Care (Dr. Navarro)

Experimental groups:

- Research Group of the Genotyping and Genetic Diagnosis Unit (UGDG) (Dr. Chaves)
- Research Group on Endothelial Cells (Dr. Hermenegildo)
- Research Group on Inflammation (Dr. Morcillo y Dr. Sanz)
- Research Group on Molecular Imaging and Metabolomics (Dr. Monleón)

Objectives

- To deepen in the early alterations, mechanisms and biomarkers that contribute to the development of obesity, vascular and renal alterations as a complication, from its fetal, biological, genetic and environmental origins.
- To know potential signaling pathways susceptible to be therapeutic targets.
- Early application of new technologies for the prevention and treatment of obesity and vascular and renal alterations in overweight subjects.

Research lines

- To identify early vascular and renal changes in overweight subjects and in animal models.
- To study the state, mechanisms of vascular inflammation and endothelial injury in overweight and animal models.
- To analyze the relationship of "-omic" markers (genomic, epigenetic and metabolomic) with obesity and vascular and renal alterations in overweight and animal models.
- Interaction of biomarkers (biological, genomic and metabolic) and intervention in progression to obesity and vascular and renal complications.

• 4.2.2 Myocardial ischemic damage

The program focuses on the study of the pathophysiological mechanisms involved in myocardial ischemic damage, on its structural, functional and electrophysiological repercussions on the evaluation of diagnostic tools and markers and prognoses and on the study of new therapeutic approaches that may help to prevent their adverse consequences.

It is a truly and translational research program that capitalizes the synergies between clinical and experimental research groups and also includes specialists in cardiac imaging techniques and technological development experts. The multidisciplinary approach extends the possibilities of collaboration between groups, strengthens those already existing and incorporates other groups into the activities of the program. Innovation through the development of analytical tools (imaging techniques such as cardiac magnetic resonance, cardiac electrical signals or cartographic techniques), allows the generalize of patents in the field of technological development.

Coordinator:

Francisco Javier Chorro Gascó

INCLIVA research groups involved

Clinical groups:

- Research Group on Clinical Cardiology (Dr. Sanchis, Dr. Nuñez)
- Group on Translational Research in Ischemic Heart Disease (Dr. Bodí)
- Research Group on Cardiac Experimental Electrophysiology (Dr. Chorro)

Experimental groups:

- Research Group on Aging and Physical Activity (Dr. José Viña)
- Research Group on Tissular Biochemistry (Dr. Juan Viña)
- Research Group on Inflammation (Dr. Morcillo and Dr. Sanz)
- Research Group on Endothelial Cells (Dr. Hermenegildo)
- Research Group on Molecular Imaging and Metabolomics (Dr. Monleón)

Others groups involved

Universidad Politécnica de Valencia (Prof. D. Moratal, Prof. J. Millet), H. Clinic Barcelona (Dr. Ortiz), Heart Center Munich (Dr. Husser), ERESA (Dr. López), Universitat de Valencia, Fac. Físicas (Prof. J. Guerrero), Center for Arrhythmia Research (University of Michigan, Prof. Jalife), School of Engineering (Univ. of California, Prof. Escobar)

Objectives

- Study of the pathophysiological mechanisms involved in myocardial ischemic damage and its structural, functional and electrophysiological repercussions.
- Evaluation of diagnostic and prognostic tools and markers.
- Evaluation of new therapeutic approaches.
- Study of the role played by: a) oxidative stress and its modifications in post-infarction damage; b) the vascular endothelial growth factor VEGF-A165b in microvascular obstruction, the deterioration of systolic function in the neoangiogenesis.
- Development of new diagnostic tools in cardiac magnetic resonance (MRI) for the detection of damage associated with ischemia / reperfusion and fibrosis.

- Evaluation of new prognostic and functional biomarkers in myocardial infarction from MRI, maximal O2 consumption, metabolomics and the combined use of CA125, galectin-1 and galectin 3.
- Development and analysis of preventive measures against the adverse consequences of postinfarction damage (remodeling, heart failure, arrhythmias).

Research lines

- Clinical research: acute coronary syndromes, interventional cardiology, ventricular remodeling and heart failure.
- Translational research: regulation of post-infarction fibrosis; development of innovative tools for their characterization by MR after an infarct and study of new therapeutic approaches.
- Experimental study of arrhythmogenesis in the context of ischemia and myocardial damage. Influence of the substrate and the modulating mechanisms.
- Microimaging using RM. Metabolomics.
- Research of textures using RM.
- Analysis, using molecular biology and biochemical techniques of circulating metabolic factors associated with ischemic damage.
- Endothelial dysfunction.
- Microvascular obstruction.

4.2.3 Rare diseases

The main objectives of the program is to improve diagnosis and current treatments of rare diseases. To this end, we will proceed to identify and validate rare disease biomarkers for which we do not have effective diagnostic and / or prognostic indicators. On the other hand, new therapeutic strategies will be developed for the treatment of these diseases. Human and animal model samples will be used to understand the molecular basis of disease, to evaluate the activity of candidate drugs and to discover new biomarkers.

Basically, the program seeks to fill the gap between basic research and commercial development of diagnostic systems and treatments, so its aim is to transfer this knowledge to companies, in order to transform biomedical knowledge into products and services that improve the human health. With this objective contacts with biotechnology and pharmaceutical companies have been established. On the other hand, the program aims to disseminate its findings to society in order to get feedback about actual patients' needs.

Coordinator:

Federico Pallardó and Francisco Dasí

INCLIVA research groups involved

Clinical groups:

- Research Group on Respiratory Problems in Neuromuscular Diseases (Dr. Servera)

Experimental groups:

- Research Group on Cellular and Organic Physiopathology of Oxidative Stress (Dr. Pallardó)
- Research Group on Molecular Imaging and Metabolomics (Dr. Monleón)
- Research Group on Neurological Impairment (Dr. Montoliu)

- Research Group on Translational Genomics (Dr. Artero)

Objectives

- To improve diagnosis and current treatment of rare diseases.
- Identification and validation of rare diseases biomarkers for which, nowadays, no effective diagnostic and / or prognostic indicators are available.
- Development of new therapeutic strategies.

Research lines

- Study of the oxidative profile in rare diseases.
- Pathophysiology of alpha-1 antitrypsin deficiency and Primary Ciliary Dyskinesia Syndrome.
- Gene therapy for the treatment of rare respiratory diseases.
- Design and testing of new biomarkers and experimental treatments in animal models.
- Study by exploratory and directed metabolomics of altered metabolic clusters in rare diseases.

• 4.2.4 Neurological impairment

Inflammation, which is associated with many chronic diseases (diabetes, liver cirrhosis, etc.), aging or major surgeries, leads to neuroinflammation and brain alterations that eventually lead to cognitive and functional impairment. This deterioration reduces the quality of life and increases the risk of accidents, falls, fractures and adverse consequences, which implies an increase in hospitalizations and the use of public resources.

Cognitive and functional impairment associated with aging and many chronic diseases is one of the most important challenges in order to improve the quality of life of the population and secure the sustainability of health systems. Early detection and treatment and prevention of cognitive and functional impairment would improve the quality of life of the elderly or with chronic diseases and reduce the demand for resources to the health system, improving its sustainability. Therefore, it is necessary to design new approaches to address these challenges, based on advances in knowledge on mechanisms, early diagnosis, prevention and treatment of cognitive and functional impairment.

Coordinator:

Carmina Montoliu and Vicente Felipo

INCLIVA research groups involved

Clinical groups:

- Research Group on the Study of Cardiometabolic and Renal Risk (Dr. Redón)
- Research Group on Cardiometabolic Risk (Dr. Ascaso)
- Research Group on Anesthesiology and Reanimation (Dr. Belda)

Experimental groups:

- Research Group on Neurological Impairment (Dr. Montoliu)
- Research Group on Inflammation (Dr. Morcillo and Dr. Sanz)
- Research Group on Aging and Physical Activity (Dr. José Viña)

- Research Group on Personal Autonomy, Dependence and Severe Mental Disorders (TMAP) (Dr. Tabarés)

Others groups involved

IPPC Neurobiology Research Group (Dr. Felipo), Cognitive Social Neuroscience Research Group from UV (Dr. Salvador), Hospital Neurorehabilitation Service NISA (Dr. Noe)

Objectives

- To characterize the alterations in inflammation, neuroinflammation, neurotransmission, brain function and structure associated with the appearance of cognitive and functional impairment.
- To characterize in detail the cognitive and functional alterations.
- To identify biomarkers for the early detection of cognitive and functional impairment.
- To identify the mechanisms by which: a) peripheral inflammation leads to neuroinflammation; b) neuroinflammation leads to functional, structural and neurotransmission alterations in the brain; c) changes in the brain lead to cognitive and functional impairment.
- To identify therapeutic targets to reverse or prevent cognitive and functional impairment.
- To design and test new therapeutic procedures to reverse or prevent cognitive and functional impairment.

Research lines

- Characterization of cognitive and functional alterations.
- Cognitive impairment in diabetes.
- Cognitive impairment for major surgeries and anesthesia.
- Alzheimer's and mild cognitive impairment.
- Cognitive and functional impairment in hyperammonemia and hepatic diseases.

• 4.2.5 Translational oncology

The translational oncology program called "Identification of oncogenic biomarkers: mechanisms and clinical implications, detection in non-invasive samples, omics analysis" tries to apply to the clinical practice the genomic screening in patients tumors.

Its main objective is to evaluate the dynamics of the disease through non-invasive biopsies in order to detect minimal residual disease, early onset of markers after surgery and patient response to different treatments.

The high heterogeneity of cancer results in inefficiency of treatments, even when they are directed against specific molecular targets. The low availability of tumor specimens makes genomic studies difficult.

In this sense, the use of liquid biopsies would facilitate the serial collection of samples to carry out molecular analysis and would guarantee a minimum risk for the patient. Thus improving the follow-up and allowing a dynamic understanding of the evolution of the genomic parameters of the patient.

This point of view benefits the National Health System as a whole since it allows the application of more specific treatments to patients, thus avoiding those that would have been less effective, reducing hospitalization and improving life expectancy and quality thereof. It could also prevent generalized treatments, secondary toxicities and rapid treatment adequacy responses.

Finally, it would improve the inclusion of patients in clinical trials which are stratified by molecular mutations.

Coordinator:

Andrés Cervantes

INCLIVA research groups involved

Clinical groups:

- Research Group on Colorectal Cancer and New Therapeutical Developments in Solid Tumours (Dr. Cervantes)
- Research Group on Breast Cancer Biology (Dr. Lluch)
- Translational Research Group on Pediatric Solid Tumours (Dr. Navarro)

Experimental groups:

- Research Group of the Genotyping and Genetic Diagnosis Unit (UGDG) (Dr. Chaves)
- Research Group on Cellular and Organic Physiopathology of Oxidative Stress (Dr. Pallardó)

Objectives

- To obtain a large database of genetic material (viable cells, DNA, RNA, serum / plasma) from tumors (solid and haematological). Implementing the clinical database for data management and data crossing. (Hospital, biobank, PROS-UPV).
- Molecular characterization of tumor biopsies using high throughput platforms (Sequenom, NGS).
- To improve inclusion of patients in clinical trials.
- To establish a routine for obtaining liquid biopsies in order to evaluate the detection of biomarkers as disease follow-up, minimal residual disease, early onset and response to treatment. (biobank, BEAMing PCR, NGS).
- To develop functional assays (modified cell lines, patient cell lines, xenografs) to evaluate mechanisms of disease.
- Incorporation of molecular results into clinical decision making.

Research lines

- Development of new therapeutic agents through Phase I clinical trials (first-in-human).
- Development of non-invasive early diagnostic methods and monitoring of therapeutic effects.
- Application of methodologies for clinical and molecular characterization of solid tumors and response to treatment (analysis of gene expression profiles, microRNAs, methylation).
- Translational studies for the identification of mechanisms of resistance to targeted therapies.

• 4.2.6 Reproductive medicine

This program comprises two main lines:

1. Role of maternal miRNAs in the transmission of obesity and type 2 diabetes to the embryo:

   Obesity and type 2 diabetes are increasingly important public health problems whose prevalence cannot be explained only by genetic and / or environmental factors, so the hypothesis of the program lies in the existence of an embryonic epigenetic regulation of maternal origin in these diseases. Preliminary data reveals that miRNAs secreted by the maternal endometrium to the endometrial fluid are internalized by the embryo, leading to a transcriptional and functionally modification and increasing its adhesion to the endometrium during its implantation. In this sense, the program goal is to explore if this new epigenetic

mechanism of maternal origin could explain the origin of the development of certain adult-onset diseases such as obesity and type 2 diabetes.

2. Study of adult stem cells in human endometrium:

   Use of autologous bone marrow stem cells by prior mobilization and collection of Peripheral Blood Progenitor Cells (PPSCs) and subsequent apheresis and transplantation of these cells in order to regenerate the endometrium de novo in patients undergoing assisted reproductive therapy (ART). The results of this study would allow a new therapeutic approach for the treatment of Asherman's Syndrome and endometrial atrophy, which currently lack of specific treatment.

Coordinator:

Carlos Simón

INCLIVA research groups involved

Clinical groups:

- Translational Research Group on Nutrition and Metabolism (Dr. Hernández)
- Research Group on Hematopoietic Transplantation (Dr. Solano)
- Research Group on Women Health (Dr. Cano)
- Research Group on the Study of Cardiovascular Risk in Children and Adolescents (Dr. Lurbe)

Experimental groups:

- Research Group on Stem Cells Applied to Reproduction, Embryo Viability and Endometrial Receptivity (Dr. Simón)
- Research Group on Male Infertility and Ovarian Stimulation (Dr. Remohí)

Objectives

- To advance in the understanding of the mechanisms that regulate maternal-fetal communication and that may be involved in the implantation of the embryo in the maternal uterus and to be able to understand the embryonic / fetal origin of adult diseases such as obesity and type II diabetes.
- To regenerate uterine function in patients suffering from endometrial atrophy and / or Asherman's Syndrome through cell therapy.
- The creation of an in vitro model to obtain germ cells by direct reprogramming of human somatic cells.

Research lines

- Role of maternal miRNAs in the transmission of obesity and type 2 diabetes to the embryo.
- Use of autologous bone marrow stem cells in order to regenerate the endometrium in patients with Asherman Syndrome and endometrial atrophy undergoing assisted reproductive therapy (ART).
- Identification of the main regulating genes of the development of the germinal line in humans, as well as of the experimental conditions that allow obtaining of germinal cells in vitro.

• 4.2.7 Aging and its associated diseases

This program has the priority of improving the quality of life of the elderly and promoting longevity as much as possible. Aging population it's a challenge for current health systems since the population over 65 years old contributes, in a very significant percentage, to health expenditure. As life expectancy increases, so do the diseases associated with aging.

In this context, the concept of "healthspan" (quality of life) has emerged. The program is formed by many researchers and health professionals who consider that efforts to extend life at the expense of causing a severe physical or psychic disability are undesirable and, on the contrary, they should focus on lengthening the part of life during which we are able to maintain autonomy, independence, productivity and well-being.

A central guiding idea in this program is that people who achieve exceptional longevity (i.e. centenarians) serve as a model of satisfactory aging. On the other hand, it is considered that the most problematic expression of the population aging is the clinical condition of the frailty since an important part of the collective of older people presents criteria of frailty. Approximately onefourth of people over the age of 85 are estimated to be fragile. Frailty is a geriatric syndrome characterized by increased vulnerability to external aggressions as a result of an alteration in the physiological reserves of multiple systems, leading to difficulties in maintaining homeostasis. The program tries to identify specific molecular targets to be able to intervene in a concrete and rational way to improve the quality of life of the elderly.

For this, INCLIVA has an enormous advantage because of the great integration that exists, by proximity and interests, between the *Hospital Clínico Universitario de Valencia* and the Faculty of Medicine of the University of Valencia. This framework allows intense collaboration between basic research groups, that develop possible biomarkers associated with healthy aging, frailty or diseases associated with aging and clinical research groups that, on the one hand, provide samples of the subjects and, on the other hand, can transfer to the patient those results that have been interesting at the bench.

In addition to this, in INCLIVA has registered the first and only Spanish Group for the Study of Centenaries, which has research groups working in this field distributed in different Spanish communities.

Coordinator:

José Viña

INCLIVA research groups involved

Clinical groups:

- Research Group on the Study of Cardiometabolic and Renal Risk (Dr. Redón)
- Research Group on Oxidative Pathology (Dr. Sáez)
- Cardiometabolic Research Group on Primary Care (Dr. Navarro)
- Research Group on Clinical Cardiology (Dr. Sanchís)
- Research Group on Women Health (Dr. Cano)
- Group on Translational Research in Ischemic Heart Disease (Dr. Bodí)

Experimental groups:

- Research Group on Aging and Physical Activity (Dr. José Viña)
- Research Group on Inflammation (Dr. Morcillo and Dr. Sanz)
- Research Group on Genetics of Osteoporosis (Dr. García)
- Research Group on neurological impairment (Dr. Montoliu)

- Research Group on Endothelial Cells (Dr. Hermenegildo)
- Research Group on Cellular and Organic Physiopathology of Oxidative Stress (Dr. Pallardó)

Objectives

- Determination of parameters of oxidative stress and inflammation associated with healthy aging, frailty and diseases associated with healthy aging, frailty and others associated diseases (mainly cardiovascular and neurodegenerative).
- Determination of genetic biomarkers (microRNAs, mRNAs and SNPs) associated with healthy aging and frailty and others associated diseases (mainly cardiovascular and neurodegenerative).
- Determination of epigenetic biomarkers associated with healthy aging, frailty and others associated diseases (mainly cardiovascular and neurodegenerative).
- Determination of metabolic biomarkers associated with healthy aging, frailty and others associated diseases (mainly cardiovascular and neurodegenerative).
- Physical exercise protocols for the prevention of frailty and others associated diseases.
- Impairment of other biomarkers associated with healthy aging, frailty and others associated diseases.

Research lines

- Oxidative stress, associated inflammation and healthy aging.
- Genetics and healthy aging.
- Epigenetics and healthy aging.
- Metabolomics and healthy aging.
- Exercise and healthy aging.



• 4.3. Research areas

INCLIVA Health Research Institute has four research areas in order to organize its scientific activity. Despite their independence, they have a common objective: meeting health needs and improving R&D&i system.

Their main aim is to establish a common reference framework to promote collaboration between INCLIVA attached researchers.

Each of the lines counts on the participation of one or several advisers from the External Scientific Committee. These lines are led by the following coordinators:

Cardiovascular Area

- Coordinator: Dr. Francisco Javier Chorro
- Mission: to contribute to the study of different aspects of cardiovascular disease (CVD) from its origins to its consequences.

Oncology Area

- Coordinator: Dr. Andrés Cervantes
- Mission: to contribute to the study of different aspects of oncological diseases, at the stage of diagnosis and molecular characterization and selection of specific molecular targets of therapeutic interest.

Metabolism and Organic Damage Area

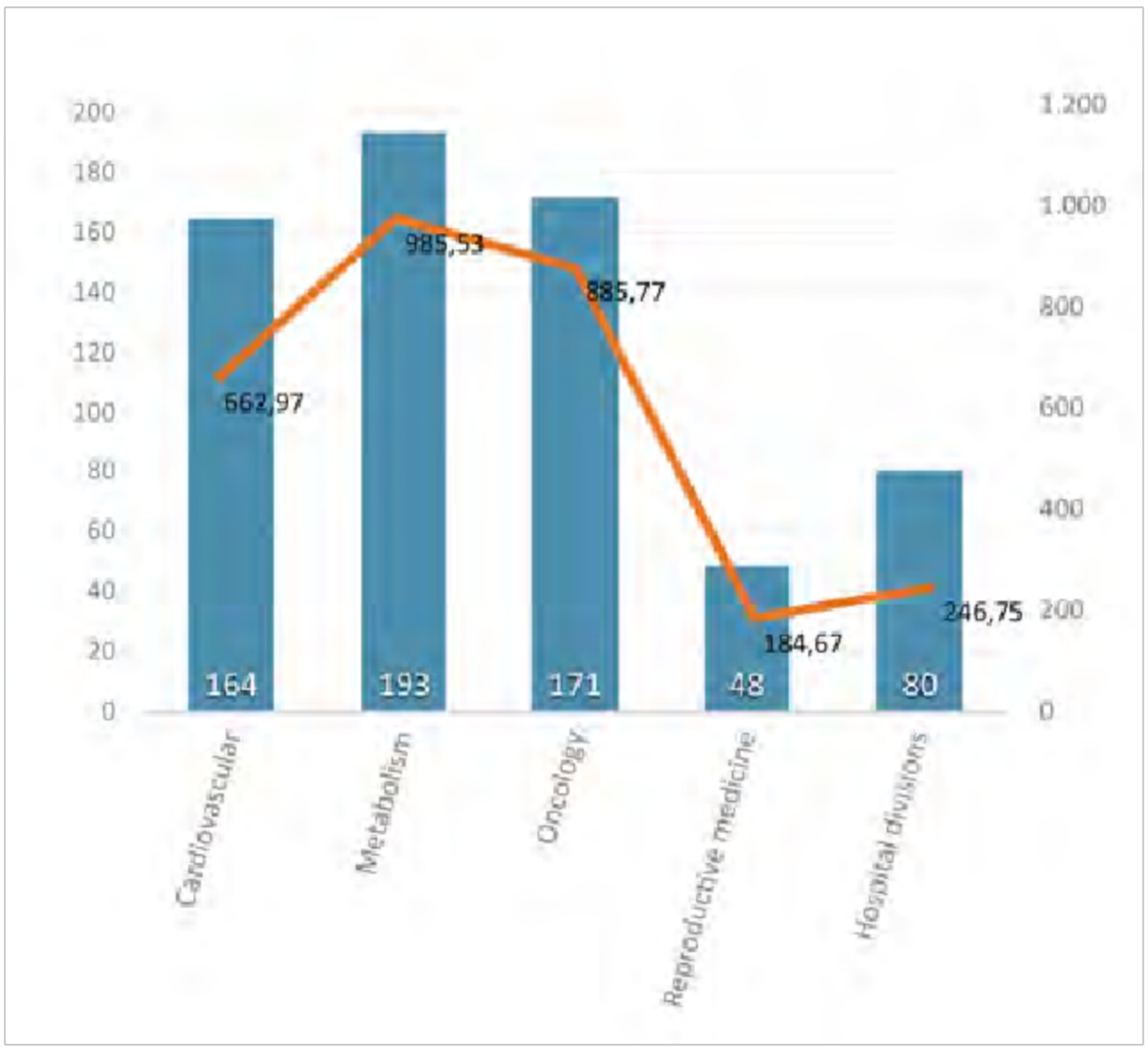
- Coordinator: Dr. José Viña
- Mission: to contribute to the study of the etiology, pathophysiology and diagnosis mechanisms or treatment of various metabolic diseases; or those that generate organ damage as a fundamental link of its trigger action.

Reproductive Medicine Area

- Coordinator: Dr. Carlos Simón
- Mission: to advance in knowledge of human reproduction for translational application, improving the efficiency of assisted reproduction treatment and reducing adverse effects.

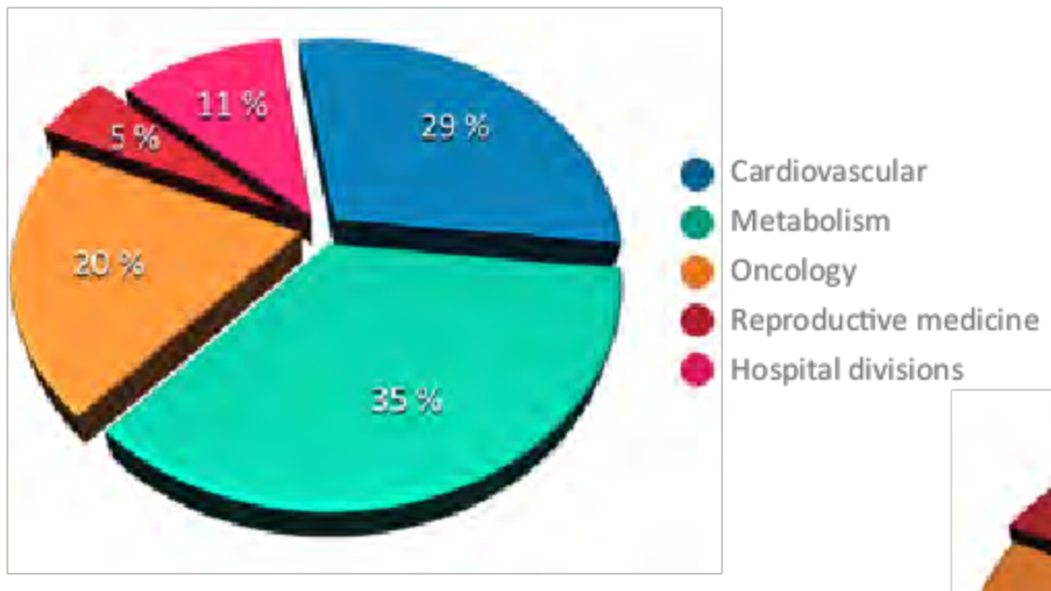
• Scientific production analysis by research area

The following charts and figures summarize the main scientific activity indicators of the four areas of research and the other divisions from *Hospital Clínico de Valencia*.

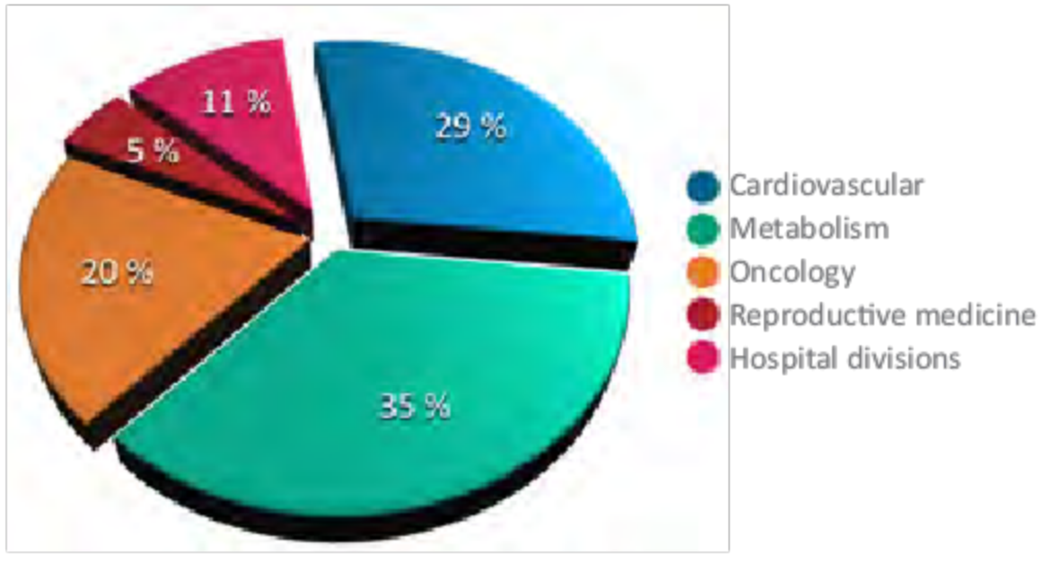


Since there are some scientific articles which are shared by two or more areas, it is worth mentioning that the sum of publications by area exceeds INCLIVA's total scientific output. Additionally, the next tables shows scientific publications distribution by area in terms of number of articles and impact factor.

Relative distribution of articles



IF distribution



4.3.1 Cardiovascular Area

Research Group on Cardiometabolic Risk	48
Genotyping and Genetic Diagnosis Unit (UGDG)	51
Research Group on Cardiac Experimental Electrophysiology	54
Research Group on Endothelial Cells (LINCE)	57
Research Group on Clinical Cardiology	60
Research Group on the Study of Cardiovascular Risk in Children and Adolescents	63
Cardiometabolic Research Group on Primary Care	66
Research Group on the Study of Cardiometabolic and Renal Risk	68
Research Group on Vascular Function	72
Research Group on Pedriatric Nutrition	74
Group on Translational Research in Ischemic Heart Disease	77



Research Group on Cardiometabolic Risk
Consolidated group

Team involved in ciberdem
Centro de Investigación Biomédica en Red de Diabetes y Enfermedades Metabólicas Asociadas





Group members

Principal investigator

Juan Francisco Ascaso Gimilio
Hospital. University

Collaborating researchers

Rafael Carmena Rodríguez. University
José Tomás Real Collado. Hospital. University
José Francisco Martínez Valls. Hospital. University
Francisco Javier Ampudia Blasco. Hospital. University
Mª Antonia Priego Serrano. Hospital. University
Miguel Civera Andrés. Hospital
Marta Peiró Signes. INCLIVA
Esther Benito Casado. Hospital. Hospital. CIBERdem
Miriam Moriana Hernández.Hospital

PhD researchers

Griselda de Marco Solar. INCLIVA

Technicians

Cristina Pérez Soriano. INCLIVA
Ana Albert Viguer. INCLIVA

Emerging researchers

Sergio Martínez Hervás. INCLIVA
Ana Bárbara García García. Hospital. CIBERdem

Strategic aims

- In terms of scientific activity of the research group during 2017 we wish to emphasize the continuity of three competitive and multidisciplinary research projects led by Dr. Ascaso and Dr. Real. The project led by Dr. Ascaso, entitled "Immunopharmacological modulation of the systemic inflammation associated to metabolic disorders. Search for new therapeutic targets and synthesis of novel drugs", studies the role of shaft CCL11/CCR3 in systemic inflammation associated with Familial Hypercholesterolemia and its immune modulation by oral lipid overload, as well as the study of the role of the axis CXCL16/CXCR6 in Ang-II-induced Endothelial dysfunction in subjects with metabolic syndrome.
- On the other hand, the main objetive the project "Study of new infammatory and angiogenic mechanisms associated to severe morbid obesity: Role of CXCR3 axis and nuclear receptors RORs" led by Dr. Real, is to explore the CXCR3 axis and RORs receptors in patients with severe morbid obesity or without diabetes undergoing a gastric bypass.

Main lines of research

- Genetic diagnosis of primary hyperlipidemias and cardiovascular risk.
- Combination of primary hyperlipidemias with insulin resistance and diabetes mellitus.
- Postprandial lipidemia and atherosclerosis in states of insulin resistance.
- Insulin resistance, inflammation and oxidative stress.
- Diagnosis, prevention and treatment of diabetic foot.
- Genetic factors involved in the regulation of Body Mass Index and abdominal obesity.
- Sarcopenia and frailty in metabolic disease and diabetes.



Emerging researcher

Sergio Martínez Hervás

The line of research is based on cardiovascular risk, essentially on insulin resistance and diabetes, familial combined hyperlipidemia, inflammation, vitamin D, and atherosclerosis, just like new markers of cardiovascular risk.



Emerging researcher

Ana Bárbara García García

The research focuses mainly on DM2, one of the most frequent diseases of Western societies. On the other hand, another line of research is the identification of new genes responsible for abetalipoproteinemia with exome sequencing.

• PUBLICATIONS

Number of articles	IF	Average IF
18	363,271	20,18

National collaborations	International collaborations	Corresponding author
15	9	2

SELECTED PUBLICATIONS

1. Vinué Á, Navarro J, Herrero-Cervera A, García-Cubas M, Andrés-Blasco I, Martínez-Hervás S, Real JT, Ascaso JF, González-Navarro H. The GLP-1 analogue lixisenatide decreases atherosclerosis in insulin-resistant mice by modulating macrophage phenotype. Diabetología. 2017 Sep; 60(9):1801-1812. IF: 6,08

2. Martinez-Hervás S, Mendez MM, Folgado J, Tormos C, Ascaso P, Peiró M, Real JT, Ascaso JF. Altered Semmes-Weinstein monofilament test results are associated with oxidative stress markers in type 2 diabetic subjects. Journal of Translational Medicine. 2017 Sep 6; 15(1):187. IF: 3,786

3. Martínez-Barquero V, Marco G, Martínez-Hervas S, Adam-Felici V, Pérez-Soriano C, Gonzalez-Albert V, Rojo G, Ascaso JF, Real JT, García-García AB, Martín-Escudero JC, Cortes R, Chaves FJ. Are IL18RAP gene polymorphisms associated with body mass regulation? A cross-sectional study. BMJ

Open. 2017 Nov 15; 7(11):e017875. IF: 2,369

4. Pérez-Calahorra S, Sánchez-Hernández RM, Plana N, Marco-Benedi V, Pedro-Botet J, Almagro F, Brea A, Ascaso JF, Lahoz C, Civeira F, Dyslipidemia Registry of Spanish Arteriosclerosis Society. Value of the Definition of Severe Familial Hypercholesterolemia for Stratification of Heterozygous Patients. American Journal of Cardiology. 2017 Mar 1; 119(5):742-748. IF: 3,398

5. Orozco-Beltrán D, Gil-Guillen VF, Redón J, Martin-Moreno JM, Pallares-Carratala V, Navarro-Pérez J, Valls-Roca F, Sanchis-Domenech C, Fernandez-Gimenez A, Pérez-Navarro A, Bertomeu-Martinez V, Bertomeu-Gonzalez V, Cordero A, Pascual de la Torre M, Trillo JL, Carratala-Munuera C, Pita-Fernandez S, Uso R, Durazo-Arvizu R, Cooper R, Sanz G, Castellano JM, Ascaso JF, Carmena R, Tellez-Plaza M; ESCARVAL Study Group. Lipid profile, cardiovascular disease and mortality in a Mediterranean high-risk population: The ESCARVAL-RISK study. Plos One. 2017 Oct 18; 12(10): e0186196. IF: 2,806

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI15/00082
Title: *Estudio de nuevos mecanismos inflamatorios y angiogénicos asociados a la obesidad grave mórbida: Papel del eje CXCR3 y los receptores nucleares RORs*
Principal Investigator: Laura Piqueras and José Tomás Real
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total budget: 154.577€

Reference: CB07/08/0018
Title: *CIBER de Diabetes y Enfermedades Metabólicas Asociadas (CIBERdem)*
Principal Investigator: Rafael Carmena Rodríguez
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2008

Reference: SAF2014-57845-R
Title: *Modulación inmunofarmacológica de la inflamación sistémica asociada a desórdenes metabólicos. Búsqueda de nuevas dianas terapéuticas y síntesis de fármacos novedosos*
Principal Investigator: Juan F. Ascaso Gimilio, Mª Jesús Sanz Ferrando
Funding Body: *Ministerio de Economía y Competitividad*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 302.500€

Reference: PROMETEOII/2014/002
Title: *Estudio de la relación del patrón de metilación del ADN de adipocitos con la diabetes y su remisión tras bypass gastrointestinal en sujetos con obesidad grave-mórbida*
Principal Investigator: Rafael Carmena Rodríguez
Funding Body: *Conselleria de Educación, Cultura y Deporte*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2014-2017
Total Budget: 208.975€

• THESIS

Thesis title: *Estudio de marcadores de inflamación en ayuno y situación postprandial en la hipercolesterolemia primaria*
Doctoral candidate: Ester Savall Núñez
Director(s): Jose Tomás Real Collado, Sergio Martínez Hervás
Date of the defense: 31/03/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Inflamación y polineuropatía en la Diabetes Mellitus Tipo 2*
Doctoral candidate: Antonia Pilar Ascaso Pechuán
Director(s): Juan F Ascaso Gimilio, Jose Tomás Real Collado
Date of the defense: 30/06/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Efecto de la sobrecarga oral con grasa insaturada en los marcadores de estrés oxidativo y expresión de ARN de linfomonocitos en sujetos con Diabetes Mellitus Tipo 2*
Doctoral candidate: Juan Caro Ibáñez
Director(s): Juan F Ascaso Gimilio, Jose Tomás Real Collado
Date of the defense: 14/07/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Asociación de genes de la cadena mitocondrial respiratoria en el desarrollo de Diabetes Mellitus Tipo 2 y parámetros relacionados*
Doctoral candidate: Griselda Oralis De Marco Romero
Director(s): Rafael Carmena Rodríguez, Felipe Javier Chaves Martínez
Date of the defense: 14/09/2017
Grade: *Sobresaliente "cum laude"*

Research Group of the Genotiping and Genetic Diagnosis Unit (UGDG)

Consolidated group





Group members

Principal investigator

Felipe Javier Chaves Martínez
INCLIVA

Collaborating researchers

Jesús Rodríguez Díaz. University
José Miguel Juanes Tébar. INCLIVA

PhD students

Pilar Rentero Garrido. INCLIVA
Verónica Lendínez Tortajada. INCLIVA

Post-doctoral researchers

Raquel Cortés Vergaz. INCLIVA
Irene Andrés Blasco. INCLIVA

Technicians

Sebastián Blesa Luján. INCLIVA
Verónica González Albert. INCLIVA
Victoria Adam Felici. INCLIVA
Azahara Mª Fuentes Trillo. INCLIVA
Carolina Monzó Cataluña. INCLIVA
Laura Olivares Ordóñez. INCLIVA
Enrique Seda García. INCLIVA

Strategic aims

- To identify genetic causes of complex diseases with high cardiovascular risk, especially of type 2 diabetes.
- To identify genetic causes of some rare diseases (Abeta, ATA and hereditary forms of hypercholesterolemias not caused by known genes).
- To identify alterations of methylation and hydroxymethylation in relation to the development of type 2 diabetes and its potential use as biomarkers.
- Study of environmental factors involved in the development of diseases of high cardiovascular risk, especially type 2 diabetes and associated organic damage.
- Support for genetic diagnosis in hereditary and oncological diseases.

Main lines of research

- Identification of genes involved in type 2 diabetes.
- Identification of genetic causes of rare diseases (not caused by genes known) as ATA, abeta or Hypercholesterolemia.
- Exome sequencing application for the detection of variants and genes involved in type 2 Diabetes development.
- DNA methylation and hydroxymethylation as a biomarker for type 2 development risk and organ damage.
- DNA methylation as a biomarker for organ damage in obesity and type 2 diabetes.
- Identification, and characterization at population and functional levels of rare and functional genetic variants related to the development of type 2 diabetes.
- Identification of different genes and polymorphisms involved in the development of obesity through different metabolic and functional pathways.
- Identification of relationships between different genes, essential metals and pollutants in relation to diseases with high cardiovascular risk.

• PUBLICATIONS

Number of articles	IF	Average IF
12	53,55	4,46

National collaborations	International collaborations	Corresponding author
4	4	4

SELECTED PUBLICATIONS

1. Monzó-Beltrán L, Vazquez-Tarragón A, Cerdà C, García-Pérez P, Iradi A, Sánchez C, Climent B, Tormos C, Vázquez-Prado A, Girbés J, Estáñ N, Blesa S, Cortés R, Chaves FJ, Sáez GT. One-year follow-up of clinical, metabolic and oxidative stress profile of morbid obese patients after laparoscopic sleeve gastrectomy. 8-oxo-dG as a clinical marker. Redox Biology. 2017 Aug; 12: 389-402. IF: 6,337

2. Rodríguez-Díaz J, García-Mantrana I, Vila-Vicent S, Gozalbo-Rovira R, Buesa J, Monedero V, Collado MC. Relevance of secretor status genotype and microbiota composition in susceptibility to rotavirus and norovirus infections in humans. Scientific Reports. 2017 Mar 30; 7: 45559. IF: 4,259

3. García-García AB, Gómez-Mateo MC, Hilario R, Rentero-Garrido P, Martínez-Domenech A, Gonzalez-Albert V, Cervantes A, Marín-García P, Chaves FJ, Ferrández-Izquierdo A, Sabater L. mRNA expression profiles obtained from microdissected pancreatic cancer cells can predict patient survival. Oncotarget. 2017 Aug 3; 8 (62):104796-104805. IF: 5,168

4. Galán-Chilet I, Grau-Pérez M, De Marco G, Guallar E, Martin-Escudero JC, Domínguez-Lucas A, Gonzalez-Manzano I, López-Izquierdo R, Briongos-Figuero LS, Redón J, Chaves FJ, Tellez-Plaza M. A gene-environment interaction analysis of plasma selenium with prevalent and incident diabetes: The Hortega study. Redox Biology. 2017 Aug; 12: 798-805. IF: 6,337

5. Grau-Pérez M, Pichler G, Galán-Chilet I, Briongos-Figuero LS, Rentero-Garrido P, López-Izquierdo R, Navas-Acien A, Weaver V, García-Barrera T, Gomez-Ariza JL, Martín-Escudero JC, Chaves FJ, Redón J, Tellez-Plaza M. Urine cadmium levels and albuminuria in a general population from Spain: A gene-environment interaction analysis. Environment international. 2017 Sep; 106: 27-36. IF: 7,088

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI14/00874
Title: *Identification of exome sequence changes, methylation and hydroxymethylation associated in the development of type 2 diabetes principal*
Principal Investigator: Felipe Javier Chaves Martínez
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 162.000€

Reference: PIE14/00031
Title: *Understanding obesity, metabolic syndrome type 2 diabetes and fatty liver diseases: a multidisciplinary approach*
Principal Investigator: Jose María Mato de la Paz (Felipe Javier Chaves Martínez as collaborating researcher)
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: CIBERDEM
Duration: 2015-2017
Total budget: 660.000€

Reference: PROMETEOII/2014/002
Title: *Estudio de la relación del patrón de metilación del ADN de adipocitos con la diabetes y su remisión tras by-passgastointestinal en sujetos con obesidad grave-mórbida*
Principal Investigator: Rafael Carmena Rodríguez (Felipe Javier Chaves Martínez as collaborating researcher)
Funding Body: *Conselleria de Educación, Cultura y Deporte*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2014-2017
Total budget: 208.975€

Title: *Estudio de correlación de células tumorales circulantes (CTCs) y ADN tumoral circulante en pacientes con cáncer de mama avanzado y fenotipo Triple Negativo*
Principal Investigator: Vidal Martínez
Funding Body: *Roche Farma, S.A.*
Beneficiary Institution: *Fundación para el Fomento de la Investigación Sanitaria y Biomédica de la Comunitat Valenciana (FISABIO)*
Duration: 2016-2017
Total budget: 60.000€

• THESIS

Thesis title: *Asociación de genes de la cadena mitocondrial respiratoria en el desarrollo de Diabetes Melliitus tipo 2 y parámetros relacionados*
Doctoral candidate: Griselda Oralis De Marco Romero
Director(s): Felipe Javier Chaves Martínez, Rafael Carmena Rodríguez
Date of the defense: 14/09/2017
Grade: Sobresaliente "cum laude"

Thesis title: *Identificación de factores genéticos asociados con el desarrollo de la microalbuminuria en la hipertensión esencial*
Doctoral candidate: Pilar Rentero Garrido
Director(s): Felipe Javier Chaves Martínez, Josep Redón i Mas
Date of the defense: 22/09/2017
Grade: Sobresaliente "cum laude"

Research Group on Cardiac Experimental Electrophysiology

Consolidated group

Team involved in





Group members

Principal investigator

Francisco Javier Chorro Gascó
Hospital. University

Collaborating researchers

Luis Such Belenguer. University
Antonio M. Alberola Aguilar. University
Luis Such Miquel. University
Isabel Trapero Gimeno. University
Joaquín Cánoves Femenía. Hospital
Laura López Bueno. Hospital. Hospital. University
Manuel Zarzoso Muñoz. University
Óscar Julián Arias Mutis. INCLIVA
Conrrado Javier Calvo Saiz. University
Germán Parra Giraldo. University

PhD researchers

Irene del Canto Serrano. INCLIVA
Carlos Soler López. University
Patricia Genovés. INCLIVA

Strategic aims

- Publication of the results obtained on using the 1,4-benzothiazepine derivative JTV-519 to modify the proarrhythmogenic manifestations of mechanoelectric feedback and continuation of the programmed experimental series to analiyze the effects of KN-93, carvedilol and analogues, late Na+ current inhibitors and the Nitric Oxide carrier S-nitrosoglutathione.
- Continuation of the analysis of the effects of modifications of the basic electrophysiological properties on the processes involved in the induction and maintenance of ventricular fibrillation.
- Analysis of the electrophysiological effects of chronic physical exercise and its protective effect against arrhythmias, the influence of the cardiac nervous system and mitochondrial oxidative stress and the involvement of the IKATP current.
- Development of instruments for recording, processing and analysing cardiac electrophysiological signals obtained with mapping systems.
- Progressive development of the experimental series aimed to study the mechanisms involved in the deterioration of the systolic function, fibrosis and the inducibility of arrhythmias in a chronic model of infarction.
- Progressive development of an experimental model of metabolic síndrome to anayize the electrophysiological modifications and the inducibility of cardiac arrhythmias.

Main lines of research

- Myocardial stretching: analysis of electrophysiological changes induced by mechanical stretching. Autocrine/paracrine influences and study of protective actions by means of drugs.
- Clinical and basic research on heart failure: role of calcium homeostasis in arrhythmogenesis. Study on the effects of drugs acting on intracellular Ca^{2+} dynamics.
- Analysis of the effects of modifications in basic electrophysiological properties on the processes involved in induction and maintenance of ventricular fibrillation.
- Study of electrophysiological effects of chronic physical activity by: a) analysis of the protection against arrhythmias or scientific activity facilitation of its reversion; b) study of the influence of heart's nervous system and mitochondrial oxidative stress; and c) analysis of the effects on the electrical instability induced by myocardial ischemia and the implication of IKATP current.
- Development and extension of tools for the registration, processing and analysing of cardiac electrophysiological signals based on multielectrodes and optical mapping systems able to analyze voltage and calcium signals.
- Study of mechanisms involved in the deterioration of the systolic function, fibrosis and the inducibility of arrhythmias in a chronic model of infarction.
- Study of electrophysiological modifications and inducibility of cardiac arrhythmias in an experimental model of metabolic syndrome.

• PUBLICATIONS

Number of articles	IF	Average IF
18	78,22	4,34

National collaborations	International collaborations	Corresponding author
14	3	1

SELECTED PUBLICATIONS

1. Lee P, Calvo CJ, Alfonso-Almazán JM, Quintanilla JG, Chorro FJ, Yan P, Loew LM, Filgueiras-Rama D, Millet J. Low-Cost Optical Mapping Systems for Panoramic Imaging of Complex Arrhythmias and Drug-Action in Translational Heart Models. Scientific Reports. 2017 Feb 27; 7: 43217. IF: 4,259

2. Santas E, de la Espriella-Juan R, Mollar A, Valero E, Miñana G, Sanchis J, Chorro FJ, Núñez J. Echocardiographic pulmonary artery pressure estimation and heart failure rehospitalization burden in patients with acute heart failure. International Journal of Cardiology. 2017 Aug 15; 241: 407-410. IF: 6,189

3. García-Bustos V, Sebastian R, Izquierdo M, Molina P, Chorro FJ, Ruiz-Saurí A. A quantitative structural and morphometric analysis of the Purkinje network and the Purkinje-myocardial junctions in pig hearts. Journal of Anatomy. 2017 May; 230 (5): 664-678. IF: 2,182

4. Gavara J, Rodriguez-Palomares JF, Valente F, Monmeneu JV, López-Lereu MP, Bonanad C, Ferreira-Gonzalez I, García Del Blanco B, Rodriguez-García J, Mutuberria M, de Dios E,

Rios-Navarro C, Pérez-Sole N, Racugno P, Paya A, Minana G, Canoves J, Pellicer M, López-Fornas FJ, Barrabes J, Evangelista A, Nunez J, Chorro FJ, García-Dorado D, Bodi V. Prognostic Value of Strain by Tissue Tracking Cardiac Magnetic Resonance After ST-Segment Elevation Myocardial Infarction. JACC. Cardiovascular Imaging. 2017 Dec 8. pii: S1936-878X(17)30985-3. IF: 10,189

5. Cambronero-Cortinas E, Bonanad C, Monmeneu JV, López-Lereu MP, Gavara J, de Dios E, Rios C, Pérez N, Racugno P, Paya A, Escribano D, Minana G, Pellicer M, Cànoves J, Nunez J, Chorro FJ, Moratal D, Bodi V. Incidence, Outcomes, and Predictors of Ventricular Thrombus after Reperfused ST-Segment-Elevation Myocardial Infarction by Using Sequential Cardiac MR Imaging. Radiology. 2017 Aug; 284 (2): 372-380. IF: 7,296

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI15/01408
Title: *Efectos de la inhibición de la desacetilación de las histonas en el remodelado post-infarto del sustrato arritmogénico*
Principal Investigator: Francisco Javier Chorro Gascó
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total Budget: 93.170€

Reference: PIE15/00013
Title: *A multidisciplinary project to advance in basic mechanisms, diagnosis, prediction, and prevention of cardiac damage in reperfused acute myocardial infarction*
Principal Investigator: Vicente Bodí Peris (Francisco Javier Chorro as collaborating Research)
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total Budget: 589.050€

Reference: CB16/11/00486
Title: *CIBER Cardiovascular*
Principal Investigator: Francisco Javier Chorro Gascó
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-

Reference: RD12/0042/0048
Title: *Red de Investigación Cardiovascular (RIC)*
Principal Investigator: Francisco Javier Chorro Gascó
Funding body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2013-2017
Total budget: 81.753€

Reference: PROMETEOII/2014/037
Title: *Estudio mediante técnicas cartográficas avanzadas de los mecanismos básicos implicados en las arritmias malignas y en su control*
Principal Investigator: Francisco Javier Chorro Gascó
Funding body: *Generalitat Valenciana*
Beneficiary Institution: *Fundación Investigación del Hospital Clínico Universitario de Valencia*
Duration: 2014-2017
Total budget: 149.345€

• THESIS

Thesis title: *Implicación de la escara miocárdica en la predicción y ablación de la taquicardia ventricular postinfarto*
Doctoral candidate: María Teresa Izquierdo de Francisco
Director(s): Francisco Javier Chorro Gascó, Ricardo Ruiz Granell
Date of the defense: 23/03/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Parámetros ecocardiográficos relacionados con el pronóstico en la insuficiencia cardiaca*
Doctoral candidate: Enrique Santas Olmeda
Director(s): Francisco Javier Chorro Gascó, Julio Nuñez Villota
Date of the defense: 25/03/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Polimedicación, interacciones medicamentosas y prescripción potencialmente inapropiada en personas mayores de 75 años en atención primaria*
Doctoral candidate: José Luis Piera Gomar
Director(s): Isabel Trapero Gimeno, Ricardo Brage Serrano
Date of the defense: 27/07/2017
Grade: *Sobresaliente "cum laude"*

Research Group on Endothelial Cells (LINCE)

Consolidated group

Team involved in RIC





Group members

Principal investigator

Carlos Hermenegildo Caudevilla
University

Collaborating researchers

Elena Monsalve Villalba. University

PhD researchers

Daniel Bernardo Pérez Cremades. University
Xavier Vidal Gómez. INCLIVA
Ana Mompeón Campos. University

Emerging researcher

Susana Novella del Campo. University

Strategic aims

- To start the recruitment of acute myocardial infarction patients to be included in the studies of PI16/00229.
- To analyze the role of estrogen receptors on the regulation of miRNA by estradiol.
- To collaborate with Rare Diseased group on the histone effects on endothelial cell function and to publish a first paper on this topic.
- To publish the results on the role of Mas receptor on the estradiol and nitric oxide-mediated relaxation trough nitric oxide.

Main lines of research

- Gender differences in cardiovascular area.
- Vascular effects of sex hormones.
- Identification of new hormone-regulated signaling pathways in endothelium.
- Identification and characterization of miRNA regulated by estradiol in endothelium.
- Interaction of sex hormones with pro-atherogenic factors.
- Determination of circulating endothelial progenitor cells and their link with hormone treatment.



Emerging Researcher

Susana Novella del Campo

The research focuses on the study of endothelial dysfunction associated with aging and lack of stress. We also studied the regulatory role of miRNAs associated with acute coronary syndrome and estrogen-dependent vascular function and aging.

• PUBLICATIONS

Number of articles	IF	Average IF
2	9,08	4,54

National collaborations	International collaborations	Corresponding author
1	1	2

SELECTED PUBLICATIONS

1. Sobrino A, Vallejo S, Novella S, Lázaro-Franco M, Mompeón A, Bueno-Betí C, Walther T, Sánchez-Ferrer C, Peiró C, Hermenegildo C. Mas receptor is involved in the estrogen-receptor induced nitric oxide-dependent vasorelaxation. Biochemical pharmacology. 2017 Apr 1; 129: 67-72. IF: 4,581

2. Pérez-Cremades D, Bueno-Betí C, García-Giménez JL, Ibañez-Cabellos JS, Hermenegildo C, Pallardó FV, Novella S. Extracellular histones disarrange vasoactive mediators release through a COX-NOS interaction in human endothelial cells. Journal of cellular and molecular medicine. 2017 Aug; 21 (8): 1584-1592. IF: 4,499

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: COST Action BM1402
Title: *Development of a European network for preclinical testing of interventions in mouse models of age and age-related diseases (MouseAGE)*
Principal Investigator: Ilaria Bellantuono (Susana Novella as collaborating researcher)
Funding body: *European Commission*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2014-2018

Reference: PI16/00229
Título: *Perfil plasmático de miRNA en infarto agudo de miocardio: relación con la evolución clínica en pacientes y con la función cardiovascular y posible terapia con micropartículas en ratones*
Principal Imvestigator: Carlos Hermenegildo Caudevilla
Funding body: *Instituto de Salud Carlos III*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2019
Total budget: 138.450€

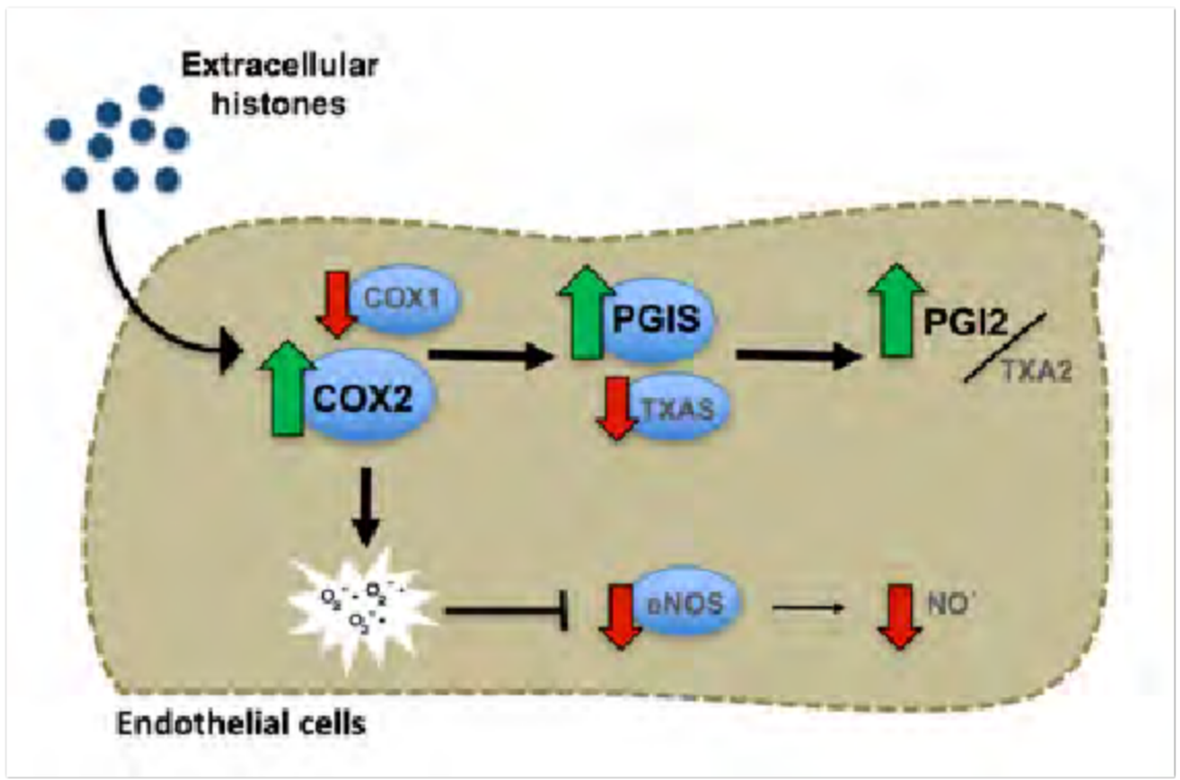
Reference: RD12/0042/0052
Title: *Nodo de la red de investigación cooperativa (RETIC) de Enfermedades Cardiovasculares*
Principal Investigator: Carlos Hermenegildo Caudevilla

Funding body: *Instituto de Salud Carlos III*
Entidad beneficiaria: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2013-2017
Total budget: 110.977€

• THESIS

Thesis title: *Análisis del perfil de expresión de microRNA en células endoteliales humanas expuestas a estradiol. Papel del mir-30b-5p en la regulación de la expresión de endotelina-1*
Doctoral candidate: Daniel Bernardo Pérez Cremades
Director(s): Carlos Hermenegildo Caudevilla, Susana Novella del Campo
Date of the defense: 07/09/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Regulación por estradiol de la producción de angiotensina 1-7 y papel de su receptor Mas en la producción de óxido nítrico en células endoteliales humanas*
Doctoral candidate: Macarena de Lázaro Franco
Director(s): Carlos Hermenegildo Caudevilla, Susana Novella del Campo
Date of the defense: 15/09/2017
Grade: *Sobresaliente "cum laude"*



Modulation effect of histones on endothelial production of prostanoids and nitric oxide

Research Group on Clinical Cardiology
Consolidated group

Team involved in





Group members

Principal investigator

Juan Sanchis Forés
Hospital. University

Collaborating researchers

Vicente Ruiz Ros. Hospital. University
Sergio García Blas. Hospital. INCLIVA
Ernesto Valero Picher. INCLIVA
Gemma Miñana Escrivá. Hospital
Rafael de la Espriella Juan. Hospital

PhD researchers

Clara Sastre Arbona. INCLIVA
Anna Mollar Fernández. INCLIVA

Emerging researcher

Julio Núñez Villota. Hospital. University

Strategic aims

- Publication of manuscripts in high IF journals.
- CIBER Cardiovascular.
- Development of FIS projects.

Main lines of research

- Therapeutic and prognostic assessment of acute coronary syndromes and secondary prevention.
- Acute heart failure. New strategies for risk assessment and treatment and new control programs.



Emerging Researcher

Julio Núñez Villota (Department of Cardiology - *Hospital Clínico Universitario* of Valencia)

The research team has focused on the development of new clinical tools to improve diagnosis, risk stratification and treatment of patients with ischemic heart disease and heart failure. More specifically, we focus on identifying new biomarkers and therapeutic strategies. We have already carried out several independent clinical trials and have undergone numerous observational studies (potential utility of peritoneal dialysis for patients with advanced heart failure, the development of new algorithms for the monitoring of patients and the development of a new multi-marker approach for the stratification of the risk).

• PUBLICATIONS

Number of articles	IF	Average IF
13	184,94	6,16

National collaborations	International collaborations	Corresponding author
19	6	13

SELECTED PUBLICATIONS

1. Pickering JW, Than MP, Cullen L, Aldous S, Avest ET, Body R, Carlton EW, Collinson P, Dupuy AM, Ekelund U, Eggers KM, Florkowski CM, Freund Y, George P, Goodacre S, Greenslade JH, Jaffe AS, Lord SJ, Mokhtari A, Mueller C, Munro A, Mustapha S, Parsonage W, Peacock WF, Pemberton C, Richards AM, Sanchis J, Staub LP, Troughton R, Twerenbold R, Wildi K, Young J. Rapid Rule-out of Acute Myocardial Infarction With a Single High-Sensitivity Cardiac Troponin T Measurement Below the Limit of Detection: A Collaborative Meta-analysis. Annals of internal medicine. Annals of Internal Medicine. 2017; 166 (10): 715-724 IF: 17,202

2. Bayes-Genis A, Núñez J, Zannad F, Ferreira JP, Anker SD, Cleland JG, Dickstein K, Filippatos G, Lang CC, Ng LL, Ponikowski P, Samani NJ, van Veldhuisen DJ, Zwinderman AH, Metra M, Lupón J, Voors AA. The PCSK9-LDL Receptor Axis and Outcomes in Heart Failure: BIOSTAT-CHF Subanalysis. Journal of the American College of Cardiology. 2017 Oct 24; 70 (17): 2128-2136. IF: 19,896

3. Sanchis J, Ruiz V, Bonanad C, Valero E, Ruescas-Nicolau MA, Ezzatvar Y, Sastre C, García-Blas S, Mollar A, Bertomeu-González V, Miñana G, Núñez J. Prognostic Value of Geriatric Conditions Beyond Age After Acute Coronary Syndrome. Mayo Clinic Proceedings. 2017 Jun; 92 (6): 934-939. IF: 6,686

4. Veronese N, Cereda E, Stubbs B, Solmi M, Luchini C, Manzato E, Sergi G, Manu P, Harris T, Fontana L, Strandberg T, Amieva H, Dumurgier J, Elbaz A, Tzourio C, Eicholzer M, Rohrmann S, Moretti C, D'Ascenzo F, Quadri G, Polidoro A, Lourenço RA, Moreira VG, Sanchis J, Scotti V, Maggi S, Correll CU. Risk of cardiovascular disease morbidity and mortality in frail and pre-frail older adults: Results from a meta-analysis and exploratory meta-regression analysis. Ageing Research Reviews. 2017; 35: 63-73. IF: 7,452

5. Tse G, Gong M, Nunez J, Sanchis J, Li G, Ali-Hasan-Al-Saegh S, Wong WT, Wong SH, Wu WKK, Bazoukis G, Yan GX, Lampropoulos K, Baranchuk AM, Tse LA, Xia Y, Liu T, Woo J; International Health Informatics Study (IHIS) Network. Frailty and mortality outcomes after percutaneous coronary intervention: a systematic review and meta-analysis. Journal of the American Medical Directors Association. 2017 Dec 1; 18 (12): 1097.e1-1097.e10. IF: 5,775

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI14/00959

Title: *Comparación aleatoria entre un estrategia de intervención sobre fragilidad frente a la estrategia habitual en paci-*

entes frágiles después de un infarto agudo de miocardio
Principal Investigator: Juan Sanchis Forés
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico de Valencia*
Duration: 2015-2017
Total budget: 36.300€

Reference: PI15/00837
Title: *Comparación aleatoria entre un estrategia de intervención sobre fragilidad frente a la estrategia habitual en pacientes frágiles después de un infarto agudo de miocardio*
Principal Investigator: Juan Sanchis Forés
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total budget: 36.300€

Reference: PIE15/00013
Title: *A multidisciplinary Project to advance in basic mechanisms, diagnosis, prediction, and prevention of cardiac damage in reperfused acute myocardial infarction*
Principal Investigator: Vicente Bodí Peris (Juan Sanchis and Julio Núñez as collaborating researchers)
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total Budget: 589.050€

Reference: CB16/11/00420
Title: *Incorporación nuevos grupos al Consorcio CIBER*
Principal Investigator: Juan Sanchis Forés
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017

Reference: RD12/0042/0010
Title: *Red de Investigación Cardiovascular (RIC)*
Principal Investigator: Juan Sanchis Forés
Funding body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2013-2017
Total budget: 64.681€

• THESIS

Thesis title: *Parámetros ecocardiográficos relacionados con el pronóstico en la insuficiencia cardiaca*
Doctoral candidate: Enrique Santas Olmeda
Director(s): Julio Núñez Villota, Francisco Javier Chorro Gascó
Date of the defense: 25/03/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Tubo digestivo e inflamación en la insuficiencia cardiaca. Aspectos fisiopatológicos. Implicaciones a nivel pronóstico y terapéutico*
Doctoral candidate: Anna Mollar Fernández
Director(s): Juan Sanchis Forés, Julio Núñez Villota, Miguel Mínguez Pérez
Date of the defense: 05/05/2017
Grade: *Sobresaliente "cum laude"*

Research Group on the Study of Cardio-

vascular Risk in Children and Adolescents

Consolidated group

Team involved in ciberobn





Group members

Principal investigator

Empar Lurbe i Ferrer
University

Collaborating researchers

Isabel Torró Doménech. University
Julio Álvarez Pitti. University
Francisco Aguilar Bacallado. University
Nuria García Carbonell. University
Pau Redón Lurbe. CIBERobn
Laura Cantero Milán. CIBERobn

Technician

Francisco Ponce Zanón. CIBERobn

Administrative assistant

Rachael Dix. CIBERobn

Strategic aims

- The PEDITEC UNIT brings healthcare workers into daily contact with engineers developing software for signal capture through mobile devices. Studying the physiological parameters that facilitate personalized therapy has been a priority aim during 2017, resulting in improved treatment of obese pediatric patients in the Unit.
- In the PAIDO Program, personalized medical care is extended through initiatives involving family, educators, nutritionists, physical education teachers and other social agents. Treatment goes beyond the hospital setting to include the child's environmental and personal sphere and is supported by state-of the art artificial intelligence technologies.
- Development of the FIS project: Prospective study from birth in more than 200 children now aged 10 years. The study collects information and material from the umbilical cord, with epigenetics and metabolomics research, monitoring clinical parameters and cardiometabolic phenotypes.
- Dr. Lurbe is the coordinator of the new consensus document of the European Society of Hypertension guidelines for the management of high blood pressure in children and adolescents.

Main lines of research

- New technologies applied to the detection of congenital heart diseases and sepsis in asymptomatic newborn babies.
- Childhood obesity.
- New technologies applied to the treatment of obesity.
- Impact of intrauterine life in the development of cardiometabolic disease.
- Arterial hypertension in children.
- Cardiovascular and renal risk in diabetes.

• PUBLICATIONS

Number of articles	IF	Average IF
5	11,73	2,34

National collaborations	International collaborations	Corresponding author
4	1	4

SELECTED PUBLICATIONS

1. Lurbe E, Committee of the 2016 European Society of Hypertension Guidelines for the Management of High Blood Pressure in Children and Adolescents. Reply. Journal of Hypertension. Supplement. 2017; 35 (2): 417-418. IF: 4,085
2. Lisón JF, Bruñó-Soler A, Torró I, Segura-Ortí E, Alvarez-Pitti J. Changes in physical fitness of a home-based physical exercise program in childhood obesity: a quasi-experimental uncontrolled study. Journal of child health care. 2017 Jun; 21 (2):153-161. IF: 1,28
3. Lurbe I Ferrer E, Alsina Manrique de Lara L, Solís Sánchez G. Editors' corner: Anales de Pediatría annual report. Anales de Pediatría. 2017 Jun; 86 (6): 295-300. IF: 1,14
4. Redón P, Grassi G, Redón J, Álvarez-Pitti J, Lurbe E. Sympathetic neural activity, metabolic parameters and cardiorespiratory fitness in obese youths. Journal of Hypertension. Supplement. 2017; 35 (3): 571-577. IF: 4,085
5. Lurbe I Ferrer E, Alsina Manrique de Lara L, Solís Sánchez G. Anales de Pediatría: Achieving milestones. Anales de Pediatría. 2017 Oct; 87 (4): 183-185. IF: 1,14

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI14/01781
Title: *Impacto del peso al nacer y la ganancia ponderal postnatal en la disfunción endotelial e inflamación vascular*
Principal Investigator: Empar Lurbe i Ferrer
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 93.500€

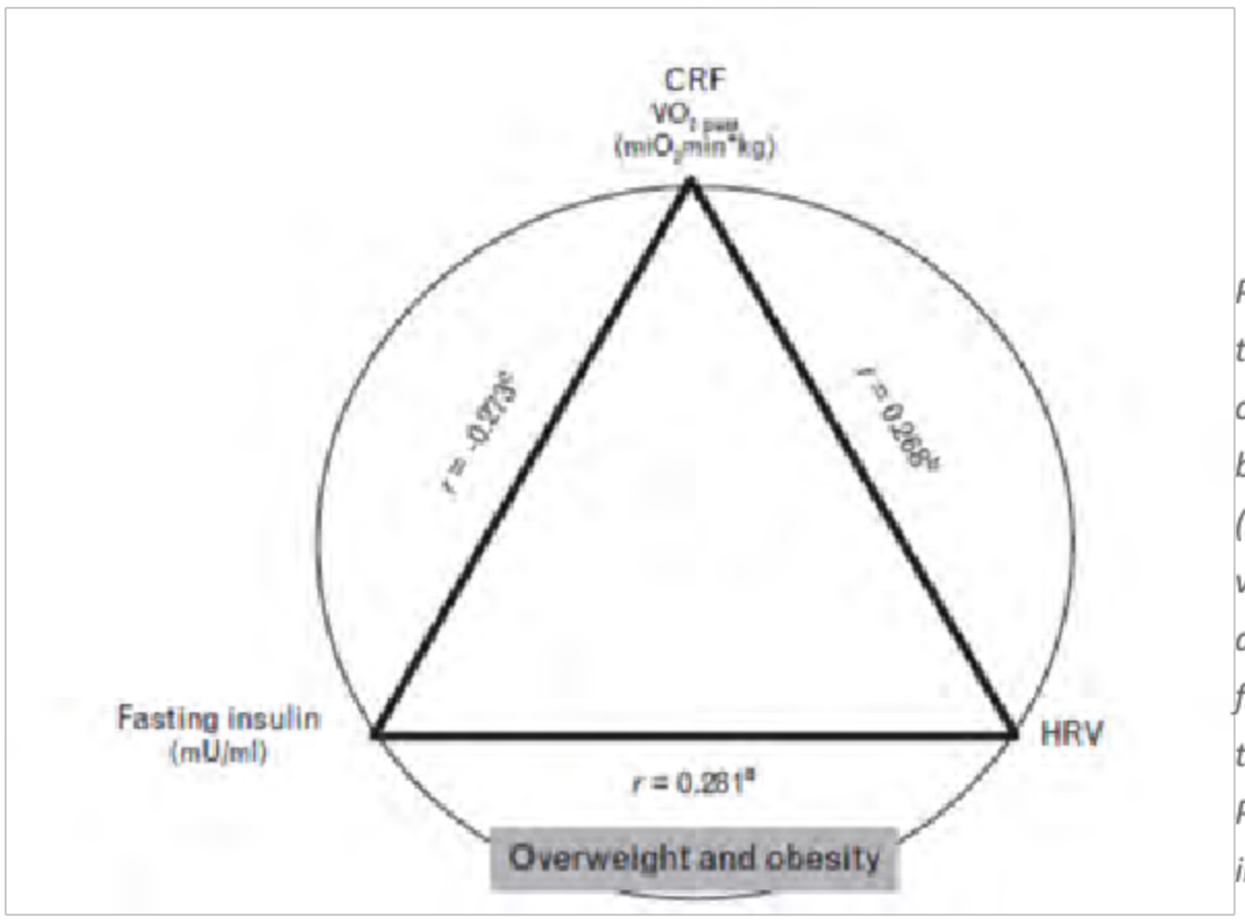
Reference: CB06/03/0039
Title: *CIBER de la Obesidad y Nutrición (CIBERobn)*

Principal Investigator: Empar Lurbe i Ferrer
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2006

Reference: PROMETEO/2016/084
Title: *Innovación tecnológica en la evaluación del sistema nervioso simpático en adolescentes y adultos jóvenes obesos: Papel en la estratificación del riesgo e intervención terapéutica*
Principal Investigator: Josep Redón i Mas
Funding Body: *Conselleria de Educación, Investigación, Cultura y Deporte de la Comunidad Valenciana*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2019
Total budget: 246.190€

• AWARDS

Dr. Empar Lurbe Ferrer was appointed Honorary Member of the Castellan-Manchegan Society for HTA and Vascular Risk in February 2017, Honorary Member of the Spanish Society of Hypertension (SEH-LELHA) in March 2017 and Honorary Member of the Spanish Paediatric Association (AEP) in June 2017.



Pearson's correlation coefficients (P<0.05) showing the link among insulin, heart rate variability and cardiorespiratory fitness. All correlations were adjusted by degree of obesity, pubertal stage and breathing rate (baseline when heart rate variability and in effort when volume oxygen peak was considered, respectively). ar denotes the relationship between Lomb–Scargle_low frequency/ high frequency and fasting insulin. br denotes the relationship between SD of the NN interval series, Poincare´ S1 and S2. cr denotes the relationship between insulin and volume oxygen peak, refer to text for details.

Cardiometabolic Research Group on Primary Care
Consolidated group





Group members

Principal investigator

Jorge Navarro Pérez
Clínico-Malvarrosa Health Department

Collaborating researchers

Jose Vicente Lozano Vidal. Clínico-Malvarrosa Health Department
Alvaro Bonet Pla. Clínico-Malvarrosa Health Department
Victoria Gosalbes Soler. Clínico-Malvarrosa Health Department
Carlos Fluixá Carrascosa. Clínico-Malvarrosa Health Department
Nidia Ruiz Varea. Clínico-Malvarrosa Health Department
Pilar Roca Navarro. University. Clínico-Malvarrosa Health Department
José Sanfélix-Genovés. Clínico-Malvarrosa Health Department
José Luis Trillo Mata. Clínico-Malvarrosa Health Department
Ruth Usó Talamantes. Clínico-Malvarrosa Health Department

Strategic aims

- Consolidation of various lines of cardiometabolic research.
- Consolidation of a network of partners in the area of primary care.

Main lines of research

- Epidemiological studies:
  - Valencian cardiometabolic study (ESCARVAL project)
  - Big Data
- Intervention studies:
  - Secondary Prevention Program (PROPRESE program)
- Cost-effectiveness qualitative studies:
  - Antiaggregation
- Systematic reviews of Cardiovascular Interventions.

• PUBLICATIONS

Number of articles	IF	Average IF
7	24,86	3,55

National collaborations	International collaborations	Corresponding author
7	1	-

SELECTED PUBLICATIONS

1. A Vinué, J Navarro, A Herrero-Cervera, M García-Cubas, I Andres-Blasco, S Martinez-Hervas. The GLP-1 analogue lixisenatide decreases atherosclerosis in insulin-resistant mice by modulating macrophage phenotype. Diabetologia. 2017 Sep; 60 (9): 1801-1812. IF: 6,08

2. Orozco-Beltran D, Gil-Guillen VF, Redón J, Martin-Moreno JM, Pallares-Carratala V, Navarro-Perez J, Valls-Roca F, Sanchis-Domenech C, Fernandez-Gimenez A, Perez-Navarro A, Bertomeu-Martinez V, Bertomeu-Gonzalez V, Cordero A, Pascual de la Torre M, Trillo JL, Carratala-Munuera C, Pita-Fernandez S, Uso R, Durazo-Arvizu R, Cooper R, Sanz G, Castellano JM, Ascaso JF, Carmena R, Tellez-Plaza M; ESCARVAL Study Group. (2017) Lipid profile, cardiovascular disease and mortality in a Mediterranean high-risk population: The ESCARVAL-RISK study. PLoS One 12(10): e0186196. IF: 2,806

3. Vivas-Consuelo D, Usó-Talamantes R, Guadalajara-Olmeda N, Trillo-Mata JL, Sancho-Mestre C, Buigues-Pastor L. Erratum to: Pharmaceutical cost management in an ambulatory setting using a risk adjustment tool. BMC Health Services Research. 2017; 17 (1): 244. IF: 1,827

4. García-Sempere A, Hurtado I, Sanfélix-Genovés J, Rodríguez-Bernal CL, Gil Orozco R, Peiró S, Sanfélix-Gimeno G. Primary and secondary non-adherence to osteoporotic medications after hip fracture in Spain. The PREV2FO population-based retrospective cohort study. Scientific Reports. 2017 Sep 18; 7 (1): 11784. IF: 4,259

5. Botija P, Botija M, Navarro J. Implementation of strategies and tools of sociosanitary coordination in a health department. Gaceta Sanitaria. 2017 Sep 25. pii: S0213-9111 (17) 30187-5. IF: 1,768

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI16/02130
Title: *Impacto de la auto-medición y el auto-ajuste de la medicación antihipertensiva en el control de la hipertensión arterial. Un ensayo clínico pragmático: estudio ADAMPA*
Principal Investigator: José Sanfélix Genovés
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2019
Total Budget: 86.515€

Research Group on the Study of Cardiometabolic and Renal Risk
Consolidated group





Group members

Principal investigator

Josep Redón i Mas
Hospital. University

Collaborating researchers

Mª José García-Fuster González-Alegre. Hospital
Mª José Galindo Puerto. Hospital. University
Mª José Forner Giner. Hospital. University
Gernot Helmut Pichler. INCLIVA
María José Fabiá Valls. Hospital
Elena Solaz Moreno. Hospital
Carlos Sánchez Sánchez. INCLIVA
José Luis Holgado Sánchez. INCLIVA
Adrián Ruiz Hernández. Hospital

PhD researchers

Óscar Calaforra Juan. CIBERobn
Javier Pérez Hernández. INCLIVA

Emerging researchers

Fernando Martínez García. INCLIVA
María Tellez Plaza. INCLIVA

Strategic aims

- To start-up the laboratory for the analysis of podocytes (identification, cultivation and phenotyping) and its derivatives: micro-RNA, exosomes.
- The integration of metabolomics and genomics in the study of factors related to the development of kidney damage.
- Development of studies for noninvasive hemodynamic characterization in vascular pathology.
- Analysis of morbidity and mortality linked to the presence of hypertension and renal injury.
- Development of in vitro studies of platelet and leukocyte adhesion in venous thromboembolism.
- Genetic studies related to obesity and overweight and venous thromboembolism.
- Development of phase III and IV clinical trials.

Main lines of research

- Mechanisms of development of renal damage associated with hypertension with special emphasis on the podocyte damage.
- Impact of cardiovascular risk factors and renal function in absolute morbidity and mortality in high-risk population and in the general population.
- Inflammation and oxidative stress in the development of cardiovascular disease.
- Genomics, proteomics and metabolomics of early cardiometabolic and renal disorders.
- Impact of environmental toxins (metals) in cardiometabolic risk.
- Identification of polymorphisms and related to the control of BMI and waist circumference and the risk of obesity genes.
- Venous thrombosis in young patients: factors associated with its development.
- The relationship between risk of venous thromboembolic disease and arteriosclerosis.



Emerging Researcher

Fernando Martínez García

During the last year we have focused our research activity on the mechanisms involved in the development of microalbuminuria and kidney damage in hypertensive patients. We are also studying the role of new imaging techniques for the early diagnosis of atherosclerosis and the potential value of markers of vascular rigidity for risk prediction. And we are conducting some collaborative studies on the metabolic syndrome and insulin resistance.



Emerging Researcher

María Téllez Plaza

Dr. Tellez-Plaza lines of interest focuses on the health consequences of widespread exposure to environmental toxicants. Her research has built experience in population-based studies of chronic cardiovascular effects of cadmium, arsenic and other toxic metals. An important area of work involves the development of data analysis methods that can be applied to the study of environmental epigenetic effects.

PUBLICATIONS

Number of articles	IF	Average IF
33	294,86	8,93

National collaborations	International collaborations	Corresponding author
27	21	5

SELECTED PUBLICATIONS

1. Redón J. Hypertension: Controversies in blood-pressure goals among the elderly. Nature reviews. Cardiology. 2017; 14 (4): 193-194. IF: 14,299

2. Böhm M, Schumacher H, Teo KK, Lonn EM, Mahfoud F, Mann JF, Mancia G, Redón J, Schmieder RE, Sliwa K, Weber MA, Williams B, Yusuf S. Achieved blood pressure and cardiovascular outcomes in high-risk patients: results from

ONTARGET and TRANSCEND trials. Lancet. 2017 Jun 3; 389 (10085): 2226-2237. IF: 47,831

3. Ruiz-Hernandez A, Navas-Acien A, Pastor-Barriuso R, Crainiceanu CM8, Redón J, Guallar E, Tellez-Plaza M. Declining exposures to lead and cadmium contribute to explaining the reduction of cardiovascular mortality in the US population, 1988-2004. International Journal of Epidemiology. 2017 Dec 1; 46 (6): 1903-1912. IF: 7,738

4. Messerli FH, Hofstetter L, Agabiti-Rosei E, Burnier M, Elliott WJ, Franklin SS, Grodzicki T, Kario K, Kjeldsen SE, Kostis JB, Laurent S, Leenen FH, Lund-Johansen P, Mancia G, Narkiewicz K, Papademetriou V, Parati G, Poulter N, Redón J, Rimoldi SF, Ruilope LM, Schiffrin EL, Schmieder RE, Schwartz AB, Sever P, Sowers JR, Staessen JA, Wang J, Weber M, Williams B. Expertise: no longer a sine qua non for guideline authors?. Hypertension. 2017; 70 (2): 235-237. IF: 6,857

5. Martínez F, Martínez-Ibañez L, Pichler G, Ruiz A, Redón J. Multimorbidity and acute heart failure in internal medicine. International Journal of Cardiology. 2017 Apr 1; 232: 208-215. IF: 6,189

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: ADVANTAGE
Title: *Managing Frailty. A comprehensive approach to promote a disability-free advanced age in Europe: the ADVANTAGE initiative*
Principal Investigator: Josep Redón i Mas
Funding body: *European Commission*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2019
Total budget: 216.675€ (Contribution EC 60%: 130.005€)

Reference: BigData@Heart
Title: *Big Data for Better Hearts*
Principal Investigator: Josep Redón i Mas
Funding body: *European Commission*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2022
Total budget: 386.250€ (Contribution EC: 100%)

Reference: COST Action CM1406
Title: *Epigenetic Chemical Biology (EPICHEM)*
Principal Investigator: María Téllez Plaza
Funding Body: *European Commission*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2019

Reference: PI16/01402
Title: *Estudio experimental in vivo e in vitro y la aplicación clínica del impacto de las proteínas del complejo Rhabphilin-Rab en el desarrollo del daño renal y cardiovascular*
Principal Investigator: Josep Redón i Mas
Funding body: *Instituto de Salud Carlos III*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2019
Total budget: 194.205€

Reference: PI15/00071
Title: *Metales y arteriosclerosis subclínica: papel de la variación genética y epigenética en genes candidatos*
Principal Investigator: María Téllez Plaza
Funding body: *Instituto de Salud Carlos III*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total budget: 195.415€

Reference: RTC-2016-4684-1 DeVaDip
Title: *Desarrollo de una nueva técnica de evaluación del tejido adiposo intramuscular mediante densitometría de doble energía*
Principal Investigator: Josep Redón i Mas, Juan Sanchis Forés
Funding Body: *Ministerio de Economía y Competitividad*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total budget: 386.775€

Reference: PROMETEO/2016/084
Title: *Innovación tecnológica en la evaluación del sistema nervioso simpático en adolescentes y jóvenes obesos*
Principal Investigator: Josep Redón i Mas
Funding Body: *Conselleria de Educación, Cultura y Deporte*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2019

Total budget: 246.190€

• THESIS

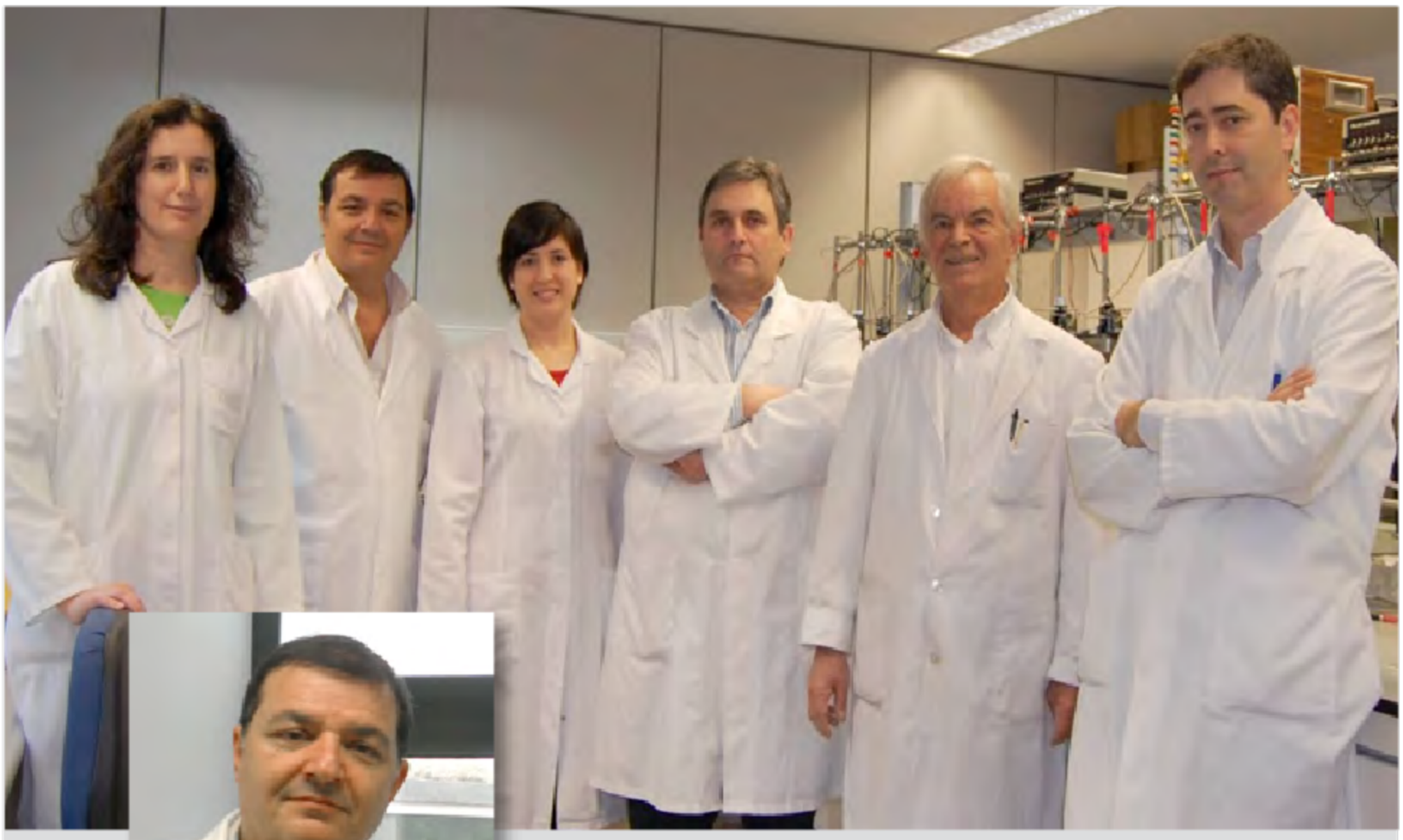
Thesis title: *Mapping the actions of prolactin in the mouse brain: sexual dimorphism, steroid regulation and the neuro-endocrinology of maternal behaviour*
Doctoral candidate: Hugo Salais López
Director(s): Fernando Martínez García, Mª Carmen Agustín Pavón
Date of the defense: 05/07/2017
Grade: *Sobresaliente "cum laude"*
Quality recognition/Award: European PhD

Thesis title: *Identificación de factores genéticos asociados con el desarrollo de la microalbuminuria en la hipertensión esencial*
Doctoral candidate: Pilar Rentero Garrido
Director(s): Josep Redón i Mas, Felipe Javier Chaves Martínez
Date of the defense: 22/09/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Tromboembolismo pulmonar sin trombosis venosa profunda. Incidencia, características clínicas y posibles mecanismos etiopatogénicos*
Doctoral candidate: Delfina Fletcher Sanfeliu
Director(s): Mª José García-Fuster González-Alegre, Juan Bautista Martínez León
Date of the defense: 02/10/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *High-tech imaging and molecular biomarkers of fibrosis in hypertension-induced left ventricular hypertrophy*
Doctoral candidate: Gernot Helmut Pichler
Director(s): Josep Redón i Mas, Fernando Martínez García, Alicia M Maceira González
Date of the defense: 15/12/2017
Grade: *Sobresaliente "cum laude"*
Quality recognition/Award: European PhD

Research Group on Vascular Function
Consolidated group





Group members

Principal investigator

José Mª Vila Salinas
University

Collaborating researchers

Salvador Lluch López. University
Martín Aldasoro Celaya. University
Mª Dolores Mauricio Aviñó. University

Strategic aims

- Vascular changes associated with different pathologies.
- Regulation of blood flow.

Main lines of research

- Characterization of alterations in the control of vascular tone and endothelial function induced by aging.
- The effects of exercise training on the vascular response.
- Vascular effects of ranolazine.
- Extravascular effects of ranolazine.
- Improvement of insulin vascular effects by ranolazine.

• THESIS

Thesis title: *Acción del Sugamadex y de los bloqueantes neuromusculares: rocuronio y vecuronio en neuronas en cultivo primario*

Doctoral candidate: Orlando Severino Acosta

Director(s): Soraya Vallés, Martín Aldasoro, Elena Obrador

Date of the defense: 02/10/2017

Grade: Sobresaliente "cum laude"

• PUBLICATIONS

Number of articles	IF	Average IF
3	8,27	2,75

National collaborations	International collaborations	Corresponding author
2	-	1

SELECTED PUBLICATIONS

1. Aldasoro M, Jorda A, Aldasoro C, Marchio P, Guerra-Ojeda S, Gimeno-Raga M, Mauricio MD, Iradi A, Obrador E, Vila JM, Valles SL. Neuronal Effects of Sugammadex in combination with Rocuronium or Vecuronium. International Journal of Medical Sciences. 2017 Feb 23; 14 (3): 224-230. IF: 2.399

2. Mauricio MD, Serna E, Fernández-Murga ML, Portero J, Aldasoro M, Valles SL, Sanz Y, Vila JM. Bifidobacterium pseudocatenulatum CECT 7765 supplementation restores altered vascular function in an experimental model of obese mice. International Journal of Medical Sciences. 2017 Apr 8; 14 (5): 444-451. IF: 2.399

3. Segarra-Vidal M, Guerra-Ojeda S, Vallés LS, López-Roldán A, Mauricio MD, Aldasoro M, Alpiste-Illueca F, Vila JM. Effects of photodynamic therapy in periodontal treatment: A randomized, controlled clinical trial. Journal of Clinical Periodontology. 2017 Sep; 44 (9): 915-925. IF: 3.477

Research Group on Pedriatric Nutrition
Consolidated group





Group members

Principal investigator

Cecilia Martínez Costa
Hospital. University

Collaborating researchers

Francisco Núñez Gómez. Hospital. University
María Carmen Collado. IATA-CSIC
Javier Buesa Gómez. Hospital. University
Mª Ángeles Montal Navarro. Hospital. University
Pablo García Molina. Hospital. University
Evelin Balaguer López. Hospital. University
Elena Crehuá Gaudiza. Hospital
Ana Paula Grattarola. INCLIVA
Julia Sánchez Zahonero. Hospital
Inmaculada Tarazona Casany. Hospital
Javier Estañ Capell. Hospital. University
Laura Martínez Rodríguez. Hospital
Beatriz Padilla López. INCLIVA

Strategic aims

- Cardiovascular area:
  Study of metabolome, epigenetic markers and microbiome in obese children with/without insulin resistance before and after personalized nutritional intervention and physical exercise.
- Area of human milk:
  Characterization of mother-infant microbiome in term and preterm infants.
- Area of hospital malnutrition and artificial nutrition:
  Validation of the pediatric screening tools for detecting the risk of malnutrition linked to chronic disease and pediatric hospitalization.

Main lines of research

- Cardiovascular area:
  - Study of early markers of vascular damage in dyslipidemic obese children by Doppler ultrasonography to establish a correlation with insulin resistance and other metabolic markers.
  - Monitoring exercise and energy consumption in obese schoolchildren and teenagers to adjust nutritional intervention.
- Area of human milk:
  - Analysis of defensive factors against norovirus infections and its relationship with histo-blood group antigens and FUT genotype.
  - Analysis of mother-fetal microbiome and cold preservation methods.
- Area of hospital malnutrition and artificial nutrition:
  - Screening procedures for detecting the risk of malnutrition linked to chronic disease and pediatric hospitalization.
  - Multicenter study of acceptance and quality of life in children treated with home enteral nutrition.

• PUBLICATIONS

Number of articles	IF	Average IF
8	15,44	1,93

National collaborations	International collaborations	Corresponding author
6	1	0

SELECTED PUBLICATIONS

1. Jackson A, Siegfried N, Adair LS, Briend A, Haider R, Jamiyan B Karrar Z, Martínez Costa C, Reilly J, Nsungwa J, Sachdev, HPS, Sal MG, Singh M, Stasii E. Guideline. Assessing and managing children at primary health-care facilities to prevent overweight and obesity in the context of the double burden of malnutrition. Geneva: World Health Organization 2017. ISBN 978-92-4-155012-3
2. Boix-Amorós A, Martínez-Costa C, Querol A, Collado MC, Mira A. Multiple Approaches Detect the Presence of Fungi in Human Breastmilk Samples from Healthy Mothers. Scientific Reports. 2017 Oct 12; 7(1): 13016. IF: 4,259
3. Kunz C, Meyer C, Collado MC, Geiger L, García-Mantrana I, Bertua-Ríos B, Martínez-Costa C, Borsch C, Rudloff S. Influence of Gestational Age, Secretor, and Lewis Blood Group Status on the Oligosaccharide Content of Human Milk. Journal of Pediatric Gastroenterology and Nutrition. 2017 May; 64 (5): 789-8. IF: 2,799
4. Martínez Costa C, Pedrón Giner C. Requirements for pediatric parenteral nutrition. Nutrición Hospitalaria. 2017 Jun 26; 34 (3): 14-23. IF: 0,747
5. Pedrón Giner C, Cuervas-Mons Vendrell M, Galera Martínez R, Gómez López L, Gomis Muñoz P, Irastorza Terradillos I, Martínez Costa C, Moreno Villares JM, Pérez-Portabella Maristany C, Pozas Del Río MªT, Redecillas Ferreiro SE, Prieto Bozano G, Grupo de Estandarización de la Senpe S. Guía de práctica clínica SENPE/SEGHNP/SEFH sobre nutrición parenteral pediátrica. Nutrición Hospitalaria. 2017 Jun 5; 34 (3): 745-758. IF: 0,747

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: MAMI
Title: *MAMI - The Power of Maternal Microbes on Infant Health*
Principal Investigator: María Carmen Collado
Funding body: *European Commission*
Beneficiary institution: *Consejo Superior de Investigaciones Científicas*
Duration: 2015-2020
Total budget: 1.499.978,43 €

Reference: PCIN-2017117
Title: *Obesidad materna y disfunción cognitiva en la descendencia: papel causa-efecto de la microbiota intestinal y prevención dietética temprana*
Principal Investigator: Consuelo Borrás Blasco
Funding body: *Ministerio de Economía y Competitividad*
Beneficiary institution: *Universidad de Valencia*
Duration: 2017-2020
Total budget: 143.000€

Reference: INTIMIC-085
Title: *GUTMOM: Maternal obesity and cognitive dysfunction in the offspring: cause-effect role of the GUT MicrobiOMe and early dietary prevention*
Principal Investigator: Patricia Lozzo (Cecilia Martínez Costa as collaborating researcher)
Funding body: *JPI HDHL. European Commission*
Beneficiary institution: *Universidad de Valencia*
Duration: 2017-2020
Total budget: 778.240€

• THESIS

Thesis title: *Seguimiento del crecimiento y estado de nutrición de pacientes pediátricos con afectación neurológica severa. Desarrollo de una aplicación informática específica*
Doctoral candidate: Elena Crehuá Gaudiza
Director(s): Cecilia Martínez Costa, Caterina Calderón Garrido
Date of the defense: 13/11/2017
Grade: *Sobresaliente "cum laude"*

• AWARDS

Dr. Cecilia Martínez Costa was appointed Member of the Royal Academy of Medicine of Valencia, October 10, 2017.

Group on Translational Research in Ischemic Heart Disease

Consolidated group





Group members

Principal investigator

Vicente Bodí Peris
Hospital. University

Collaborating researchers

Clara Bonanad Lozano. INCLIVA. Hospital
Amparo Ruiz Saurí. University
Paolo Racugno. Hospital
Ana Díaz Cuevas. University

PhD researcher

César Ríos Navarro. INCLIVA
José Gavara Doñate. INCLIVA

Technicians

Elena de Dios Lluch. INCLIVA
Nerea Pérez Solé. INCLIVA

Strategic aims

- From our research experience from the last years in the clinical and experimental field related to ischemic cardiopathy, our current goal is to focus into a translational approach.
- In 2017 we continued dilucidating the physiological role of the immune dysregulation as well as the macroscopic, microscopic and molecular changes in the fibrotic process after a myocardial infarction by using a swine model. Moreover, we have started clarifying the implication of angiogenesis and new angiogenic biomarkers in the recovery of the microvasculature after a myocardial infarction in animal models and in patients.
- We have also developed new tools to study patients with ST-segment elevation myocardial infarction using cardiac magnetic resonance imaging.

Main lines of research

- Prospective registry of patients with first ST-segment elevation myocardial infarction studied with cardiac magnetic resonance imaging.
- Multicenter registry of patients with myocardial ischemia studied with stress cardiac magnetic resonance imaging.
- Porcine and mice model of experimental myocardial ischemia and myocardial infarction. To achieve a better understanding of the pathophysiology of ischemia, necrosis, fibrosis, angiogenesis, and reperfusion injury and test new novel therapeutic avenues.
- Involvement in several large international multicenter clinical trials in the field of acute coronary syndromes.

• PUBLICATIONS

Number of articles	IF	Average IF
23	99,04	4,30

National collaborations	International collaborations	Corresponding author
17	2	6

SELECTED PUBLICATIONS

1. Gavara J, Rodriguez-Palomares JF, Valente F, Monmeneu JV, López-Lereu MP, Bonanad C, Ferreira-Gonzalez I, García Del Blanco B, Rodriguez-García J, Mutuberria M, de Dios E, Rios-Navarro C, Pérez-Sole N, Racugno P, Paya A, Minana G, Canoves J, Pellicer M, López-Fornas FJ, Barrabes J, Evangelista A, Nunez J, Chorro FJ, García-Dorado D, Bodi V. Prognostic value of strain by tissue tracking cardiovascular magnetic resonance after st-segment elevation myocardial infarction. JACC: Cardiovascular Imaging. JACC Cardiovasc Imaging. 2017 Dec 8. pii: S1936-878X (17) 30985-3. IF: 10,189

2. Cambronero-Cortinas E, Bonanad C, Monmeneu JV, López-Lereu MP, Gavara J, de Dios E, Rios C, Pérez N, Racugno P, Paya A, Escribano D, Minana G, Pellicer M, Cànoves J, Nunez J, Chorro FJ, Moratal D, Bodi V. Incidence, outcomes, and predictors of ventricular thrombus after reperfused st-segment-elevation myocardial infarction by using sequential cardiac MR Imaging. Radiology. 2017 Aug; 284 (2): 372-380. IF: 7,296

3. Ríos-Navarro C, Hueso L, Miñana G, Núñez J, Ruiz-Saurí A, Sanz MJ, Cànoves J, Chorro FJ, Piqueras L, Bodí V. Coronary Serum Obtained After Myocardial Infarction Induces Angiogenesis and Microvascular Obstruction Repair. Role of Hypoxia-inducible Factor-1A. Revista Española de Cardiología. 2017 Jul 24. pii: S1885-5857 (17) 30361-4. IF: 4,485

4. Hueso L, Rios-Navarro C, Ruiz-Saurí A, Chorro FJ, Núñez J, Sanz MJ, Bodi V, Piqueras L. Dynamics and implications of circulating anti-angiogenic VEGF-A165b isoform in patients with ST-elevation myocardial infarction. Science Reports. 2017 Aug 30; 7 (1): 9962. FI: 4,259

5. Larroza A, Materka A, López-Lereu MP, Monmeneu JV, Bodí V, Moratal D. Differentiation between acute and chronic myocardial infarction by means of texture analysis of late gadolinium enhancement and cine cardiac magnetic resonance imaging. European Journal of Radiology Open. 2017 Jul; 92: 78-83. IF: 2,462

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PIE15/00013

Title: *A multidisciplinary project to advance in basic mechanisms, diagnosis, prediction, and prevention of cardiac damage*

in reperfused acute myocardial infarction
Principal Investigator: Vicente Bodí Peris
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total Budget: 589.050€

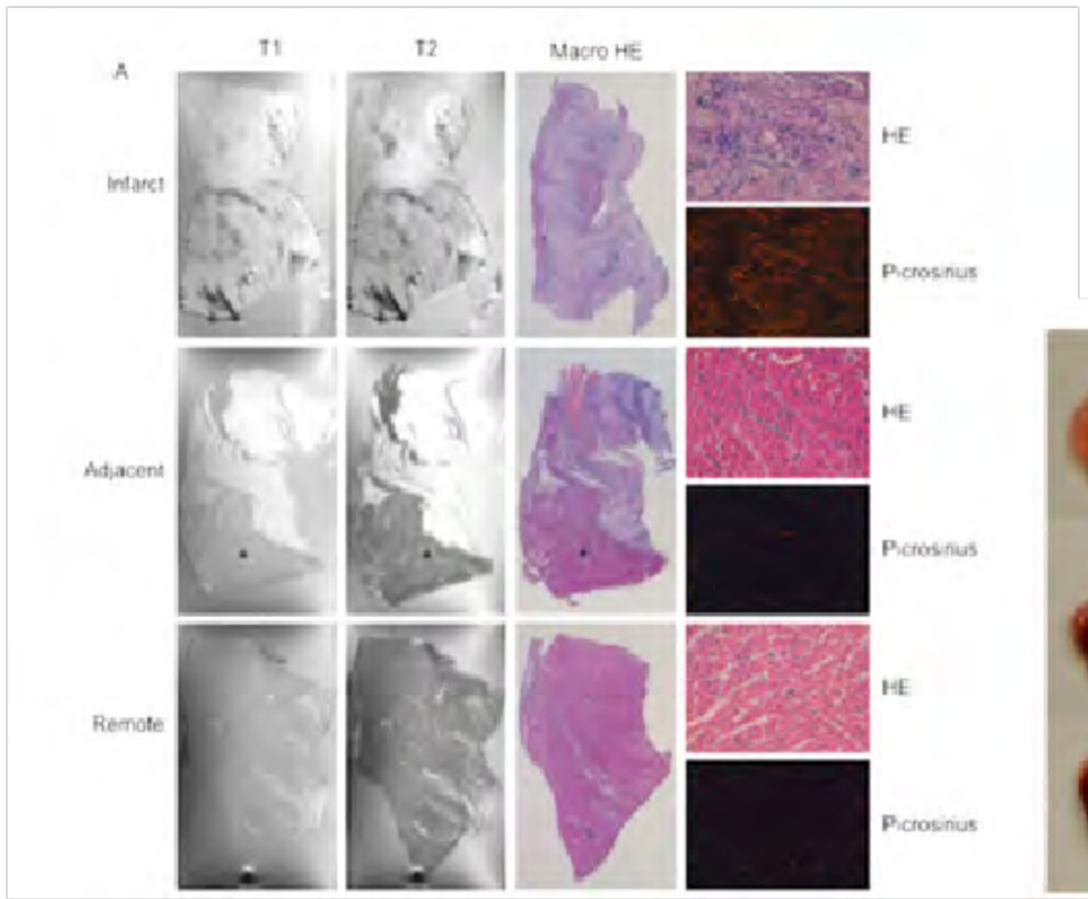
Reference: PI14/00271
Title: *Fibrosis miocárdica tras un infarto de miocardio. Estudio traslacional para la innovación diagnóstica con resonancia magnética y para el entendimiento de los mecanismos reguladores*
Principal Investigator: Vicente Bodí Peris
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 101.500€

• THESIS

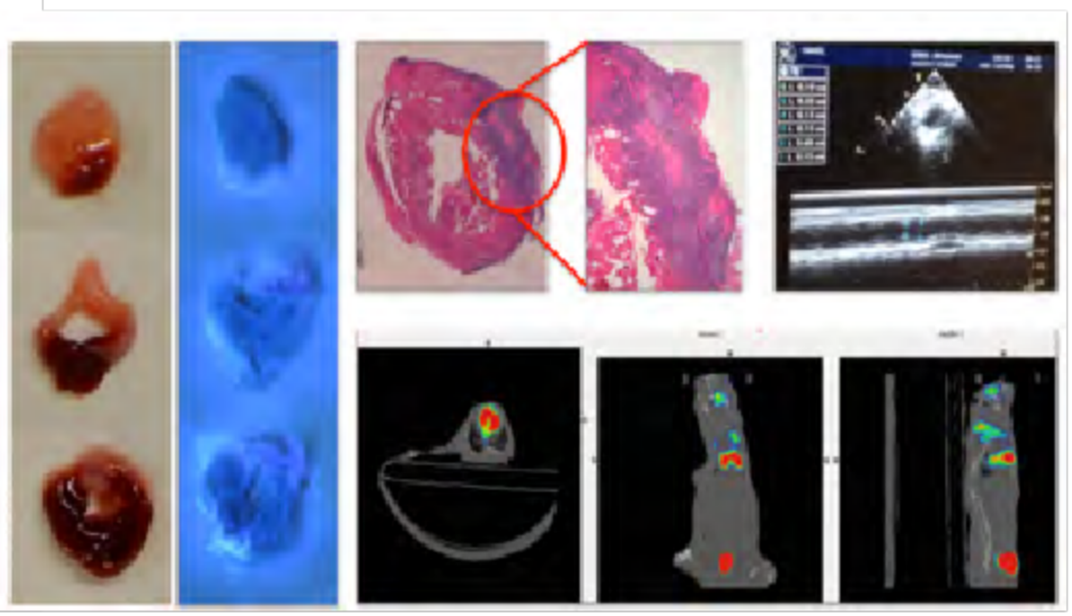
Thesis title: *Diagnosis and prognosis of cardiovascular diseases by means of texture analysis in magnetic resonance imaging*
Doctoral candidate: Andrés Martín Larroza Santacruz
Director(s): Vicente Bodí Peris, David Moratal Pérez
Date of the defense: 11/09/2017
Grade: *Sobresaliente "cum laude"*

• AWARDS

CARBIOyTEC Excellence Award given to Dr. Vicente Bodí Peris for tutoring the Master's Thesis project 2016-2017: Microscopic study of the epicardial artery and its association with the appearance of microvascular obstruction in a porcine model of acute myocardial infarction.



MR images obtained from a 14.1 Tesla magnet and histopathologic correlation in infarcted myocardial samples from a porcine model. HE: hematoxylin and eosin



Macroscopic, microscopic and cardiac imaging methods for animal study obtained from an experimental murine infarction model

4.3.2 Oncology Area

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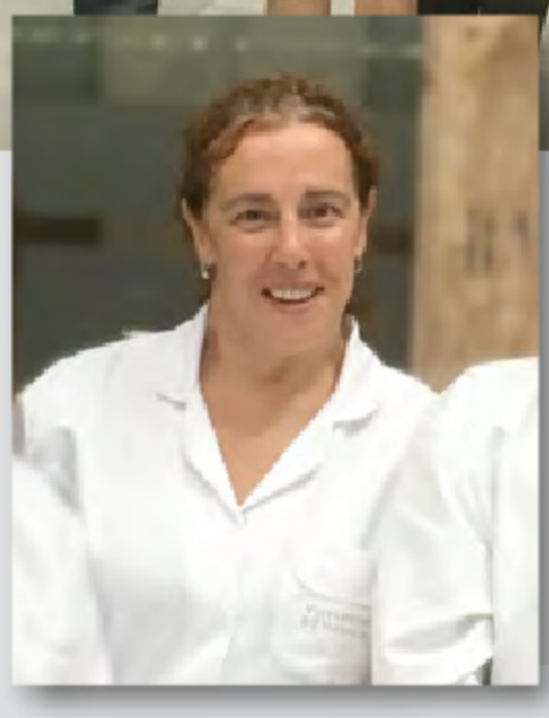
Research Group on Histopathology and Tissue Engineering
Consolidated group





Group members

Principal investigator

Carmen Carda Batalla
University

Collaborating researchers

Amando Peydró Olaya. Hospital. University
Amparo Ruiz Saurí. University
María Sancho-Tello Valls. University
José Javier Martín de Llano. University
Manuel Mata Roig. University
Lara Milian Medina. University
Teresa Sagrado Vives. University
Miguel Armengot Carceller. University
Carlos Tejerina Botella. University
Miguel Puche Torres. Hospital. University
Mari Fe Mínguez Rey. Hospital. University
Genaro Galán Gil. Hospital. University
Antonio Silvestre Muñoz. Hospital. University
Francisco Forriol Brocal. University
Antonio Fons Font. University
Rosa María Cibrián Ortiz de Anda. University
Santiago Peydró Tomas. University
Javier Zurriaga Carda. Hospital
Ignacio Peregrín Nevado. Hospital
Giovanna Foschini Martínez. Hospital

PhD researchers

Esperanza Núñez Benito. University
María Oliver Ferrándiz. University
Javier Alcácer Fernández-Coronado. University
Rubén Salvador Clavell. University
Andrea Allende García. University
César Calero Polanco. University

Strategic aims

- Contributing in terms of publications, theses and related conference attendence that substantiate this year's achievements.
- With specific regard to the line of Tissue Engineering, we have obtained funding to continue working on cartilage and bone regeneration techniques (Ministry Project) and their application in tracheal pathology (FISS Project).

Main lines of research

Regenerative Medicine:

- Study of cartilage regeneration.
- Study of bone regeneration.
- Study of the use of pulpal precursors in regenerative therapies.
- Study of regeneration of dental and periodontal tissues.
- Study of corneal induction and regeneration.

Histopathology:

- Study of recurrent myocardial infarction and its determinants.
- Study of vascularization in renal tumors.
- Study of ciliary pathology.

• PUBLICATIONS

Number of articles	IF	Average IF
13	42,37	3,25

National collaborations	International collaborations	Corresponding author
9	2	3

SELECTED PUBLICATIONS

1. Mata M, Milian L, Oliver M, Zurriaga J, Sancho-Tello M, Martin de Llano JJ, Carda C. In vivo articular cartilage regeneration using human dental pulp stem cells cultured in an alginate scaffold: a preliminary study. Stem Cells International. 2017; 2017: 8309256. IF: 3,54

2. Puche-Torres M, Blasco-Serra A, Campos-Peláez A, Valverde-Navarro AA. Radiological anatomy assessment of the fissura pterygomaxillaris for a surgical approach to ganglion pterygopalatinum. Journal of Anatomy. 2017; 231 (6): 961-969. IF: 2,182

3. Olcese C, Patel MP, Shoemark A, Kiviluoto S, Legendre M, Williams HJ, Vaughan CK, Hayward J, Goldenberg A, Emes RD, Munye MM, Dyer L, Cahill T, Bevillard J, Gehrig C, Guipponi M, Chantot S, Duquesnoy P, Thomas L, Jeanson L, Copin B, Tamalet A, Thauvin-Robinet C, Papon JF, Garin A, Pin I, Vera G, Aurora P, Fassad MR, Jenkins L, Boustred C, Cullup T, Dixon M, Onoufriadis A, Bush A, Chung EM, Antonarakis SE, Loebinger MR, Wilson R, Armengot M, Escudier E, Hogg C, UK10K Rare Group, Amselem S, Sun Z, Bartoloni L, Blouin JL, Mitchison HM. X-linked primary ciliary dyskinesia due to mutations in the cytoplasmic axonemal dynein assembly factor PIH1D3. Nature Communications. 2017; 8: 14279. IF: 12,124

4. Sancho-Tello M, Martorell S, Mata Roig M, Milián L, Gámiz-González MA, Gómez Ribelles JL, Carda C. Human platelet-rich plasma improves the nesting and differentiation of human chondrocytes cultured in stabilized porous chitosan scaffolds. Journal of Tissue Engineering. 2017; 8: 2041731417697545. IF: 3,989

5. Milián L, Peris JE, Gandía P, Andújar I, Pallardó L, Górriz JL, Blas-García A. Tenofovir-induced toxicity in renal proximal tubular epithelial cells: involvement of mitochondria. AIDS. 2017; 31 (12): 1679-1684. IF: 5,019

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI16/01315

Title: *Sustitutos traqueales epitelizados generados por ingeniería tisular*

Principal Investigator: Manuel Mata Roig, Miguel Armengot Carceller

Funding Body: *Instituto de Salud Carlos III*

Beneficiary Institution: *Universidad de Valencia*

Duration: 2017-2019

Total Budget: 68.365€

• THESIS

Thesis title: *Optimización de las técnicas de criopreservación del tejido adiposo*

Doctoral candidate: María Eloísa Villaverde Doménech

Director(s): María del Carmen Carda Batalla, Edurne Novella

Maestre
Date of the defense: 26/04/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Estudio in vitro de la respuesta osteoblástica sobre discos de titanio en función de su rugosidad y la aplicación tópica de melatonina*
Doctoral candidate: Carolina Pérez Martínez
Director(s): José Javier Martín de Llano, Mª Fernanda Solá Ruiz
Date of the defense: 05/05/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Evaluación de la técnica quirúrgica de implantación de neuroestimulador a nivel del ganglio esfenopalatino para el tratamiento de las cefaleas crónicas refractarias*
Doctoral candidate: Natalia Ventura Martínez
Director(s): Miguel Puche Torres, Mariano Marqués Mateo
Date of the defense: 18/07/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Artroplastia total de rodilla navegada: relación de la estabilidad articular con los resultados clínicos y funcionales a medio plazo*
Doctoral candidate: David García Aguilera, Carlos Martín Hernández
Director(s): Antonio Silvestre Muñoz
Date of the defense: 28/07/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Thermobike: aplicabilidad de la termografía infrarroja en la evaluación de la eficiencia, rendimiento y postura del ciclista*
Doctoral candidate: José Ignacio Priego Quesada
Director(s): Rosa Cibrián Ortiz De Anda, María Rosario Salvador Palmer, Pedro Pérez Soriano
Date of the defense: 22/12/2017
Grade: *Sobresaliente "cum laude"*
Quality recognition/Award: European PhD

Research Group on Central Nervous System Tumors
Consolidated group





Group members

Principal investigator

Miguel Cerdá Nicolás
Hospital. University

Collaborating researchers

Rosario Gil Benso. University
Concepción López Ginés. University
Teresa San Miguel Díez. University
Pablo Cerdá Durán. University
Pedro Roldán Badía. Hospital. University
Javier Megías Vericat. University

PhD researchers

Lisandra Muñoz Hidalgo. INCLIVA

Technicians

Ana María Clarí Pérez. University
Lara Navarro Cerveró. University

Strategic aims

- Clinical-pathological study of 40 patients affected by primary glioblastoma according to established protocol. Sample collection (formaldehyde, freezing, collection in culture medium) was performed, tissue matrices of the 40 tumors and neuropathological, immunohistochemical and FISH analysis of the matrices were performed according to established methodology.
  - Short-cell cultures and their viability analysis have been performed. Analysis by FISH of EGFR status and freezing of the different passes according to established methodology.
  - The study of the proteomic analysis of the 40 tumors (frozen samples) by Western Blott according to established methodology has been completed.
  - A cell line has been established from a primary culture of glioblastoma. Morphological, genetic and behavioral analysis in vitro (generation of neurospheres, functional migration profiles) have been completed.
- Experimental study.
  -Spheres (neurospheres) have been elaborated from different cell lines and cell cultures of glioblastoma, characterizing and analyzing their behavior.
  -Analysis of cultures subjected to silencing and overexpression by transfection of miRNAs by the lipofection method.
  -Analysis of cell cultures in hypoxia situation, analyzing their characteristics and behavior before silencing and overexpression by transfection of selected miRNAs in hypoxia situation and in the different amplification status of the EGFR.
  -The pilot study of viability and effectiveness of xenotransplantation in nude mice has been completed with the achievement of neoplasias under study.

Main lines of research

- Primary GBM. Amplification status of EGFR and angiogenic/infiltrative phenotype. Molecular networks responsible for tumor modulation and reprogramming processes.
- Role of microRNA in the regulation of EGFR-dependent signalling pathways in high-grade astrocytic gliomas.
- Development of a model for analyzing the modulation of microRNA gene activity in cell cultures of primary GBM and GBM cell lines.
- Development of a model of population analysis and spatial distribution of these neoplasias.
- Metabolomics and microvascular environment characterization of aggressive human glioma by DCE-MRI and genetic study of biopsies.

• PUBLICATIONS

Number of articles	IF	Average IF
13	29,77	2,29

National collaborations	International collaborations	Corresponding author
8	2	4

SELECTED PUBLICATIONS

1. Rodríguez de Guzmán-Barrera J1, Sáez Martínez C1, Boronat-Catalá M, Montiel-Company JM, Paredes-Gallardo V, Gandía-Franco JL, Almerich-Silla JM, Bellot-Arcís C. Effectiveness of interceptive treatment of class III malocclusions with skeletal anchorage: A systematic review and meta-analysis. PLoS One. 2017 Mar 22; 12(3):e0173875. IF: 2,806

2. Boronat-Catalá M, Montiel-Company JM, Bellot-Arcís C, Almerich-Silla JM, Catalá-Pizarro M. Association between duration of breastfeeding and malocclusions in primary and mixed dentition: a systematic review and meta-analysis. Science Reports. 2017 Jul 11; 7(1): 5048. IF: 4,259

3. Aloy MÁ, Adsuara JE, Cerdá-Durán P, Obergaulinger M, Esteve-Taboada JJ, Ferrer-Blasco T, Montés-Micó R. Estimation of the mechanical properties of the eye through the study of its vibrational modes. PLoS One. 2017 Sep 18; 12(9):e0183892. IF: 2,806

4. López-Ginés C, Navarro L, Muñoz-Hidalgo L, Buso E, Morales JM, Gil-Benso R, Gregori-Romero M, Megías J, Roldán P, Segura-Sabater R, Almerich-Silla JM, Monleón D, Cerdá-Nicolás M. Association between epidermal growth factor receptor amplification and ADP-ribosylation factor 1 methyla-

tion in human glioblastoma. Cellular Oncology. 2017 Aug; 40(4):389-399. IF: 3,786

5. Esteve-Taboada JJ, Ferrer-Blasco T, Aloy MA, Adsuara JE, Cerdá-Durán P, Mimica P, Montés-Micó R. Ocular anatomic changes for different accommodative demands using swept-source optical coherence tomography: a pilot study. Graefe's Archive for Clinical and Experimental Ophthalmology. 2017 Dec; 255(12):2399-2406. IF: 2,349

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI14/01669
Title: *Interacción de miRNA-200 y miRNA-138 en la infiltración y perfiles de MMMI del Glioblastoma Multiforme primario. Utilidad como biomarcadores en el diagnóstico, pronóstico y terapéutico*
Principal Investigator: Miguel Cerdá Nicolás
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total Budget: 50.000€

Reference: PROMETEOII/2015/007
Title: *Papel de los microRNA en la regulación de las vías de señalización dependientes de EGFR en "gliomas astrocitarios de alto grado". Desarrollo de un modelo poblacional de análisis poblacional y de distribución espacial de estas neoplasias*
Principal Investigator: Miguel Cerdá Nicolás
Funding Body: *Conselleria de Educación, Cultura y Deporte*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2018
Total Budget: 186.400€

• THESIS

Thesis title: *Impacto del mirna-200c sobre el mecanismo de migración celular en el glioblastoma. Relación con los patrones de amplificación de EGFR*
Doctoral candidate: Lisandra Muñoz Hidalgo
Director(s): Miguel Cerdá Nicolás, Rosario Gil Benso

Date of the defense: 29/03/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Gravitational-wave astronomy: modelling, detection, and data analysis*
Doctoral candidate: Alejandro Torres Forné
Director(s): Pablo Cerdá Durán, Jose Antonio Font Roda
Date of the defense: 07/09/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Improved numerical methods for elliptic problems in astrophysics*
Doctoral candidate: Jose Enrique Adsuara Fuster, Miguel Ángel Aloy Toras
Director(s): Pablo Cerdá Durán
Date of the defense: 19/07/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Descripción del perfil metabólico de adenomas hipofisarios mediante espectroscopia "ex-vivo", por resonancia magnética de alta resolución con rotación al ángulo mágico*
Doctoral candidate: Pedro Antonio Riesgo Suárez
Director(s): Pedro Luis Roldán Badía, Jose Piquer Belloch, Bernardo Celda Muñoz
Date of the defense: 07/09/2017
Grade: *Sobresaliente "cum laude"*

Research Group of Innovative Diagnostic and Therapeutical Developments in Solid Tumours - InDeST

Consolidated group



Group members

Principal investigator

Andrés Cervantes Ruipérez
Hospital. University

Collaborating researchers

Susana Roselló Keranen. Hospital
Tania Fleitas Kanonnikoff. INCLIVA
Maider Ibarrola Villava. INCLIVA
Josefa Castillo Aliaga. INCLIVA
Ana Isabel Gil Tébar. INCLIVA
María Peña Chilet. INCLIVA
Jose A. Pérez Fidalgo. Hospital
Amelia Insa Mollá. Hospital
Alejandro Espí Macías. Hospital. University
Estefanía García Botello. Hospital

PhD researchers

Marisol Huerta Álvaro. Hospital
Noelia Tarazona Llavero. INCLIVA
Gema Bruixola Campos. Hospital
María Carolina Martínez Ciarpaglini. INCLIVA
Valentina Gambardella. INCLIVA
Sara Oltra Sanchis. INCLIVA
Marta Llorca Cardeñosa. INCLIVA
Fernanda Gutiérrez Bravo. INCLIVA

Technicians

Cristina Mongort Sanchis. INCLIVA
Francisca Carrasco Bailén. CIBER

Emerging researchers

Gloria Ribas Despuig. INCLIVA
Joan Climent Bataller. INCLIVA
Desamparados Roda Pérez. INCLIVA

Nurses

Inma Blasco Blasco. INCLIVA
Celia Martínez Ridaura. INCLIVA
Luna Porta Campos. INCLIVA

Administrative assistant

Gabriela Pérez Garity. INCLIVA
Jessica Fraile Escribano. INCLIVA
Elena Jiménez Martí. INCLIVA
Julia Peláez Sánchez. INCLIVA



Emerging researcher

Gloria Ribas Despuig

Our scientific interests are based on both the study of genetic susceptibility to complex diseases, such as melanoma, as well as the understanding of genomic deregulation in solid tumors, specially Breast Cancer in Young Women. We are also involved in the characterization of genetics and epigenetic alterations that play a role in gastric cancer, specifically in the positive subgroups of Epstein Bar virus and instability.



Emerging Researcher

Joan Climent Bataller

Our research area focuses on exploiting "Systems" approaches for the understanding of cancer susceptibility and its sub-phenotype relationship. The main experience focuses on breast cancer research and covers the use of novel mathematical tools for the comprehensive analysis of gene and gene expression data, with the purpose of optimizing responses to targeted pharmacological treatment.



Emerging Researcher

Desamparados Roda Pérez

Our interest is focused in personalised medicine and new drug development with the main objective of identifying new biomarkers of response to targeted agents in advanced solid tumors. We are also focused in a new multiomic characterisation of colorectal tumors, using a mathematical model specially in advanced rectal cancers.

Strategic aims

- Our group aims to improve the patient's life through the development of new diagnostic and therapeutic methods. In addition to this main goal, we intend to implement strategies to facilitate the development of precision medicine in solid tumors with innovative therapeutic approaches and provide knowledge on how to approach precision medicine in colorectal and gastric cancer from different points such as molecular classification, the use of predictive biomarkers and new therapeutic approaches.

Main lines of research

- To develop first-in-human Phase I trials of antineoplastic agents with innovative designs.
- To develop liquid biopsies (ctDNA, cmicroRNAs) for early diagnosis, monitoring and the prediction of therapeutic effects in patients with gastro-intestinal malignancies.
- To use the latest technologies to improve our knowledge of the molecular and genetic causes of cancer.
- To implement the use of organoids (3D cell cultures) from patients as functional models, in order to understand the underlaying causes of tumorigenesis and to test the appropriateness of the treatments.

• PUBLICATIONS

Number of articles	IF	Average IF
31	213,17	6,45

National collaborations	International collaborations	Corresponding author
20	23	4

• SELECTED PUBLICATIONS

1. Saura C, Roda D, Roselló S, Oliveira M, Macarulla T, Pérez-Fidalgo JA, Morales-Barrera R, Sanchis-García JM, Musib L, Budha N, Zhu J, Nannini M, Chan WY, Sanabria Bohórquez SM, Meng RD, Lin K, Yan Y, Patel P, Baselga J, Tabernero J, Cervantes A. A First-in-Human Phase I Study of the ATP-Competitive AKT Inhibitor Ipatasertib Demonstrates Robust and Safe Targeting of AKT in Patients with Solid Tumors. Cancer Discovery. 2017 Jan; 7 (1): 102-113. IF: 20,011

2. Arnold D, Lueza B, Douillard JY, Peeters M, Lenz HJ, Venook A, Heinemann V, Van Cutsem E, Pignon JP, Tabernero J, Cervantes A, Ciardiello F. Prognostic and predictive value of primary tumour side in patients with RAS wild-type metastatic colorectal cancer treated with chemotherapy and EGFR directed antibodies in six randomised trials. Annals of Oncology. 2017 Aug 1; 28 (8): 1713-1729. IF: 11,855

3. Meulendijks D, Jacob W, Voest EE, Mau-Sørensen M, Martinez-García M, Taus A, Fleitas T, Cervantes A, Lolkema M, Langenberg MH, de Jonge MJA, Sleijfer S, Han JY, Calles A, Felip E, Kim SW, Schellens JHM, Wilson S, Thomas M, Ceppi M, Meneses-Lorente G, James I, Harring SV, Dua R, Nguyen M, Steiner L, Adessi C, Michielin F, Bossenmaier B, Weisser M, Lassen U Phase Ib study of lumretuzumab plus cetuximab or erlotinib in solid tumor patients and evaluation of HER3 and heregulin as potential biomarkers of clinical activity. Clinical Cancer Research. 2017 Sep 15; 23(18): 5406-5415. IF: 9,619

4. Glynne-Jones R, Wyrwicz L, Tiret E, Brown G, Rödel C, Cervantes A, Arnold D, ESMO Guidelines Committee. Rectal cancer: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. ESMO Open. 2017 Jul 1; 28(4)

5. Roselló S, Frasson M, García-Granero E, Roda D, Jordá E, Navarro S, Campos S, Esclápez P, García-Botello S, Flor B, Espí A, Masciocchi C, Valentini V, Cervantes A. Integrating Downstaging in the Risk Assessment of Patients With Locally Advanced Rectal Cancer Treated With Neoadjuvant Chemoradiotherapy: Validation of Valentini's Nomograms and the Neoadjuvant Rectal Score. Clinical Colorectal Cancer. 2017 Oct 28. pii: S1533-0028(17)30212-8. IF: 4,507

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: IntraColor
Title: *INTRACOLOR - Translational research on human tumour heterogeneity to overcome recurrence and resistance to therapy*
Principal Investigator: Andrés Cervantes Ruipérez
Funding Body: *European Commission (ERANET)*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total Budget: 29.645€

Reference: MoTriColor
Title: *Molecularly guided trials with specific treatment strategies in patients with advanced newly molecular defined subtypes of colorectal cancer (MoTriColor)*
Principal Investigator: Josep Tabernero (Andrés Cervantes as collaborating researcher)
Funding Body: *European Commission (H2020)*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2019
Total budget: 271.424€

Reference: PI16/00393
Title: De la genómica del cáncer a la inmuno-oncología. Búsqueda de biomarcadores de respuesta a la inmunoterapia anti-PD1/PDL1 en cáncer mediante una aproximación de biología de sistemas
Principal Investigator: Joan Climent Bataller
Funding Body: *Instituto de Salud Carlos III*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2019
Total Budget: 98.615€

Reference: PI16/00395
Title: *Caracterización genómica y funcional del cáncer gástrico VEB+/IMS+*
Principal Investigator: Gloria Ribas Despuig
Funding Body: *Instituto de Salud Carlos III*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2019
Total Budget: 98.615€

Reference: PI15/02180
Title: *Enfermedad mínima residual en cánceres colorrectales de alto riesgo resecados. Valor de las biopsias líquidas en el seguimiento y análisis de la heterogeneidad tumoral*
Principal Investigator: Andrés Cervantes Ruipérez
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total budget: 80.465€

Reference: CB16/12/00473
Title: *Centro de Investigación Biomédica en Red Cáncer (CIBERonc)*
Principal Investigator: Andrés Cervantes Ruipérez
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-

Reference: Ayudas Merck de investigación 2017 en el Área de Investigación Clínica en Cáncer Colorrectal
Title: *Estudio de los factores pronósticos y predictores de resistencia a tratamientos diana en cáncer colorrectal derecho e izquierdo utilizando organoides como modelo preclínico de enfermedad*
Principal Investigator: Andrés Cervantes Ruipérez
Funding Body: *Fundación Merck Salud*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2018
Total Budget: 30.000€

Reference: PINV15-156
Title: *Proyecto multicéntrico de determinación del perfil mutacional de pacientes con cáncer de tumores sólidos para guiar la estrategia terapéutica hacia una medicina personalizada*
Principal Investigator: Andrés Cervantes Ruipérez
Funding Body: CONACYT Paraguay
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2018
Total Budget: 56.000€

Reference: PINV15-149
Title: *Proyecto multicéntrico de formación multidisciplinar en cáncer y aplicación de la Historia Clínica Electrónica (HCE) con el fin de integrar los datos clínico-moleculares y orientar la estrategia terapéutica*
Principal Investigator: Tania Fleitas Kanonnikoff
Funding Body: *CONACYT Paraguay*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2018
Total Budget: 24.660€

Title: Nuevos biomarcadores en cáncer de recto: relevancia del perfil inmunológico en el pronóstico de la enfermedad
Principal Investigator: Desamparados Roda Pérez
Funding Body: *Sociedad Española de Oncología Médica (SEOM)*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2018
Total Budget: 30.000€

• THESIS

Thesis Title: *The genetic basis of sunlight sensitivity and melanoma-risk pigmentation phenotypes: the role of sex-specific genetic effects, 3' untranslated regions and melanoma susceptibility genes*
Doctoral candidate: Bárbara Hernando Fuster
Director(s): Gloria Ribas Despuig, Conrado Martínez Cadenas
Date of the defense: 02/06/2017
Grade: *Sobresaliente "cum laude"*

Thesis Title: *Diseño y desarrollo de un sistema de información para la gestión de información sobre cáncer de mama*
Doctoral candidate: Verónica Burriel Coll
Director(s): Gloria Ribas Despuig, Óscar Pastor López
Date of the defense: 06/07/2017
Grade: *Sobresaliente "cum laude"*

Thesis Title: *Factores predictivos de la reconstrucción intestinal tras la intervención de Hartmann*
Doctoral candidate: Ana Royo Aznar
Director(s): Alejandro Espí Macías, David Moro Valdezate, Eloy Espín Basany
Date of the defense: 26/07/2017
Grade: *Sobresaliente "cum laude"*

Research Group on Breast Cancer Biology
Consolidated group

Team involved in





Group members

Principal investigator

Ana Lluch Hernández
Hospital. University

Collaborating researchers

Begoña Bermejo De Las Heras. Hospital
Octavio Burgués Gasión. Hospital
Antonio Caballero Garate. Hospital

Estela Contel Martín. INCLIVA
Isabel Catoira Domenech. INCLIVA
Patricia Martínez Belenguer. INCLIVA
Antonio Millet Serrano. Hospital. University
Begoña Pineda Merlo. INCLIVA
Eduardo Tormo Martín. CIBERONC
María Teresa Martínez Martínez. Hospital
Cristina Hernando Meliá. Hospital

Emerging researchers

Isabel Chirivella González. Hospital
Pilar Eroles Asensio. INCLIVA

PhD researchers

Paula Cabello Navarro. INCLIVA
Anna Adam-Artigues. INCLIVA
Iris Garrido Cano. INCLIVA
Birlipta Pattanayak. INCLIVA

Technician

Elisa Alonso Yuste. INCLIVA

Administrative assistant

Yolanda De La Cruz Robles. INCLIVA

Strategic aims

- Study of TDM1 and trastuzumab resistance in HER2+ by the generation and characterization of preclinical Trastuzumab-Resistant HER2+ Breast Cancer Models.
- Implication of miRNAs in breast cancer.
- Determination of a PAM50-based Chemo-Endocrine Score for Hormone Receptor-Positive Breast Cancer.
- Clinical implications of routine genomic mutation sequencing in PIK3CA/AKT1 and KRAS/NRAS/BRAF in metastatic breast cancer and determination of somatic oncogenic mutations using MassARRAY technology.
- Determination of High Proliferation as predictor of Pathological Complete Response to Neoadjuvant Chemotherapy in Early Breast Cancer.

Clinical trials to evaluate:

- Neoadjuvant pertuzumab and trastuzumab in patients with locally advanced, inflammatory, or early-stage HER2-positive breast cancer (NeoSphere).
- Nab-Paclitaxel in Metastatic Breast Cancer-Hormone Receptor-Positive Breast Cancer Receiving Adjuvant Triptorelin Plus Exemestane or Tamoxifen in the Suppression of Ovarian Function Trial (SOFT): The SOFT-EST Substudy.
- Pooled analysis of prospective European studies assessing the impact of using the 21-gene Recurrence Score assay on clinical decision making in women with oestrogen receptor-positive, human epidermal growth factor receptor 2-negative early-stage breast cancer.

Main lines of research

- Study of methylation as a prognostic and predictive factor of neoadjuvant treatment in triple negative breast cancer.
- Evaluation of microRNAs and mRNAs differentially expressed after chemotherapy treatment.
- Involvement of miRNAs in breast cancer processes.
- Role of tumor heterogeneity and dynamic reprogramming of tumor cell resistance to anti-HER2 therapy.
- Evaluation of the involvement of stem cells and epithelial mesenchymal transition in the mechanisms of resistance to treatment in HER2 + breast cancer.
- Primary and secondary resistance in HER2 + breast cancer: Search for new treatments
- Interaction between estrogen receptors, tumor angiogenesis and breast cancer metabolism
- Molecular and Clinical characterization of breast tumors from very young women



Emerging Researcher

Isabel Chirivella González

The research line suggests a possible relation between mammographic density, as a genetic susceptibility marker and the risk to suffer breast cancer in women with a mutation in BRCA (hereditary breast cancer). We also have a project to evaluate a set of endometrial cancer risk markers in Lynch syndrome patients.



Emerging Researcher

Pilar Eroles Asensio

The lines of research aim at deepening the knowledge of some of the molecular subtypes of breast cancer, especially HER2+ and triple negative, through studies of expression and epigenetic changes (microRNAs, methylation) to decipher the possible mechanisms of resistance to current treatments. We intend to develop new strategies for diagnostic and therapeutic intervention to reverse the identified resistance, based on combinations with other biologic agents and the use of predictive biomarkers of resistance.

• PUBLICATIONS

Number of articles	IF	Average IF
15	197,73	13,18

National collaborations	International collaborations	Corresponding author
12	6	2

SELECTED PUBLICATIONS

1. Llombart-Cussac A, Cortés J, Paré L, Galván P, Bermejo B, Martínez N, Vidal M, Pernas S, López R, Muñoz M, Nuciforo P, Morales S, Oliveira M, de la Peña L, Peláez A, Prat A. HER2-enriched subtype as a predictor of pathological complete response following trastuzumab and lapatinib without chemotherapy in early-stage HER2-positive breast cancer (PAMELA): an open-label, single-group, multicentre, phase 2 trial. Lancet Oncology. 2017 Apr; 18 (4): 545-554. IF: 33,9

2. von Minckwitz G, Procter M, de Azambuja E, Zardavas D, Benyunes M, Viale G, Suter T, Arahmani A, Rouchet N, Clark E, Knott A, Lang I, Levy C, Yardley DA, Bines J, Gelber RD, Piccart M, Baselga J; APHINITY Steering Committee and Investigators. Adjuvant Pertuzumab and Trastuzumab in Early HER2-Positive Breast Cancer. New England Journal of Medicine. 2017 Jul 13; 377 (2): 122-131. IF. 72,406

3. Prat A, Lluch A, Turnbull AK, Dunbier AK, Calvo L, Albanell J, de la Haba-Rodríguez J, Arcusa A, Chacón JI, Sánchez-Rovira P, Plazaola A, Muñoz M, Paré L, Parker JS, Ribelles N, Jimenez B, Bin Aiderus AA, Caballero R, Adamo B, Dowsett M, Carrasco E, Martín M, Dixon JM, Perou CM, Alba E. A PAM50-Based Chemoendocrine Score for Hormone Receptor-Positive Breast Cancer with an Intermediate Risk of Relapse. Clinical Cancer Research. 2017 Jun 15; 23 (12): 3035-3044. IF: 9,619

4. Quintela-Fandino M, Lluch A, Manso L, Calvo I, Cortes J, García-Saenz JA, Gil-Gil M, Martinez-Jánez N, Gonzalez-Martin A, Adrover E, de Andres R, Viñas G, Llombart-Cussac A, Alba E, Guerra J, Bermejo B, Zamora E, Moreno-Anton F, Pernas Simon S, Carrato A, López-Alonso A, Escudero MJ, Campo R, Carrasco E, Palacios J, Mulero F, Colomer R. 18F-fluoromisonidazole PET and Activity of Neoadjuvant Nintedanib in Early HER2-Negative Breast Cancer: A Window-of-Opportunity Randomized Trial. Clinical Cancer Research. 2017 Mar 15; 23 (6): 1432-1441. IF: 9,619

5. Lee KM, Giltnane JM, Balko JM, Schwarz LJ, Guerrero-Zotano AL, Hutchinson KE, Nixon MJ, Estrada MV, Sánchez V, Sanders ME, Lee T, Gómez H, Lluch A, Pérez-Fidalgo JA, Wolf MM, Andrejeva G, Rathmell JC, Fesik SW, Arteaga CL. MYC and MCL1 cooperatively promote chemotherapy-resistant breast cancer stem cells via regulation of mitochondrial oxidative phosphorylation. Cell Metabolism. 2017 Oct 3; 26 (4): 633-647.e7. IF: 18,164

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: COST Action CA15204
Title: *European Platform for Outcomes Research into Perioperative Interventions during Surgery for Cancer*
Principal Investigator: Pilar Eroles Asensio
Funding Body: *European Commission*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2020

Reference: PI15/01617
Title: *Papel de la heterogeneidad tumoral y la reprogramación dinámica de la célula tumoral en la resistencia a anticuerpos antiHER2 en cáncer de mama HER2 positivo*
Principal Investigator: Ana Lluch Hernández
Funding Body: *Instituto de Salud Carlos III*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total Budget: 182.407,50€

Reference: CB16/12/00453
Title: *CIBER Cáncer de mama*
Principal Investigator: Ana Lluch Hernández
Funding Body: *Instituto de Salud Carlos III*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-

Reference: RD12/0036/0070
Title: *Red Temática de Investigación Cooperativa en Cáncer (RTICC)*
Principal Investigator: Ana Lluch Hernández
Funding Body: Instituto de Salud Carlos III
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2013-2017
Total Budget: 85.728€

Reference: GV/2016/037
Title: *Estudio del perfil de metilación en cáncer de mama triple negativo*
Principal Investigator: Begoña Pineda Merlo

Funding Body: *Conselleria de Educación*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017
Total Budget: 16.000€

Reference: 23-BC-MBNL1-ARTERO-EROLES-2017-B
Title: *Papel de miRNAS reguladores de MBNL1 en el desarrollo de cáncer de mama metastásico*
Principal Investigator: Rubén Artero Allepuz, Pilar Eroles Asensio
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017
Total Budget: 4.000€

• THESIS

Thesis title: *Estudio de los perfiles de expresión de microRNAs en líneas celulares de cáncer de mama triple negativo tratadas con doxorubicina: implicación de la familia MIR-449*
Doctoral candidate: Eduardo Tormo
Director(s): Ana Lluch Hernández, Pilar Eroles Asensio
Date of the defense: 07/03/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Capacidad predictiva y pronóstica de factores moleculares en cáncer de mama HER2 positivo tratado con quimioterapia neoadyuvante basada en antraciclinas y agentes anti-HER2*
Doctoral candidate: Joaquín Gavila Gregori
Director(s): Ana Lluch Hernández, Miguel Ángel Climent Durán, Amparo Ruiz Simón
Date of the defense: 21/06/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Evaluación del grado de conversión de los receptores HER2, RE y RPG entre el cáncer de mama primario y sus respectivas metástasis*
Doctoral candidate: Eduardo Martínez de Dueñas
Director(s): Ana Lluch Hernández
Date of the defense: 20/07/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Marcadores de angiogénesis, inflamación y coagulación en pacientes con glioblastoma*
Doctoral candidate: Gaspar Reynés Muntaner
Director(s): Ana Lluch Hernández, Vicenta Martínez Sales, Jaime Font De Mora Sainz
Date of the defense: 29/09/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Interacción entre receptores de estrógenos, hipoxia, angiogénesis y metabolismo tumoral en cáncer de mama*
Doctoral candidate: Remedios Segura Sabater
Director(s): Ana Lluch Hernández, Daniel Monleón Salvadó
Date of the defense: 29/10/2017
Grade: *Sobresaliente "cum laude"*

• AWARD

Dr. Lluch received the 2017 Excellence Award for Research and Innovation from the Valencia Union for Professionals in May 2017 and was admitted as an honorary member of the Official College of Physicians of Valencia in June 2017. In December the medical publication *Diario Médico* singled her out as one of the 25 ambassadors of Spanish healthcare.

Research Group on Skin Cancer
Consolidated group





Group members

Principal investigator

José Carlos Monteagudo Castro
Hospital. University

Collaborating researchers

Antonio Pellín Pérez. University
David Ramos Soler. University
José Mª Martín Hernández. Hospital. University
Liria Terrádez Más. Hospital
Inés Escandell González. Hospital
Jaime Agustí Martínez. Hospital

PhD researchers

Beatriz Sánchez Sendra. INCLIVA
José Francisco González Muñoz. INCLIVA

Strategic aims

- Nuclear CD34 expression by immunohistochemistry is present in primary melanomas which subsequently develop distant metastasis and have a shorter distant-metastasis-free survival. Nuclear location was confirmed in melanoma four cell lines by western blot.
- After modification of miR-205 expression levels in A375 melanoma cell line, the transcriptomic study revealed 271 genes differentially expressed (FDR<0.05).
- The study of circulating miRNAs as biomarkers in patients with melanoma by NGS of serum RNA revealed that hsa-miR-425-5p is downregulated in serum in melanoma patients which further developed metastasis compared with those who remained nonmetastatic.

Main lines of research

- Expression of epithelial–mesenchymal transition markers and tumor initiating cells (tumor stem cells) in tumor progression of human skin melanoma and in xenotransplantation in immunodeficient mice.
- Epidemiology and genetics of Birt-Hogg-Dubé familial cancer syndrome.
- Implication of selected microRNAs in tumor progression of melanoma.

• PUBLICATIONS

Number of articles	IF	Average IF
13	34,55	2,65

National collaborations	International collaborations	Corresponding author
8	3	5

SELECTED PUBLICATIONS

1. Martín JM, Pinazo I, Jordá E, Monteagudo C. Differential Clinicopathological Features in Spontaneous Regression of Melanomas and Melanocytic Naevi. Acta Dermato-venereologica. 2017 Jun 9; 97 (6): 692-697. IF: 3,653

2. Agustí J, Bella-Navarro R, García-García AB, Bueno E, González-Sarmiento R, Navarro L, Sanchez-Sendra B, Revert A, Jordá E, Monteagudo C. Familial seborrhoeic keratosis associated with multiple "pure reticulated acanthomas" and infundibulocystic basal cell carcinomas. The British Journal of Dermatology. 2017 Dec; 177 (6): 1654-1663. IF: 4,706

3. Martinez-Rodriguez M, Thompson AK, Monteagudo C. High CCL27 immunoreactivity in 'supratumoral' epidermis correlates with better prognosis in patients with cutaneous malignant melanoma. Journal of Clinical Pathology. 2017 Jan; 70 (1): 15-19. IF: 2,687

4. Martínez-Ciarpaglini C, Saus C, Rojas-Ferrer N, Terrádez L, Serra M, Botella-Estrada R, Monteagudo C. Pleomorphic cutaneous Rosai-Dorfman disease. Histopathology. 2017 Mar; 70 (4): 670-672. IF: 3,523

5. Fernandez-Flores A, Cassarino DS, Riveiro-Falkenbach E, Rodriguez-Peralto JL, Fernandez-Figueras MT, Monteagudo C. Cutaneous dermal non-neural granular cell tumor is a granular cell dermal root sheath fibroma. Journal of Cutaneous Pathology. 2017 Jun; 44 (6): 582-587. IF: 1,317

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PROMETEOII/2015/009
Title: *Análisis transcriptómico y proteómico de los cambios condicionados por miRNAs en el melanoma cutáneo: identificación de nuevos biomarcadores proteicos con significación pronóstica*
Principal Investigator: José Carlos Monteagudo Castro
Funding body: *Generalitat Valenciana*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2018
Total Budget: 167.010€

Translational Research Group on Pediatric Solid Tumors

Consolidated group

Team involved in





Group members

Principal investigator

Samuel Navarro Fos
Hospital. University

Collaborating researchers

Rosa Noguera Salvá. University
Antonio Llombart Bosch. University
Ana Pilar Berbegall Beltrán. CIBERONC
Irene Tadeo Cervera. University
Esther Gamero Sandemetrio. INCLIVA

PhD researcher

Susana Martín Vañó. INCLIVA
Víctor Zúñiga Zaragoza. University
Maite Blanquer Maceiras. CIBERONC
Ezequiel Monferrer Garzarán. INCLIVA

Technicians

Alejo Miguel Sempere Crespo. University
Rebeca Brugos Panadero. INCLIVA

Strategic aims

- Genomic heterogeneity in neuroblastoma (NB), especially in MYCN amplification.
- Xenotransplant models of NB.
- Importance of extracellular matrix and vascularization in NB.
- Morphological and molecular analysis of neuroblastic and malignant infantile skeletal tumours.

Main lines of research

- Genetic analysis in neuroblastoma. At the European level we participate in the establishment of a uniform nomenclature, and standard practices and quality validation studies, essential to obtain and maintain high quality in genetic results used for therapeutic stratification.
- Identification of new genetic factors with prognostic value in neuroblastic and malignant infantile skeletal tumors.
- Histopathologic studies of the expression of diagnostic and prognostic markers in solid pediatric tumors.
- Tumor microenvironments in neuroblastoma - research findings.
- Preclinical models. Obtaining and characterizing cell lines *in vivo* and *in vitro* from fresh neuroblastic and malignant infantile skeleton tumor material.

• PUBLICATIONS

Number of articles	IF	Average IF
16	41,99	2,62

National collaborations	International collaborations	Corresponding author
15	5	4

SELECTED PUBLICATIONS

1. Tadeo I, Berbegall AP, Navarro S, Castel V, Noguera R. A stiff extracellular matrix is associated with malignancy in peripheral neuroblastic tumors. Pediatric Blood & Cancer. 2017 Sep; 64 (9). IF: 2,513

2. Tadeo I, Gamero-Sandemetrio E, Berbegall AP, Navarro S, Cañete A, Noguera R. 1p36 deletion results in a decrease in glycosaminoglycans which is associated with aggressiveness in neuroblastic tumors. Histology and Histopathology. 2017 Nov 23: 11947. IF: 2,025

3. Almazán-Moga A, Zarzosa P, Molist C, Velasco P, Pyczek J, Simon-Keller K, Giralt I, Vidal I, Navarro N, Segura MF, Soriano A, Navarro S, Tirado OM, Ferreres JC, Santamaría A, Rota R, Hahn H, Sánchez de Toledo J, Roma J, Gallego S. Ligand-dependent Hedgehog pathway activation in Rhabdomyosarcoma: the oncogenic role of the ligands. British Journal of Cancer. 2017 Oct 24; 117 (9): 1314-1325. IF: 6,176

4. Roselló S, Frasson M, García-Granero E, Roda D, Jordá E, Navarro S, Campos S, Esclápez P, García-Botello S, Flor B, Espí A, Masciocchi C, Valentini V, Cervantes A. Integrating Downstaging in the Risk Assessment of Patients With Locally Advanced Rectal Cancer Treated With Neoadjuvant Chemoradiotherapy: Validation of Valentini's Nomograms and the Neoadjuvant Rectal Score. Clinical Colorectal Cancer. 2017 Oct 28. doi: 10.1016/j.clcc.2017.10.014. IF: 4,507

5. Alfaro-Cervello C, Andrade-Gamarra V, Nieto G, Navarro L, Martín-Vañó S, García de la Torre JP, Bengoa Caamaño M, García Mauriño ML, Noguera R, Navarro S. Congenital undifferentiated sarcoma associated to BCOR-CCNB3 gene fusion. Pathology, Research and Practice. 2017 Nov; 213 (11): 1435-1439. IF: 1,543

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI14/01008
Title: *Estudio de la biotensegridad en los tumores neuroblásticos*
Principal Investigator: Rosa Noguera Salvá
Funding body: *Instituto de Salud Carlos III*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 122.815€

Reference: CB16/12/00484
Title: *CIBER Oncología*
Funding body: Rosa Noguera Salvá
Entidad financiadora: *Instituto de Salud Carlos III*
Beneficiary institution: *Universidad de Valencia*
Duration: 2017

Reference: RD12/0036/0020
Title: *Red Temática de Investigación Cooperativa en Cáncer (RTICC)*
Principal Investigator: Rosa Noguera Salvá
Funding body: *Instituto de Salud Carlos III*
Beneficiary institution: *Universidad de Valencia*
Duration: 2013-2017

Reference: PRECIPITA 2016
Title: *Mejora del diagnóstico de tumores infantiles por bioimagen*
Principal Investigator: Rosa Noguera Salvá
Funding body: *Fundación Española para la Ciencia y Tecnología (FECYT)*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia/Universidad de Valencia*
Duration: 2016-2017
Total budget: 33.070€

Reference: FAECC2015
Title: *Búsqueda de dianas terapéuticas en los puntos de contacto de la célula tumoral en el neuroblastoma infantil con su matriz extracelular*
Principal Investigator: Rosa Noguera Salvá
Funding Body: AECC-*Asociación Española Contra el Cáncer*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2018
Total budget: 150.000€

Title: *Espacio intercelular: bioimagen microscópica*
Principal Investigator: Rosa Noguera Salvá
Funding body: *Fundación Neuroblastoma*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2018
Total budget: 50.000€

Title: *Identification and validation of targeted and immune therapies, preclinical models and markers of therapeutic response in peripheral neuroblastic tumours*
Principal Investigator: Rosa Noguera Salvá
Funding body: *Asociación de familiares y amigos de pacientes con Neuroblastoma*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2019
Total budget: 203.000€

Title: *Impacto de las alteraciones en número de copias en el pronóstico de los pacientes de Sarcoma de Ewing. Validación prospectiva de las alteraciones en cr 1q y cr 16q como biomarcadores*
Principal Investigator: Rosa Noguera Salvá
Funding body: *Fundación CRIS*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2018
Total budget: 60.000€

Research Group on Hematopoietic Transplantation

Consolidated group





Group members

Principal investigator

Carlos Solano Vercet
Hospital. University

Collaborating researchers

Cristina Arbona Castaño. Hospital
María José Remigia Pellicer. Hospital
Rosa Goterris Viciedo. Hospital
David Navarro Ortega. Hospital. University
Joana Hernández Martín. INCLIVA
Paula Amat Martínez. INCLIVA
Estela Giménez Quiles. INCLIVA
Marc Poch Martell. Hospital
Ariadna Pérez Martínez. Hospital
Ana Isabel Usero Ruiz. INCLIVA
Eva María Mateo Jiménez. INCLIVA

Strategic aims

- Translational research on biology and treatment of graft-versus-host disease after allogeneic transplantation of hematopoietic progenitor cells.
- Infection and immune reconstitution after haematopoietic transplant.
- Research into alloreactivity in new forms of allogeneic transplantation from alternative compatible and incompatible (haploidentical) donations.

Main lines of research

- Translational research on complications of allogeneic hematopoietic transplantation: graft-versus-host disease.
- Infection and immune reconstitution after hematopoietic transplantation.
- Translational research of alloreactivity in the context of new modalities of allogeneic transplantation from compatible and incompatible alternative donors (haploidentical transplant).

• PUBLICATIONS

Number of articles	IF	Average IF
20	51,52	2,57

National collaborations	International collaborations	Corresponding author
12	5	12

SELECTED PUBLICATIONS

1. Jurado M, De La Mata C, Ruiz-García A, López-Fernández E, Espinosa O, Remigia MJ, Moratalla L, Goterris R, García-Martín P, Ruiz-Cabello F, Garzón S, Pascual MJ, Espigado I, Solano C. Adipose tissue-derived mesenchymal stromal cells as part of therapy for chronic graft-versus-host disease: A phase I/II study. Cytotheraphy. 2017 Aug; 19 (8): 927-936. IF: 3,203

2. Solano C, Slavin M, Shaul AJ, Marks DI, Cordonnier C, Cornely OA, Pagliuca A, Cragin L, Jarque I, García-Vidal C, Sorensen S, Vanness DJ, Charbonneau C, Barrueta JA, Peral C, De Salas-Cansado M, Bow EJ. Economic evaluation of azoles as primary prophylaxis for the prevention of invasive fungal infections in Spanish patients undergoing allogeneic haematopoietic stem cell transplant. Mycoses. 2017 Feb; 60 (2): 79-88. IF: 2.252

3. Piñana JL, Pérez-Pitarch A, García-Cadenas I, Barba P, Hernandez-Boluda JC, Esquirol A, Fox ML, Terol MJ, Queraltó JM, Vima J, Valcarcel D, Ferriols-Lisart R, Sierra J, Solano C, Martino R. A Time-to-Event Model for Acute Kidney Injury after Reduced-Intensity Conditioning Stem Cell Transplantation Using a Tacrolimus- and Sirolimus-based Graft-versus-Host Disease Prophylaxis. Biology of Blood and Marrow Transplantation. 2017 Jul; 23 (7): 1177-1185. IF: 4.704

4. Solano C, Giménez E, Piñana JL, Hernández-Boluda JC, Amat P, Vinuesa V, Navarro D. When should preemptive antiviral therapy for active CMV infection be withdrawn from allogeneic stem cell transplant recipients?. Bone Marrow Transplantation. 2017 Oct; 52 (10): 1448-1451. IF: 3.874

5. Kharfan-Dabaja MA, Parody R, Perkins J, López-Godino O, López-Corral L, Vazquez L, Caballero D, Falantes J, Shapiro J, Ortí G, Barba P, Valcárcel D, Esquirol A, Martino R, Piñana JL, Solano C, Tsalatsanis A, Pidala J, Anasetti C, Pérez-Simón JA. Tacrolimus plus sirolimus with or without ATG as GVHD prophylaxis in HLA-mismatched unrelated donor allogeneic stem cell transplantation. Bone Marrow Transplantation. 2017 Mar; 52 (3): 438-444. IF: 3.874

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI15/01396
Title: *Inmunobiología de la aloreactividad NK en el trasplante de progenitores hematopoyéticos haploidenticos asociado al uso de ciclofosfamida post-trasplante*
Principal Investigator: Carlos Solano Vercet
Funding body: *Instituto de Salud Carlos III*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total budget: 116.765€

Reference: PI15/00090
Title: *Inmunobiología de la infección por el citomegalovirus en el trasplante alogénico de precursores hematopoyéticos haploidéntico asociado al uso de ciclofosfamida postrasplante*
Principal Investigator: David Navarro Ortega

Funding body: *Instituto de Salud Carlos III*

Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*

Duration: 2016-2018

Total budget: 98.615€

• THESIS

Thesis title: *Efecto de polimorfismos (SNPS) en genes de inmunidad innata y adaptativa en la incidencia y dinámica de la infección activa por citomegalovirus en pacientes sometidos a trasplante hematopoyético alogénico o trasplante de órgano sólido*

Doctoral candidate: Isabel Corrales Vázquez

Director(s): David Navarro Ortega

Date of the defense: 06/04/2017

Grade: *Sobresaliente "cum laude"*

Research Group on Lymphoproliferative Disorders
Consolidated group





Group members

Principal investigator

Mª José Terol Casterá
Hospital. University

Collaborating researchers

Antonio Ferrández Izquierdo. Hospital. University
Ana Isabel Teruel Casaús. Hospital
Edelmira Martí Saez. Hospital
Lucía Brines Sirerol. INCLIVA
Blanca Ferrer Lores. INCLIVA
Alicia Serrano. INCLIVA
Mercedes Bou Moreno. INCLIVA

Strategic aims

- During the year 2017, we were able to deepen the knowledge of the role of the NOTCH1 / FBXW7 / PI3K / PTEN / AKT signaling pathway in the progression of Chronic Lymphocytic Leukemia B (CLL-B) to advanced forms. Thus, in the cell lines and in the patient's primary cells, we observed a variation in the number of gene copies by both FISH and PCRq in the NOTCH1, FBXW7 and PTEN genes, with an inverse relationship between NOTCH1 and FBXW7 / PTEN.
- A second objective has been to analyze the clinical significance of the rearrangements of myc, bcl-2 and bcl-6 in diffuse large cell lymphoma. We have been able to verify that patients with concomitant c-myc and bcl-2 protein expression present a worse prognosis in terms of SLP and Sg than the rest.
- Thirdly, during 2017, the study of the mutational status of IgVH in CLL and its prognostic impact in a wide series of patients has been implemented. New molecular markers (mutations TP53, BIRC3, MYD88, NOTCH1 and SF3B1) have also been studied in CLL by new generation sequencing techniques. In addition, we have continued the collaboration in the GENOMA CLL sequencing project, with a clinical-evolutionary update.
- Finally, we have expanded our participation in clinical research projects in CLL, refractory lymphomas and multiple myeloma, both with the incorporation of new drugs and in the design and development of new therapeutic options.

Main lines of research

- Analysis of the interactions of CLL cells with their cellular microenvironment: further study of the intracellular mechanisms triggered by VEGF. Analysis of the possible correlation with CXCR4/CCR7 cytokines pathway. Transactivation mechanisms of the aforementioned receptors.
- Role of the NOTCH1 / FBXW7 / PI3K / PTEN / AKT signaling pathway in the progression of Chronic Lymphocytic Leukemia B (CLL -B) to advanced forms: pathway molecular profile analysis in 100 patients with CLL-B of primary cells obtained at diagnosis and at the time of the progression, analyzing for this, the presence of mutations and number of copies of DNA, gene expression, FISH and (RT-PCR).
- Study of the rearrangements of bcl-2, bcl-6 and myc in diffuse large cell lymphoma: clinical significance and correlation with immunohistochemical expression using FISH and IHQ techniques.
- Study of new molecular markers (mutations of IgVH, TP53, BIRC3, MYD88, NOTCH1 and SF3B1) in CLL: conventional versus NGS techniques. Implication in clonal evolution associated with tumor progression.
- New therapeutic options for CLL/MM patients who are resistant to chemoimmunotherapy.

• PUBLICATIONS

Number of articles	IF	Average IF
15	91,27	6,08

National collaborations	International collaborations	Corresponding author
14	1	-

SELECTED PUBLICATIONS

1. Jiménez C, Jara-Acevedo M, Corchete LA, Castillo D, Ordóñez GR, Sarasquete ME, Puig N, Martínez-López J, Prieto-Conde MI, García-Álvarez M, Chillón MC, Balanzategui A, Alcoceba M, Oriol A, Rosiñol L, Palomera L, Teruel AI, Lahuerta JJ, Bladé J, Mateos MV, Orfão A, San Miguel JF, González M, Gutiérrez NC, García-Sanz R. A Next-Generation Sequencing Strategy for Evaluating the Most Common Genetic Abnormalities in Multiple Myeloma. Journal of Molecular Diagnostics. 2017 Jan; 19 (1): 99-106. IF: 4,526

2. Rosiñol L, Oriol A, Teruel AI, de la Guía AL, Blanchard M, de la Rubia J, Granell M, Sampol M, Palomera L, González Y, Etxebeste M, Martínez-Martínez R, Hernández MT, de Arriba F, Alegre A, Cibeira M, Mateos M, Martínez-López J, Lahuerta JJ, San Miguel J, Bladé J. Bortezomib and thalidomide maintenance after stem cell transplantation for multiple myeloma: a PETHEMA/GEM trial. Leukemia. 2017 Sep; 31 (9): 1922-1927. IF: 11,702

3. Lahuerta JJ, Paiva B, Vidriales MB, Cordón L, Cedena MT, Puig N, Martinez-López J, Rosiñol L, Gutierrez NC, Martín-

Ramos ML, Oriol A, Teruel AI, Echeveste MA, de Paz R, de Arriba F, Hernandez MT, Palomera L, Martinez R, Martin A, Alegre A, De la Rubia J, Orfao A, Mateos MV, Blade J, San-Miguel JF, GEM (Grupo Español de Mieloma)/PETHEMA (Programa para el Estudio de la Terapéutica en Hemopatías Malignas) Cooperative Study Group. Depth of Response in Multiple Myeloma: A Pooled Analysis of Three PETHEMA/GEM Clinical Trials. Journal of Clinical Onclogy. 2017 Sep 1; 35 (25): 2900-2910. IF: 24,008

4. Alonso-Álvarez S, Magnano L, Alcoceba M, Andrade-Campos M, Espinosa-Lara N, Rodríguez G, Mercadal S, Carro I, Sancho JM, Moreno M, Salar A, García-Pallarols F, Arranz R, Cannata J, Terol MJ, Teruel AI, Rodríguez A, Jiménez-Ubieto A, González de Villambrosia S, Bello JL, López L, Monsalvo S, Novelli S, de Cabo E, Infante MS, Pardal E, García-Álvarez M, Delgado J, González M, Martín A, López-Guillermo A, Caballero MD. Risk of, and survival following, histological transformation in follicular lymphoma in the rituximab era. A retrospective multicentre study by the Spanish GELTAMO group. British Journal of Haematology. 2017 Sep; 178 (5): 699-708. IF: 5,67

5. Martinez-López J, Sanchez-Vega B, Barrio S, Cuenca I, Ruiz-Heredia Y, Alonso R, Rapado I, Marin C, Cedena MT, Paiva B, Puig N, Mateos MV, Ayala R, Hernández MT, Jimenez C, Rosiñol L, Martínez R, Teruel AI, Gutiérrez N, Martin-Ramos ML, Oriol A, Bargay J, Bladé J, San-Miguel J, García-Sanz R, Lahuerta JJ. Analytical and clinical validation of a novel in-house deep-sequencing method for minimal residual disease monitoring in a phase II trial for multiple myeloma. Leukemia. 2017 Jun; 31 (6): 1446-1449. IF: 11,702

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI14/02018

Title: *Papel de la vía de señalización NOTCH1/FBXW7/PI3K/PTEN/AKT en la progresión de la Leucemia Linfocítica Crónica B (LLC-B) a formas avanzadas*

Principal Investigator: Mª José Terol Casterá

Funding Body: *Instituto de Salud Carlos III*

Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*

Duration: 2015-2017

Total Budget: 81.070€

Title: *Estudio de nuevos marcadores moleculares (mutaciones IgVH, TP53, BIRC3, MYD88, NOTCH1 y SF3B1) en la Leucemia Linfática Crónica-B (LLC-B): técnicas convencionales versus NGS (Next Generation Sequencing). Implicación en la evolución clonal asociada a la progresión tumoral*

Principal Investigator: Blanca Ferrer Lores

Funding Body: *Sociedad Española de Hematología y Hemoterapia*

Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*

Duration: 2016-2018

Research Group on Myeloid Neoplasms
Consolidated group





Group members

Principal investigator

Mar Tormo Díaz
Hospital. University

Collaborating researchers

Blanca Navarro Cubells. Hospital
Marisa Calabuig Muñoz. Hospital
Montserrat Gómez Calafaz. Hospital
Eva Villamón Ribate. INCLIVA
Elena Fernández Pons. Hospital

PhD researchers

Iván Martín Castillo. INCLIVA

Emergingresearcher

Juan Carlos Hernández Boluda. Hospital

Strategic aims

- We have studied the expression of VEGF-C gene in bone marrow samples of adult acute myeloide leukemia "de novo" patients and its relationship with several clinical, cytogenetic and molecular variables with established prognostic value, as well as the rate of complete remission (CR), overall survival (OS) and event free survival (EFS). We also study expression of 84 genes involved in VEGF signaling in AML patients, through microarray technology. The results have been published in the journal Leukemia & Lymphoma in January 2018.
- We have studied the role of the RUNX1 / CBF-beta / p300 / HIPK2 complex in the leukemic progression of chronic myeloproliferative malignancies. Part of this study has been published in Br J Haematol journal in September 2017.
- We are assessing the predictive value of DNMT3A and IDH1 / IDH2 mutations in the azacytidine response in a number of patients with myeloid neoplasms. Preliminary results have been presented at the international meeting of myelodysplastic syndromes in May of 2017. We also had estudied the impact of gene mutations and dynamics methylation of CDKN2B and DLC-1 Promoters on Treatment Response with Azacitidine who results have been presented in the ASH Annual Meeting in December 2017.

Main lines of research

- Studies of new biological prognostic factors in acute myelogenous leukemia.
- Studies of mutations of DNA methylation genes as biomarkers for response of hypomethylating agent used to treat high-risk myelodysplastic syndromes and acute myeloid leukemia in patients who are not eligible for intensive strategies.
- Study of factors influencing the risk of thrombosis in Philadelphia-negative myeloproliferative disorders.
- Study of mechanisms involved in the leukemic progression of chronic myeloproliferative neoplasms.
- Clinical guidelines for diagnosis, prognosis and treatment of myelodysplastic syndromes.
- Clinical guidelines for assessment of response in chronic myeloid leukemia.
- Studies within the CETLAM registry.
- Studies within the PETHEMA registry.
- Studies within the Spanish Registry of Myelofibrosis.
- Spanish within the registry of Myelodysplastic syndromes.



Emerging Researcher

Juan Carlos Hernández Boluda

Our research is focused on the molecular mechanisms involved in the progression of the chronic myeloproliferative neoplasms from the chronic phase to the leukemic phase.

• PUBLICATIONS

Number of articles	IF	Average IF
28	194,02	6,92

National collaborations	International collaborations	Corresponding author
26	2	2

SELECTED PUBLICATIONS

1. Ramos F, Pedro C, Tormo M, de Paz R, Font P, Luño E, Caballero M, Solano F, Almagro M, Xicoy B, Jiménez M. Impact of anaemia on health-related quality of life and cardiac remodelling in patients with lower risk myelodysplastic syndromes. Results of GlobQoL study. European Journal of Cancer Care. 2017 Nov; 26(6). IF: 2,104

2. Alvarez-Larrán A, Pérez-Encinas M, Ferrer-Marín F, Hernández-Boluda JC, Ramírez MJ, Martínez-López J, Magro E, Cruz Y, Mata MI, Aragües P, Fox ML, Cuevas B, Montesdeoca S, Hernández-Rivas JA, García-Gutiérrez V, Gómez-Casares MT, Steegmann JL, Durán MA, Gómez M, Kerguelen A, Bárez A, García MC, Boqué C, Raya JM, Martínez C, Albors M, García F, Burgaleta C, Besses C, Grupo Español de Neoplasias Mieloproliferativas Filadelfia Negativas. Risk of thrombosis according to need of phlebotomies in patients with polycythemia vera treated with hydroxyurea. Haematologica. 2017 Jan; 102(1):103-109. IF: 7,702

3. Hochhaus A, Larson RA, Guilhot F, Radich JP, Branford S, Hughes TP, Baccarani M, Deininger MW, Cervantes F, Fujihara S, Ortmann CE, Menssen HD, Kantarjian H, O'Brien SG, Druker BJ, IRIS Investigators. Long-Term Outcomes of Imatinib Treatment for Chronic Myeloid Leukemia. New England Journal of Medicine. 2017 Mar 9; 376(10):917-927. IF: 72,406

4. Park S, Hamel JF, Toma A, Kelaidi C, Thépot S, Campelo MD, Santini V, Sekeres MA, Balleari E, Kaivers J, Sapena R, Götze K, Müller-Thomas C, Beyne-Rauzy O, Stamatoullas A, Kotsianidis I, Komrokji R, Steensma DP, Fensterl J, Roboz GJ, Bernal T, Ramos F, Calabuig M, Guerci-Bresler A, Bordessoule D, Cony-Makhoul P, Cheze S, Wattel E, Rose C, Vey N, Gioia D, Ferrero D, Gaidano G, Cametti G, Pane F, Sanna A, Germing U, Sanz GF, Dreyfus F, Fenaux P. Outcome of Lower-Risk Patients With Myelodysplastic Syndromes Without 5q Deletion After Failure of Erythropoiesis-Stimulating Agents. Journal of Clinical Oncology. 2017 May 10; 35(14):1591-1597. IF: 24,008

5. Alvarez-Larrán A, Senín A, Fernández-Rodríguez C, Pereira A, Arellano-Rodrigo E, Gómez M, Ferrer-Marin F, Martínez-López J, Camacho L, Colomer D, Angona A, Navarro B, Cervantes F, Besses C, Bellosillo B, Hernández-Boluda JC. Impact of genotype on leukaemic transformation in polycythaemiavera and essential thrombocythaemia. Bristish Journal of Haematology. 2017 Sep; 178(5):764-771. IF: 5,67

- **RESEARCH PROJECTS AND GRANTS FOR RESEARCH**

Reference: PI13/00636
Title: Role of the RUNX1/CBF-beta/p300/HIPK2 complex in the leukemic progression of the chronic myeloproliferative neoplasms
Principal Investigator: Juan Carlos Hernández Boluda
FundingBody: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2014-2018
Total Budget: 79.860€

Research Group on Epigenetics and Chromatin
Consolidated group



http://www.bioeticaweb.com/byline/luis-franco-vera/



Group members

Principal investigator

Luis Franco Vera
University

Collaborating researchers

Gerardo López Rodas. University
Josefa Castillo Aliaga. INCLIVA
Francisco Gimeno Valiente. INCLIVA
Fernanda M. Rodríguez. INCLIVA

Strategic aims

- The expression of EPDR1 has been studied in 140 paired samples from CRC patients. EPDR1 is more expressed in tumour than normal tissue. EPDR1 expression is directly related to T parameter, being higher among patients diagnosed with T3 and T4 CRC, independently from nodal involvement. EPDR1 seems to be a new marker of tumour invasiveness in CRC patients and its detection could predict tumour infiltration.
- The selection between KRAS alternative splicing isoforms 4A (apoptotic) and 4B (anti-apoptotic) in CRC-derived cell lines, depends on histone post-translational modifications (PTM). Manucript accepted in Oncotarget
- The mechanisms of histone PTM-dependent early gene expression in an acute pancreatitis mice model have been studied. A general diminution of the methylation level has been observed.

Main lines of research

- Exploring the role of ZNF518B and EPDR1 genes in human colorectal cancer: A translational approach. As EPDR1 expression is higher in patients diagnosed with T3 and T4 CRC, we will check whether the gene is a marker of tumour invasiveness. We will check whether the gene expression is regulated by DNA methylation in patient tissues, as it is in CRC cell lines. The expression of ZNF518B will be determined in the samples used for EPDR1.
- Epigenetic changes in acute pancreatitis. The study is now aimed at the mechanisms involved in histone demethylation.
- Role of EPDR1 in bladder cancer. We are analysing the expression of the gene in samples from urine, before and after bladder washing, and in tissue samples from transuretral resection of tumours.

• PUBLICATIONS

Number of articles	IF	Average IF
2	64,92	3,24

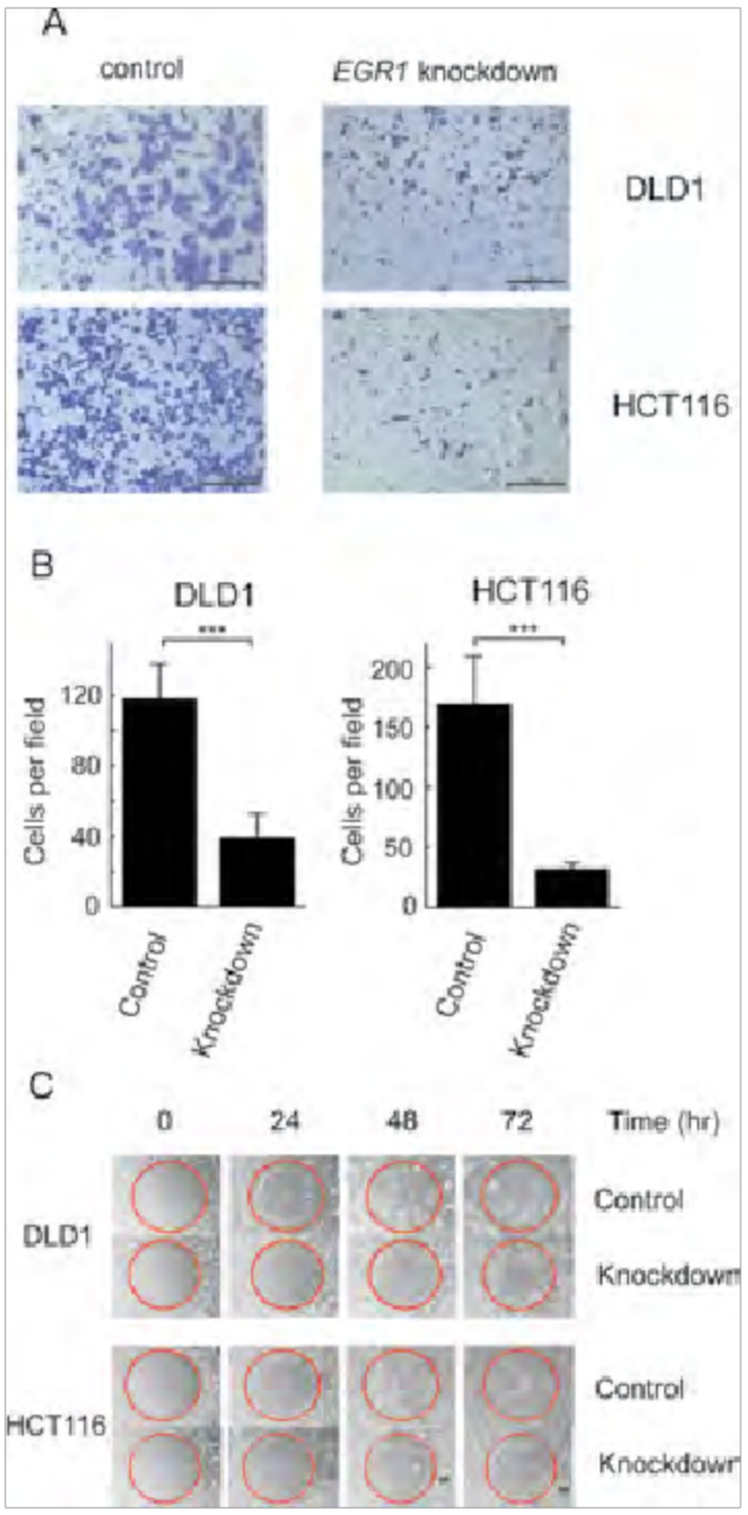
National collaborations	International collaborations	Corresponding author
1	1	2

SELECTED PUBLICATIONS

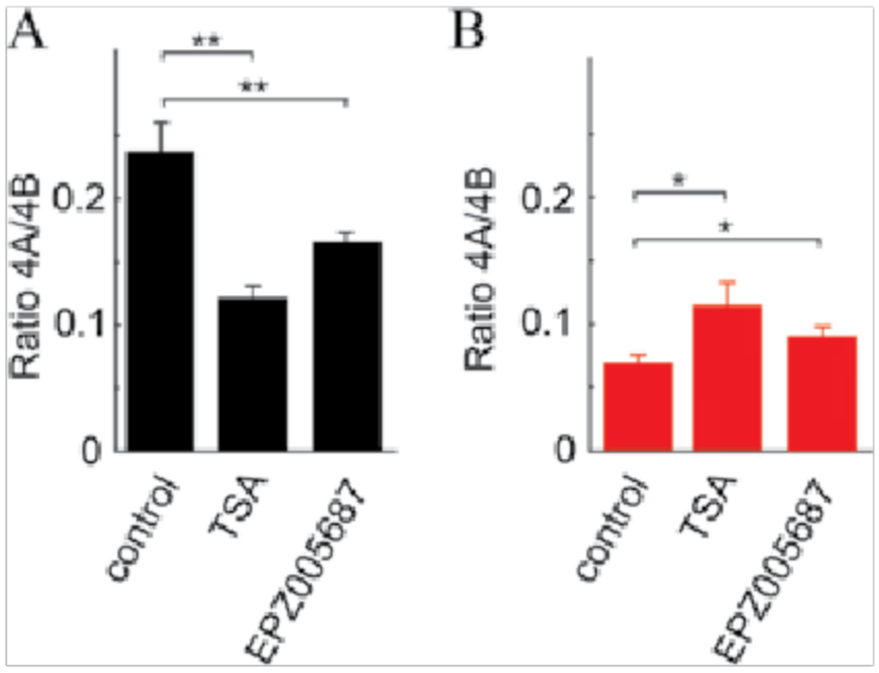
1. Mathur D, Riffo-Campos AL, Castillo J, Haines JD, Vidaurre OG, Zhang F, Coret-Ferrer F, Casaccia P, Casanova B, López-Rodas G. Bioenergetic Failure in Rat Oligodendrocyte Progenitor Cells Treated with Cerebrospinal Fluid Derived from Multiple Sclerosis Patients. Frontiers in Cellular Neuroscience. 2017; 11: 209. IF: 4,555
2. Castillo J, López-Rodas G, Franco L. Histone Post-Translational Modifications and Nucleosome Organisation in Transcriptional Regulation: Some Open Questions. Advances in Experimental Medicine and Biology. 2017; 966:65-92. IF: 1,937

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: SAF2015-71208-R
Title: *Papel de la señalización redox, beta-arrestina 2 y nucleosomas extracelulares en la pancreatitis aguda*
Principal Investigator: Juan Sastre (Luis Franco as collaborating researcher)
Funding body: *Ministerio de Economía y Competitividad*
Beneficiary institution: *Universidad de Valencia*
Duration: 2016-2019
Total budget: 254.100€



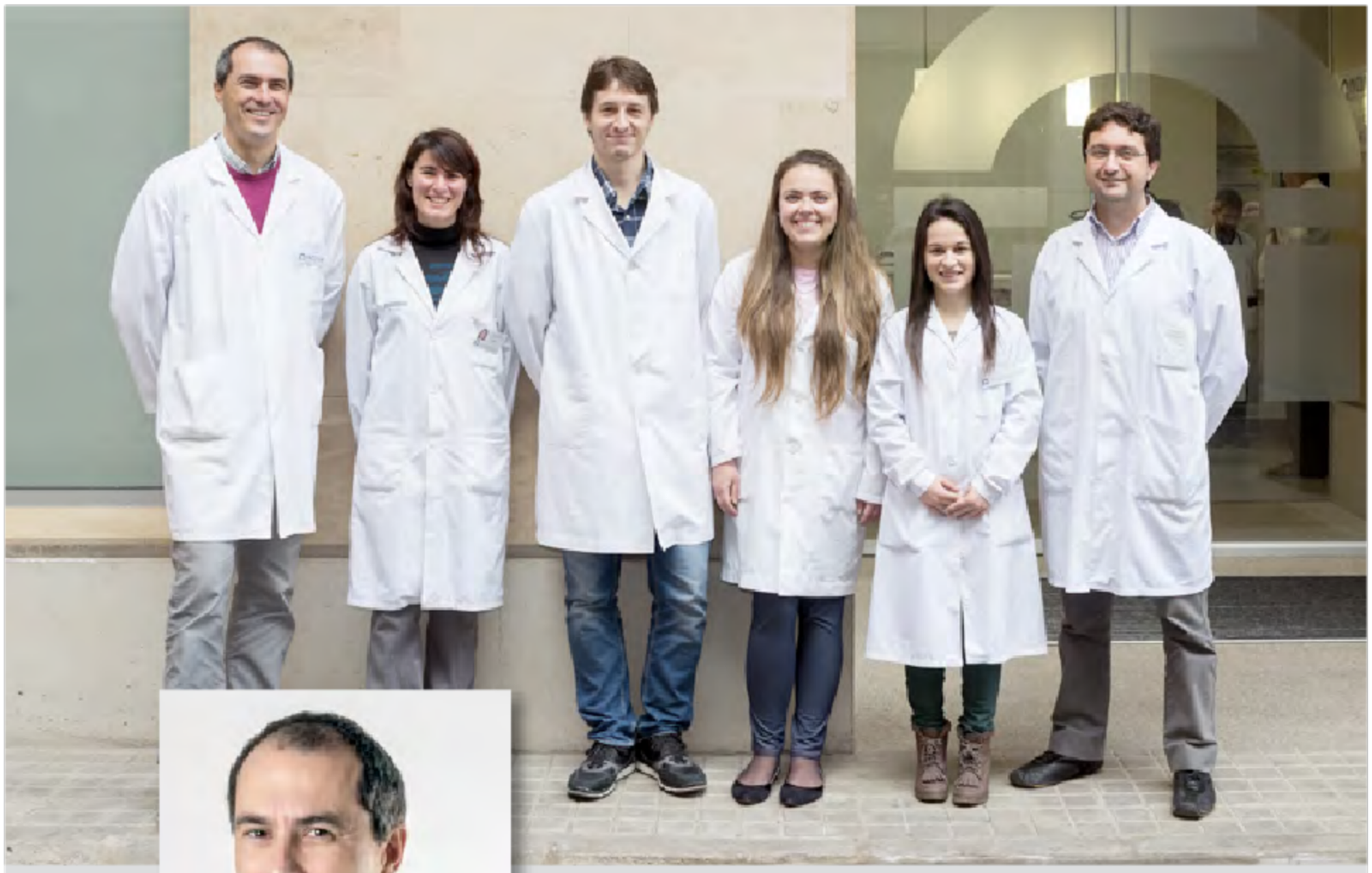
Effect of EPDR1 on DLD1 and HCT116 cell migration. (A) Transwell assay 48 h after silencing. Two representative plates are shown. (B) Cell count in transwell assays. (C) Wound healing assay.



Effect of epigenetic changes in acetylation of H3 and methylation of H3K27 on the ratio of KRAS 4A/4B isoforms in colorectal cancer cells. Trichostatin A (TSA) is used as a histone deacetylase inhibitor, and EPZ005687 as an inhibitor of histone methyltransferases EZH. (A) HCT116 cellular line. (B) SW48 cell line.

Research Group on Molecular Imaging and Metabolomics

Emerging group





Group members

Principal investigator

Daniel Monleón Salvadó
INCLIVA

Collaborating researchers

Vannina González Marrachelli. INCLIVA
Antonio Pellín Carcelén. University
Mercedes Pardo Tendero. INCLIVA
Itziar Pérez Terol. INCLIVA
María Martín Grau. INCLIVA

Technicians

José Manuel Morales Tatay. University

Strategic aims

- Identify new metabolomic markers of tumor aggressiveness in breast cancer.
- Identify new markers of myocardial infarction.
- Identify new metabolomic cardiovascular risk markers based on the microbiota-host interaction.

Main lines of research

- Tumor metabolism through metabolic profiles in biopsies, biofluids and cells (breast cancer, glioblastoma multiforme, prostate, bladder).
- Metabolic profiles in the progression of cardiometabolic risk modulated by the microbiota-host interaction.
- Metabolic profiles of healthy aging vs frailty.
- MRI microimaging study of porcine cardiac tissue samples to develop new detection methods.

• PUBLICATIONS

Number of articles	IF	Average IF
6	31,68	5,28

National collaborations	International collaborations	Corresponding author
3	3	-

SELECTED PUBLICATIONS

1. Duparc T, Plovier H, Marrachelli VG, Van Hul M, Essaghir A, Ståhlman M, Matamoros S, Geurts L, Pardo-Tendero MM, Druart C, Delzenne NM, Demoulin JB, van der Merwe SW, van Pelt J, Bäckhed F, Monleon D, Everard A, Cani PD. Hepatocyte MyD88 affects bile acids, gut microbiota and metabolome contributing to regulate glucose and lipid metabolism. Gut. 2017 Apr; 66 (4): 620-632. IF: 16,658

2. Knez J, Marrachelli VG, Cauwenberghs N, Winckelmans E, Zhang Z, Thijs L, Brguljan-Hitij J, Plusquin M, Delles C, Monleon D, Redón J, Staessen JA, Nawrot TS, Kuznetsova T. Peripheral blood mitochondrial DNA content in relation to circulating metabolites and inflammatory markers: A population study. Plos One. 2017 Jul 13; 12 (7): e0181036. IF: 2,806

3. Forsgård RA, Marrachelli VG, Korpela K, Frias R, Collado MC, Korpela R, Monleon D, Spillmann T, Österlund P. Chemotherapy-induced gastrointestinal toxicity is associated with changes in serum and urine metabolome and fecal microbiota in male Sprague-Dawley rats. Cancer Chemotherapy and Pharmacology. 2017 Aug; 80 (2): 317-332. IF: 2,737

4. López-Morales MA1, Centeno JM, Jover-Mengual T, Marrachelli VG, Burguete MC, Castelló-Ruiz M, Aliena-Valero A, Alborch E, Torregrosa G, Salom JB, Miranda FJ. Mechanisms involved in the increased sensitivity of the rabbit basilar artery to atrial natriuretic peptide in diabetes. European Journal of Pharmacology. 2017 Nov 15; 815: 64-72. IF: 2,896

5. López-Ginés C, Navarro L, Muñoz-Hidalgo L, Buso E, Morales JM, Gil-Benso R, Gregori-Romero M, Megías J, Roldán P, Segura-Sabater R, Almerich-Silla JM, Monleón D, Cerdá-Nicolás M. Association between epidermal growth factor receptor amplification and ADP-ribosylation factor 1 methylation in human glioblastoma. Cellular Oncology. 2017 Aug; 40 (4): 389-399. IF: 3,786

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: INTIMIC-085
Title: *Maternal obesity and cognitive dysfunction in the offspring: causeeffect role of the GUT MicrobiOMe and early dietary prevention*
Principal Investigator: Consuelo Borrás Blasco (Daniel Monleón Salvadó, Vannina González Marrachelli, José Manuel Morales Tatay as collaborating researchers)
Funding Body: *JPI HDHL. European Commission*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2020
Total Budget: 778.240€

Reference: PIE15/00013
Title: *A multidisciplinary Project to advance in basic mechanisms, diagnosis, prediction, and prevention of cardiac damage in reperfused acute myocardial infarction*
Principal Investigator: Vicente Bodí Peris (Daniel Monleón as collaborating researcher)
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*

Duration: 2016-2018
Total Budget: 589.050€

Reference: PCIN-2017-117
Title: *Obesidad materna y disfunción cognitiva en la descendencia: papel causa-efecto de la microbiota intestinal y prevención dietética temprana*
Investigador principal: Consuelo Borrás Blasco (Daniel Monleón Salvadó, Vannina González Marrachelli, José Manuel Morales Tatay as collaborating researchers)
Funding Body: *Ministerio de Economía, Industria y Competitividad*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2020
Total Budget: 143.000€

Reference: SAF2014-52875R
Title: *Estudio metabolómico de la interacción huésped-microbiota intestinal en la enfermedad cardiometabólica. Detección temprana, prevención y tratamiento*
Principal Investigator: Daniel Monleón Salvadó
Funding Body: *Ministerio de Economia y Competitividad*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 160.000€

• THESIS

Thesis title: *Interacción entre receptores de estrógenos, hipoxia, angiogénesis y metabolismo tumoral en cáncer de mama*
Doctoral candidate: Remedios Segura Sabater
Director(s): Daniel Monleón Salvadó, Ana Lluch Hernández
Date of the defense: 29/10/2017
Grade: *Sobresaliente "cum laude"*

4.3.3 Metabolism and organic damage area

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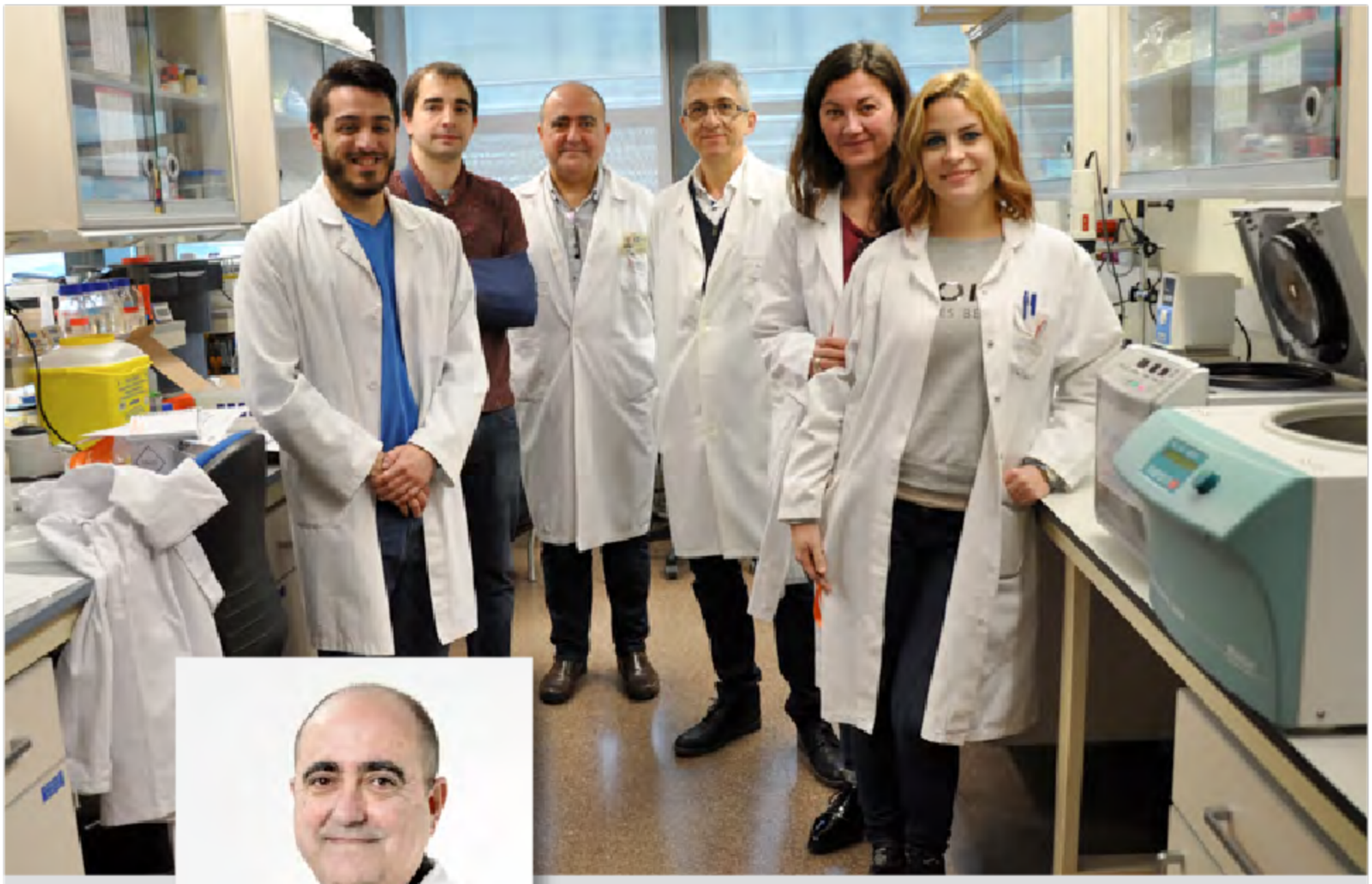
Research Group on Genetics of Osteoporosis

Consolidated group





Group members

Principal investigator

Miguel Ángel García Pérez
University

Collaborating researchers

Rosa María Aliaga Corachán. University
Damián Mifsut Miedes. Hospital. University

PhD researchers

Layla Panach González. INCLIVA
Álvaro Acebrón Fabregat. Hospital

Strategic aims

- Our group has continued the study of the association between candidate genes and polymorphisms and bone phenotypes.
- This year, we have studied the role of B-lymphocytes in bone phenotypes using a translational approach. In this way, we have identified the CD80 gene as a candidate for studies of association to bone phenotypes.
- We continue the study of miRNAs associated with bone fracture.
- We have participated in a national collaborative study that has identified SNPs in miRNAs that have been associated with an osteoporotic phenotype.
- We have performed the usual collaborations on aspects related to bone metabolism during pregnancy and on aspects related to fertility.

Main lines of research

- Research and analysis of polymorphisms in estrogen-regulated, the immune system of the Wnt / beta-catenin pathway and B-cell associated with postmenopausal osteoporosis genes.
- Identification of new genes regulated by estrogen in murine models of accelerated bone loss.
- Analysis of miRNAs profile and circulating cytokines in osteoporotic hip fracture.
- Identification of genes differentially expressed in osteoblasts after an osteoporotic fracture.
- Role of B cell and CD40 / CD40L system in postmenopausal bone loss.
- Functional characterization via genetic and epigenetic variants associated with bone phenotypes techniques.
- Genetic, biochemical and cytomical characterization and identification of biomarkers in patients with Idic15 syndrome.

• PUBLICATIONS

Number of articles	IF	Average IF
4	13,16	3,29

National collaborations	International collaborations	Corresponding author
1	-	2

SELECTED PUBLICATIONS

1. Panach L, Serna E, Tarín JJ, Cano A, García-Pérez MÁ. A translational approach from an animal model identifies CD80 as a candidate gene for the study of bone phenotypes in postmenopausal women. Osteoporosis International. 2017 Aug; 28 (8): 2445-2455. IF: 3,591

2. Tarín JJ, García-Pérez MA, Cano A. Potential risks to offspring of intrauterine exposure to maternal age-related obstetric complications. Reproduction, Fertility, and Development. 2017 Aug; 29 (8): 1468-1476. IF: 2,656

3. De-Ugarte L, Caro-Molina E, Rodríguez-Sanz M, García-Pérez MA, Olmos JM, Sosa-Henríquez M, Pérez-Cano R, Gómez-Alonso C, Del Rio L, Mateo-Agudo J, Blázquez-Cabrera JA, González-Macías J, Pino-Montes JD, Muñoz-Torres M, Diaz-Curiel M, Malouf J, Cano A, Pérez-Castrillon JL, Nogues X, García-Giralt N, Diez-Pérez A. SNPs in bone-related miRNAs are associated with the osteoporotic phenotype. Scientific Reports. 2017 Mar 31; 7 (1): 516. IF: 4,259

4. Tarín JJ1, García-Pérez MA2, Cano A3. Note of clarification: Potential risks to offspring of intrauterine exposure to maternal age-related obstetric complications. Reproduction, Fertility, and Development. 2017 Aug; 29 (8): 1653. IF: 2.656

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: FOCUS

Title: *Frailty management Optimisation though EIP AHA Commitments and Utilisation of Stakeholders input*

Principal Investigator: Antonio Cano Sánchez (Miguel Ángel García Pérez as collaborating researchers)

Funding body: *European Commission - DG SANTE*

Beneficiary institution: *Universidad de Valencia*

Duration: 2015-2018

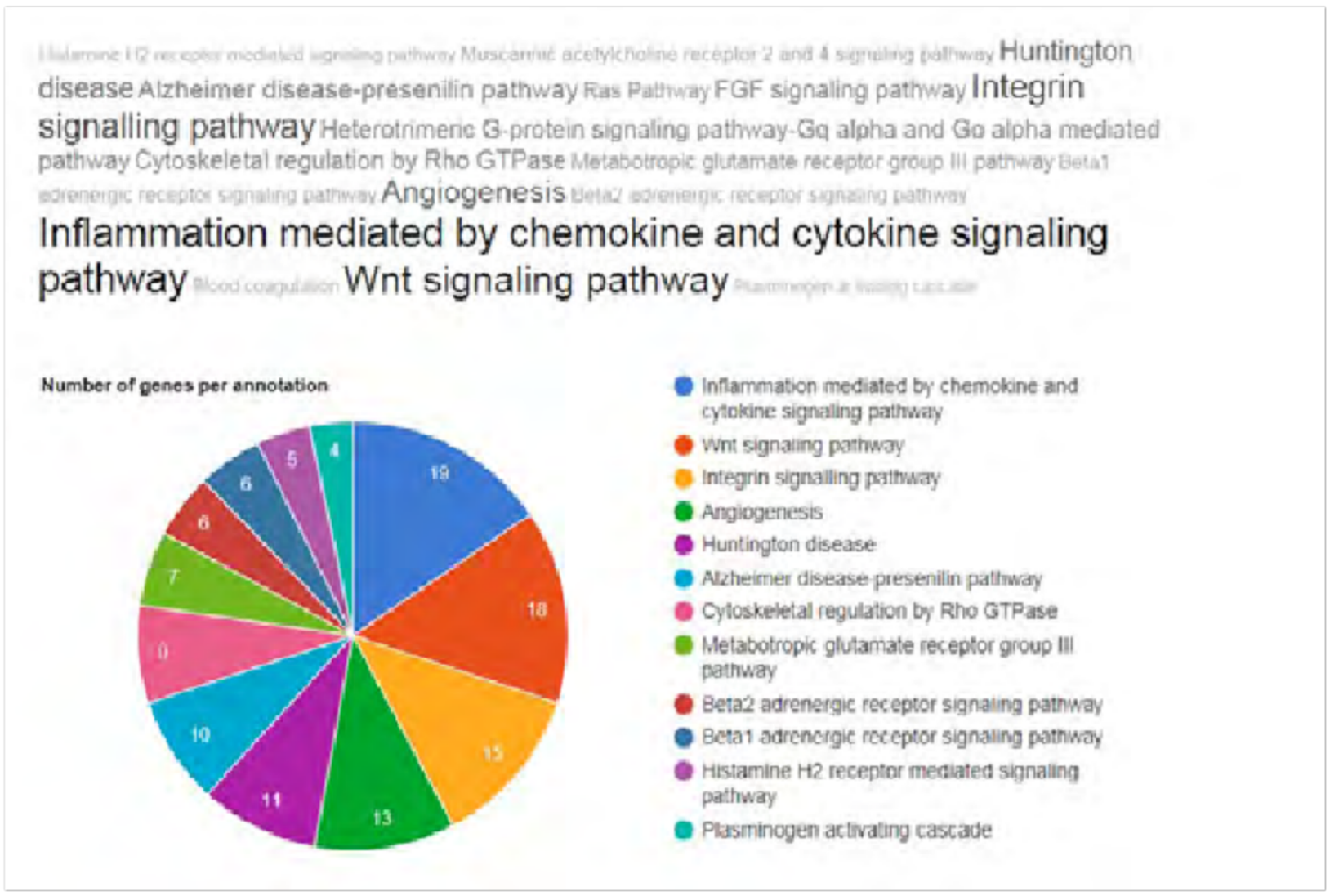
Total budget: 2.379.633€

• THESIS

Thesis title: *Identificación de genes y polimorfismos asociados a fenotipos óseos*
Doctoral candidate: Layla Panach González
Director(s): Miguel Ángel García Pérez, Antonio Cano Sánchez
Date of the defense: 22/09/2017
Grade: *Sobresaliente "cum laude"*
Quality recognition/Award: Extraordinary PhD program

• AWARDS

Award Certificate for Publishing Excellence from Calcified Tissue International, granted to the following paper: Panach L, Mifsut D, Tarín JJ, Cano A, and García-Pérez MA (2015). Serum Circulating MicroRNAs as Biomarkers of Osteoporotic Fracture. Calcified Tissue International. 2015; 97 (5): 495-505, ranked in the journal's top 10 most cited articles in 2015-16.



Singular Enrichment analysis of Panther Pathways

Translational Research Group on Nutrition and Metabolism

Consolidated group

Team involved in ciberehd





Group members

Principal investigator

Antonio Hernández Mijares
University

Collaborating researchers

Milagros Rocha Barajas. Hospital Dr. Peset - FISABIO
Víctor Manuel Víctor González. Hospital Dr. Peset. University
Juan Vicente Esplugues Mota. Hospital Dr. Peset. University
Carlos Morillas Ariño. Hospital Dr. Peset. University
Eva Solá Izquierdo. Hospital Dr. Peset. University
Celia Bañuls Morant. Hospital. Hospital Dr. Peset - FISABIO
Ana Jover Fernández. Hospital Dr. Peset
Marcelino Gómez Balaguer. Hospital Dr. Peset
Nadezda Apostolova Atanasovska. University
Silvia Veses Martín. Hospital Dr. Peset. University- FISABIO
Susana Rovira Llopis. Hospital Dr. Peset. University- FISABIO
Icíar Castro de la Vega. Hospital Dr. Peset- FISABIO
Noelia Díaz Morales. Hospital Dr. Peset- FISABIO
Sandra López Doménech. Hospital Dr. Peset- FISABIO
Irene Escribano López. Hospital Dr. Peset- FISABIO
Aránzazu Martínez de Marañón Peris. Hospital Dr. Peset- FISABIO
Francesca Iannantuoni. Hospital Dr. Peset- FISABIO
Zaida Abad Jiménez. Hospital Dr. Peset- FISABIO
Rosa Falcón Tapiador. Hospital Dr. Peset- FISABIO

Strategic aims

- To evaluate whether metformin treatment might modulate ER stress, autophagy, and oxidative stress in leukocytes of type 2 diabetic (T2D) patients.
- To determine if metformin treatment protects T2D patient leukocytes from oxidative stress by regulating ROS production and antioxidant enzyme expression.
- To assess whether metformin modulates leukocyte-endothelium interactions and adhesion molecule expression in T2D patients.
- To evaluate the relationship between testosterone levels, metabolic parameters, mitochondrial function, adhesion molecules and leukocyte-endothelium in T2D patients.
- To evaluate whether metabolic profile influences ER and oxidative stress in an obese population with/ without comorbidities.
- To evaluate the effect of pinitol on peripheral blood mononuclear cells (PBMCs) and visceral (VAT) and subcutaneous adipose tissues (SAT) in human obese subjects, focusing on the involvement of endoplasmic reticulum (ER) stress and sirtuin 1 (SIRT1).
- To evaluate whether the presence of metabolic syndrome in polycystic ovary syndrome patients can influence endoplasmic reticulum (ER) and oxidative stress and leukocyte– endothelium interactions.
- To determine the prevalence of nutritional risk and malnutrition, and the type and degree of malnutrition in outpatient, hospitalized and institutionalized populations in a health department.

Main lines of research

- Prevalence of nutritional risk and malnutrition.
- Diabetes mellitus and cardiovascular risk.
- Obesity, inflammation and endothelial dysfunction.
- Polycystic ovary syndrome and insulin resistance.
- Dyslipidemia and residual cardiovascular risk.
- Functional foods and their influence on cardiovascular risk factors.
- Endoplasmic reticulum stress, mitochondrial dysfunction and oxidative stress.
- Characterization of new cellular mechanisms of antiretroviral hepatotoxicity.

• PUBLICATIONS

Number of articles	IF	Average IF
19	85.04	4,47

National collaborations	International collaborations	Corresponding author
8	4	10

SELECTED PUBLICATIONS

1. Bañuls C, Rovira-Llopis S, López-Domenech S, Diaz-Morales N, Blas-García A, Veses S, Morillas C, Victor VM, Rocha M, Hernandez-Mijares A. Oxidative and endoplasmic reticulum stress is impaired in leukocytes from metabolically unhealthy vs healthy obese individuals. International Journal of Obesity. 2017 Oct; 41 (10): 1556-1563. IF: 5,487

2. Diaz-Morales N, Iannantuoni F, Escribano-López I, Bañuls C, Rovira-Llopis S, Sola E, Rocha M, Hernandez-Mijares A, Victor VM. Does Metformin Modulate Endoplasmic Reticulum Stress and Autophagy in Type 2 Diabetic Peripheral Blood Mononuclear Cells?. Antioxidants & Redox Signaling. 2017 Nov 28. IF: 6,337

3. Diaz-Morales N, Rovira-Llopis S, Bañuls C, López-Domenech S, Escribano-López I, Veses S, Jover A, Rocha M, Hernandez-Mijares A, Victor VM. Does metformin protect diabetic patients from oxidative stress and leukocyte-endothelium interactions?. Antioxidants & Redox Signaling. 2017 Dec 10; 27 (17): 1439-1445. IF: 6,337

4. Rovira-Llopis S, Bañuls C, de Marañon AM, Diaz-Morales N, Jover A, Garzon S, Rocha M, Victor VM, Hernandez-Mijares A. Low testosterone levels are related to oxidative stress, mitochondrial dysfunction and altered subclinical atherosclerotic markers in type 2 diabetic male patients. Free Radical Biology & Medicine. 2017; 108: 155-162. IF: 5,606

5. Bañuls C, Rovira-Llopis S, Martinez de Marañon A, Veses S, Jover A, Gomez M, Rocha M, Hernandez-Mijares A, Victor VM. Metabolic syndrome enhances endoplasmic reticulum, oxidative stress and leukocyte-endothelium interactions in PCOS. Metabolism: Clinical and Experimental. 2017; 71: 153-162. IF: 5,777

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI16/01083
Title: *Estudio de la dinámica mitocondrial, el inflamasoma y su relación con las complicaciones cardiovasculares en la diabetes tipo 2: implicaciones fisiopatológicas y clínicas*
Principal Investigator: Víctor Manuel Víctor González
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación para el Fomento de la Investigación Sanitaria y Biomédica de la Comunitat Valenciana (FISABIO)*
Duration: 2017-2019
Total budget: 147.015€

Reference: PI16/00301
Title: *Papel de la autofagia y el inflamasoma en la fisiopatología de la obesidad: Efecto de la pérdida de peso y posibles implicaciones terapéuticas*
Principal Investigator: Milagros Rocha Barajas
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación para el Fomento de la Investigación Sanitaria y Biomédica de la Comunitat Valenciana (FISABIO)*
Duration: 2017-2019
Total budget: 92.565€

Reference: PI15/01424
Title: *Prevalencia de desnutrición en el medio hospitalario y ambulatorio. Mecanismos moleculares asociados a la desnutrición: estrés oxidativo, inflamación y estrés de retículo endoplasmático*
Principal Investigator: Antonio Hernández Mijares
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación para el Fomento de la Investigación Sanitaria y Biomédica de la Comunitat Valenciana (FISABIO)*
Duration: 2016-2018
Total budget: 86.515€

Reference: PI14/00312
Title: *Papel de los fármacos anti-VIH en la aparición y/o progresión de la enfermedad de hígado graso no alcohólico*
Principal Investigator: Juan Vicente Esplugues Mota, Nadezda Apostolova Atanasovska
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación para el Fomento de la Investigación Sanitaria y Biomédica de la Comunitat Valenciana (FISABIO)*
Duration: 2015-2017
Total budget: 98.615€

Reference: SAF2015-67678-R
Title: *Estudio del mecanismo responsable de la toxicidad vascular de Abacavir: papel del sistema purinérgico sobre la interacción leucocito/endotelio/plaqueta*
Principal Investigator: Juan Vicente Esplugues Mota y Ángeles Álvarez Ribelles
Funding Body: *Ministerio de Economía y Competitividad*
Beneficiary Institution: *Universidad de Valencia*
Duration: 2016-2018
Total budget: 169.400€

Reference: CB06/04/0071
Title: *CIBER de Enfermedades Hepáticas y Digestivas (CIBERehd)*
Principal Investigator: Juan Vicente Esplugues Mota
Funding Body: *Centro de Investigación Biomédica en Red (CIBER) – Instituto de Salud Carlos III*
Beneficiary Institution: *Universidad de Valencia*
Duration: 2007

Reference: GV/2016/169
Title: *Evaluación de parámetros de estrés oxidativo y análisis de biomarcadores (miRNAs y actividad telomérica) en obesos metabólicamente sanos vs no sanos*
Principal Investigator: Celia Bañuls Morant
Funding Body: *Conselleria de Educación, Cultura y Deporte*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017
Total Budget: 16.000€

Reference: PROMETEOII/2014/035
Title: *Farmacología del tracto digestivo y la inflamación*
Principal Investigator: Juan Vicente Esplugues Mota
Funding Body: *Conselleria de Educación, Cultura y Deporte*
Beneficiary Institution: *Universidad de Valencia*
Duration: 2014-2017
Total budget: 173.930€

Reference: UGP-15-193
Title: *Efecto de los antioxidantes con diana en la mitocondria SS31 y MitoQ sobre la disfunción mitocondrial, la autofagia y el estrés de retículo endoplasmático en la diabetes tipo 2: Implica-*

ciones fisiopatológicas, clínicas y terapéuticas
Principal Investigator: Víctor M. Víctor González
Funding Body: *Fundación para el Fomento de la Investigación Sanitaria y Biomédica de la Comunitat Valenciana (FISABIO)*
Beneficiary Institution: *Fundación para el Fomento de la Investigación Sanitaria y Biomédica de la Comunitat Valenciana (FISABIO)*
Duration: 2016-2017
Total budget: 25.500€

Reference: UGP-15-220
Title: *Evaluación de parámetros de estrés oxidativo y análisis de biomarcadores (miRNAs y actividad telomérica) en obesos metabólicamente sanos vs no sanos*
Principal Investigator: Celia Bañuls Morant
Funding Body: *Fundación para el Fomento de la Investigación Sanitaria y Biomédica de la Comunitat Valenciana (FISABIO)*
Beneficiary Institution: *Fundación para el Fomento de la Investigación Sanitaria y Biomédica de la Comunitat Valenciana (FISABIO)*
Duration: 2016-2017
Total budget: 12.500€

• THESIS

Thesis title: *Mitochondria and endoplasmic reticulum interplay at the core of efavirenz-induced hepatic effects*
Doctoral candidate: Míriam Polo Peñalver
Director(s): Víctor Manuel Víctor González, Juan Vicente Esplugues Mota, Nadezda Apostolova Atanasovska
Date of the defense: 13/02/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Acute inflammatory and fibrogenic responses induced in liver cells by efavirenz*
Doctoral candidate: Fernando Alegre Guerra
Director(s): Juan Vicente Esplugues Mota, Nadezda Apostolova Atanasovska, Ana Blas García
Date of the defense: 18/05/2017
Grade: *Sobresaliente "cum laude"*
Quality recognition/Award: Extraordinary PhD program, European PhD

Thesis title: *Estudio de la interacción leucocito-endotelio en niños obesos*
Doctoral candidate: Miguel Martí Masanet
Director(s): Juan Vicente Esplugues Mota, Pilar Codoñer Franch, Ángeles Álvarez Ribelles
Date of the defense: 07/09/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Parámetros ecocardiográficos de rigidez aórtica y su asociación con isquemia miocárdica silente en diabéticos tipo 2*
Doctoral candidate: Mª Rosario Mármol Lozano
Director(s): Antonio Hernández Mijares, Antonio Salvador Sanz, Ildefonso Roldán Torres
Date of the defense: 27/09/2017
Grade: *Sobresaliente "cum laude"*

• AWARDS

The Dr. Susana Rovira Llopis was awarded with the "Premio Carrasco i Formiguera" on April 2017 for recognition of her scientific career by the "Sociedad Española de Diabetes".

Research Group on Neurological Impairment
Consolidated group





Group members

Principal investigator

Carmina Montoliu Félix
INCLIVA. University

Collaborating researchers

Amparo Uriós Lluch. INCLIVA
Andrea Cabrera Pastor. INCLIVA
Laura Puchades Lanza. INCLIVA
Amparo Escudero García. Hospital. University
María Luisa García Torres. Hospital
Paloma Lluch García. Hospital
Joan Tosca Cuquerella. Hospital
José Ballester Fayos. Hospital
Cristina Montón Rodríguez. Hospital
María Pilar Ballester Ferré. Hospital

Strategic aims

Around 40% of patients with liver cirrhosis have minimal hepatic encephalopathy (MHE) with alterations in cognitive function, attention, motor coordination and sleep, which impair their quality of life and reduce their survival. A better characterization of these neurological alterations would allow detecting MHE at earlier stages and with greater sensitivity. Hyperammonemia and inflammation act synergistically in the induction of neurologic impairment, but the underlying mechanisms are not known. A detailed characterization of the inflammatory processes associated with appearance of MHE would allow identifying early biomarkers of MHE.

The aims of the project are:

- 1) To characterize in detail the early neurological alterations in MHE. Assess whether other tests may improve detection of MHE.
- 2) To characterize the inflammatory processes associated to the onset and progression of MHE. Assess their utility as biomarkers or predictors of MHE.
- 3) To analyze the mechanisms involved in oxidative/nitrosative stress associated with MHE and the contribution of peroxynitrite formation and protein nitration to the appearance of MHE.
- 4) To characterize the alterations in cerebral activity and neuronal connectivity by EEG brain mapping during wakefulness and in the different stages of sleep.
- 5) To characterize the alterations in brain activity by functional magnetic resonance: functional connectivity in resting state and the pattern of activation of brain regions during performance of attention tests and mismatch negativity (MMN).
- 6) To identify procedures based on above results, which improve diagnosis of MHE allowing an earlier detection.
- 7) Assess whether treatment with tadalafil restores cognitive function in patients with MHE.

Main lines of research

- Characterization of cognitive, neuropsychological and in patients with minimal hepatic encephalopathy with cognitive impairment mild.
- Characterize alterations in inflammation, neuroinflammation, function and brain structure associated with the appearance of hepatic encephalopathy Minimum (EHM).
- Identify biomarkers for early detection of deterioration cognitive disease in the EHM.

-Hepatic encephalopathy. Clinical, and biochemical diagnostics.

-Detection of the presence of MHE in cirrhotic patients. Comparison of psychometric tests and critical flicker frequency. Study of peripheral parameters related with cGMP homeostasis and inflammation as possible indicators of the presence of MHE.

-MHE biomarkers. Identification of metabolites to be use in the diagnosis of MINIMAL hepatic encephalopathy.

-Study of brain disorders using magnetic resonance imaging (including edema, cerebral atrophy, abnormal neural tracts) in patients with liver cirrhosis. Useful in the diagnosis of minimal hepatic encephalopathy.

-Study of alterations in attention, quality and sleep patterns in patients with liver cirrhosis with or without minimal hepatic encephalopathy.

-Study of impaired driving ability in patients with liver cirrhosis. Correlation with the presence of MHE.

-Analysis of synergistic effect between hyperammonemia and inflammation in the induction of MHE cognitive impairment.

-About the hepatitis, to study the epidemiological and therapeutic aspects of immunoprophylaxis.

-Development and characterization of an animal model of alcohol-induced hepatic encephalopathy.

• PUBLICATIONS

Number of articles	IF	Average IF
14	65.69	4,69

National collaborations	International collaborations	Corresponding author
12	3	4

SELECTED PUBLICATIONS

1. Mangas-Losada A, García-García R, Urios A, Escudero-García D, Tosca J, Giner-Durán R, Serra MA, Montoliu C*, Felipo V. Minimal hepatic encephalopathy is associated with expansion and activation of CD4+CD28-, Th22 and Tfh and B

lymphocytes. Scientific Reports. 2017; 7 (1): 6683. IF: 4,259 *(*corresponding author)*

2. Urios A, Mangas-Losada A, Gimenez-Garzó C, González-López O, Giner-Durán R, Serra MA, Noe E, Felipo V, Montoliu C. Altered postural control and stability in cirrhotic patients with minimal hepatic encephalopathy correlate with cognitive deficits. Liver International. 2017 Jul; 37 (7): 1013-1022. IF: 4,116

3. Giménez-Garzó C, Garcés JJ, Urios A, Mangas-Losada A, García-García R, González-López O, Giner-Durán R, Escudero-García D, Serra MA, Soria E, Felipo V, Montoliu C. The PHES battery does not detect all cirrhotic patients with early neurological deficits, which are different in different patients. Plos One. 2017; 12 (2): e0171211. IF: 2,806

4. Casanova MJ, Chaparro M, García-Sánchez V, Nantes O, Leo E, Rojas-Feria M, Jauregui-Amezaga A, García-López S, Huguet JM, Arguelles-Arias F, Aicart M, Marín-Jiménez I, Gómez-García M, Muñoz F, Esteve M, Bujanda L, Cortés X, Tosca J, Pineda JR, Mañosa M, Llaó J, Guardiola J, Pérez-Martínez I, Muñoz C, González-Lama Y, Hinojosa J, Vázquez JM, Martinez-Montiel MP, Rodríguez GE, Pajares R, García-Sepulcre MF, Hernández-Martínez A, Pérez-Calle JL, Beltrán B, Busquets D, Ramos L, Bermejo F, Barrio J, Barreiro-de Acosta M, Roncedo O, Calvet X, Hervías D, Gomollón F, Domínguez-Antonaya M, Alcaín G, Sicilia B, Dueñas C, Gutiérrez A, Lorente-Poyatos R, Domínguez M, Khorrami S, Muñoz C, Taxonera C, Rodríguez-Pérez A, Ponferrada A, Van Domselaar M, Arias-Rivera ML, Merino O, Castro E, Marrero JM, Martín-Arranz M, Botella B, Fernández-Salazar L, Monfort D, Opio V, García-Herola A, Menacho M, Ramírez-de la Piscina P, Ceballos D, Almela P, Navarro-Llavat M, Robles-Alonso V, Vega-López AB, Moraleja I, Novella MT, Castaño-Milla C, Sánchez-Torres A, Benítez JM, Rodríguez C, Castro L, Garrido E, Domènech E, García-Planella E, Gisbert JP. Evolution After Anti-TNF Discontinuation in Patients With Inflammatory Bowel Disease: A Multicenter Long-Term Follow-Up Study. American Journal of Gastroenterology. 2017 Jan; 112 (1): 120-131. IF: 9,566

5. Calleja JL, Crespo J, Rincón D, Ruiz-Antorán B, Fernandez I, Perelló C, Gea F, Lens S, García-Samaniego J, Sacristán B, García-Eliz M, Llerena S, Pascasio JM, Turnes J, Torras X, Morillas RM, Llaneras J, Serra MA, Diago M, Rodriguez CF, Ampuero J, Jorquera F, Simon MA, Arenas J, Navascues CA, Bañares R, Muñoz R, Albillos A, Mariño Z; Spanish Group for the Study of the Use of Direct-acting Drugs Hepatitis C Collaborating Group. Effectiveness, safety and clinical outcomes of direct-acting antiviral therapy in HCV genotype 1 infection: Results from a Spanish real-world cohort. Journal of Hepatology. 2017 Jun; 66 (6): 1138-1148. IF: 12,486

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI15/00035
Title: *Caracterización de las alteraciones neurológicas en pacientes con encefalopatía hepática mínima y de las alteraciones cerebrales responsables. Contribución del estrés oxidativo y la inflamación*
Principal Investigator: Carmina Montoliu Félix
Funding body: *Instituto de Salud Carlos III*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total budget: 159.115€

Reference: PROMETEOII/2014/033
Título: *Bases moleculares de las alteraciones neurológicas (cognitivas, motoras y en ritmos circadianos) en hiperamonemia y encefalopatía hepática. Implicaciones terapéuticas*
Principal Investigator: Vicente Felipo Orts
Funding Body: *Conselleria de Educación, Cultura y Deporte*
Beneficiary Institution: *CIPF/Fundación Investigación Clínico de Valencia Instituto de Investigación Sanitaria*
Duration: 2014-2017
Total Budget: 265.000€

• THESIS

Thesis title: *Caracterización de los cambios en el inmunofenotipo asociados a la aparición de la encefalopatía hepática mínima en pacientes cirróticos*
Doctoral candidate: Alba Mangas Losada
Director(s): Carmina Montoliu Félix, Vicente Felipo Orts
Date of the defense: 15/06/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Estudio electroencefalográfico de las alteraciones de vigilia y sueño en ratas sometidas a pesticidas*
Doctoral candidate: Rut Victorio Muñoz
Director(s): Carmina Montoliu Felix, Vicente Felipo Orts, Paula

Cases Bergón

Date of the defense: 14/07/2017

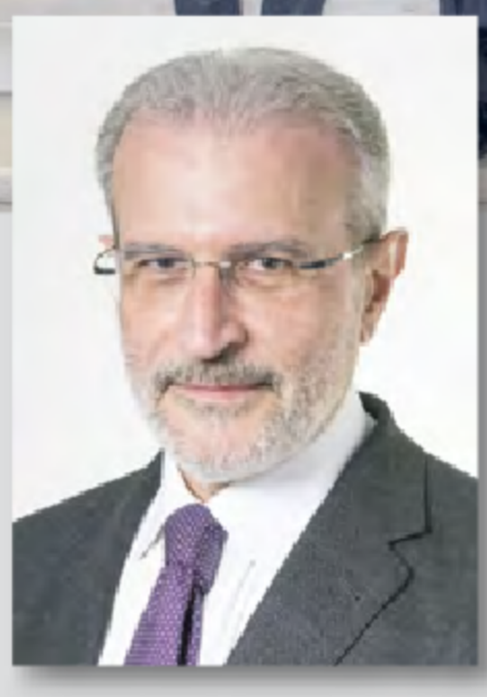
Grade: *Sobresaliente "cum laude"*

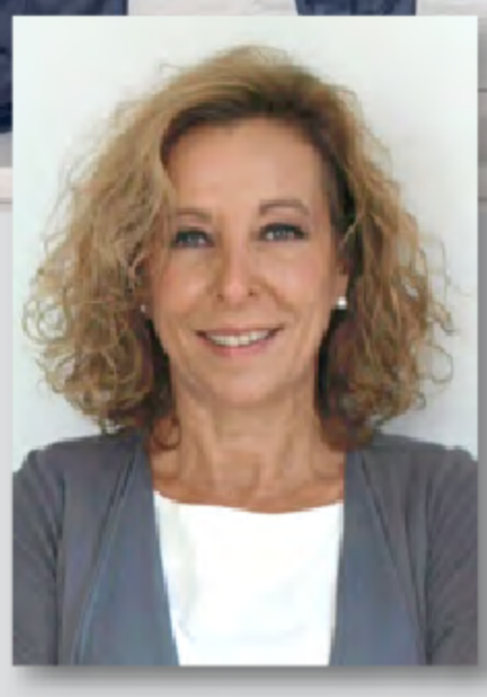
Scheme summarizing the changes in the immunophenotype associated with MHE and hypotheses on how this may affect the brain and lead to MHE.

Research Group on Inflammation
Consolidated group

Team involved in ciberes







Group members

Principal investigator

Esteban Morcillo Sánchez
University

María Jesús Sanz Ferrando
University

Emerging researchers

Laura Piqueras Ruiz. INCLIVA
Herminia González Navarro. INCLIVA
Nuria Cabedo Escrig. INCLIVA

Collaborating researchers

Luisa Hueso Soler. INCLIVA
Andrea Herrero Cervera. INCLIVA

PhD researchers

Aida Collado Sánchez. University
Patrice Gomes Marques. INCLIVA

Technicians

Ángela Vinué Visús. INCLIVA
Francisca Selles Sorli. INCLIVA
Gonzalo Boigues López. INCLIVA
Laura Vila Dasí. INCLIVA

Strategic aims

- Study of the novel molecular, biochemical, cellular and genetic mechanisms involved in the etiopathogenesis of chronic obstructive pulmonary disease (COPD).
- Study of the role of CXCL16/CXCR6 axis in the cardiovascular disease associated to COPD, metabolic syndrome and abdominal aortic aneurysm (AAA).
- Study of the beneficial effect of Vitamin D in AAA development.
- Study of the impact of GLP1 analogues in the development of atherosclerosis in insulin resistance.
- Synthesis of new dual PPARα/γ agonists.

Main lines of research

- Study of the novel molecular, biochemical, cellular and genetic mechanisms involved in the etiopathogenesis of chronic obstructive pulmonary disease (COPD). Lung and systemic effects.
- Study of the vascular inflammation induced by different risk factors of atherosclerosis: angiotensin-II, menopause, cigarette smoke, metabolic syndrome, insulin resistance or familial hypercholesterolemia.
- Study of the role of retinoid X receptors (RXR) in inflammation angiogenesis.
- Study of the role of CXCR3 axis and nuclear ROR receptors in human obesity.
- Study of new anti-angiogenic mediators in acute myocardial infarct.
- Study of the CDKN2A/B genes and the LIGHT cytokine in the atherosclerosis associated with insulin resistance.
- Synthesis of new dopaminergic isoquinolines as anti-Parkinson drugs.
- Synthesis of new dual PPARα/γ agonists to be used in cardiometabolic disorders.



Emerging Researcher

Herminia González Navarro

The research is focused in the study of the molecular mechanisms of the diabetes mellitus (DM) and its effect on atherosclerosis development which is one of the main causes of cardiovascular diseases. To perform these studies we employ genetically-modified mice that develop metabolic alterations such as diabetes, insulin resistance, fatty liver disease (another related metabolic disease) and atherosclerosis. To translate our findings into the human pathology we also perform investigations in human subjects and in human cell cultures. Specifically our research lines are focused in the understanding of one main mechanism connecting these metabolic diseases, the unbalanced interplay of the different immune cellular subsets. Recently, we have observed that either genetic inactivation of some key inflammatory mediators or inhibition of intracellular signaling-cascades in mice and human cells restore the immune cell homeostasis and decreases disease progression. These studies will allow us to identify novel therapeutic targets based on immune cell modulation to treat metabolic diseases.



Emerging Researcher

Laura Piqueras Ruiz

The preclinical research focuses on the understanding of the molecular and cellular mechanisms that underlie the development and progression of the aneurysm. We are also exploring the effect of several nuclear receptors, X retinoid receptor (RXR), peroxisome proliferator activating receptors (PPAR) and vitamin D receptor ligands (VDR) in the development of AAA. We are also interested in characterizing the new molecular mechanism associated with the formation of aneurysms in animal models and human samples. Additionally, we are investigating the role of several nuclear receptors on inflammation and angiogenesis associated to obesity.



Emerging Researcher

Nuria Cabedo Escrig

The lines of research focuse in: 1) Synthesis of biologically active molecules, highlighting the compounds with PPAR activity, anti-inflammatory, dopaminergic, antimicrobial and cytotoxic agents; 2) Purification and identification of natural metabolites of plant or fungal origin.

• PUBLICATIONS

Number of articles	IF	Average IF
10	47,43	4,74

National collaborations	International collaborations	Corresponding author
7	1	3

SELECTED PUBLICATIONS

1. Hueso L, Rios-Navarro C, Ruiz-Saurí A, Chorro FJ, Nunez J, Sanz MJ, Bodi V, Piqueras L. Dynamics and implications of circulating anti-angiogenic VEGF-A₁₆₅b isoform in patients with ST-elevation myocardial infarction. Scientific Reports. 2017; 7 (1): 9962. IF: 4,259
2. Marques P, Collado A, Escudero P, Rius C, González C, Servera E, Piqueras L, Sanz MJ. Cigarette smoke increases endothelial CXCL16-leukocyte CXCR6 adhesion in vitro and in vivo potential consequences in chronic obstructive pulmonary disease. Frontiers in Immunology. 2017 Dec 13; 8: 1766. IF: 6,429
3. Ríos-Navarro C, Hueso L, Miñana G, Núñez J, Ruiz-Saurí A, Sanz MJ, Cànoves J, Chorro FJ, Piqueras L, Bodí V. Coronary Serum Obtained After Myocardial Infarction Induces Angiogenesis and Microvascular Obstruction Repair. Role of Hypoxia-inducible Factor-1A. Revista Española de Cardiología. 2017 Jul 24. pii: S1885-5857 (17) 30361-4. IF: 4,485
4. Milara J, Morell A, Ballester B, Armengot M, Morcillo E, Cortijo J. MUC4 impairs the anti-inflammatory effects of corticosteroids in patients with chronic rhinosinusitis with nasal polyps. The Journal of Allergy and Clinical Immunology. 2017; 139 (3): 855-862.e13. IF: 13,081
5. Hervás S, Real JT, Ascaso JF, González-Navarro H. The GLP-1 analogue lixisenatide decreases atherosclerosis in insulin-resistant mice by modulating macrophage phenotype. Diabetologia. 2017; 60 (9): 1801-1812. IF: 6,2

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: COST Action BM1402
Title: *Development of a European network for preclinical testing of interventions in mouse models of age and age-related diseases (MouseAGE)*
Principal Investigator: Ilaria Bellantuono (Herminia González as collaborating researcher)
Funding Body: *European Commission*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2014-2018

Reference: COST Action CA15135
Title: *Multi-target paradigm for innovative ligand identification in the drug discovery process (MuTaLig)*
Principal Investigator: Stefano Alcaro (Nuria Cabedo as Management Committee substitute)
Funding Body: *European Commission*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2020

Title: *The William Harvey International Translational Research Academy (WHRI-ACADEMY)*
Principal Investigator: Márta Korbonits (María Jesús Sanz Ferrando as collaborating research)
Funding Body: *European Commission - FP7 Marie Curie Actions*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015

Reference: PI16/00091
Title: *Papel de los procesos inflamatorios asociados a la diabetes en la estabilidad de la placa de ateroma y estudio del uso potencial de estrategias terapéuticas*
Principal Investigator: Herminia González Navarro
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2019
Total Budget: 122.815€

Reference: PI15/00082
Title: *Estudio de nuevos mecanismos inflamatorios y angiogénicos asociados a la obesidad grave mórbida: Papel del eje CXCR3 y los receptores nucleares RORs*
Principal Investigator: Laura Piqueras Ruiz
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total Budget: 154.577€

Reference: PIE15/00013
Title: *A multidisciplinary Project to advance in basic mechanisms, diagnosis, prediction, and prevention of cardiac damage in reperfused acute myocardial infarction*
Principal Investigator: Vicente Bodí Peris (Laura Piqueras as collaborating researcher)
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total Budget: 589.050€

Reference: CP15/00150
Title: *Synthesis and pharmacological evaluation of new dual PPARalpha/gamma agonists as new therapeutic tools in the control of cardiometabolic disorders*
Principal Investigator: Nuria Cabedo Escrig
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total budget: 121.000€

Reference: CB06/06/0027
Title: *CIBER Enfermedades Respiratorias*
Principal Investigator: Esteban Morcillo Sánchez
Fundingbody: *Instituto de Salud Carlos III*
Beneficiary institution: *Universidad de Valencia*
Duration: 2007

Reference: SAF2014-57845-R
Title: *Modulación Inmunofarmacológica de la Inflamación Sistémica asociada a Desordenes Metabólicos. Búsqueda de nuevas dianas terapéuticas y síntesis de fármacos novedosos*
Principal Investigator: María Jesús Sanz Ferrando, Juan Francisco Ascaso Gimilio
Funding Body: *Ministerio de Economía y Competitividad*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total Budget: 302.500€

Reference: SAF2015-65368-R
Title: *Modulación farmacológica de la señalización inflamación-remodelado por inhibidores isoforma-selectivos de PDE4 y comparadores en modelos humanos in vitro relevantes en EPOC*
Principal Investigator: Esteban Morcillo Sánchez
Funding body: *Ministerio de Economía y Competitividad*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total budget: 181.500€

Title: *Efecto del cigarrillo electrónico (propilenglicol, dietilenglicol y nicotina) sobre la función pulmonar y la inflamación sistémica: estudios de toxicidad y activación leucocitaria en diferentes subpoblaciones de células circulantes inmunitarias. Medida de citocinas y quimiocinas plasmáticas*
Principal Investigator: Cruz González Villaescusa (María Jesús Sanz and Emilio Servera as collaborating researcher)
Funding Body: *Sociedad Valenciana de Neumología/ Fundación de Neumología de la Comunidad Valenciana.*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 6.000€

Reference: EFSD/Novo Nordisk Programme 2016 Programme for Diabetes Research in Europe
Title: *Role of the cytokine LIGHT (TNFSF14) in the development of insulin resistance and fatty liver disease*
Principal Investigator: Herminia González Navarro
Funding Body: *European Foundation for the Study of Diabetes*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total budget: 70.000€

• THESIS

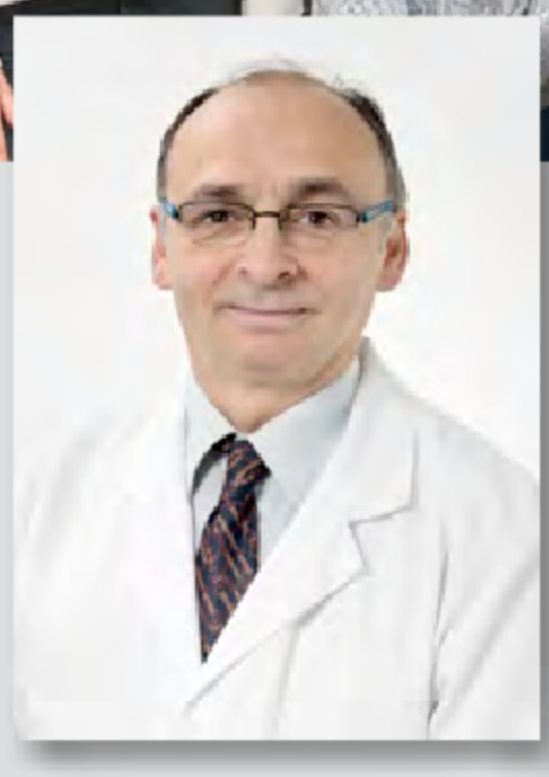
Thesis title: *Desarrollo de una ruta sintética para la obtención de la feromona sexual del piojo blanco del limón (Aspidiotus Nerii)*
Doctoral candidate: Mary Cecilia Montaño Castañeda
Director(s): Nuria Cabedo Escrig, Ismael Navarro Fuertes
Date of the defense: 02/11/2017
Grade: *Sobresaliente "cum laude"*

Research Group on Cellular and Organic Physiopathology of Oxidative Stress

Consolidated group

Team involved in ciberer





Group members

Principal investigator

Federico V. Pallardó Calatayud
University

Collaborating researchers

Amparo Gimeno Monrós. University
Carlos Romá Mateo. University
Pilar González Cabo. CIBERer
Carla Giménez Garzó. INCLIVA
Eva Mª García López. University
Giselle Pérez Machado. University
Mª Mercedes Navarro García. University
José Manuel Torres Ibáñez. University

PhD researchers

José Santiago Ibáñez Cabellos. University
Marta Seco Cervera. CIBERer
Sara Pastor Puente. INCLIVA
Ana Reula Martín. INCLIVA
Lucía Bañuls Soto. INCLIVA
Diana Carolina Muñoz Lasso. INCLIVA
Jesús Beltrán García. INCLIVA

Emerging researchers

Francisco Dasí Fernández. University. INCLIVA
José Luis García Giménez. CIBERer

Strategic aims

- Among the scientific activity of the research group, remarkable achievements are the extension to PCT phase of the European patent "Mass spectrometry-based methods for the detection of circulating histones H3 and H2B in plasma from sepsis or septic shock (ss) patients" (PCT/EP2017/078362). Related to this patent, the technology was selected to participate in the mentorship program from FIPSE and MIT Idea2 global.
- In reference to acquisition of budget and resources, funding from the following programs and grants has been obtained: VLC-Bioclinic 2017 (2 projects), Plan Nacional I+D+i del Mineco (1 project, 2016-2019), AES 2016 (2 projects, 2017-2019), Fundación Ramón Areces (1 project, 2017-2019), AES 2017 (1 project, 2018-2019).
- Regarding teaching and outreach activities, the group has maintained the teaching of the subject "Enfermedades raras", from the Grade on Medicine's study plan at the University of Valencia and in the master course in Biomedical Research; and also in the "Máster de enfermedades raras", directed by Dr. Pallardó, at the same University. Besides, it was organized, in collaboration with the Escuela Valenciana de Estudios de la Salud and the CIBERER, the 2nd edition of the on-line course "Introducción a las EE.RR: investigación y atención clínica" addressed to residents of medical specialities from the Valencian public health system.
- Within the framework of the Alliance for translational research in rare diseases of the Comunitat Valenciana, Dr. Pallardó has coordinated the joint application for FEDER funding for acquisition of research infrastructure. As result of that, our group have coordinated de acquisition of equipments for more than 500.000 € for the research on epigenetics and personalized medicine in rare diseases.

Main lines of research

- Pathophysiology of Friedreich's ataxia and other neuromuscular diseases.
- Study of oxidative stress and mechanisms of DNA repair in different progeroid syndromes and genodermatosis.
- Epigenetic regulation in the pathophysiology of rare diseases.
- Rare respiratory diseases: Alpha-1 antitrypsin deficiency and Primary Ciliary Dyskinesia.



Emerging Researcher

José Luis García Giménez

We aim to understand the role of epigenetics in the phenotypic variability of rare diseases (eg, Friedreich's ataxia, dyskeratosis congenita and adolescent idiopathic scoliosis). Furthermore, we collaborate with clinicians of Intensive Care Unit to study the role of circulating histones in the physiopathology of sepsis and septic shock. Our challenge is to identify epigenetic biomarkers (DNA methylation, microRNAs, and post-translational modifications of histones) to design new potential tools for diagnostic and prognostic and improve precision medicine.



Emerging Researcher

Francisco Dasí Hernández

The research is mainly devoted to the study alpha-1 antitrypsin deficiency (AATD) and the study of other rare pulmonary rare diseases such as primary ciliary dyskinesia is currently under development.

PUBLICATIONS

Number of articles	IF	Average IF
18	74,12	4,11

National collaborations	International collaborations	Corresponding author
10	4	10

SELECTED PUBLICATIONS

1. Calderón A, Ortiz-Espín A, Iglesias-Fernández R, Carbonero P, Pallardó FV, Sevilla F, Jiménez A. Thioredoxin (Trxo1) interacts with proliferating cell nuclear antigen (PCNA) and its overexpression affects the growth of tobacco cell culture. Redox Biology. 2017; 11: 688-700. IF: 6,337
2. García-Giménez JL, Mena-Mollá S, Beltrán-García J, Sanchis-Gomar F. Challenges in the analysis of epigenetic biomarkers in clinical samples. Clinical Chemistry and Laboratory Medicine. 2017 Aug 28 ; 55 (10): 1474-1477. IF: 3,432

3. García-Giménez JL, Romá-Mateo C, Pérez-Machado G, Peiró-Chova L, Pallardó FV. Role of glutathione in the regulation of epigenetic mechanisms in disease. Free Radical Biology & Medicine. 2017; 112: 36-48. IF: 5,606

4. López Del Amo V, Palomino-Schätzlein M, Seco-Cervera M, García-Giménez JL, Pallardó FV, Pineda-Lucena A, Galindo MI. A Drosophila model of GDAP1 function reveals the involvement of insulin signalling in the mitochondria-dependent neuromuscular degeneration. Biochimica et Biophysica Acta. 2017 Mar; 1863 (3): 801-809. IF: 5,476

5. Mas-Bargues C, Viña-Almunia J, Inglés M, Sanz-Ros J, Gambini J, Ibáñez-Cabellos JS, García-Giménez JL, Viña J, Borrás C. Role of p16(INK4a) and BMI-1 in oxidative stress-induced premature senescence in human dental pulp stem cells. Redox Biology. 2017 Aug; 12: 690-698. IF: 6,337

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI16/01031
Title: *Respuestas epigenéticas a cambios en el entorno redox nuclear. Posibles dianas terapéuticas en enfermedades raras*
Principal Investigator: Federico Pallardó Calatayud
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2019
Total budget: 105.875€

Reference: PI16/01036
Title: *Epigenética e inmunosupresión. Uso de las histonas circulantes y sus modificaciones posttraduccionales como biomarcadores de diagnóstico y pronóstico en sepsis y shock séptico*
Principal Investigator: José Luis García Giménez
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2019
Total budget: 87.725€

Reference: PI14/02162
Title: *Análisis de parámetros de estrés oxidativo, función mitocondrial, longitud de telómeros y perfil de miRNAs circulantes en pacientes con déficit de alfa-1 antitripsina. Implicaciones pronósticas*
Principal Investigator: Francisco Dasí Fernández
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 76.500€

Reference: PI14/00894
Title: *Identificación y validación de biomarcadores periféricos para el déficit neurocognitivo en el trastorno bipolar, depresión, esquizofrenia y diabetes*
Principal Investigator: Rafael Tabares Seisdedos (Carlos Romá as collaborating researcher)
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 82.000€

Reference: CB06/07/0073
Title: *CIBER de Enfermedades Raras (CIBERer)*
Principal Investigator: Federico Vicente Pallardó Calatayud
Funding body: *Instituto de Salud Carlos III*
Beneficiary institution: *Universidad de Valencia*
Duration: 2007

Reference: PROMETEOII/2014/056
Title: *Señalización por radicales libres de oxígeno en células madre: importancia en medicina regenerativa*
Principal Investigator: José Viña Ribes (Federico Pallardó Calatayud and José Luis García-Giménez as collaborating researcher)
Funding Body: *Conselleria de Educación, Cultura y Deporte*
Beneficiary Institution: *Universidad de Valencia*
Duration: 2014-2018
Total budget: 122.535€

Reference: SAF 2015-66625-R
Title: *El paisaje de la biología axonal y las membranas asociadas a mitocondria en las enfermedades neurogenéticas*
Principal Investigator: Pilar González Cabo
Funding body: *Ministerio de Economía y Competitividad*
Beneficiary institution: *CIBER de Enfermedades Raras, Fundación Sant Joan de Deu*
Duration: 2016-2019
Total budget: 411.400€

Reference: BFU2015-68366-R
Title: *Papel de la señalización por MAP quinasas y la dinámica mitocondria en reprogramación y transdiferenciación celular*
Principal Investigator: José Manuel Torres Ibáñez
Funding Body: *Ministerio de Economía y Competitividad*
Beneficiary Institution: *Universidad de Valencia*
Duration: 2016 -2018
Total budget: 110.000€

Title: *Diseño y desarrollo de un método basado en CRISPR/Cas9 para la reparación del gen de la alfa-1-antitripsina*
Principal Investigator: Amparo Escribano (Francisco Dasí as collaborating researcher)
Funding body: *Sociedad Valenciana de Neumología*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total budget: 12.000€

Title: *Estudio del perfil de miRNAs circulantes en pacientes con déficit de alfa-1 antitripsina (DAAT). Implicaciones diagnósticas, pronósticas y terapéuticas.*
Principal Investigator: Amparo Escribano (Francisco Dasí as collaborating researcher)
Funding body: *Asociación Española de Pediatría*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2014-2017
Total budget: 30.000€

Title: *Caracterización del perfil oxidativo en células epiteliales nasales de pacientes con Discinesia Ciliar Primaria*
Principal Investigator: Amparo Escribano (Francisco Dasí as collaborating researcher)
Funding body: *Sociedad Española de Neumología Pediátrica*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 10.000€

Reference: Beca GEER
Title: *Regulación epigenetica de la esclerostina y de la ruta wnt/b-catenina en osteoporosis. identificación de biomarcadores basados en la metilación del adn y los microarns de fragilidad ósea*
Principal Investigator: Teresa Bas Hermida
Funding Body: *Sociedad Española de Enfermedades del Raquis*
Beneficiary institution: *Instituto de Investigación Sanitaria La Fe*
Duration: 2016-2017
Total budget: 12.000€

• THESIS

Thesis title: *Reprogramación celular, dinámica mitocondrial y metabolismo*
Doctoral candidate: Javier Prieto Martínez
Director(s): José Manuel Torres Ibáñez
Date of the defense: 27/01/2017
Grade: *Sobresaliente "cum laude"*

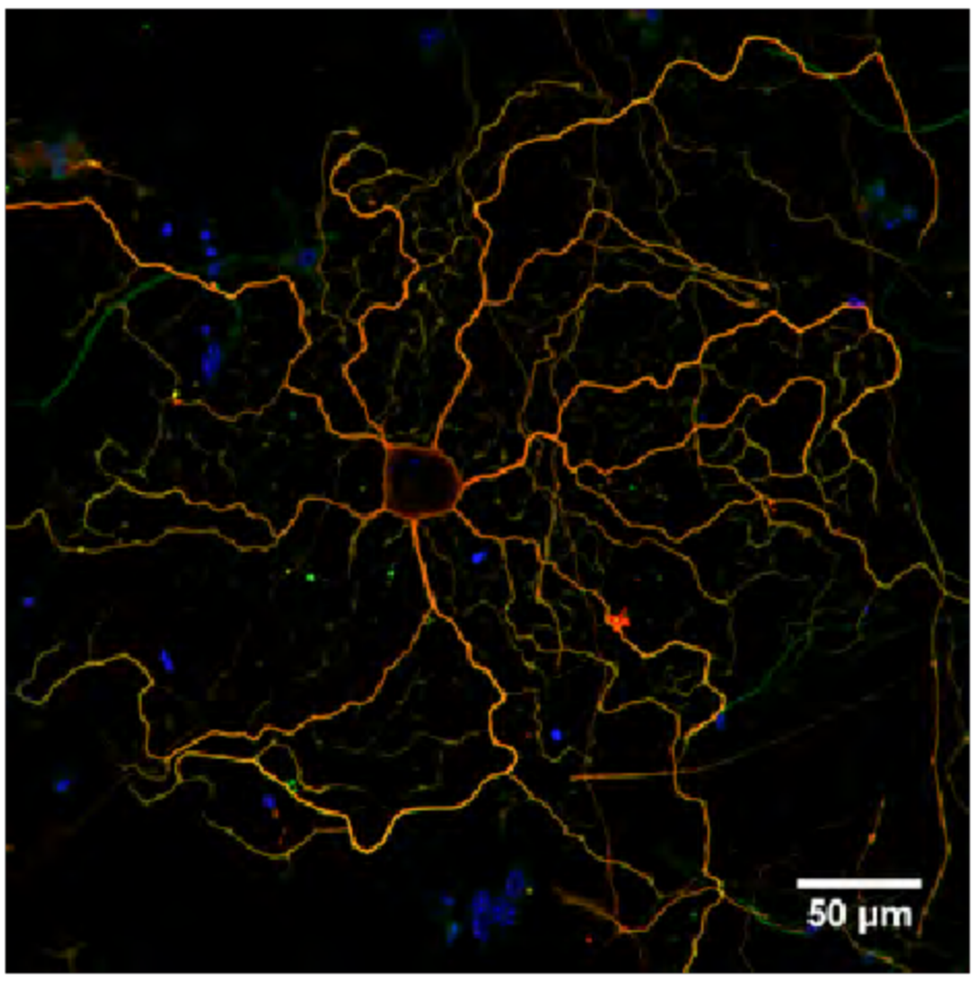
Thesis title: *Mecanismo molecular del proceso de ubicuitinación mediado por el complejo laforina-malina*
Doctoral candidate: Pablo Sánchez Martín
Director(s): Carlos Romá Mateo, Pascual Sanz Bigorra
Date of the defense: 09/06/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Estudio comparativo de la biocompatibilidad de tres materiales endodónticos sobre células madre mesenquemiales de pulpa dental*
Doctoral candidate: Alejandro Victoria Escandell
Director(s): José Luis García Giménez
Date of the defense: 23/06/2017
Grade: *Sobresaliente "cum laude"*

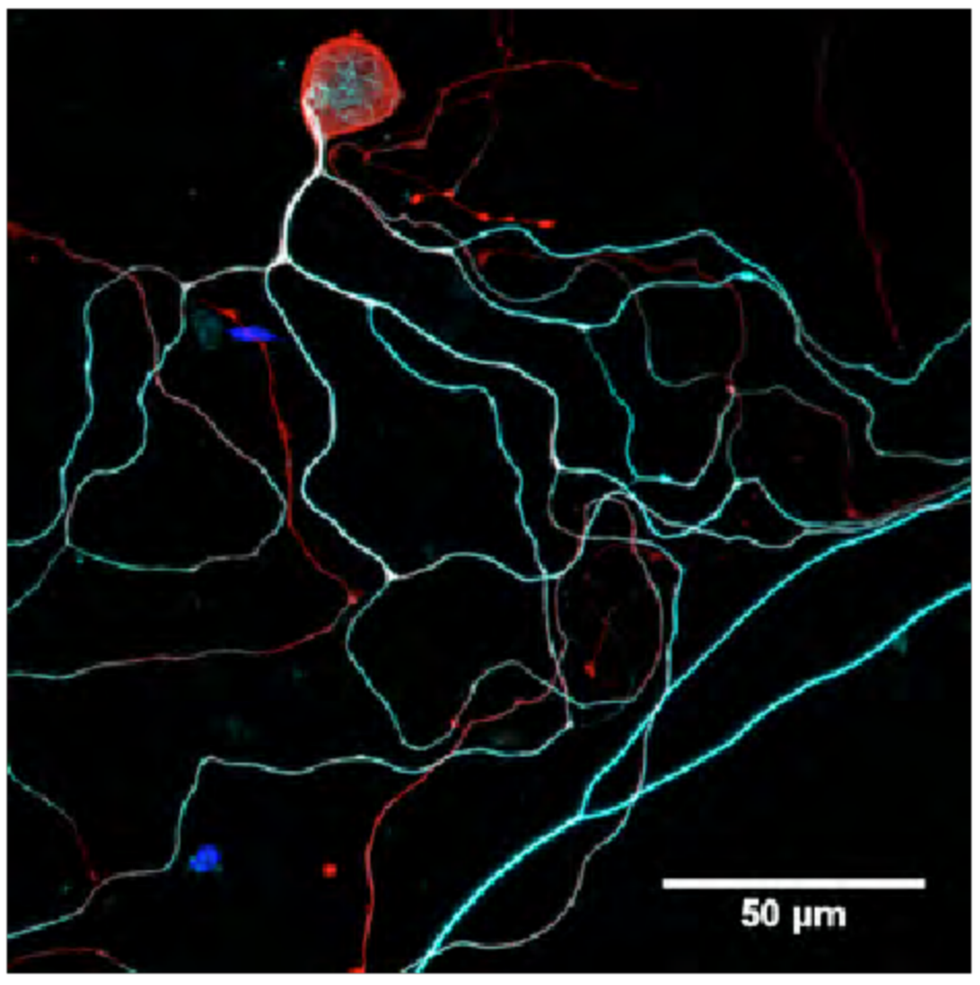
Thesis title: *Identification of new biomarkers for phenotypical characterization in peripheral neuropathies*
Doctoral candidate: Marta Seco Cervera
Director(s): Federico Pallardó Calatayud, José Luis García Giménez
Date of the defense: 15/09/2017
Grade: *Sobresaliente "cum laude"*
Quality recognition/Award: European PhD

Thesis title: *Fisiopatología de la ataxia de Friedreich: transporte y degeneración axonal*
Doctoral candidate: Diana Carolina Muñoz Lasso
Director(s): María Pilar González Cabo, Francesc Palau Martínez
Date of the defense: 13/11/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Estudio del perfil circulante de microRNAs en pacientes con déficit de alfa-1 antitripsina. Implicaciones diagnósticas, pronósticas y terapéuticas*
Doctoral candidate: Sara Pastor Puente
Director(s): Francisco José Dasí Fernández, Amparo Escribano Montaner
Date of the defense: 18/12/2017
Grade: *Sobresaliente "cum laude"*
Quality recognition/Award: European PhD



Primary DRG culture.



Sensitive dorsal ganglion neuron labeled with anti-tubulin III antibody (red) and oiled anti-tubulin (blue).

Research Group on Oxidative Pathology
Consolidated group

Team involved in ciberobn





Group members

Principal investigator

Guillermo Sáez Tormo
University

Technicians

Lidia Monzó Beltrán. University

Collaborating researchers

Antonio Iradi Casal. University
Concha Cerdá Micó. University
Carmen Tormos Muñoz. University
Leticia Bagán Debón. University
Ana Bediaga Collado. University
Amaya Hernando Espinilla. Hospital Universitario Dr. Peset
Delia Acevedo Leon. Hospital Universitario Dr. Peset
Nuria Estáñ Capell. University
Antonio Mora. Hospital Universitario Dr. Peset
Marta Fandos Sánchez. University
Pedro Gargallo Bayo. University

Strategic aims

- To study the role of Mediterranean diet and the individual effect of olive oil and dietary polyphenols on hemodynamics, endothelial function, abdominal adiposity and gene expression in patients at high cardiovascular risk has been studied.
- To monitor the morbidly obese patients in terms of anthropometric changes, metabolic and oxidative stress markers before and after dietary intervention, exercise and bariatric surgery.
- To analyze in gastric carcinoma patients the role of DNA damage and different markers of oxidative stress in order to validate the modified base 8-oxo-dG as a possible tumor marker at high cardiovascular risk.

Main lines of research

- Study of the role of OS as a physiopathological mechanism of cardiometabolic diseases.
- Study of DNA damage and repair signaling routes in patients with cardiovascular evolution pathologies, in order to identify grades of expression in different genes.
- Study of OS role in the pathology of neoplastic diseases, as well as the possible validation of their molecular oxidative products as clinical markers.

• PUBLICATIONS

Number of articles	IF	Average IF
8	34,08	4,26

National collaborations	International collaborations	Corresponding author
6	1	2

SELECTED PUBLICATIONS

1. Monzó-Beltrán L, Vazquez-Tarragón A, Cerdà C, García-Pérez P, Iradi A, Sánchez C, Climent B, Tormos C, Vázquez-Prado A, Girbés J, Estáñ N, Blesa S, Cortés R, Chaves FJ, Sáez GT. One-year follow-up of clinical, metabolic and oxidative stress profile of morbid obese patients after laparoscopic sleeve gastrectomy. 8-oxo-dG as a clinical marker. Redox Biology. 2017; 12: 389-402. IF: 6,337

2. Storniolo CE, Casillas R, Bulló M, Castañer O, Ros E, Sáez GT, Toledo E, Estruch R, Ruiz-Gutiérrez V, Fitó M, Martínez-González MA, Salas-Salvadó J, Mitjavila MT, Moreno JJ. A Mediterranean diet supplemented with extra virgin olive oil or nuts improves endothelial markers involved in blood pressure control in hypertensive women. European Journal of Nutrition. 2017 Feb; 56 (1): 89-97. IF: 4,37

3. Rangel-Zuñiga OA, Haro C, Tormos C, Pérez-Martinez P, Delgado-Lista J, Marin C, Quintana-Navarro GM, Cerdá C, Sáez GT, López-Segura F, López-Miranda J, Pérez-Jimenez F, Camargo A. Frying oils with high natural or added antioxidants content, which protect against postprandial oxidative stress, also protect against DNA oxidation damage. European Journal of Nutrition. 2017 Jun; 56 (4): 1597-1607. IF: 4,37

4. Martín-Peláez S, Castañer O, Konstantinidou V, Subirana I, Muñoz-Aguayo D, Blanchart G, Gaixas S, de la Torre R, Farré M, Sáez GT, Nyyssönen K, Zunft HJ, Covas MI, Fitó M. Effect of olive oil phenolic compounds on the expression of blood pressure-related genes in healthy individuals. European Journal of Nutrition. 2017 Mar; 56 (2): 663-670. IF: 4,37

5. Becerra-Tomás N, Díaz-López A, Rosique-Esteban N, Ros E, Buil-Cosiales P, Corella D, Estruch R, Fitó M, Serra-Majem L, Arós F, Lamuela-Raventós RM, Fiol M, Santos-Lozano JM, Díez-Espino J, Portoles O, Salas-Salvadó J; PREDIMED Study Investigators. Legume consumption is inversely associated with type 2 diabetes incidence in adults: A prospective assessment from the PREDIMED study. Clinical Nutrition. 2017 Mar 24. IF: 4,548

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: CB12/03/30016
Title: *CIBER de la Obesidad y Nutrición (CIBERObn)*
Principal Investigator: Guillermo Sáez Tormo
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Universidad de Valencia*
Duration: 2013

Reference: PI13/01848
Title: *Factores genéticos y metabólicos en la obesidad mórbida y su modulación tras intervención dietética, ejercicio físico*

y cirugía bariátrica. Estudio especial de p53, SIRT1 y sistemas de reparación del ADN en la patogenia de sus complicaciones neoplásicas

Principal Investigator: Guillermo Sáez Tormo

Funding Body: *Instituto de Salud Carlos III*

Beneficiary Institution: *Universidad de Valencia*

Total Budget: 138.915€

Duration: 2014-2017

• THESIS

Thesis title: *Influencia de la edad y de la posición operatoria sobre las características fisiológicas de la ventilación mecánica en pacientes sometidos a cirugía laparoscópica*

Doctoral candidate: Ernesto-Ángel Tarazona López

Director(s): Antonio Iradi Casal, Joaquín Montoliu Nebot, Antonio Iradi Casal

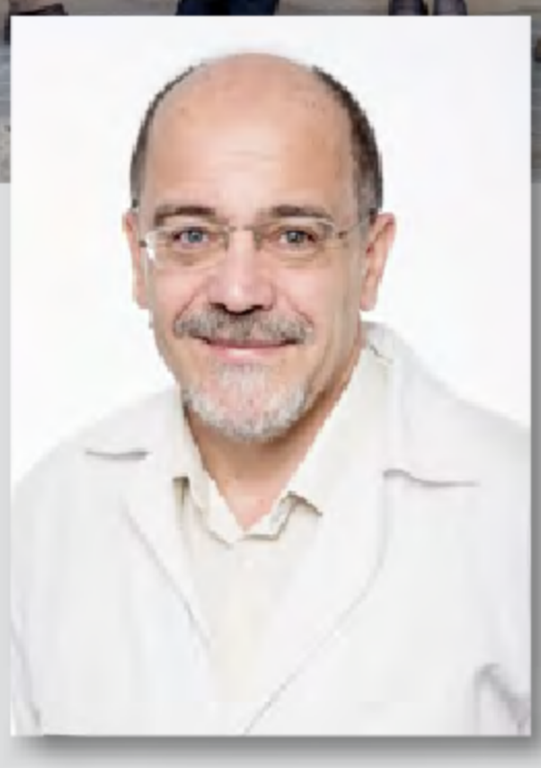
Date of the defense: 14/11/2017

Grade: *Sobresaliente "cum laude"*

Research Group on Psychiatry and Neurodegenerative Diseases
Consolidated group

Team involved in





Group members

Principal investigator

Julio Sanjuán Arias
Hospital. University

Collaborating researchers

José Carlos González Piqueras. Hospital. University
Eduardo Jesús Aguilar García-Iturrospe. Hospital. University
Esther Lorente Rovira. Hospital
María José Escartí Fabra. Hospital
María Dolores Moltó Ruiz. University
Marien Gadea Domenech. University
Gracián García Martí. CIBERSAM
Javier Gilabert Juan. University
Juan Nacher Roselló. University
Francisco Olucha Bordonau. University
Carlos Cañete Nicolás. Hospital. University
Miguel Hernández Viadel. Hospital. University
José Vicente Llorens Llorens. University
Pablo Calap Quintana. University
Noelia Sebastiá Ortega. University
Javier González Fernández. University
Ramón Guirado Guillén. University
Blanca Llácer Iborra. CIBERSAM

Strategic aims

- Elaboration of a mobile application associated to the Clinical Records to improve adherence to the treatment of patients with first episode psychosis.
- Publication of first Gene –Enviromental interaction Episode Psychosis proyects results.
- Development of new techniques-to diagnosis psychosis by fMRI and machine learning approach.
- Development of animal models in severe mental disorder and neurodegenerative diseases.
- Evaluation of brain changes after cognitive therapy in persistent hallucinations in psychosis.
- Prediction and treatment models in first psychotic episodes.

Main lines of research

- Identifying risk polymorphisms in psychosis and affective disorders.
- Epigenetic studies (functional expression) of candidate genes in psychosis and mental illness.
- Study on animal models in serious mental illness.
- Generating models of neurodegenerative diseases (Friedreich ataxia) on invertebrate animals (Drosophila).
- Study of mutations in monogenic neurodegenerative diseases.
- Identifying genetic and environmental risk factors in affective and psychotic disorders.
- Identifying abnormal patterns in neuroimaging (morphometry, functional, spectroscopy) in psychotic patients.
- Design and coordination of clinical, genetic and neuroimage data bases oriented to performing multicenter projects.
- Development of interactive systems for improving therapeutic adherence.
- Study on the efficiency of psycho-social intervention techniques in serious mental illness.

• PUBLICATIONS

Number of articles	IF	Average IF
20	63,15	3,15

National collaborations	International collaborations	Corresponding author
13	3	4

SELECTED PUBLICATIONS

1. 1. Bernardo M, Bioque M, Cabrera B, Lobo A, González-Pinto A, Pina L, Corripio I, Sanjuán J, Mané A, Castro- Fornieles J, Vieta E, Arango C, Mezquida G, Gassó P, Parellada M, Saiz-Ruiz J, Cuesta MJ, Mas S, PEPs GROUP. Modelling gene-environment interaction in first episodes of psychosis. Schizophrenia Research. 2017 Nov; 189: 181-189. IF: 3,986

2. 2. Castillo-Gómez E, Pérez-Rando M, Bellés M, Gilabert-Juan J, Llorens JV, Carceller H, Bueno-Fernández C, García-Mompó C, Ripoll-Martínez B, Curto Y, Sebastiá-Ortega N, Moltó MD, Sanjuan J, Nacher J. Early Social Isolation Stress and Perinatal NMDA Receptor Antagonist Treatment Induce Changes in the Structure and Neurochemistry of Inhibitory Neurons of the Adult Amygdala and Prefrontal Cortex. eNeuro. 2017 May 1; 4 (2). pii: ENEURO.0034-17.2017.

3. Albert-Gascó H, García-Avilés Á, Moustafa S, Sánchez-Sarasua S, Gundlach AL, Olucha-Bordonau FE, Sánchez-Pérez AM. Central relaxin-3 receptor (RXFP3) activation increases ERK phosphorylation in septal cholinergic neurons and impairs spatial working memory. Brain Structure & Function. 2017 Jan; 222 (1): 449-463. FI: 4,698

4. 4. Calap-Quintana P, González-Fernández J, Sebastiá-Ortega N, Llorens JV, Moltó MD. Drosophila melanogaster Models of Metal-Related Human Diseases and Metal Toxicity. International Journal of Molecular Sciences. 2017 Jul 6; 18 (7). pii: E1456. IF: 3,226

5. 5. Fraguas D, Díaz-Caneja CM, Corripio I, González-Pinto A, Lobo A, Bioque M, Cuesta MJ, Sanjuán J, Rodríguez-Toscano E, Arias B, Sarró S, Cabrera B, Bulbena A, Vieta E, Castro-Fornieles J, Arango C, Bernardo M, Parellada M, PEPs group. Gene-environment interaction as a predictor of early adjustment in first episode psychosis. Schizophrenia Research. 2017 Nov; 189: 196-203. IF: 3,986

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: CB07/09/006
Title: *CIBERSAM*
Principal Investigator: *Julio Sanjuán Arias*
Funding body: *Instituto de Salud Carlos III*
Beneficiary institution: *Universidad de Valencia*
Duration: 2008-

Reference: PI14/00044
Title: *Eficacia del entrenamiento metacognitivo individualizado (EMC+) en personas con psicosis de reciente evolución*
Principal Investigator: Susana Ochoa (Esther Lorente and Ana Luengo as collaborating researchers)
Funding body: *Instituto de Salud Carlos III*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2018
Total budget: 92.565€

Reference: SAF2015-68436-R
Title: *Plasticity of perisomatic inhibition on pyramidal neurons of the prefrontal cortex: impact of peripubertal stress and implication in psychiatric disorder*
Principal Investigator: Juan Salvador Nacher Roselló
Funding body: *Ministerio de Economía y Competitividad*
Beneficiary institution: *Universidad de Valencia*
Duration: 2016-2019
Total budget: 193.600€

Title: *Identification of genetic factors involved on FXN transcriptional silencing mediated by the GAA repeat expasion*
Principal Investigator: Mª Dolores Moltó Ruiz
Funding body: *Friedreich's Ataxia Research Alliance (FARA)*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017

Reference: PROMETEO/2016/082
Title: *Investigación de marcadores biológicos y nuevas estrategias terapéuticas en la Psicosis*
Principal Investigator: Julio Sanjuán Arias
Funding Body: *Conselleria de Educación, Cultura y Deporte*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2019
Total budget: 179.940€

• THESIS

Thesis title: *Localización y convicción en las alucinaciones auditivas en psicosis*
Director(s): Julio Sanjuán Arias
Doctoral candidate: Ramón Falcó Gollart
Date of the defense: 22/09/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Eficacia del entrenamiento metacognitivo en los procesos emocionales en pacientes con un primer episodio psicótico*
Doctoral candidate: Alejandra María Guasp Tortajada
Director(s): Julio Sanjuán Arias, Manuela Martínez Ortiz, Esther Lorente Rovira
Date of the defense: 02/06/2017
Grade: *Sobresaliente "cum laude"*

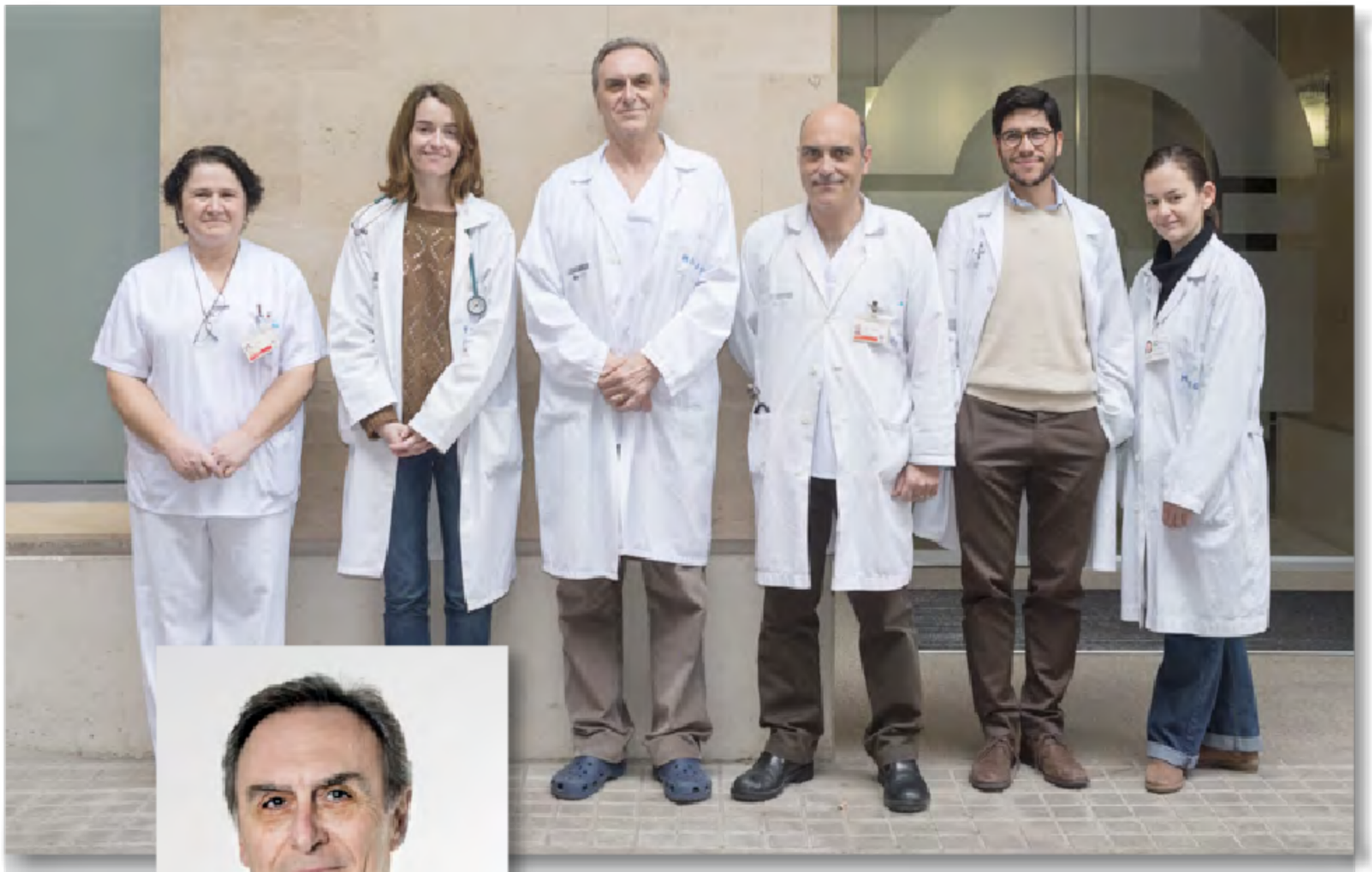
Thesis title: *Entrenamiento asistido por neurofeedback: análisis de los efectos psicofisiológicos inmediatos y factores de personalidad influyentes*
Doctoral candidate: Marta Aliño Costa
Director(s): María Engracia Gadea Doménech
Date of the defense: 07/09/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Modulation of neuronal plasticity by events produced in adolescence: role of environmental enrichment and cannabis consumption*
Doctoral candidate: Clara García Mompó
Director(s): Juan Salvador Nacher Rosello, Otilia Alicia Salvador Fernández-Montejo
Date of the defense: 15/09/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Impact of pharmacological and environmental manipulations on neuronal structural plasticity and dynamics*
Doctoral candidate: Marta Pérez Rando
Director(s): Juan Salvador Nacher Roselló, Esther Castillo Gómez
Date of the defense: 11/09/2017
Grade: *Sobresaliente "cum laude"*

Research Group on respiratory problems of neuromuscular diseases and lung damage

Consolidated group





Group members

Principal investigator

Emilio Servera Pieras
Hospital. University

Collaborating researchers

Jesús Sancho Chinesta. Hospital
María Pilar Barreto Martín. University
Julio Marín Pardo. University
José Luís Díaz Cordobés. University
Pilar Bañuls Polo. Hospital. INCLIVA
Manuela Marín González. Hospital
Mª Luisa Briones Urtiaga. Hospital
Mª Jesús Zafra Pirés. Hospital. University
María Belén Safont Muñoz. Hospital. INCLIVA
Mª Cruz González Villaescusa. Hospital
José Vicente Ferreres Franco. Hospital
Enric Burés Sales. Hospital
Nuria Garrido Zafra. Hospital
Jaime Signes-Costa Miñana. Hospital

Strategic aims

- To evaluate the usefulness of non invasive ventilation in the weaning process of patients with chronic critical disorders and those with prolonged mechanical ventilation in Respiratory Care Units.
- To analyze physiology of cough in patients with amyotrophic lateral sclerosis (ALS) during mechanically assisted cough, with high frequency oscillations.
- To study the effect of bulbar type of ALS among the efficacy of coughing , mechanically assisted with in-exhuflation, through high frequency oscillations in ALS patients.
- To identify the predictive factors for complicated grief in relatives of severe respiratory patients.
- To study clinical tools to evaluate front-temporal dementia to ALS patients.
- To find effective non-pharmacological treatments to improve dysnea in patients with chronic respiratory failure.

Main lines of research

- Study of long term utility of mechanically assisted cough with in-exhuflation, through high frequency oscillations, in ALS patients.
- Study of the efficacy of mechanically assisted cough with in-exhuflation, through high frequency oscillations, during acute respiratory infections, in ALS patients.
- Study of long term utility of mechanically assisted cough with in-exhuflation, through high frequency oscillations, in ALS patients and mechanical ventilation trough tracheotomy.
- Study of physio-pathology of assisted cough with in-exhuflation, through high frequency oscillations, in ALS patients.
- Study of the effect of bulbar alteration in survival of ALS patients and non invasive mechanical ventilation.
- Study of the physio-pathology in the failure of non invasive mechanical ventilation in ALS patients.
- Study of treatment with quinidine/dextromethorphan in the delay of failure of non invasive management of respiratory problems in ALS patients.
- To improve knowledge in the staging of patients with neuromuscular diseases to anticipate decisions and to adjust respiratory therapeutic measures.
- To improve knowledge in technical assistance and replacement of the respiratory muscles in neuromuscular diseases, particularly to the life-prolonging without adding suffering.
- To improve knowledge in the management of the psycho-emotional needs in patients with COPD and incapacitating dyspnea and their caregivers.
- To improve knowledge about the role of genetic polymorphisms in the predisposition, severity and susceptibility to bacteremia in community-acquired pneumonia.
- To evaluate the efficiency of the management of dyspnea.
- To assess cognitive / behavioral signs associated with neuromuscular dementia patients and their involvement in the decision-making process.
- To evaluate the prevalence of stressful life events, different styles of attachment and the proportion of adaptive and problem duels present in relatives of patients at the end of life.
- Cardiac morphological changes in patients with sleep respiratory disorders and ischemic heart disease: response to CPAP treatment.
- Effects of e-liquids (propylene glycol (PG), diethylene glycol (DG), and nicotine) from electronic cigarettes in human cell cultures: Human umbilical vein endothelial cells (HUVEC) and adenocarcinomic human alveolar basal epithelial cells (A549).
- Efficacy of a tobacco treatment program about severe exacerbation in smokers with a moderate or severe COPD.
- Evaluation of CPAP on kidney function in patients with early-stage renal disease and sleep apnea syndrome (RENAS study).
- Characterization of asthmatic patients: new bio-markers (periostine and protein CC16) and their relationship with the severity of bronchial asthma.
- Study of genetic variability in the susceptibility and severity of pneumonia.
- Efficiency of an integrated program for COPD patients with frequent hospital admissions.
- Open label multicentric study of RCP1063 oral in recurrent multiple sclerosis (MS).
- Randomized, double-blind, multicentric, parallel groups, controlled with placebo and variable duration, to evaluate efficacy and safety of Sponimod (BAF312) in patients with secondary MS, followed by an open extension treatment of BAF312.

• PUBLICATIONS

Number of articles	IF	Average IF
3	13,32	4,44

National collaborations	International collaborations	Corresponding author
1	-	1

SELECTED PUBLICATIONS

1. Marques P, Collado A, Escudero P, Rius C, González C, Servera E, Piqueras L, Sanz MJ. Cigarette smoke increases endothelial CXCL16-Leukocyte CXCR6 adhesion in vitro and in vivo. potential consequences in chronic obstructive pulmonary disease. Frontiers in Immunology. 2017 Dec 13; 8: 1766. IF: 6,429
2. Miravitlles M, Cosío BG, Arnedillo A, Calle M, Alcázar-Navarrete B, González C, Esteban C, Trigueros JA, Rodríguez González-Moro JM, Quintano Jiménez JA, Baloira A. A proposal for the withdrawal of inhaled corticosteroids in the clinical practice of chronic obstructive pulmonary disease. Respiratory Research. 2017 Nov 28; 18 (1): 198. IF: 3,841
3. Sancho J, Servera E, Bañuls P, Marín J. Effectiveness of assisted and unassisted cough capacity in amyotrophic lateral sclerosis patients. Amyotrophic Lateral Sclerosis & Frontotemporal Degeneration. 2017 Nov; 18 (7-8): 498-504. IF: 3,054

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI15/00137
Title: *Efecto de la CPAP en el deterioro de la función renal en estadios tempranos de enfermedad renal crónica*
Principal Investigator: Jaime Coral Peñafiel
Funding body: *Instituto de Salud Carlos III*
Beneficiary institution: *Fundación para la Formación y la Investigación de los profesionales de la salud (FUNDESALUD)*
Duration: 2016-2018
Total budget: 134.915€

Reference: PSI2014-51962R
Title: *Apego, acontecimientos vitales estresantes y duelo*
Principal Investigator: Pilar Barreto Martín
Funding body: *Ministerio de Ciencia e Innovación*
Beneficiary institution: *Universidad de Valencia*
Duration: 2015-2017
Total budget: 72.600€

Title: *Efecto de los líquidos del cigarro electrónico (propilenglicol, detinenglicol y nicotina) sobre los cultivos celulares humanos: células epiteliales pulmonares y células endoteliales*
Principal Investigator: Jaime Signes-Costa Mañana
Funding body: *Sociedad Valenciana de Neumología/Fundación de neumología de la Comunidad Valenciana*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 6.000€

Title: *Valoración de la demencia frontotemporal y su repercusión en el proceso de toma de decisiones terapéuticas en pacientes con esclerosis lateral amiotrófica*
Principal Investigator: Emilio Servera Pieras
Funding Body: *Sociedad Valenciana de Neumología/ Fundación de Neumología De La Comunidad Valenciana*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total budget: 12.000€

Title: *Eficacia de un programa intensivo de tratamiento del tabaquismo sobre las exacerbaciones graves de pacientes fumadores con EPOC moderada-severa*
Principal Investigator: Jaime Signes-Costa
Funding Body: *Sociedad Española de Neumología y Cirugía Torácica*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total budget: 12.000€

Title: *Physiological and clinical effectiveness of mechanically assisted coughing techniques using cough assist with oscillations in amyotrophic lateral sclerosis patients*
Principal Investigator: Emilio Servera Pieras
Funding body: *Philips Respironics*
Beneficiary institution: *Universidad de Valencia*
Duration: 2015-2017
Total budget: 80.000€

Reference: MI-E WAVEFORMS ALS Study
Title: *Estudio sobre la influencia de la efectividad de los pico flujo de tos del análisis de las gráficas generadas por la tos asistida mecánicamente en los pacientes con esclerosis lateral amiotrófica en situación clínica estable*
Principal Investigator: Jesús Sancho Chinesta
Funding body: *Sociedad Española de Neumología y Cirugía Torácica (SEPAR) y la Asociación LatinoAmericana del Tórax (ALAT)*
Beneficiary institution: *Hospital Clínico Universitario de Valencia*
Duration: 2017-2018

Title: *Efecto de VitaBreath para la recuperación tras el ejercicio en EPOC grave y muy grave*
Principal Investigator: Emilio Servera Pieras
Funding body: *Philips- Respironics*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2019

• AWARD

The respiratory care unit was accredited by the Spanish Pneumology Society as a High Complexity Multidisciplinary Unit with distinction for excellence, October 2017.

Research Group on Tissular Biochemistry
Consolidated group





Group members

Principal investigator

Juan R. Viña
University

Collaborating researchers

Luis Torres Asensi. University
Elena Ruiz García-Trevijano. University
Vicente Miralles Fernández. University
Teresa Barber Ballester. University

PhD researchers

Lucía Rodríguez Fernández. University

Technicians

Concha García de Mier. University

Emerging researcher

Rosa Zaragozá Colom. University. INCLIVA

Strategic aims

- Calpains, activated in the mammary gland during involution can be implicated in cell anchoring loss. The isoform-specific function of CAPN1 and -2 was explored in two models of cell-adhesion disruption: mice mammary gland during involution and breast cancer cell lines.
- Role of calpains in cancer cells, CAPNs appear in the nucleolar compartment, having a role in ribosomal biogenesis.
- Vitamin A deficiency impairs lung basement membrane and alters lung parenchyma. Our goal was to elicited several proteins responsible for this alteration.

Main lines of research

- The mammary gland as a physiological model for the study of programmed cell death.
- Mammalian tissues metabolism and its regulation.
- Role of calpains in proliferation of cancer cells: Colon cancer cell lines.
- Vitamin A deficiency induces oxidative stress in several tissues including lung and liver.

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PROMETEOII/2014/055
Title: *Vías de señalización que controlan la involución de la glándula mamaria e importancia en el cáncer de mama post-gestacional: estudio en modelos murinos y en líneas celulares humanas*
Principal Investigator: Juan Viña Ribes
Funding Body: *Consellería de Educación, Cultura y Deporte*
Beneficiary Institution: *Universidad de Valencia*
Duration: 2014-2018
Total Budget: 86.175€

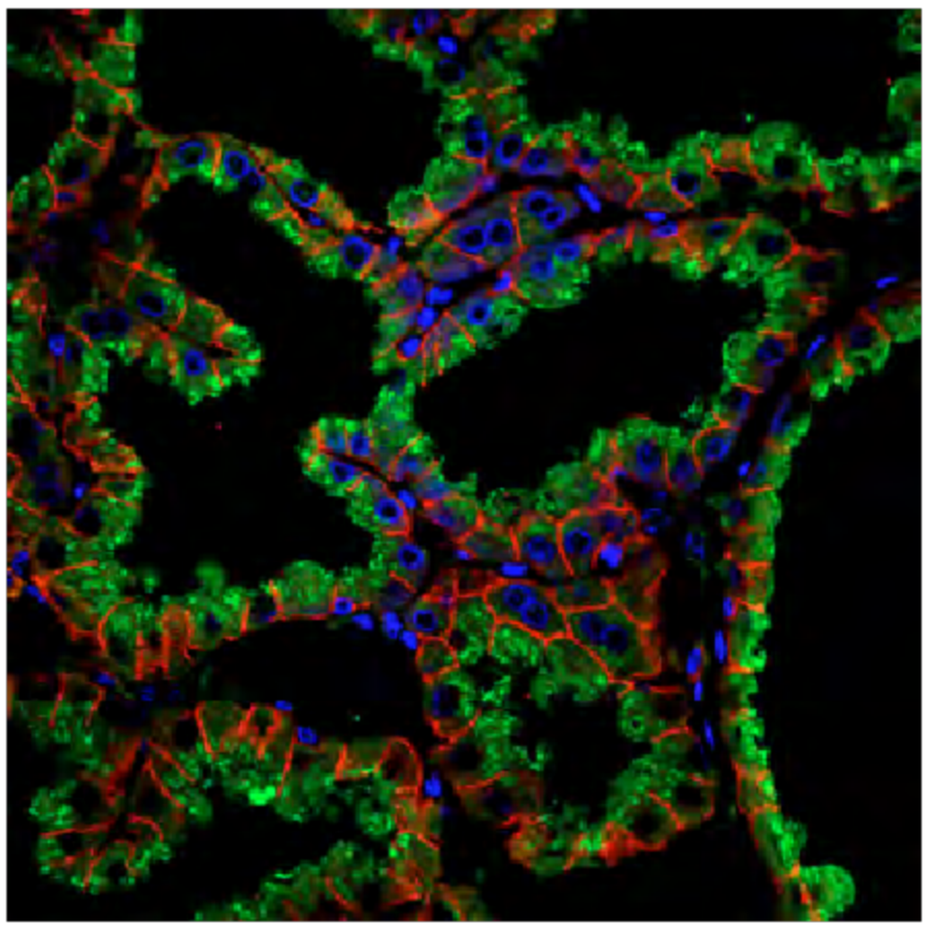
Reference: ERATRAES
Title: *Evaluación in vivo de la efectividad del ácido retinoico y antioxidantes en el tratamiento de la esteatosis hepática no alcohólica y su progresión*
Principal Investigator: Teresa Barber Ballester
Funding Body: *VLC/CAMPUS Programa VLC/BIOMED*
Beneficiary Institution: *Universidad de Valencia*
Duration: 2017
Total Budget: 4.000€



Emerging Researcher

Rosa Zaragozá Colom

The research has been focused on the pathways that regulate mammary gland involution after the pregnancy/ lactation cycle and how these pathways become deregulated in breast cancer. Over the past years, our group has unveiled the role of calpains, calcium-dependent proteases, in the mammary tissue. We have demonstrated a dual role for calpains during involution, controlling programmed cell death of epithelial cells and adipocyte redifferentiation. Moreover, in breast cancer cell lines, calpains are involved in adhesion and cell migration. In the near future we will try to elucidate new functions of these proteases according to their subcellular localization.



Acini of lactating mammary gland. Confocal microscope image with fluorescence labeling: E-cadherin (red) and calpain 1 (green).

Research Group on Aging and Physical Activity
Consolidated group

Team involved in





Group members

Principal investigator

José Viña Ribes
University

Collaborating researchers

Ana Lloret Alcañiz. University
Juan Gambini Buchón. University
Gloria Olaso González. University
José Viña Almunia. University
Marta Inglés de la Torre. University
Aitor Carretero. INCLIVA
Consolación García Lucerga. University
Eva Serna García. University
Cristina Amézcua García. INCLIVA
Mónica Cebrián Pinar. INCLIVA

PhD researchers

Cristina Mas Bargues. University
Andrea Salvador Pascual. University
Paloma Monllor Taltavull. University
Coralie Arc-Chagnaud. University
Mar Dromant. University
Lucía Gimeno Mallench. University

Emerging researcher

Consuelo Borrás Blasco. University
Mª Carmen Gómez Cabrera. University

Strategic aims

- Prevented of neuronal death in Alzheimer's by Glutaminase Inhibition Pr.
- Identification of exercise training as a drug to treat age associated frailty.
- Testing that G6PD protects from oxidative damage and improves healthspan in mice.
- Reductive stress: a new concept in Alzheimer's disease.

Main lines of research

- Aging: identification of genes associated with aging, particularly genes that are specific in centenary people. Implication of the estrogens and phytoestrogens in the prevention of age-related damage.
- Physical activity: identification of the molecular mechanisms by which physical activity is good for health. Identification of the mechanisms by which physical activity and antioxidant supplements help preventing primary and secondary sarcopenia in both human and animal studies. Identification of the best exercise intervention to delay and to treat frailty in humans.
- Physiopathology of the Alzheimer's disease: identification of the mechanisms by which free radicals, originators of the oxidative stress are used to unleash cell signals that lead to cell death in Alzheimer disease.



Emerging Researcher

Consuelo Borrás Blasco

The research focuses on stem cells and their optimization for the use of them, or their derived exosomes, in the regeneration of different tissues. We have studied the role of oxygen concentration in different parameters such as proliferation, pluripotency, senescence or apoptosis in the culture of human dental pulp stem cells (hDPSC) observing that the properties of stem cells are better maintained under physiological oxygen concentrations. The step we have taken now is to study if there is a beneficial effect of the addition of exosomes from "young" stem cells to "old" stem cells.



Emerging Researcher

María Carmen Gómez Cabrera

The main aim of this research is to study the beneficial effects of physical activity in prevention and treatment of several pathologies and more specifically on Alzheimer's disease, senile sarcopenia and frailty. We are also interested in the study of the molecular bases of skeletal muscle atrophy during periods of immobilization, as well as in its prevention.

Emerging Researcher

Juan Gambini Buchón

The research line focuses on longevity, oxidative stress, centenarians, fragility and nutrition.



Emerging Researcher

Ana Lloret Alcañiz

Our main line of research has been the role of oxidative stress in Alzheimer's disease. Our group elucidated the importance of mitochondria in the generation of oxidants by their direct interaction with the amyloid peptide of Alzheimer. In recent years, we have focused on the study of the molecular changes produced by the toxicity of beta-amyloid.

• PUBLICATIONS

Number of articles	IF	Average IF
17	73,23	4,42

National collaborations	International collaborations	Corresponding author
6	3	8

SELECTED PUBLICATIONS

1. Mas-Bargues C, Viña-Almunia J, Inglés M, Sanz-Ros J, Gambini J, Ibáñez-Cabellos JS, García-Giménez JL, Viña J, Borrás C. Role of p16^{INK4a} and BMI-1 in oxidative stress-induced premature senescence in human dental pulp stem cells. Redox Biology. 2017; 12: 690-698. IF: 6,337

2. Borrás C, Serna E, Gambini J, Inglés M, Vina J. Centenarians maintain miRNA biogenesis pathway while it is impaired in octogenarians. Mechanisms of Ageing and Development. 2017 Dec; 168:54-57. IF: 3,087
3. Fuchsberger T, Lloret A, Viña J. New Functions of APC/C Ubiquitin Ligase in the Nervous System and Its Role in Alzheimer's Disease. International Journal of Molecular Sciences. 2017 May 14; 18(5). pii: E1057. IF: 3,226
4. Inglés M, Gambini J, Mas-Bargues C, García-García FJ, Viña J, Borrás C. Brain-Derived Neurotrophic Factor as a Marker of Cognitive Frailty. The journals of gerontology. Series A, Biological Sciences and Medical Sciences. 2017; 72(3): 450-451. IF: 5,95
5. Gomez-Cabrera MC, García-Valles R, Rodríguez-Mañas L, García-García FJ, Olaso-González G, Salvador-Pascual A, Tarazona-Santabalbina FJ, Viña J. A New Frailty Score for Experimental Animals Based on the Clinical Phenotype: Inactivity as a Model of Frailty. The Journals of Gerontology. Series A, Biological Sciences and Medical Sciences. 2017 Jul 1; 72(7):885-891. IF: 5,957

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: INTIMIC-085
Title: *Maternal obesity and cognitive dysfunction in the offspring: causeeffect role of the GUT MicrobiOMe and early dietary prevention*
Principal Investigator: Consuelo Borrás Blasco (Daniel Monleón Salvadó, Vannina González Marrachelli, José Manuel Morales Tatay as collaborating researchers)
Funding Body: *JPI HDHL. European Commission*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2020
Total Budget: 778.240€

Reference: ADVANTAGE
Title: *Managing Frailty. A comprehensive approach to promote a disability-free advanced age in Europe: the ADVANTAGE initiative. Joint actions (HP-JA). 3rd EU Health Programme*
Principal Investigator: José Viña Ribes
Funding Body: *European Commission*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2019
Total budget: 216.675€ (Contributionn EC 60%: 130.005€)

Reference: FRAILOMIC
Title: *Utility of OMIC-Based biomarkers in characterizing older individuals at risk for frailty, its progression to disability and general consequences to health and well-being - The FRAILOMIC Initiative (FRAILOMIC)*
Principal Investigator: José Viña Ribes
Funding body: *European Commission*
Beneficiary institution: *Universidad de Valencia*
Duration: 2013-2018
Total budget: 596.520€

Reference: PIE15/00013
Title: *A multidisciplinary Project to advance in basic mechanisms, diagnosis, prediction, and prevention of cardiac damage in reperfused acute myocardial infarction*
Principal Investigator: Vicente Bodí Peris (José Viña as collaborating researcher)
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total Budget: 589.050€

Reference: CB16/10/00435
Title: *CIBER de Fragilidad y envejecimiento*
Principal Investigator: José Viña Ribes
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Universidad de Valencia*
Duration: 2017

Reference: PCIN-2017-117
Title: *Obesidad materna y disfunción cognitiva en la descendencia: papel causa-efecto de la microbiota intestinal y prevención dietética temprana*
Principal Investigator: Consuelo Borrás Blasco
Funding Body: *Ministerio de Economía, Industria y Competitividad*
Beneficiary Institution: *Universitat de València*
Duration: 2017-2020
Total Budget: 143.000€

Reference: SAF 2016-75508-R
Title: *Envejecimiento cerebral: protección contra el daño asociado al mismo y su aplicación a la enfermedad de Alzheimer*

Principal Investigator: José Viña Ribes
Funding Body: *Ministerio de Economía y Competitividad*
Beneficiary Institution: *Universidad de Valencia*
Duration: 2016-2019
Total budget: 140.000€

Reference: AICO/2016/067
Title: *Efecto de la administración de genisteína y/o bexaroteno para el tratamiento de la enfermedad de Alzheimer en el modelo de ratón transgénico APP/PS1*
Principal Investigator: Consuelo Borrás Blasco
Funding Body: *Conselleria de Educación, Cultura y Deporte*
Beneficiary institution: *Universidad de Valencia*
Duration: 2016-2017
Total Budget: 39.900€

Reference: AICO/2016/076
Title: *Estudio del papel de la enzima xantina oxidoreductasa en la pérdida de masa muscular en modelos animales y humanos. Implicaciones en el tratamiento de la sarcopenia primaria y secundaria*
Principal Investigator: Mari Carmen Gómez-Cabrera
Funding Body: *Conselleria de Educación, Cultura y Deporte*
Beneficiary institution: *Universidad de Valencia*
Duration: 2016-2017
Total Budget: 37.800€

Reference: AICO/2016/078
Title: *Papel de APC-C/Cdh1 en la Enfermedad de Alzheimer: bases moleculares y búsqueda de nuevos biomarcadores*
Principal Investigator: Ana Lloret Alcañiz
Funding Body: *Conselleria de Educación, Cultura y Deporte*
Beneficiary institution: *Universidad de Valencia*
Duration: 2016-2017
Total Budget: 40.000€

Reference: PROMETEOII/2014/056
Title: *Señalización por radicales libres de oxígeno en células madre: importancia en medicina regenerativa*
Principal Investigator: José Viña Ribes
Funding Body: *Conselleria de Educación, Cultura y Deporte*
Beneficiary Institution: *Universidad de Valencia*
Duration: 2014-2018
Total Budget: 122.535€

• THESIS

Thesis title: *Identificación de nuevos biomarcadores periféricos de deterioro cognitivo leve y de enfermedad de Alzheimer*
Doctoral candidate: Paloma Monllor Taltavull
Director(s): José Viña Ribes, Ana Lloret Alcañiz, Esther Giraldo Reboloso
Date of the defense: 11/07/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Role of p16ink4a and bmi-1 in oxidative stress-induced premature senescence in human dental pulp stem cells*
Doctoral candidate: Cristina Mas Bargues
Director(s): José Viña Ribes, Juan Gambini Buchón, Consuelo Borrás Blasco
Date of the defense: 03/07/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Efecto del diseño de la incisión durante la colocación de implantes unitarios en los parámetros clínicos, radiológicos, e inmunológicos de los dientes adyacentes. Estudio prospectivo controlado aleatorizado*
Doctoral candidate: Paula Girbés Ballester
Director(s): Jose Viña Almunia, Miguel Peñarrocha Diago, David Peñarrocha Oltra
Date of the defense: 28/04/2017
Grade: *Sobresaliente "cum laude"*

Research Group on Anesthesiology and Reanimation
Consolidated group



http://www.anestesiaclinicovalencia.org/



Group members

Principal investigator

Francisco Javier Belda Nácher
Hospital. University

Collaborating researchers

Marina Soro Domingo. Hospital. University
Gerardo Aguilar Aguilar. Hospital
Carlos Ferrando Ortolá. Hospital. CIBERESP
José García de la Asunción. Hospital
Beatriz Garrigues Olivé. Hospital
Juan Vicente Llau Pitarch. Hospital. University
Rafael Badenes Quiles. Hospital
Armando Maruenda Paulino. Hospital. University
María Luisa García Pérez. Hospital
Carlos Tornero Tornero. Hospital. University
Benigno Escamilla Cañete. Hospital
María Luisa Laredo Alcázar. Hospital
Arturo Carratalá Calvo. Hospital
Jaime Pérez-Griera. Hospital
Blanca Arocas Chicote. Hospital
José Antonio Carbonell López. Hospital
Pedro Charco Mora. Hospital
Mario de Fez Barberá. Hospital
Mar Garzando Civera. Hospital
Andrea Gutiérrez Valcárcel. Hospital
Mª José Parra González. Hospital
Ernesto Pastor Martínez. Hospital
Jaume Puig Bernabéu. Hospital
Ana Mugarra Llopis. Hospital
Laura Reviriego Agudo. Hospital
Estefanía Gracia Ferrandiz. Hospital
Cristina Crisán Ovidiu. Hospital

Strategic aims

- The effects of advanced monitoring on hemodynamic management in critically ill patients.
- Open lung approach for the acute respiratory distress syndrome.
- Stratification and outcome of acute respiratory distress syndrome.
- Recommendations on invasive candidiasis in patients with complicated intra-abdominal infection and surgical patients with ICU extended stay.
- Pharmacokinetics of anidulafungin during venovenous extracorporeal membrane oxygenation.

Main lines of research

- Oxidative stress and protection of organs in ischemia-reperfusion surgery.
- Study of hyperglycemia and aldose reductase-mediated mitochondrial dysfunction and apoptosis in platelets in critical patients.
- Ventilatory and pharmacological strategies to decrease organ damage in the lungs associated with mechanical ventilation in healthy and injured lungs.
- Development of hemodynamic monitoring and its application in the field of patients undergoing surgery or admitted to critical care units.
- Study and development of methods of detection of infections, especially fungal and virological, and how to prevent them.
- Study and development of therapeutic drug monitoring (TDM) to describe antimicrobials pharmacokinetics (PK) and determination of minimum inhibitory concentration (MIC).
- Development of new strategies and drugs for pain treatment.



Emerging Researcher

Carlos Ferrando Ortola

Some of the ongoing research lines in our group are: 1. Role of anaesthetics in the inflammatory response in anaesthesia and critical care patients. 2. Strategies to optimize and individualize intraoperative ventilatory management (precision medicine) 3. Role of the perioperative ventilatory strategies in postoperative complications. 4. Role of perioperative supplemental oxygen in postoperative complications.

• PUBLICATIONS

Number of articles	IF	Average IF
33	158,71	4,80

National collaborations	International collaborations	Corresponding author
19	18	8

SELECTED PUBLICATIONS

1. Aguilar G, Navarro D. Cytomegalovirus in Patients in the Intensive Care Unit. JAMA Internal Medicine. 2017 Oct 1; 177 (10): 1542-1543. IF: 16,538

2. Ferrando C, Romero C, Tusman G, Suarez-Sipmann F, Canet J, Dosdá R, Valls P, Villena A, Serralta F, Jurado A, Carrizo J, Navarro J, Parrilla C, Romero JE, Pozo N, Soro M, Villar J, Belda FJ. The accuracy of postoperative, non-invasive Air-Test to diagnose atelectasis in healthy patients after surgery: a prospective, diagnostic pilot study. BMJ Open. 2017; 29 (7): e015560. IF: 2,369

3. Kahan BC, Koulenti D, Arvaniti K, Beavis V, Campbell D, Chan M, Moreno R, Pearse RM, International Surgical Outcomes Study (ISOS) group. Critical care admission following elective surgery was not associated with survival benefit: prospective analysis of data from 27 countries. Intensive Care Medicine. 2017 Jul; 43 (7): 971-979. IF: 12,015

4. Maas AIR, Menon DK, Adelson PD, Andelic N, Bell MJ, Belli A, Bragge P, Brazinova A, Büki A, Chesnut RM, Citerio G, Coburn M, Cooper DJ, Crowder AT, Czeiter E, Czosnyka M, Diaz-Arrastia R, Dreier JP, Duhaime AC, Ercole A, van Essen TA, Feigin VL, Gao G, Giacino J, Gonzalez-Lara LE, Gruen RL, Gupta D, Hartings JA, Hill S, Jiang JY, Ketharanathan N, Kom-

panje EJO, Lanyon L, Laureys S, Lecky F, Levin H, Lingsma HF, Maegele M, Majdan M, Manley G, Marsteller J, Mascia L, McFadyen C, Mondello S, Newcombe V, Palotie A, Parizel PM, Peul W, Piercy J, Polinder S, Puybasset L, Rasmussen TE, Rossaint R, Smielewski P, Söderberg J, Stanworth SJ, Stein MB, von Steinbüchel N, Stewart W, Steyerberg EW, Stocchetti N, Synnot A, Te Ao B, Tenovuo O, Theadom A, Tibboel D, Videtta W, Wang KKW, Williams WH, Wilson L, Yaffe K; InTBIR Participants and Investigators. Traumatic brain injury: integrated approaches to improve prevention, clinical care, and research. Lancet Neurology. 2017 Dec; 16 (12): 987-1048. IF: 26,284

5. García-de-la-Asunción J, Bruno L, Pérez-Griera J, Galán G, Morcillo A, Wins R, García-Del-Olmo E, Guijarro R, Sarriá B, Martí F, Soro M, Belda FJ. Remote Ischemic Preconditioning Decreases Oxidative Lung Damage After Pulmonary Lobectomy: A Single-Center Randomized, Double-Blind, Controlled Trial. Anesthesia and Analgesia. 2017 Aug; 125 (2): 499-506. IF: 4,014

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Title: *Reducción de la complicaciones postoperatorias y de la estancia hospitalaria con una estrategia perioeratoria individualizada de ventilación de protección pulmonar*
Principal Investigator: Carlos Ferrando Ortolá and Marina Soro Domingo
Funding Body: *European Society of Anaesthesiology (ESA)*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 30.000€

Reference: PI14/00829
Title: *Reducción de la complicaciones postoperatorias y de la estancia hospitalaria con una estrategia perioperatoria individualizada de ventilación de protección pulmonar. Estudio comparativo, prospectivo*
Principal Investigator: Carlos Ferrando Ortolá
Funding body: *Instituto de Salud Carlos III*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duración: 2015-2017
Total budget: 108.250€

Title: *Individualized perioperative open-lung ventilatory strategy with high versus conventional inspiratory oxygen fraction (iPROVE-O2) and its effects on surgical site infection*
Principal Investigator: Carlos Ferrando Ortolá
Funding body: *Air Liquide Santé International*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duración: 2017
Total budget: 132.324,94€

• THESIS

Thesis title: *Estudio del estrés oxidativo en pacientes sometidos a lobectomía pulmonar*
Doctoral candidate: Eva García del Olmo
Director(s): José García De La Asunción, Antonio Arnau Obrer, Ricardo Guijarro Jorge
Date of the defense: 24/07/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Estudio de validación de pulsioximetría como método diagnóstico no invasivo de atelectasias tras anestesia general*
Doctoral candidate: Carolina Soledad Romero García
Director(s): Javier Belda Nácher, Marina Soro Domingo, Carlos Ferrando Ortolá
Date of the defense: 27/10/2017
Grade: *Sobresaliente "cum laude"*

Research Group on Translational Genomics
Consolidated group



http://medicina-genomica.blogspot.com.es/
https://twitter.com/MPAlonso
http://www.uv.es/gt/
https://twitter.com/selmasoriano

Group members

Principal investigator

Rubén D. Artero Allepuz
University

Collaborating researchers

Manuel Pérez Alonso. University
Mª Beatriz Llamusí Troísi. University
Juan M. Fernández Costa. University
Ariadna Bargiela Schönbrunn. University

PhD researchers

Estefanía Cerro Herreros. University
Piotr Konieczny. University
Mouli Chakraborty. University
Anna Serafina Rapisarda. University
Estela Selma Soriano. University
María Sabater Arcis. University
Sarah Overby. University

Strategic aims

- We have published proof-of-concept that boosting endogenous expression of Muscleblind by blocking specific inhibitory miRNAs was able to suppress several Myotonic Dystrophy-like phenotypes in a Drosophila model of disease. This proved that miRNA-based drugs constitute a new therapeutic strategy for the disease. A strategic aim for the laboratory will be to provide additional proof of activity and safety in murine models and to move on these strategies towards preclinical development.
- Second, we have started scientific collaborations that confirm our laboratory as a national reference in the characterization of Drosophila heart phenotypes.

Main lines of research

- Use of miRNAs as therapeutic targets in myotonic dystrophy (DM).
- Discovery, development, and repurpusing of drugs for the treatment of DM.
- Study of the molecular causes of muscle atrophy, heart dysfunction, and CNS degeneration in DM.
- Study of the molecular mechanisms associated with spinal muscular atrophy and search for potential therapies.
- Understanding human podocyte function through Drosophila nephrocytes.
- Development of a LGMD1F Drosophila model.

• PUBLICATIONS

Number of articles	IF	Average IF
3	13,43	4,47

National collaborations	International collaborations	Corresponding author
1	0	2

SELECTED PUBLICATIONS

1. Cerro-Herreros E, Chakraborty M, Pérez-Alonso M, Artero R, Llamusí B. Expanded CCUG repeat RNA expression in Drosophila heart and muscle trigger Myotonic Dystrophy type 1-like phenotypes and activate autophagocytosis genes. Scientific Reports. 2017 Jun 6; 7 (1): 2843. IF: 4,259

2. González ÀL, Konieczny P, Llamusi B, Delgado-Pinar E, Borrell JI, Teixidó J, García-España E, Pérez-Alonso M, Estrada-Tejedor R, Artero R. In silico discovery of substituted pyrido [2,3-d] pyrimidines and pentamidine-like compounds with biological activity in myotonic dystrophy models. Plos One. 2017 Jun 5; 12 (6): e0178931. IF: 2,806

3. Konieczny P, Selma-Soriano E, Rapisarda AS, Fernandez-Costa JM, Pérez-Alonso M, Artero R. Myotonic dystrophy: candidate small molecule therapeutics. Drug Discovery Today. 2017 Nov; 22 (11): 1740-1748. IF: 6,369

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI13/00386
Title: *Desarrollo de terapias farmacológicas para la distrofia miotónica*
Principal Investigator: Manuel Pérez Alonso
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2014-2017
Total budget: 86.515€

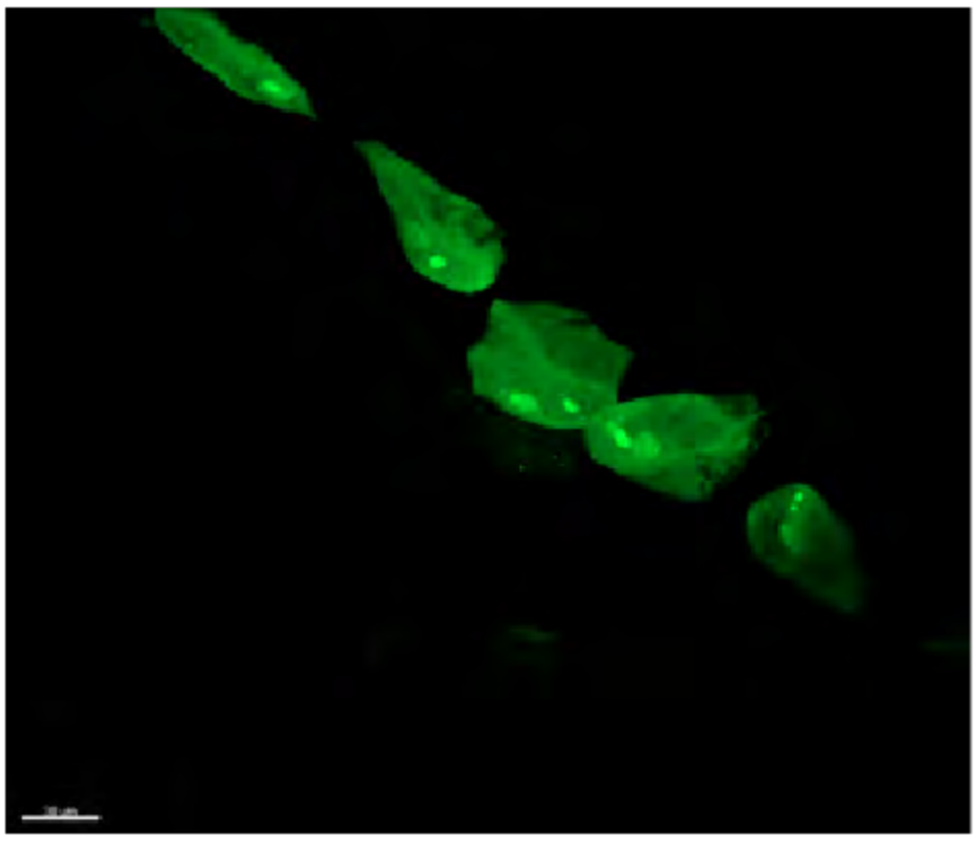
Reference: SAF2015-64500-R
Title: *Modulación terapéutica de la expresión de genes patogénicos en Distrofia Miotónica: prueba de concepto*
Principal Investigator: Rubén Artero Allepuz
Funding Body: *Ministerio de Economía y Competitividad*
Beneficiary Institution: *Universidad de Valencia*
Duration: 2016-2018
Total budget: 145.000€

Reference: PROMETEO II/2014/067
Title: *Aproximaciones genéticas para el estudio de patologías humanas y del desarrollo en Drosophila*
Principal Investigator: Nuria Paricio Ortiz (Rubén Artero Allepuz as collaborating researcher)
Funding Body: *Conselleria de Educación Cultura y Deporte*
Beneficiary Institution: *Universidad de Valencia*
Duration: 2014-2018
Total budget: 91.965€

Title: *A Spinal Muscular Atrophy Drosophila model for in vivo drug discovery*
Principal Investigator: Rubén Artero Allepuz
Funding Body: *SMA Europe*
Beneficiary Institution: *University of Valencia*
Duration: 2016-2018
Total budget: 121.500€

Reference: 73
Title: *Analysis of the structure-activity relationships of anti-myotonic dystrophy hexapeptides*
Principal Investigator: Mª Beatriz Llamusí Troisi
Funding Body: *Telemaratón RTVE Todos somos raros, todos somos únicos*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 99.990€

Reference: 2014/063
Title: *Characterization of novel suppressors of neurodegeneration in myotonic dystrophy type1*
Principal Investigator: Manuel Pérez Alonso
Funding body: *Fundación La Marató de TV3*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 125.125€



Drosophila garland nephrocytes expressing the GFP reporter, confocal microscopy image.

Research Group on General and Digestive Surgery
Consolidated group





Group members

Principal investigator

Joaquín Ortega Serrano
Hospital

Collaborating researchers

Bruno Camps Vilata. Hospital
Luis Sabater Ortí. Hospital
Elena Muñoz Forner. Hospital
Francisco Morera Ocón. Hospital
José Martín Arévalo. Hospital
David Moro Valdezate. Hospital
Vicente Pla Martín. Hospital
Norberto Cassinello Fernández. Hospital
Fernando López Mozos. Hospital
Roberto Martí Obiol. Hospital
Julio Calvete Chornet. Hospital
Elena Martí Cuñat. Hospital
Marina Garcés Albir. Hospital
Raquel Alfonso Ballester. Hospital
Dimitri Dorcaratto. Hospital

Strategic aims

- Incorporation of the retroperitoneoscopy as a new surgical technique for the department, as a treatment of adrenal tumors.
- Development of the clinical pathway for thyroidectomy.
- International edition of a book on esophageal cancer: "Esophageal cancer: symptoms, management and prognosis".
- Completion of the national multicenter trial on the differences between the pancreato-gastrostomy and pancreato-jejunostomy in cephalic pancreaticoduodenectomy technique.

Main lines of research

- About coloproctological surgery: study of the quality standards for coloproctology 3D endorectal ultrasound, sacral neuromodulation and perianal fistula surgery.
- About hepatobiliary and pancreatic surgery: acute pancreatitis, gene transfection, pancreaticoduodenectomy.
- About endocrine surgery: laparoscopic adrenal tumors, recurrences study in thyroid surgery, parathyroid adenomas intraoperative localization.
- About metabolic and bariatric surgery: pathophysiology of postoperative changes.
- About breast surgery: utility of fibrin sealants in postoperative seroma.
- About gastroesophageal surgery: mutations in GIST tumors, overexpression of HER2 and HER3 in gastric tumors, perioperative QT in advanced gastric cancer.

• PUBLICATIONS

Number of articles	IF	Average IF
17	46,31	2,72

National collaborations	International collaborations	Corresponding author
14	6	4

SELECTED PUBLICATIONS

1. Ana-Barbara García-García, M. Carmen Gómez-Mateo, Rebeca Hilario, Pilar Rentero-Garrido, Alvaro Martínez-Domenech, Veronica Gonzalez-Albert, Andres Cervantes, Pablo Marín-García, Felipe Javier Chaves, Antonio Ferrández-Izquierdo and Luis Sabater. mRNA expression profiles obtained from microdissected pancreatic cancer cells can predict patient survival. Oncotarget 2017; 62: 104796-104805. IF: 5,168

2. Díaz-Tobarra M, Cassinello Fernández N, Jordá Gómez P, Nofal MN, Alfonso Ballester R, Ortega Serrano J. One-Stage vs Two-Stage Laparoscopic Roux-en-Y Gastric Bypass in Obese Patients with Body Mass Index >55 Kg/m2; 5-Year Follow Up. Obesity Surgery. 2017 Apr; 27 (4): 955-960. IF: 3,947

3. Sendra Gisbert L, Miguel Matas A, Sabater Ortí L, Herrero MJ, Sabater Olivas L, Montalvá Orón EM, Frasson M, Abargues López R, López-Andújar R, García-Granero Ximénez E, Aliño Pellicer SF. Efficacy of hydrodynamic interleukin 10 gene transfer in human liver segments with interest in transplantation. Liver Transplantation. 2017 Jan; 23 (1): 50-62. IF: 3,910

4. García-Granero E, Navarro F, Cerdán Santacruz C, Frasson M, García-Granero A, Marinello F, Flor-Lorente B, Espí A. Individual surgeon is an independent risk factor for leak after double-stapled colorectal anastomosis: An institutional analysis of 800 patients. Surgery. 2017 Nov; 162 (5): 1006-1016. IF: 3,904

5. López-López V, Cascales-Campos PA, Gil E, Arevalo J, Gonzalez A, Gil J, Muñoz-Casares FC, Melero JT, Barrios P, Morales R, Ramos I, Ortega G, Camps B, González-Bayón L, Bretcha-Boix P, Farré-Alegre J, González-Moreno S, Parrilla P. Cytoreductive surgery and hyperthermic intraperitoneal chemotherapy for pseudomyxoma peritonei and appendix tumours in elderly patients: Is it justified?. Clinical & Translational Oncology. 2017 Nov; 19 (11): 1388-1392. IF: 2,353

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI15/00076

Title: *Duodenopancreatectomía cefálica en tumores de páncreas y periampulares: abordaje inicial de la arteria mesentérica superior versus abordaje clásico. Estudio prospectivo, aleatorizado y multicéntrico*

Principal Investigator: Luis Sabater Ortí

Funding Body: *Instituto de Salud Carlos III*

Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*

Duration: 2016-2018
Total budget: 56.265€

Reference: PI15/02180
Title: *Enfermedad mínima residual en cánceres colorrectales de alto riesgo resecados. Valor de las biopsias líquidas en el seguimiento y análisis de la heterogeneidad tumoral*
Principal Investigator: Andrés Cervantes Ruipérez (Alejandro Espí as collaborating researcher)
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total budget: 80.465€

Reference: PI16/01465
Title: *Impacto de la diseminación de las CTCs durante la duodenopancreatectomía cefálica en la aparición de metástasis y supervivencia en pacientes con tumores de páncreas y periampulares*
Principal Investigator: Javier Padillo (Elena Muñoz and Marina Garcés as collaborating researchers)
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia y Hospital Virgen del Rocío de Sevilla*
Duration: 2017-2019
Total budget: 80.465€

• THESIS

Thesis title: *Factores predictivos de la reconstrucción intestinal tras la intervención de Hartmann*
Director(s): David Moro Valdezate, Alejandro Espí Macías
Doctoral candidate: Ana Royo Aznar
Date of the defense: 26/07/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Uso de la ecografía con contraste en el diagnóstico y manejo de la colecistitis aguda gangrenosa*
Doctoral candidate: Jose Ángel Díez Ares
Director(s): Luis Sabater Ortí, Segundo Ángel Gómez Abril, Tomás Ripollés González
Date of the defense: 22/09/2017
Grade: *Sobresaliente "cum laude"*

Research Group on Personal Autonomy, Dependence and Severe Mental Disorders (TMAP) Consolidated group





Group members

Principal investigator

Rafael Tabarés Seisdedos
University

Collaborating researchers

Gabriel Selva Vera. University. Hospital
Manuel Gómez Beneyto. University
Patricia Correa Ghisays. University
Inmaculada Fuentes Durá. University
Ferrán Catalá López. University
Vicente Balanzá Martínez. University. Hospital

Strategic aims

- Project on "Comorbidity between Cancer and Central Nervous System Disorders", which aims to synthesize epidemiological evidence and assess the validity of associations between central nervous system disorders and the risk of developing or dying from cancer. It is a collaborative meta-analysis in 5 countries (Spain, Canada, Australia, United Kingdom and the United States) coordinated by the University of Valencia/ CIBERSAM (Dr. Catalá-López, Prof. Tabarés-Seisdedos). Several studies have been published in Systematic Reviews and Scientific Reports.
- "The Global Burden of Disease Study" is the largest international collaborative project on the epidemiology of diseases, injuries and risk factors at the global, national and regional levels. During this year have been published in prestigious journals such as The Lancet, JAMA and The New England Journal of Medicine.
- Projects in advanced methods of systematic reviews and meta-analyses, including the publication in PLoS One interested in the identification of endophenocognitypes, as well as biomarkers of neuroprogression and clinical staging in bipolar and psychotic disorders.
- Various papers and editorials have been published on methodological quality, biases and conflicts of interest in mental health research, public health and health economics.

Main lines of research

- Study of neurocognitive endophenotypes in schizophrenia and bipolar disorder.
- Study of pharmacological strategies for improving cognitive function in bipolar disorder.
- Epidemiology and disability associated with TMG.
- Identification of biomarkers in TMG.
- Study of the direct and reverse comorbidity in TMG in relation to cancer and diabetes.
- Development and efficacy study of psychoeducation and neurocognitive therapy and functional rehabilitation for people with SMI.
- Establishment of a clinical staging system (ClinicalStaging) applied to bipolar disorder by the combination of biomarkers, neurocognitive and functional performance.

• PUBLICATIONS

Number of articles	IF	Average IF
39	687,92	17,63

National collaborations	International collaborations	Corresponding author
33	27	7

SELECTED PUBLICATIONS

1. Catalá-López F, Hutton B, Driver JA, Page MJ, Ridao M, Valderas JM, Alonso-Arroyo A, Forés-Martos J, Martínez S, Gènova-Maleras R, Macías-Saint-Gerons D, Crespo-Facorro B, Vieta E, Valencia A, Tabarés-Seisdedos R. Cancer and central nervous system disorders: protocol for an umbrella review of systematic reviews and updated meta-analyses of observational studies. Systematic Reviews. 2017 Apr 4; 6(1):69.

2. GBD 2016 DALYs and HALE Collaborators. Global, regional, and national disability-adjusted life-years (DALYs) for 333 diseases and injuries and healthy life expectancy (HALE) for 195 countries and territories, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016. Lancet. 2017 Sep 16; 390(10100):1260-1344. IF: 47,831.

3. Sánchez-Valle J, Tejero H, Ibáñez K, Portero JL, Krallinger M, Al-Shahrour F, Tabarés-Seisdedos R, Baudot A, Valencia A. A molecular hypothesis to explain direct and inverse co-morbidities between Alzheimer's Disease, Glioblastoma and Lung cancer. Scientific Reports. 2017 Jun 30; 7(1):4474. IF: 4,259.

4. GBD 2015 Obesity Collaborators, Afshin A, Forouzanfar MH, Reitsma MB, Sur P, Estep K, Lee A, Marczak L, Mokdad AH, Moradi-Lakeh M, Naghavi M, Salama JS, Vos T, Abate KH, Abbafati C, Ahmed MB, Al-Aly Z, Alkerwi A, Al-Raddadi R, Amare AT, Amberbir A, Amegah AK, Amini E, Amrock SM, Anjana RM, Ärnlöv J, Asayesh H, Banerjee A, Barac A, Baye E, Bennett DA, Beyene AS, Biadgilign S, Biryukov S, Bjertness E, Boneya DJ, Campos-Nonato I, Carrero JJ, Cecilio P, Cercy K, Ciobanu LG, Cornaby L, Damtew SA, Dandona L, Dandona R, Dharmaratne SD, Duncan BB, Eshrati B, Esteghamati A, Feigin VL, Fernandes JC, Fürst T, Gebrehiwot TT, Gold A, Gona PN, Goto A, Habtewold TD, Hadush KT, Hafezi-Nejad N, Hay SI, Horino M, Islami F, Kamal R, Kasaeian A, Katikireddi SV, Kengne AP, Kesavachandran CN, Khader YS, Khang YH, Khubchandani J, Kim D, Kim YJ, Kinfu Y, Kosen S, Ku T, Defo BK, Kumar GA, Larson HJ, Leinsalu M, Liang X, Lim SS, Liu P, López AD, Lozano R, Majeed

A, Malekzadeh R, Malta DC, Mazidi M, McAlinden C, McGarvey ST, Mengistu DT, Mensah GA, Mensink GBM, Mezgebe HB, Mirrakhimov EM, Mueller UO, Noubiap JJ, Obermeyer CM, Ogbo FA, Owolabi MO, Patton GC, Pourmalek F, Qorbani M, Rafay A, Rai RK, Ranabhat CL, Reinig N, Safiri S, Salomon JA, Sanabria JR, Santos IS, Sartorius B, Sawhney M, Schmidhuber J, Schutte AE, Schmidt MI, Sepanlou SG, Shamsizadeh M, Sheikhbahaei S, Shin MJ, Shiri R, Shiue I, Roba HS, Silva DAS, Silverberg JI, Singh JA, Stranges S, Swaminathan S, Tabarés-Seisdedos R, Tadese F, Tedla BA, Tegegne BS, Terkawi AS, Thakur JS, Tonelli M, Topor-Madry R, Tyrovolas S, Ukwaja KN, Uthman OA, Vaezghasemi M, Vasankari T, Vlassov VV, Vollset SE, Weiderpass E, Werdecker A, Wesana J, Westerman R, Yano Y, Yonemoto N, Yonga G, Zaidi Z, Zenebe ZM, Zipkin B, Murray CJL. Health Effects of Overweight and Obesity in 195 Countries over 25 Years. New England Journald of Medicine. 2017 Jul 6; 377 (1): 13-27. IF: 72,406.

5. Correa-Ghisays P, Balanzá-Martínez V, Selva-Vera G, Vila-Francés J, Soria-Olivas E, Vivas-Lalinde J, San Martín C, Borrás AM, Ayesa-Arriola R, Sanchez-Moreno J, Sánchez-Ort J, Crespo-Facorro B, Vieta E, Tabarés-Seisdedos R. Manual motor speed dysfunction as a neurocognitive endophenotype in euthymic bipolar disorder patients and their healthy relatives. Evidence from a 5-year follow-up study. Journal of Affective Disorders. 2017 Jun; 215 :156-162. IF: 3,432.

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI14/00894
Title: *Identificación y validación de biomarcadores periféricos para el déficit neurocognitivo en el trastorno bipolar, depresión, esquizofrenia y diabetes*
Principal Investigator: Rafael Tabares Seisdedos
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 82.000€

Reference: PIE14/00031
Title: *Understanding obesity, metabolic syndrome, type 2 diabetes and fatty liver disease: a multidisciplinary approach*
Principal Investigator: José María Mato de la Paz (Rafael Tabarés as collaborating researcher)
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *CIBERSAM*
Duration: 2015-2017
Total budget: 606.000€

Reference: Intramural CIBER
Title: *INverse and direct CANCER comorbidity in people with Central Nervous System disorders: from drug repurposing to effective strategies for cancer prevention (INCANCER/CNSd)*
Principal Investigator: Rafael Tabarés Seisdedos
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *CIBERSAM*
Duration: 2015-2017
Total budget: 35.000€

Reference: CB07/09/0021
Title: *CIBER de Enfermedades Mentales (CIBERSAM)*
Principal Investigator: Rafael Tabarés Seisdedos
Funding Body: *Instituto de Salud Carlos III*
Beneficiary institution: *CIBERSAM*
Duration: 2015-

Reference: PROMETEOII/2015/021
Title: *INverse and direct CANCER comorbidity in people with Central Nervous System disorders: from drug repurposing to effective strategies for cancer prevention (INCANCER/CNSd)*
Principal Investigator: Rafael Tabarés Seisdedos
Funding Body: *Conselleria de Educación Cultura y Deporte*
Beneficiary Institution: *Universitat de Valencia*
Duration: 2015-2018
Total budget: 212.400€

• THESIS

Thesis title: *Endofenotipos neurocognitivos potenciales para el trastorno bipolar: velocidad motora manual, memoria visual, velocidad de procesamiento*
Doctoral candidate: Patricia Correa Ghisays
Director(s): Gabriel Selva Vera, Juan Carlos Ruiz Ruiz, Vicent Balanza Martínez
Date of the defense: 20/09/2017
Grade: *Sobresaliente "cum laude"*

4.3.4 Reproductive medicine area

Research Group on Women Health 166
Research Group on Stem Cells Applied to Reproduction, Embryo Viability and Endometrial Receptivity 169
Research Group on Male Infertility and Embrionary Stimulation 173



Research Group on Women Health
Consolidated group





Group members

Principal investigator

Antonio Cano Sánchez
University

Collaborating researchers

Juan José Tarín Folgado. University

Emerging researcher

Raúl Gómez Gallego. INCLIVA

Strategic aims

- We have positioned our group in the field of healthy ageing, wth special interest to frailty, where we have collaborated in the support of INCLIVA in the project ADVANTAGE. We have collaborated to position the reference site of the Valencia Region within EIPAHA, the partnership of the European Commission. Moreover, we have participated in the application to different European projects with groups from different European countries, including an application to the Maire Curie grants. Finally, we continue being coordinators of the FOCUS European project.

Main lines of research

- In healthy ageing in the female we are continuing our interest on osteoporosis but also have added frailty and functional decline. We are consolidating the CARMEN cohort (see the EIPAHA commitment tracker, https://ec.europa.eu/eip/ageing/commitments-tracker/a3/integrated-care-and-ict-reduce-frailty-and-chronic-diseases-ageing-women_en).
- With regard to endometriosis:
  -To analyze the role of microRNA and vascularization regulators and pain mechanisms. Role of the TNF cytokine family.
  -To analyze the initial atherogenesis and selective estrogen receptor modulators.



Emerging Researcher

Raúl Gómez Gallego

The lines of research have focused on the dissection of how the deregulation of the angiogenic component is related to the onset and maintenance of gynecological disorders such as endometriosis, ovarian hyperstimulation syndrome, recurrent miscarriage or preeclampsia. We are also interested in developing tests for the early non-invasive diagnosis of endometriosis through combined analysis of multiple biomarkers simultaneously.

• PUBLICATIONS

Number of articles	IF	Average IF
10	25,93	2,59

National collaborations	International collaborations	Corresponding author
6	3	3

SELECTED PUBLICATIONS

1. Ferrero H, Buigues A, Martínez J, Simón C, Pellicer A, Gómez R. A novel homologous model for noninvasive monitoring of endometriosis progression†. Biology of Reproduction. 2017; 96 (2): 302-312. IF: 3,432

2. Villacampa-Fernández P, Navarro-Pardo E, Tarín JJ, Cano A. Frailty and multimorbidity: Two related yet different concepts. Maturitas. 2017; 95: 31-35. IF: 3,255

3. De-Ugarte L, Caro-Molina E, Rodríguez-Sanz M, García-Pérez MA, Olmos JM, Sosa-Henríquez M, Pérez-Cano R, Gómez-Alonso C, Del Rio L, Mateo-Agudo J, Blázquez-Cabrera JA, González-Macías J, Pino-Montes JD, Muñoz-Torres M, Diaz-Curiel M, Malouf J, Cano A, Pérez-Castrillon JL, Nogues X, García-Giralt N, Diez-Pérez A. SNPs in bone-related miRNAs are associated with the osteoporotic phenotype. Scientific Reports. 2017; 7 (1): 516. IF: 4,259

4. Bousquet J, Bewick M, Cano A, Eklund P, Fico G, Goswami N, Guldemond NA, Henderson D, Hinkema MJ, Liotta G, Mair A, Molloy W, Monaco A, Monsonis-Paya I, Nizinska A, Papadopoulos H, Pavlickova A, Pecorelli S, Prados-Torres A, Roller-Wirnsberger RE, Somekh D, Vera-Muñoz C, Visser F, Farrell J, Malva J, Andersen Ranberg K, Camuzat T, Carriazo AM, Crooks G, Gutter Z, Iaccarino G, Manuel de Keenoy E, Moda G, Rodriguez-Mañas L, Vontetsianos T, Abreu C, Alonso J, Alonso-Bouzon C, Ankri J, Ar Redondo MT, Avolio F, Bedbrook A, Bia?oszewski AZ, Blain H, Bourret R, Cabrera-Umpierrez MF, Catala A, O'Caoimh R, Césari M, Chavannes NH, Correia-da-Sousa J, Dedeu T, Ferrando M, Ferri M, Fokkens WJ, García-Lizana F, Guérin O, Hellings PW, Haahtela T, Illario M, Inzerilli MC, Lodrup Carlsen KC, Kardas P, Keil T, Maggio M, Mendez-Zorrilla A, Menditto E, Mercier J, Michel JP, Murray R, Nogues M, O'Byrne-Maguire I, Pappa D, Parent AS, Pastorino M, Robalo-Cordeiro C, Samolinski B, Siciliano P, Teixeira AM, Tsartara SI, Valiulis A, Vandenplas O, Vasankari T, Vellas B, Vollenbroek-Hutten M, Wickman M, Yorgancioglu A, Zuberbier T, Barbagallo M, Canonica GW, Klimek L,

Maggi S, Aberer W, Akdis C, Adcock IM, Agache I, Albera C, Alonso-Trujillo F, Angel Guarcia M, Annesi-Maesano I, Apostolo J, Arshad SH, Attalin V, Avignon A, Bachert C, Baroni I, Bel E, Benson M, Bescos C, Blasi F, Barbara C, Bergmann KC, Bernard PL, Bonini S, Bousquet PJ, Branchini B, Brightling CE, Bruguière V, Bunu C, Bush A, Caimmi DP, Calderon MA, Canovas G, Cardona V, Carlsen KH, Cesario A, Chkhartishvili E, Chiron R, Chivato T, Chung KF, d'Angelantonio M, De Carlo G, Cholley D, Chorin F, Combe B, Compas B, Costa DJ, Costa E, Coste O, Coupet AL, Crepaldi G, Custovic A, Dahl R, Dahlen SE, Demoly P, Devillier P, Didier A, Dinh-Xuan AT, Djukanovic R, Dokic D, Du Toit G, Dubakiene R, Dupeyron A, Emuzyte R, Fiocchi A, Wagner A, Fletcher M, Fonseca J, Fougère B, Gamkrelidze A, Garces G, García-Aymeric J, García-Zapirain B, Gemicio?lu B, Gouder C, Hellquist-Dahl B, Hermosilla-Gimeno I, Héve D, Holland C, Humbert M, Hyland M, Johnston SL, Just J, Jutel M, Kaidashev IP, Khaitov M, Kalayci O, Kalyoncu AF, Keijser W, Kerstjens H, Knezovi? J, Kowalski M, Koppelman GH, Kotska T, Kovac M, Kull I, Kuna P, Kvedariene V, Lepore V, MacNee W, Maggio M, Magnan A, Majer I, Manning P, Marcucci M, Marti T, Masoli M, Melen E, Miculinic N, Mihaltan F, Milenkovic B, Millot-Keurinck J, Mlinari? H, Momas I, Montefort S, Morais-Almeida M, Moreno-Casbas T, Mösges R, Mullol J, Nadif R, Nalin M, Navarro-Pardo E, Nekam K, Ninot G, Paccard D, Pais S, Palummeri E, Panzner P, Papadopoulos NK, Papanikolaou C, Passalacqua G, Pastor E, Perrot M, Plavec D, Popov TA, Postma DS, Price D, Raffort N, Reuzeau JC, Robine JM, Rodenas F, Robusto F, Roche N, Romano A, Romano V, Rosado-Pinto J, Roubille F, Ruiz F, Ryan D, Salcedo T, Schmid-Grendelmeier P, Schulz H, Schunemann HJ, Serrano E, Sheikh A, Shields M, Siafakas N, Scichilone N, Siciliano P, Skrindo I, Smit HA, Sourdet S, Sousa-Costa E, Spranger O, Sooronbaev T, Sruk V, Sterk PJ, Todo-Bom A, Touchon J, Tramontano D, Triggiani M, Tsartara SI, Valero AL, Valovirta E, van Ganse E, van Hage M, van den Berge M, Vandenplas O, Ventura MT, Vergara I, Vezzani G, Vidal D, Viegi G, Wagemann M, Whalley B, Wickman M, Wilson N, Yiallouros PK, Žagar M, Zaidi A, Zidarn M, Hoogerwerf EJ, Usero J, Zuffada R, Senn A, de Oliveira-Alves B. Building Bridges for Innovation in Ageing: Synergies between Action Groups of the EIP on AHA. The Journal of Nutrition, Health & Aging. 2017; 21 (1): 92-104. IF: 2,772

5. Tarín JJ, García-Pérez MA, Cano A. Note of clarification: Potential risks to offspring of intrauterine exposure to maternal age-related obstetric complications. Reproduction, Fertility and Development. 2017 Aug; 29(8):1653. IF: 2,656

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: FOCUS
Title: Frailty management optimisation though EIP AHA Commitments and utilisation of stakeholders input
Principal Investigator: Antonio Cano Sánchez (Juan José Tarín and Miguel Ángel García Pérez as collaborating researchers)
Funding body: *European Commission - DG SANCO*
Beneficiary institution: *Universidad de Valencia*
Duration: 2015-2018
Total budget: 2.379.633€

Reference: PI14/00547
Title: *Efectos de la inactivación de CD276 y activación de CD137 sobre el tamaño de las lesiones y el dolor en la endometriosis*
Principal Investigator: Raúl Gómez Gallego
Funding body: *Instituto de Salud Carlos III*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 98.500€

• THESIS

Thesis title: *Sistema rank/rank-l en el cáncer de endometrio: relación con factores pronósticos*
Doctoral candidate: Ana Castro Pérez
Director(s): Antonio Cano Sánchez, Víctor Martín González, Fernando Bonilla Musoles
Date of the defense: 21/07/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Identificación de genes y polimorfismos asociados a fenotipos óseos*
Doctoral candidate: Layla Panach González
Director(s): Antonio Cano Sánchez, Miguel Ángel García Pérez
Date of the defense: 22/09/2017
Grade: *Sobresaliente "cum laude"*
Quality recognition/Award: Extraordinary PhD program

Research Group on Stem Cells Applied to Reproduction, Embryo Viability and Endometrial Receptivity

Consolidated group



Group members

Principal investigator

Carlos Simón Vallés
IVI. University

Collaborating researchers

Amparo Mercader Bayarri. IVI
Ana Cristina Cerveró Sanz. IVI
María José de los Santos Molina. IVI
Tamara Garrido Gómez. IVI
Alicia Quiñonero Villora. IVI
Xavier Santamaría Costa. IVI
Hortensia Ferrero Cháfer. IVI
Diana Valbuena Perilla. IVI
Pilar Alamá Faubel. IVI
Marta Gonzalo Moja. INCLIVA-IUIVI
Mª Amparo Faus Esteve. IVI
José Bellver Pradas. IVI
Ernesto Bosch Aparicio. IVI
David Blesa Jarque. IVI
Patricia Díaz Gimeno. IVI
Elena Labarta Demur. IVI
Antonio Díez Juan. IVI

Emerging researchers

Felip Vilella Mitjana. IVI

PhD researchers

Nuria Balaguer Cuenca. University
José Manuel Mínguez Forján. University
Anna Buigues Monfort. University
Stefania Salsano. INCLIVA-IUIVI
Alessia Grasso. INCLIVA-IUIVI
Hannes Marcus Campo. IVI
Silvia Pérez Deben. University
Nuria López Pérez. University
Iolanda García Grau. University
Irene Corachán García. INCLIVA

Technicians

María Herrero Baena. INCLIVA-IUIVI

Strategic aims

- Advance understanding of mechanisms regulating maternal-fetal communication that may be involved in implantation of the embryo in the maternal uterus, and understand the embryonic/fetal origin of adult diseases such as obesity and type II diabetes.
- New therapeutic approaches to regenerate reproductive function in women with endometrial atrophy and/or Asherman's Syndrome.
- Create an *in vitro* model to obtain germ cells through direct reprogramming of human somatic cells.

Main lines of research

- Adult stem cells in the human endometrium: the monthly hormonal regenerative capacity of endometrial tissue makes it a candidate for research into its still undocumented stem cell population.
- Study of endometrial proteomics and embryonic viability: This line of research aims to determine the exact protein profile of the human endometrial response. At present, selection of the most viable embryo is based solely on morphological parameters, without guarantee of a genetically normal embryo, so a variety of molecular techniques are being investigated.
- Study of endometrial receptivity: study of the molecular mechanisms that regulate the receptive state of the endometrium.



Emerging Researcher

Felip Vilella Mitjana

The research line of Endometrial Receptivity is based on the study of endometrial secretions, specifically the endometrial fluid. We use secretomic and genomic approach so we can describe new molecules that can be correlated with the days of the menstrual cycle and may be involved in obtaining the window of implantation period, opening a new field of study for the analysis of the changes in the endometrium during the menstrual cycle and the cross-talk between the embryo and the endometrium.

• PUBLICATIONS

Number of articles	IF	Average IF
28	117,14	4,18

National collaborations	International collaborations	Corresponding author
11	17	15

SELECTED PUBLICATIONS

1. Garrido-Gomez T, Domínguez F, Quiñonero A, Diaz-Gimeno P, Kapidzic M, Gormley M, Ona K, Padilla-Iserte P, McMaster M, Genbacev O, Perales A, Fisher SJ, Simón C. Defective decidualization during and after severe preeclampsia reveals a possible maternal contribution to the etiology. Proceedings of the National Academy of Sciences of the United States of America. 2017; 114 (40): 8468-77. IF: 9,661

2. Rubio C, Bellver J, Rodrigo L, Castillón G, Guillén A, Vidal C, Giles J, Ferrando M, Cabanillas S, Remohí J, Pellicer A, Simón C. In vitro fertilization with preimplantation genetic diagnosis for aneuploidies in advanced maternal age: a randomized, controlled study. Fertility and Sterility. 2017; 107 (5): 1122-1129. IF: 4,447

3. Díaz-Gimeno P, Ruiz-Alonso M, Sebastian-Leon P, Pellicer A, Valbuena D, Simón C. Window of implantation transcriptomic stratification reveals different endometrial subsignatures associated with live birth and biochemical pregnancy. Fertility and Sterility. 2017; 108 (4): 703-710,e3. IF: 4,447

4. Cervelló I, Gil-Sanchis C, Santamaría X, Faus A, Vallvé-Juanico J, Díaz-Gimeno P, Genolet O, Pellicer A, Simón C. Leucine-rich repeat-containing G-protein-coupled receptor 5-positive cells in the endometrial stem cell niche. Fertility and Sterility. 2017; 107 (2): 510-519.e3. IF: 4,447

5. Garrido-Gomez T, Ona K, Kapidzic M, Gormley M, Simón C, Genbacev O, Fisher SJ. Severe pre-eclampsia is associated with alterations in cytotrophoblasts of the smooth chorion. Development. 2017; 144 (5): 767-777. IF: 5,843

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI14/00545

Title: *Estudio de los miRNAs secretados al líquido endometrial y su papel en la regulación del embrión en los primeros estadios de desarrollo*

Principal Investigator: Felipe Vilella Mitjana
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 81.500€

Reference: CP13/00038
Title: *Diagnostic tool to predict obesity and T2D in offspring. Role of maternal miRNAs on the transmission of obesity and type 2 diabetes to the embryo*
Principal Investigator: Felipe Vilella Mitjana
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2014-2017
Total budget: 324.000€

Reference: BFU 2015-72131-EXP
Title: *Criptocromos, la inexplicable presencia de sensores de luz en la oscuridad que conectan el embrión temprano con el cosmos*
Principal Investigator: Carlos Simón Vallés
Funding Body: *Ministerio de Economía, Industria y Competitividad*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017
Total budget: 60.000€

Reference: SAF2015-67154-R
Title: *Regulación transcriptómica materna del embrión pre-implantorio. Nuevo mecanismo para el estudio del origen de enfermedades complejas del adulto: obesidad y/o exposición tabaco*
Principal Investigator: Carlos Simón Vallés
Funding Body: *Ministerio de Economía, Industria y Competitividad*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total budget: 169.400€

Reference: GV/2016/033
Title: *Herramienta para el diagnóstico precoz de preeclampsia basado en el fallo de decidualización endometrial que se manifiesta en el embarazo de mujeres*
Principal Investigator: Tamara Garrido Gómez
Funding Body: *Conselleria de Educación, Cultura y Deporte*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016 - 2017
Total Budget: 16.000€

Reference: ACIF/2016/024
Title: *Estudio de los miRNAs secretados al líquido endometrial y su papel en la regulación del embrión en los primeros estadios de desarrollo*
Principal Investigator: Felipe Vilella Mitjana
Funding Body: *Conselleria de Educación, Cultura y Deporte*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2019
Total budget: 66.578,40€

• THESIS

Thesis title: *Respuesta inmunológica en la gestación por ovodonación como factor de riesgo para la preeclampsia*
Doctoral candidate: Alicia Martínez Varea
Director(s): Jose Bellver Pradas, Begoña Pellicer Iborra
Date of the defense: 08/09/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Relationship of morphokinetics and gene expression in the generation of aneuploidies in the human embryo*
Doctoral candidate: María Vera Rodríguez
Director(s): Carlos Simón Vallés, Antonio Pellicer Martínez, Carmen Rubio Lluesa
Date of the defense: 18/09/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Mejora diagnóstica de la infertilidad masculina mediante el uso de técnicas de análisis masivo de proteínas y metabolitos en espermatozoides*
Doctoral candidate: Rocío Rivera Egea
Director(s): Francisco Domínguez Hernández, Nicolás Garrido Puchalt, Marcos Meseguer Escrivá
Date of the defense: 18/09/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Caracterización y mantenimiento in vitro de células germinales inducidas para la preservación de la fertilidad*

Doctoral candidate: José Manuel Míguez Forján
Director(s): Carlos Simón Vallés, Inmaculada Moreno Gimeno, Antonio Pellicer Martínez
Date of the defense: 26/09/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Effects of the volatile organic compounds over the human pre-embryo development*
Doctoral candidate: Sandra Viviana Vásquez Cubillos
Director(s): Mª José de los Santos Molina
Date of the defense: 27/09/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Impacto de la vitrificación sobre los ovocitos humanos*
Doctoral candidate: María Del Mar Nohales Córcoles,
Director(s): Mª José de los Santos Molina, Ana Cristina Cobo Cabal
Date of the defense: 29/09/2017
Grade: *Sobresaliente "cum laude"*

Research Group on Male Infertility and ovarian Stimulation
Consolidated group



Group members

Principal investigator

José Remohí Giménez
IVI. University

Collaborating researchers

Amparo Ruiz Jorro. IVI
Jaime Ferro Camargo. IVI
Rocío Rivera Egea. IVI
José María de los Santos Molina. IVI
Tamara Viloria Samochín. IVI
Mª del Carmen Vidal Martínez. IVI
Juan Giles Jiménez. IVI
Mª José Escribá Pérez. IVI
Arancha Galán Rivas. IVI
Amparo Mercader Bayarri. IVI
María José de los Santos Molina. IVI
Ernesto Bosch Aparicio. IVI
Pilar Alamá Faubel. IVI
Patricia Díaz Gimeno. IVI
José Bellver Pradas. IVI
Elena Labarta Demur. IVI

Emerging researcher

Irene Cervelló Alcaraz. IVI
Francisco Domínguez Hernández. INCLIVA
Nicolás Garrido Puchalt. IVI
Marcos Meseguer Escrivá. IVI

PhD students

Hannes Marcus Campo. INCLIVA
Anna Buigues Monfort.UV
Silvia Pérez Deben. UV
Nuria López Pérez. UV

Technicians

Alicia Quiñonero Villora. IVI
María Amparo Faus Esteve. IVI

Strategic aims

- Human male somatic cells can be directly converted into induced germ cell-like cells (iGS-LCs), through regulation exerted by DAZL and DDX4 on the pool of transcripts induced by PRDM1 and PRDM14, also up-regulated by LIN28A, while SYCP3 induction resulted essential for meiosis initiation. These iGC-LCs recapitulate all the transcriptomic and epigenetic features of human germ cells, can overcome meiosis to produce haploid cells and colonize the testicular niche in a xenograft model. However, the direct conversion from somatic to iGC-LCs is highly inefficient, so future investigation is essential to optimize this technology.
- TCL (thermochemiluminescence) is an oxidative stress (OS) determination technique of biological samples, based on heat oxidation induction. Embryos were cultured in independent well slides (Embryoslides) in the Embryoscope Incubator (Vitrolife, Denmark). TCL device could analyzed 368 samples of the 400 obtained. The oxidative parameters recorded were: TCL amplitude after 50 seconds (H1), 100 seconds (H2) and 280 seconds (H3). The Embryos cultured in less oxidized environment (those that present highest oxidation potential) showed higher implantation than the rest of cohort's embryos.

Main lines of research

- Artificial gamete creation through germ line reprogramming from human somatic cells.
- Use of Oxidative stress as a biomarker for embryo viability in human IVF and its use as an additional marker to the existing morphokinetic algorithms provided by time-lapse.



Emerging Researcher

Irene Cervelló Alcaraz

Research is based on the identification, characterization and isolation of Somatic Stem Cells in the endometrium. Endometrial Stem Cells have been identified in human and murine models, the regenerative potential of these cells has been proven and there is an ongoing research on the existence of Lgr5 marker in the endometrial tissue. Moreover, the work is also focused on essential processes based on the regenerative medicine related with the porcine and human uterus.



Emerging Researcher

Francisco Domínguez Hernández

The main lines focus on research in molecular biology of the implantation and search for biomarkers of endometrial receptivity and embryonic competence. He was the Scientific Director of Embryomics, a technological company dedicated to the development of non-invasive diagnosis of chromosomal abnormalities in pre-implantation embryos using metabolomic techniques.



Emerging Researcher

Nicolás Garrido Puchalt

In this research line about male fertility, factors related to sperm physiology are intended to be discovered, and sperm selection techniques in order to improve reproductive results are being evaluated.



Emerging Researcher

Marcos Meseguer Escrivá

The group is a pioneer in the introduction and development of time-lapse technology, this technique allows the analysis of embryos without using an invasive technique. It represents an important conceptual advance in the evaluation of quality by measuring the processes of embryonic development against the embryonic stages. Parallel projects are being carried out with new hardware lapse technologies such as Auxogyn-Eeva and Geri-Genea. Our research focuses on oxygen consumption, oxidative profile and embryonic protein secretions.

• PUBLICATIONS

Number of articles	IF	Average IF
16	68,28	4,26

National collaborations	International collaborations	Corresponding author
2	7	6

SELECTED PUBLICATIONS

1. Labarta E, Mariani G, Holtmann N, Celada P, Remohí J, Bosch E. Low serum progesterone on the day of embryo transfer is associated with a diminished ongoing pregnancy rate in oocyte donation cycles after artificial endometrial preparation: a prospective study. Human Reproduction. 2017 Dec 1; 32 (12): 2437-2442. IF: 5,02
2. Caso V, Falorni A, Bushnell CD, Acciarresi M, Remohí J, Sprigg N, Gerli S. Pregnancy, Hormonal Treatments for Infertility, Contraception, and Menopause in Women After Ischemic Stroke: A Consensus Document. Stroke. 2017; 48 (2): 501-506. IF: 6,032
3. Insua MF, Cobo AC, Larreategui Z, Ferrando M, Serra V, Meseguer M. Obstetric and perinatal outcomes of pregnancies conceived with embryos cultured in a time-lapse monitoring system. Fertility and Sterility. 2017 Sep; 108 (3): 498-504. IF: 4,447
4. Coello A, Meseguer M, Galán A, Alegre L, Remohí J, Cobo A. Analysis of the morphological dynamics of blastocysts after vitrification/warming: defining new predictive variables of implantation. Fertility and Sterility. 2017 Oct; 108 (4): 659-666.e4. IF: 4,447
5. Meseguer M, Pellicer A. The most well kept secret, embryo culture media: a smart reveal from an expert. Fertility and Sterility. 2017 Apr; 107 (4): 910. IF: 4,447

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI16/00687
Title: *Diagnóstico genético ovocitario por análisis del primer corpúsculo polar*
Principal Investigator: Mª José Escribá **Pérez**
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2019
Total budget: 97.405€

Reference: PI14/00523
Title: *Estudio clínico del estrés oxidativo como biomarcador adicional de viabilidad embrionaria en fecundación in vitro combinado con la selección por morfocinética*
Principal Investigator: Nicolás Garrido Puchalt, Marcos Meseguer Escrivá
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total Budget: 108.925€

Reference: PROMETEOII/2014/045
Title: *Development of new safety methods for fertility preservation in oncologic patients*
Principal Investigator: Antonio Pellicer Martínez (José Remohí as collaborating researcher)
Funding Body: *Conselleria de Educación, Cultura y Deporte*
Beneficiary Institution: *Universidad de Valencia*
Duration: 2014-2017
Total budget: 135.755€

• THESIS

Thesis title: *Análisis prospectivo de selección inmunomagnética en espermatozoides para la mejora de los resultados de las técnicas de reproducción asistida*
Doctoral candidate: Laura Romany Sevilla
Director(s): José Remohí Giménez, Marcos Meseguer Escrivá, Nicolás Garrido Puchalt
Date of the defense: 12/07/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Influencia de las variaciones genéticas del sistema serotoninérgico y la ruta de la p53 en la implantación embrionaria*
Doctoral candidate: Arturo Lázaro Reyes Palomares
Director/es: Nicolás Garrido Puchalt, Armando Reyes Engel
Date of the defense: 17/07/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Mejora diagnóstica de la infertilidad masculina mediante el uso de técnicas de análisis masivo de proteínas y metabolitos en espermatozoides*
Doctoral candidate: Rocío Rivera Egea
Director(s): Nicolás Garrido Puchalt, Francisco Domínguez Hernández, Marcos Meseguer Escrivá
Date of the defense: 18/09/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Predicción de desarrollo a blastocisto e implantación durante el proceso rutinario de incubación mediante time-lapse*
Doctoral candidate: Yamileth Motato Moscoso
Director(s): Marcos Meseguer Escrivá, María José Escribá Pérez, Nicolás Garrido Puchalt
Date of the defense: 20/09/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Evaluación de los resultados obstétricos y perinatales de recién nacidos vivos tras tratamientos de reproducción asistida con ovocitos vitrificados*
Doctoral candidate: Laura Privitera
Director(s): José Remohí Giménez, Vicente Serra Serra, Ana Cristina Cobo Cabal
Date of the defense: 22/09/2017
Grade: *Sobresaliente "cum laude"*

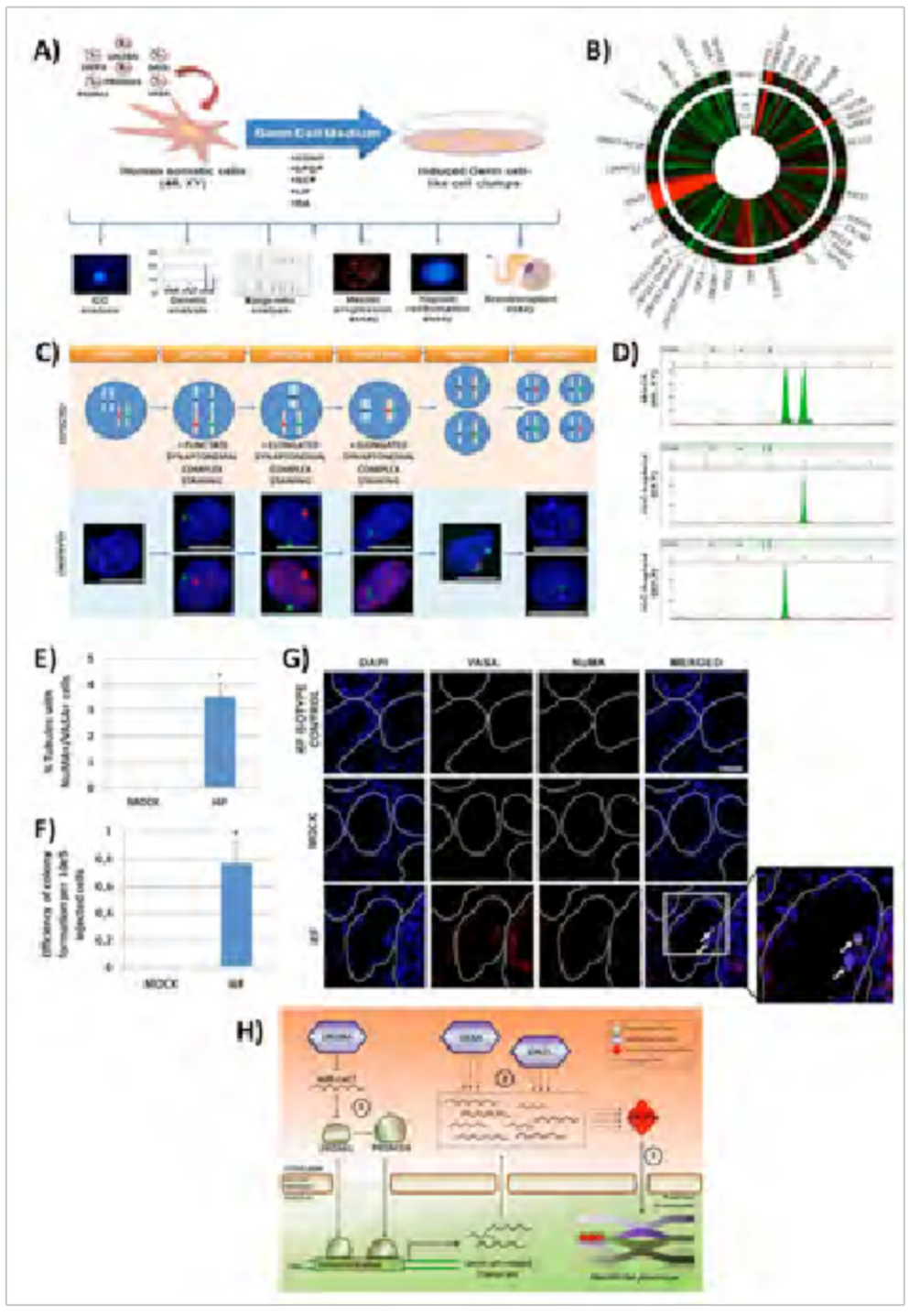
Thesis title: *Validación y desarrollo de un sistema de vitrificación completamente cerrado en el modelo animal de ratón*
Doctoral candidate: Damián Castelló Salom
Director(s): José Remohí Giménez, Ana Cristina Cobo Cabal, Nuno Luis Costa Borges
Date of the defense: 25/09/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Validación clínica de la cinematografía como nuevo método de selección embrionaria*
Doctoral candidate: María Irene Rubio Palacios
Director(s): José Remohí Giménez, Marcos Meseguer Escrivá, Aranzazu Galán Rivas
Date of the defense: 26/09/2017
Grade: *Sobresaliente "cum laude"*
Quality recognition/Award: Extraordinary PhD program

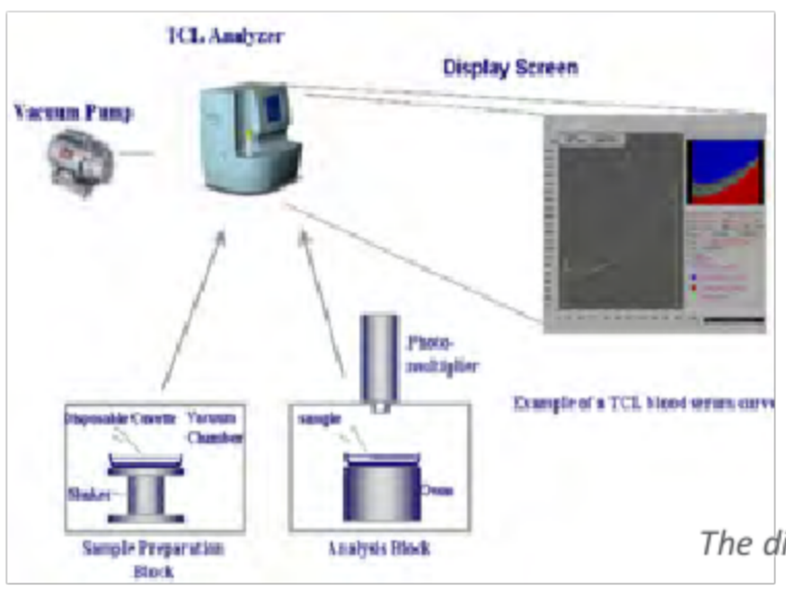
Thesis title: *Effects of the volatile organic compounds over the human pre-embryo development*
Doctoral candidate: Sandra Viviana Vásquez Cubillos
Director(s): Mª José de los Santos Molina

Date of the defense: 27/09/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Impacto de la vitrificación sobre los ovocitos humanos*
Doctoral candidate: María Del Mar Nohales Córcoles
Director(s): Mª José de los Santos Molina, Ana Cristina Cobo Cabal
Date of the defense: 29/09/2017
Grade: *Sobresaliente "cum laude"*



Schematic diagram of the experimental setup of the study. B) Epigenetic characterization of the in vitro iGC-LCs from induced from fibroblasts showing circular heat map presentation of the methylation for 37 annotated human imprinted loci. C) Combined SYCP3 staining and FISH analysis reveals that meiotic-like cells recapitulate all the stages of the meiosis. D) Molecular assessment of the ploidy in iGC-LCs single cells by PCR products of the Amelogenin gene results in a peak of 118pb for the copy in X and a 124pb peak for the copy in Y. E) Percentage of tubules containing NuMA+/VASA+ iGC-LCs in xenotransplanted testis. F) Efficiency of colonization per 10e5 injected iGC-LCs in mouse transplanted testis. G) Illustrative pictures showing iGC-LCs xenotransplant results with NuMA+/VASA+ co-localization on the basal layer of germ cell depleted seminiferous tubules in MOCK and i6F transplanted testis. H) Proposed model for the germ line conversion and meiotic induction by direct conversion of somatic cells into iGC-LCs by i6F induction.



The diagram shows the main components of the TCL Analyzer. (Schnizer et al., 2003)

4.4 Hospital divisions research area

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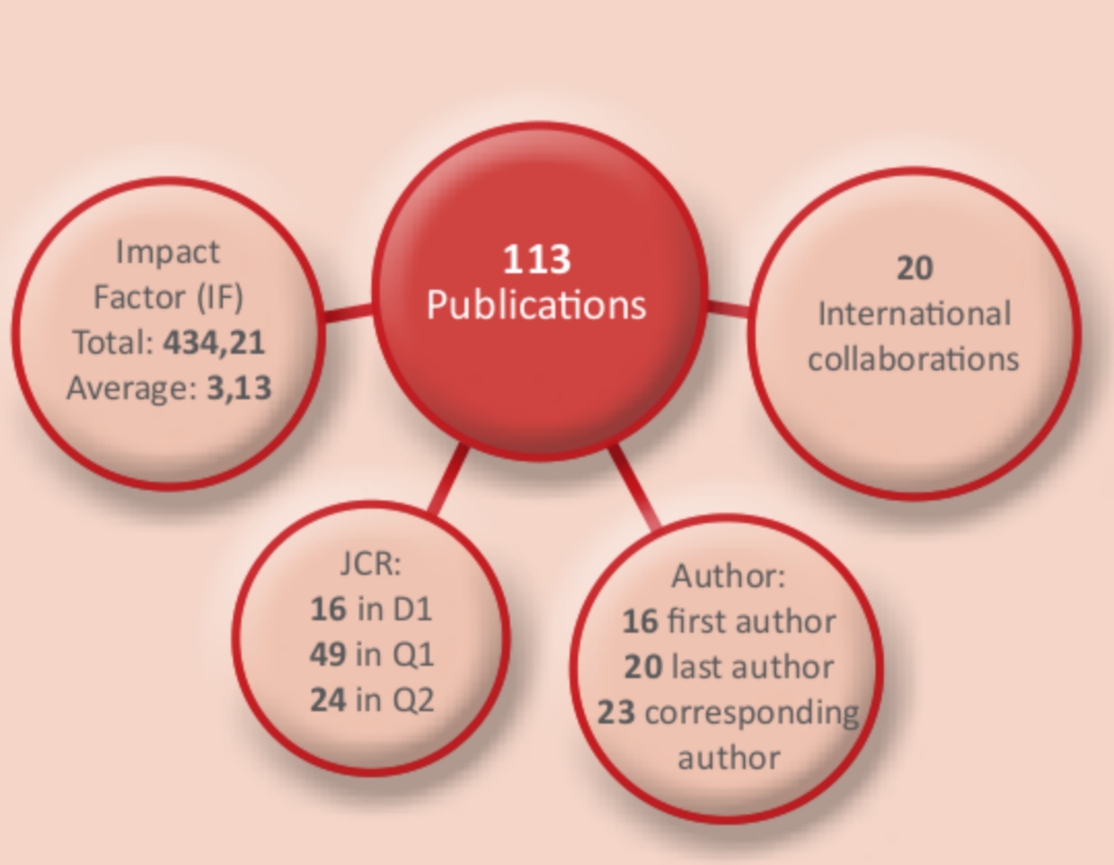


• 4.4 Other scientific contributions from the Hospital Divisions and the *Valencia Clínico-Malvarrosa* Health Department

Department of Admission and Clinical Documentation

Main lines of research

- National Registry of Childhood Cancer.
- Epidemiology of childhood cancer: incidence and survival of childhood cancer in Spain, geographic, temporal, national and international variations, epidemiology of the biological characteristics that have a clinical relevance in childhood cancer.

Team involved in RTICC

• PUBLICATIONS

Number of articles	IF	Average IF
8	73,45	9,18

National collaborations	International collaborations	Corresponding author
8	7	-

SELECTED PUBLICATIONS

1. Gatta G, Peris-Bonet R, Visser O, Stiller C, Marcos-Gragera R, Sánchez MJ, Lacour B, Kaatsch P, Berrino F, Rutkowski S, Botta L; EUROCARE-5 Working Group. Geographical variability in survival of European children with central nervous system tumours. European Journal of Cancer. 2017 Sep; 82: 137-148. IF: 6,029

2. Bonaventure A, Harewood R, Stiller CA, Gatta G, Clavel J, Stefan DC, Carreira H, Spika D, Marcos-Gragera R, Peris-Bonet R, Piñeros M, Sant M, Kuehni CE, Murphy MFG, Coleman MP, Allemani C; CONCORD Working Group. Worldwide comparison of survival from childhood leukaemia for 1995-2009, by subtype, age, and sex (CONCORD-2): a population-based study of individual data for 89? 828 children from 198 registries in 53 countries. Lancet Haematology. 2017 May; 4 (5): e202-e217. IF: 7,123

3. Steliarova-Foucher E, Colombet M, Ries LAG, Moreno F, Dolya A, Bray F, Hesseling P, Shin HY, Stiller CA; IICC-3 contributors. International incidence of childhood cancer, 2001-10: a population-based registry study. Lancet Oncology. 2017 Jun; 18 (6): 719-731. IF: 38,11

4. Matz M, Coleman MP, Sant M, Chirlaque MD, Visser O, Gore M, Allemani C; & the CONCORD Working Group. The histology of ovarian cancer: worldwide distribution and implications for international survival comparisons (CONCORD-2). Gynecologic Oncology. 2017 Feb; 144 (2): 405-413. IF: 4,959

5. Matz M, Coleman MP, Carreira H, Salmerón D, Chirlaque MD, Allemani C; CONCORD Working Group. Worldwide comparison of ovarian cancer survival: Histological group and stage at diagnosis (CONCORD-2). Gynecologic Oncology. 2017 Feb; 144 (2): 396-404. IF: 4,959

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: RD12/0036/0053
Title: *Red Temática de Investigación Cooperativa de Cáncer (RTICC)*
Principal Investigator: Rafael Peris-Bonet
Funding body: *Instituto de Salud Carlos III*
Beneficiary institution: *Universidad de Valencia*
Duration: 2013-2017
Total budget: 219.000€

Allergology Unit

Main lines of research

- Relationship between patient allergen profile and effectiveness of mite immunotherapy.

• PUBLICATIONS

Number of articles	IF	Average IF
1	3,09	3,09

National collaborations	International collaborations	Corresponding author
1	-	-

SELECTED PUBLICATIONS

1. Díaz Palacios MA, López Salgueiro R, Mencía Sánchez G, Martínez Romero A, Morales Rubio A, Hernández Fernández de Rojas D. Chronic Urticaria afer Implantation of Mitral Annuloplasty Ring in a Nickel-Allergic Patient. Journal of Investigational Allergology and Clinical Immunology. 2017; 27 (1):74-75. IF: 3,094

• PUBLICATIONS

Number of articles	IF	Average IF
5	39,68	7,93

National collaborations	International collaborations	Corresponding author
3	1	1

SELECTED PUBLICATIONS

1. Ferrero-de-Loma-Osorio Á, García-Fernández A, Castillo-Castillo J, Izquierdo-de-Francisco M, Ibáñez-Críado A, Moreno-Arribas J, Martínez A, Bertomeu-González V, López-Mases P, Ajo-Ferrer M, Núñez C, Bondanza-Saavedra L, Sánchez-Gómez JM, Martínez-Martínez JG, Chorro-Gascó FJ, Ruiz-Granell R. Time-to-Effect-Based Dosing Strategy for Cryoballoon Ablation in Patients With Paroxysmal Atrial Fibrillation: Results of the plusONE Multicenter Randomized Controlled Noninferiority Trial. Circulation. Arrhythmia and Electrophysiology. 2017; 10(12). IF: 5,41
2. Baron-Esquivias G, Morillo CA, Moya-Mitjans A, Martinez-Alday J, Ruiz-Granell R, Lacunza-Ruiz J, García-Civera R, Gutierrez-Carretero E, Romero-Garrido R.Dual-Chamber Pacing With Closed Loop Stimulation in Recurrent Reflex Vasovagal Syncope: The SPAIN Study. Journal of the American College of Cardiology. 2017 Oct 3; 70(14): 1720-1728. IF: 19,896
3. Guerra F, Bonelli P, Flori M, Cipolletta L, Carbucicchio C, Izquierdo M, Kozluk E, Shivkumar K, Vaseghi M, Patani F, Cupido C, Pala S, Ruiz-Granell R,Ferrero A, Tondo C, Capucci A. Temporal Trends and Temperature-Related Incidence of Electrical Storm: The TEMPEST Study (Temperature-Related Incidence of Electrical Storm). Circulation. Arrhythmia and Electrophysiology. 2017; 10(3). IF: 5,41
4. Álvarez M1, Bertomeu-González V2, Arcocha MF3, Moriña P4, Tercedor L5, Ferrero de Loma Á6, Pachón M7, García A8, Pardo M9, Datino T10, Alonso C11, Osca J12; investigators of the Spanish Multicenter Registry of Fluoroscopy-free Ablation. Nonfluoroscopic catheter ablation. Results from a prospective multicenter registry. Revista Española de Cardiología (English ed). 2017; 70(9):699-705. IF: 4,485
5. Arribas F; SEC Working Group for the 2016 ESC Guidelines for the Management of Atrial Fibrillation:, Arribas F, Roldán I, Luis Merino J, Roldán V, Arenal Ÿ, Tamargo J, Ruiz-Granell R, Mont L, Anguita M, Marín F; Reviewers for the 2016

Cardiac Stimulation Unit

Strategic aims

- The multicenter study plusONE, leadered by our group and published in Circulation Arrhythmias and Electrophisiology.
- The multicenter colaboration TEMPEST on electrical storm, published in the same journal.
- The multicenter sutudy SPAIN on pacemaker in neuromediated syncope, published in JACC.

Main lines of research

- Collaboration in the national prosèctive observational study on Crioballoon ablation of atrial fibrillation (RECABA).
- Leading and Collaboration in the registry on sleep alterations in patiens with pacemakers.
- Leading a multicenter prospective study on ablation of typical atrial flutter without radioscopy and guided by electrogram amplitudes.

ESC Guidelines for the Management of Atrial Fibrillation:, Barrios Alonso V, Barón Esquivias, Cosín Sales J, Díaz Infante E, Escobar Cervantes C, Ferreiro Gutiérrez JL, Guerra Ramos JM, Jiménez Candil FJ, Pérez Castellano N, Sambola Ayala A, Tello Montoliu A; SEC Guidelines Committee:, San Román A, Alfonso F, Arribas F, Evangelista A, Ferreira I, Jiménez M, Marín F, de Isla LP, Rodríguez Padial L, Sánchez PL, Sionis A, Vázquez R. Comments on the 2016 ESC Guidelines for the Management of Atrial Fibrillation. Revista Española de Cardiología (English ed). 2017 Jan; 70(1):2-8. IF: 4,485

• THESIS

Thesis title: *Implicación de la escara miocárdica en la predicción y tratamiento de la taquicardia ventricular postinfarto*
Doctoral candidate: María Teresa Izquierdo de Francisco
Director(s): Francisco Javier Chorro Gascó, Ricardo Ruiz Granell
Date of the defense: 23/03/2017
Grade: Sobresaliente "cum laude"

Department of Thoracic Surgery

Strategic aims

- Tracheal tissue bioengineering.

Main lines of research

- Tracheal tissue bioengineering.
- Rare diseases.
- Endoscopic VATS resections.
- Fast track pulmonary surgery and ERAS project.

• PUBLICATIONS

Number of articles	IF	Average IF
1	4,01	4,01

National collaborations	International collaborations	Corresponding author
-	1	1

SELECTED PUBLICATIONS

1. Remote Ischemic Preconditioning Decreases Oxidative Lung Damage After Pulmonary Lobectomy: A Single-Center Randomized, Double-Blind, Controlled Trial. Anesthesia and Analgesia. 2017; 125 (2): 499-506. IF: 4,014

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: SAF2015-65368-R
Title: *Modulación farmacológica de la señalización inflamación-remodelado por inhibidores isoforma-selectivos de PDE4 y comparadores en modelos humanos in vitro relevantes en EPOC*
Principal Investigator: Esteban Morcillo Sánchez (Genaro Galán Gil as collaborating researcher)
Funding body: *Ministerio de Economía y Competitividad*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total budget: 181.500€

Reference: PROMETEO/2017/023
Title: *Modulación del eje óxido nítrico-guanilato ciclasa soluble-GMPC como nueva diana farmacológica para el tratamiento del asma y la enfermedad pulmonar obstructiva crónica (EPOC)*
Principal Investigator: Julio Cortijo Gimeno (Genaro Galán Gil as collaborating researcher)
Funding body: *Conselleria de Educación, Investigación, Cultura y Deporte - Generalitat Valenciana*
Beneficiary institution: *Universidad de Valencia*
Duration: 2017-2021
Total budget: 315.728€

Department of Cardiovascular Surgery

• PUBLICATIONS

Number of articles	IF	Average IF
1	1,27	1,27

National collaborations	International collaborations	Corresponding author
-	-	-

Original article

1. Fletcher Sanfeliu D, Rueda Muñoz C, Martín-González I, Bahamonde Romano JÁ. Juxtarenal aortoiliac occlusive disease in a patient with left sided inferior vena cava. Cirugía Española. 2017 Nov; 95(9): 543. IF: 1,276

Department of Plastic Surgery



Strategic aims

- Increase of microsurgery.
- Development of news investigation lines as doctoral studies.

Main lines of research

- Opening of 6 doctoral thesis that will be defended in the near future, based on the following lines: breast reconstruction and VAC therapy.

• PUBLICATIONS

Number of articles	IF	Average IF
1	3,84	3,84

National collaborations	International collaborations	Corresponding author
1	-	-

SELECTED PUBLICATIONS

1. Moltó-García R, González-Alonso V, Villaverde-Doménech ME, Novella-Maestre E. Effect of Human Fat Graft on Breast Cancer Metastasis in a Murine Model. Plastic and Reconstructive Surgery. 2017 May; 139 (5): 1119-1128. IF: 3,843

Department of Dermatology

Strategic aims

- To continue making a biobank of melanoma patients.

Main lines of research

- Melanocytic tumors. Malignant Melanoma: study of cytokines involved in tumor growth.
- Hemangiomas.
- Contact dermatitis.
- Alopecia.
- Psoriasis: application of new molecules in treatment.

• PUBLICATIONS

Number of articles	IF	Average IF
6	15,39	2,56

National collaborations	International collaborations	Corresponding author
2	-	4

SELECTED PUBLICATIONS

1. Escandell I, Ramon MD, Sanchez S, Terradez L, MD, and Jorda E. Dermoscopic characteristics of a cutaneoushistiocytic

sarcoma in a young patient. Journal of the American Academy of Dermatology. 2017; 7: S5-7. IF: 7,002

2. Ayala D, Escandell I, Martin JM. Nodular lesion in cheek with a hair tuft. American Journal of Dermatopathology. 2017; 39: 630-1. IF: 1,095

3. Cordero P, Gonzalez V, Juarez C, Martin JM. Non-sexually acquired genital ulcers in a 79-year-old woman. International Journal of Dermatology. 2017; 56: e94-6. IF: 1,56

4. Martin JM, Pinazo I, Jordá E, Monteagudo C. Differential clinicopathological features in the spontaneous regression of melanomas and melanocytic nevi. Acta Dermato-venereologica. 2017; 97: 692-7. IF: 3,653

5. Escandell I, Martin JM, Torres C, Cordero P, Jorda E, Monteagudo C. Progressive lesions in a young girl: challenge. American Journal of Dermatopathology. 2017. Sep 12. IF: 1,095

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: GV/2016/019
Title: *miRNA sensing in situ para el diagnóstico y pronóstico del melanoma*
Principal Investigator: Salvador Mena Mollá
Funding body: Generalitat Valenciana
Beneficiary institution: Hospital Clínico Universitario de Valencia
Duration: 2016-2017
Total budget: 15.881€

Department of Pharmacy

Strategic aims

- Implementation of a new therapeutical drug monitoring system in a clinical analytical laboratory for pharmacokinetic control of antibiotic, antifungal and antineoplastic agents in the hospitalized patient, with the aim of optimal and rational use of pharmacological treatment.
- Study of pharmacokinetics of caspofungin in patients under hemodiafiltration.

Main lines of research

- Implementation of a new therapeutical drug monitoring system in a clinical analytical laboratory for pharmacokinetic control of antibiotic, antifungal and antineoplastic agents in the hospitalized patient, with the aim of optimal and rational use of pharmacological treatment.
- Study of pharmacokinetics of caspofungin in patients under hemodiafiltration.
- Observational Study of population pharmacokinetic model of voriconazole in allogeneic stem cell transplantation.
- Study of pharmacokinetics of Ceftolozane in critical patients.
- Study of Physico-chemical stability of a new mycophenolate mofetil intravenous solution in polypropilene infusion bag at different storage conditions.
- Study of Physico-chemical stability of a new ophthalmic eyedrop formulation at different storage conditions.
- Dosing of caspofungin based on a pharmacokinetic/pharmacodynamic index for the treatment of invasive fungal infections in critically ill patients on continuous venovenous haemodiafiltration.
- Cost effectiveness analysis of direct-acting antiviral therapy for treatment-of patients with chronic HCV infection.

• PUBLICATIONS

Number of articles	IF	Average IF
5	18,23	3,64

National collaborations	International collaborations	Corresponding author
1	-	3

SELECTED PUBLICATIONS

1. Aguilar G, Ferriols R, Lozano A, Ezquer C, Carbonell JA, Jurado A, Carrizo J, Serralta F, Puig J, Navarro D, Alos M, Belda FJ. Optimal doses of caspofungin during continuous venovenous hemodiafiltration in critically ill patients. Critical Care. 2017 Jan 30; 21(1):17. IF: 5,358

2. Piñana JL, Pérez-Pitarch A, García-Cadenas I, Barba P, Hernandez-Boluda JC, Esquirol A, Fox ML, Terol MJ, Queraltó JM, Vima J, Valcarcel D, Ferriols-Lisart R, Sierra J, Solano C,

Martino R. A Time-to-Event Model for Acute Kidney Injury after Reduced Intensity Conditioning Stem Cell Transplantation Using a Tacrolimus and Sirolimus-Based Graft-Versus-Host Disease Prophylaxis. Biology of Blood and Marrow Transplantation. 2017 Jul; 23 (7): 1177-1185. IF: 4,704

3. Ezquer-Garin C, Ferriols-Lisart R, Alós-Almiñana M. Stability of tacrolimus ophthalmic solution. American Journal of Health-system Pharmacy. 2017 Jul 1; 74 (13): 1002-1006. IF: 1,969

4. Calpe-Armero P, Ferriols-Lisart R, Ferriols-Lisart F, Pérez-Pitarch A. Effectiveness of Nivolumab versus Docetaxel as Second-Line Treatment in Non-Small Cell Lung Cancer Patients in Clinical Practice. Chemotherapy. 2017; 62 (6): 374-380. IF: 0,843

5. Ferriols-Lisart R, Aguilar G, Pérez-Pitarch A, Puig J, Ezquer-Garín C, Alós M. Plasma concentrations of caspofungin in a critically ill patient with morbid obesity. Critical Care. 2017 Aug 2; 21 (1): 200. IF: 5,358

Department of Biochemistry and Clinical Analysis



Strategic aims

- Strategies of laboratory test requesting appropriateness, patient safety and improvement of the laboratory report.

Main lines of research

- Group-specific: managing laboratory test requests and patient safety through electronic requests.
- Laboratory Service staff research is carried out in collaboration with the following clinical research groups:
- Clinical Cardiology (ischemic heart disease and heart failure), Cardiometabolic Risk and Diabetes (lipid metabolism and insulin resistance) Clinical Hematology (myeloma), Gastroenterology (inflammatory bowel disease), Hepatology (prevalence of HCV infection), Anesthesia (oxidative stress), Internal Medicine and Rheumatology (autoimmune diseases).
- Otorhinolaryngology (inflammatory mediators in mandibular implants), Public Health (colorectal cancer screening program).

PUBLICATIONS

Number of articles	IF	Average IF
9	32,97	3,66

National collaborations	International collaborations	Corresponding author
6	1	3

SELECTED PUBLICATIONS

1. Rodríguez-Borja E, Corchon-Peyrallo A, Aguilar-Aguilar G, Carratala-Calvo A. Utility of routine laboratory preoperative tests based on previous results: Time to give up. Biochemia Medica. 2017 Oct 15; 27 (3):0 30902. IF: 2,934

2. Becerra-Tomás N, Díaz-López A, Rosique-Esteban N, Ros E, Buil-Cosiales P, Corella D, Estruch R, Fitó M, Serra-Majem L, Arós F, Lamuela-Raventós RM, Fiol M, Santos-Lozano JM, Díez-Espino J, Portoles O, Salas-Salvadó J; PREDIMED Study Investigators. Legume consumption is inversely associated with type 2 diabetes incidence in adults: A prospective assessment from the PREDIMED study. Clinical Nutrition. 2017. IF: 4,548

3. García-de-la-Asunción J, Bruno L, Pérez-Griera J, Galán G, Morcillo A, Wins R, García-Del-Olmo E, Guijarro R, Sarriá B, Martí F, Soro M, Belda FJ. Remote Ischemic Preconditioning Decreases Oxidative Lung Damage After Pulmonary Lobectomy: A Single-Center Randomized, Double-Blind, Controlled Trial. Anesthesia and Analgesia. 2017 Aug; 125 (2): 499-506. IF: 4,014

4. Guasch-Ferré M, Becerra-Tomás N, Ruiz-Canela M, Corella D, Schröder H, Estruch R, Ros E, Arós F, Gómez-Gracia E, Fiol M, Serra-Majem L, Lapetra J, Basora J, Martín-Calvo N, Por-

toles O, Fitó M, Hu FB, Forga L, Salas-Salvadó J. Total and subtypes of dietary fat intake and risk of type 2 diabetes mellitus in the Prevención con Dieta Mediterránea (PREDIMED) study. American Journal of Clinical Nutrition. 2017 Mar; 105 (3): 723-735. IF: 6,926

5. Rodriguez-Borja E, Barba-Serrano E, Alfayate-Guerra R, Martinez-Camarasa C. The unfinished story of interference in thyroid hormones with Roche immunoassays: when prewashing procedures matter. Clinical Chemistry and Laboratory Medicine. 2017 Jul 26; 55 (8): e175-e177. FI: 3,432

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI14/02018
Title: *Papel de la vía de señalización NOTCH1/FBXW7/PI3K/PTEN/AKT en la progresión de la Leucemia Linfocítica Crónica B (LLC-B) a formas avanzadas*
Principal Investigator: Mª José Terol Casterá (Ana Cuesta Peredo as collaborating researcher)
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 81.070€

Reference: PI14/00959
Title: *Comparación aleatoria entre un estrategia de intervención sobre fragilidad frente a la estrategia habitual en pacientes frágiles después de un infarto agudo de miocardio*
Principal Investigator: Juan Sanchis Forés (Enrique Rodríguez Borja as collaborating researcher)
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2015-2017
Total budget: 36.300€

Reference: PI16/00393
Title: *De la genómica del cáncer a la inmuno-oncología. Búsqueda de biomarcadores de respuesta a la inmunoterapia anti PD1/PDL1 en cáncer mediante una aproximación de biología de sistemas*
Principal Investigator: Joan Climent Bataller (Ana Cuesta Peredo as collaborating researcher)
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2019
Total budget: 98.615€

• AWARDS

Esther Barba Serrano received the award for the 4th best paper presented in the National Clinical Laboratory Conference held in Malaga in November 2017.

Department of Maxillofacial surgery

Strategic aims

- FIPSE project: Innovation in personalised prosthesis for maxillofacial reconstruction.
- Traslational research project for the development of implants with high added value through additive manufacturing.

Main lines of research

- Cost-effectiveness analysis on the management of oral surgery processes in patients with severe dependence and / or plurychatological chronicles with comorbilities. Proposal for a new organizational model of care.
- Evaluation of surgical implantation technique of the sphenopalatine ganglion neurostimulator to treat chronic cluster headache and disabling chronic migraine.
- Radiological evaluation of predictive factors of access to pterygopalatine fossa. Research surgical approach for the installation of a neuromodulator in the sphenopalatine ganglion to treat of certain chronic headaches.
- Research on materials involved in bone regeneration.

• THESIS

Thesis title: *Evaluación de la técnica quirúrgica de implantación de neuroestimulador a nivel del ganglio esfenopalatino para el*

tratamiento de las cefaleas crónicas refractarias

Doctoral candidate: Natalia Ventura Martínez

Director(s): Mariano Marqués Mateo, Miguel Puche Torres

Date of the defense: 18/07/2017

Grade: *Sobresaliente "cum laude"*

Department of Gastroenterology and Hepatology

Strategic aims

- Update of protocols and clinical guidelines of the Department.
- It has been possible to consolidate the relationship of the Unit of Inflammatory Bowel Disease of our Department with the network of National Units, through collaborative studies that have been published in international journals of category Q1 and Q3. The group has also consolidated motility and pancreas research in the national and international area through consensus guides that have been published in journals with categories Q1-Q4.

Main lines of research

- On the section of gastroenterology, to continue the studies on digestive hemorrhage, acute pancreatitis, inflammatory bowel disease, motion sickness and digestive benign anorectal pathology.
- On the hepatology division to continue the analysis of hepatic encephalopathy, the nonalcoholic, epidemiological, therapeutic and immunoprophylaxis on Hepatitis Virus steatohepatitis. Also hepatocellular damage and nitric oxide and liver tumors.
- About endoscopy division: study on the therapeutic dilatation, the ecoendoscopia diagnostics and therapeutics, ampulectomia, diverticulotomy of Zencker and digestive prostheses.

• PUBLICATIONS

Number of articles	IF	Average IF
16	62,24	4,01

National collaborations	International collaborations	Corresponding author
13	2	3

SELECTED PUBLICATIONS

1. López-Sanromán A, Vera-Mendoza I, Domènech E, Taxonera C, Vega Ruiz V, Marín-Jiménez I, Guardiola J, Castro L, Esteve M, Iglesias E, Ceballos D, Martínez-Montiel P, Gisbert JP, Mínguez M, Echarri A, Calvet X, Barrio J, Hinojosa J, Martín-Arranz MD, Márquez-Mosquera L, Bermejo F, Rimola J, Pons V, Nos P; Spanish GETECCU group [APPRECIA study]. Adalimumab vs Azathioprine in the Prevention of Postoperative Crohn's Disease Recurrence. A GETECCU Randomised Trial. Journal of Crohn's & Colitis. 2017 Oct 27; 11 (11): 1293-1301. IF: 5,813

2. Perelló C, Carrión JA, Ruiz-Antorán B, Crespo J, Turnes J, Llaneras J, Lens S, Delgado M, García-Samaniego J, García-Paredes F, Fernández I, Morillas RM, Rincón D, Porres JC, Prieto M, Lázaro Ríos M, Fernández-Rodríguez C, Hermo JA, Rodríguez M, Herrero JI, Ruiz P, Fernández JR, Macías M25, Pascasio JM2,26, Moreno JM27, Serra MÁ28,29, Arenas J30, Real Y31, Jorquera F2,32, Calleja JL1,2,33; Spanish Collaborative Group for the Study of the Use of Hepatitis C Direct-Acting Drugs. Effectiveness and safety of ombitasvir, paritaprevir, ritonavir ± dasabuvir ± ribavirin: An early access programme for Spanish patients with genotype 1/4 chronic hepatitis C virus infection. Journal of Viral Hepatitis. 2017 Mar; 24 (3): 226-237. IF: 4,122

3. Calleja JL, Crespo J, Rincón D, Ruiz-Antorán B, Fernandez I, Perelló C, Gea F, Lens S, García-Samaniego J, Sacristán B, García-Eliz M, Llerena S, Pascasio JM, Turnes J, Torras X, Morillas RM, Llaneras J, Serra MA, Diago M, Rodriguez CF, Ampuero J, Jorquera F, Simon MA, Arenas J, Navascues CA, Bañares R, Muñoz R, Albillos A, Mariño Z; Spanish Group for the Study of the Use of Direct-acting Drugs Hepatitis C Collaborating Group. Effectiveness, safety and clinical outcomes of direct-acting antiviral therapy in HCV genotype 1 infection: Results from a Spanish real-world cohort. Journal of Hepatology. 2017 Jun; 66 (6): 1138-1148. IF: 12,486

4. Chaparro M, Ramas M, Benítez JM, López-García A, Juan A,

Guardiola J, Mínguez M, Calvet X, Márquez L, Fernández Salazar LI, Bujanda L, García C, Zabana Y, Lorente R, Barrio J, Hinojosa E, Iborra M, Cajal MD, Van Domselaar M, García-Sepulcre MF, Gomollón F, Piqueras M, Alcaín G, García-Sánchez V, Panés J, Domènech E, García-Esquinas E, Rodríguez-Artalejo F, Gisbert JP. Extracolonic Cancer in Inflammatory Bowel Disease: Data from the GETECCU Eneida Registry. American Journal of Gastroenterology. 2017 Jul; 112 (7): 1135-1143. IF: 9,566

5. Crespo J, Calleja JL, Fernández I, Sacristan B, Ruiz-Antorán B, Ampuero J, Hernández-Conde M, García-Samaniego J, Gea F, Buti M, Cabezas J, Lens S, Morillas RM, Salcines JR, Pascasio JM, Turnes J, Sáez-Royuela F, Arenas J, Rincón D, Prieto M, Jorquera F, Sanchez Ruano JJ, Navascués CA, Molina E, Moya AG, Moreno-Planas JM; Spanish Group for the Study of the Use of Direct-acting Drugs Hepatitis C Collaborating Group. Real-World Effectiveness and Safety of Oral Combination Antiviral Therapy for Hepatitis C Virus Genotype 4 Infection. Clinical Gastroenterology and Hepatology. 2017 Jun; 1 5(6): 945-949.e1. IF: 7,398

- **RESEARCH PROJECTS AND GRANTS FOR RESEARCH**

Reference: PI15/00035

Title: *Caracterización de las alteraciones neurológicas en pacientes con encefalopatía hepática mínima y de las alteraciones cerebrales responsables. Contribución del estrés oxidativo y la inflamación*

Principal Investigator: Carmina Montoliu Félix

Funding Body: *Instituto de Salud Carlos III*

Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*

Duration: 2016-2018

Total budget: 159.115 €

Department of Intensive Medicine

Main lines of research

- Histones.
- UCI Epidemiology. BMR.
- Serious flu.
- Genetics in severe NAC.

- **PUBLICATIONS**

Number of articles	IF	Average IF
1	4,25	4,25

National collaborations	International collaborations	Corresponding author
1	-	-

SELECTED PUBLICATIONS

1. García-Giménez JL, Romá-Mateo C, Carbonell N, Palacios L, Peiró-Chova L, García-López E, García-Simón M, Lahuerta R, Gimenez-Garzó C, Berenguer-Pascual E, Mora MI, Valero ML, Alpízar A, Corrales FJ, Blanquer J, Pallardó FV. A new mass spectrometry-based method for the quantification of histones in plasma from septic shock patients. Science Reports. 2017 Sep 6; 7 (1): 10643. IF: 4,259

Department of Nuclear Medicine

Strategic aims

- Dosimetric assessment in patients with hyperthyroidism treated with 131-Iodine.
- Cardiac sympathetic nerve activity by 123I-MIBG scintigraphy in heart failure patients.
- Evaluation of left ventricular dysynchrony by Gated SPECT myocardial perfusion in the evaluation of cardiac resynchronization therapy.
- Radioguided surgery by intraoperative scintigraphy with portable gamma camera in patients with primary hyperparathyroidism and not conclusive pre-surgical scintigraphy.

- Sentinel node detection in breast cancer after neoadjuvant chemotherapy.

Main lines of research

- Radioembolization of hepatocarcinoma by resin microspheres labeled with 90-Ytrium.
- Assessment of cardiac sympathetic nerve activity by 123I-MIBG scintigraphy in heart failure patients.
- Evaluation of left ventricular dyssynchrony by Gated SPECT myocardial perfusion in patients with cardiac resynchronization therapy.
- Sentinel lymph node detection in breast cancer in patients with previous mammary surgery.
- Evaluation of screws loosening and other complications after lumbar spinal fusion surgery by bone SPECT.
- Diagnosis and follow-up of hyperplasia of the mandibular condyles by bone SPECT.

• PUBLICATIONS

Number of articles	IF	Average IF
3	8,81	2,93

National collaborations	International collaborations	Corresponding author
2	-	-

SELECTED PUBLICATIONS

1. Jimenez-Heffernan A, Aguade-Bruix S, Casans-Tormo I. Nuclear cardiology practice in Spain. Journal of Nuclear Cardiology. 2017 Dec; 24 (6): 2133-2140. IF: 3,93
2. López-Prior V, Díaz-Expósito R, Casáns Tormo I. Influence of previous breast surgery in sentinel lymph node biopsy in patients with breast cancer. Revista Española de Medicina Nuclear e Imagen Molecular. 2017 Jul - Aug; 36 (4): 212-218. IF: 0,951
3. Jimenez-Heffernan A, Aguadé-Bruix S, Casans-Tormo I. Reply to responsible growth of nuclear cardiology in Spain. Journal of Nuclear Cardiology. 2017 Nov 27. IF: 3,93

Department of Preventive Medicine

• PUBLICATIONS

Number of articles	IF	Average IF
2	4,11	2,05

National collaborations	International collaborations	Corresponding author
2	-	1

SELECTED PUBLICATIONS

1. Ortí Lucas RM, Muñoz-Miguel J. Effectiveness of surface coatings containing silver ions in bacterial decontamination in a recovery unit. Antimicrobial Resistance & Infection Control. 2017; 6: 61-67. IF: 2,989
2. Miguel Montoya I, Ortí Lucas RM, Ferrer Ferrandiz E, Martín Baena D, Montejano Lozoya R. Evaluación del efecto de una intervención en el estado nutricional de pacientes hospitalizados. Medicina Clínica 2017; 148 (7): 291–296. IF: 1,125

• AWARDS

Award for the best paper presented on prevention and control of surgical site infection (SSI) granted at the 19th National / 8th International Conference of the Spanish Society of Preventive Medicine, Public Health and Hygiene (SEMPSPH) to the paper "Response to primary vaccination against hepatitis B in patients on dialysis programs" June 15, 2017.

Department of Microbiology

Strategic aims

- Production of virus-like particles (VLPs) and P particles representative of diverse genotypes norovirus.
- Characterization of a new conformational epitope in the GII.4 norovirus capsid protein identified by a neutralizing monoclonal antibody.
- Epidemiological surveillance of circulating strains of rota-

virus and norovirus in Valencia and different geographical areas of Spain (Valladolid, Zaragoza, Barcelona, Murcia).

Main lines of research

- Molecular epidemiology of rotavirus.
- Characterization of norovirus genotypes causing outbreaks and sporadic cases of acute gastroenteritis.
- Study of the interaction between norovirus VLPs and P particles and receptors in saliva and intestinal cells.
- Phylogenetic analysis of rotavirus G12 strains isolated in different Spanish regions.
- Analysis of the relationship between histo-blood group antigens (HBGAs) and rotaviruses.
- Analysis by site-directed mutagenesis of a conformational epitope in the norovirus capsid protein recognized by a monoclonal antibody.

• PUBLICATIONS

Number of articles	IF	Average IF
8	23,70	2,96

National collaborations	International collaborations	Corresponding author
3	-	1

SELECTED PUBLICATIONS

1. Rodríguez-Díaz J, García-Mantrana I, Vila-Vicent S, Gozalbo-Rovira R, Buesa J, Monedero V, Collado MC. Relevance of secretor status genotype and microbiota composition in susceptibility to rotavirus and norovirus infections in humans. Scientific Reports. 2017 Mar 30; 7:45559. IF: 4,259

2. Solano C, Giménez E, Piñana JL, Hernández-Boluda JC, Amat P, Vinuesa V, Navarro D. When should preemptive antiviral therapy for active CMV infection be withdrawn from allogeneic stem cell transplant recipients?. Bone Marrow Transplantation. 2017 Oct; 52 (10): 1448-1451. IF: 3,874

3. Vinuesa V, Bracho MA, Albert E, Solano C, Torres-Puente M, Giménez E, González-Candelas F, Navarro D. The impact of virus population diversity on the dynamics of cytomegalovirus DNAemia in allogeneic stem cell transplant recipients. Journal of General Virology. 2017 Oct; 98 (10): 2530-2542. IF: 2,838

4. Talaya A, Solano C, Giménez E, García Giménez JL, Vinuesa V, Alberola J, Pallardó FV, Navarro D. Assessing the risk of cytomegalovirus DNAaemia in allogeneic stem cell transplant recipients by monitoring oxidative-stress markers in plasma. Journal of General Virology. 2017 Jul; 98 (7): 1855-1863. IF: 2,838

5. Solano C, Mateo EM, Pérez A, Talaya A, Terol MJ, Albert E, Giménez E, Vinuesa V, Piñana JL, Boluda JCH, Navarro D. Epstein-Barr virus DNA load kinetics analysis in allogeneic hematopoietic stem cell transplant recipients: Is it of any clinical usefulness?. Journal of Clinical Virology. 2017 Dec; 97: 26-32. IF: 3,051

Department of Nephrology

Strategic aims

- To work together with cardiology Department in order to explore new developments in treatment of cardio-renal syndrome by peritoneal dialysis.
- Diabetic kidney disease: risk factors and progression. Diabetic kidney disease in dialysis patients.
- To analyze risk factors for developing hyperkalemia and the adherence to the current treatments.
- To establish the picture of the renal problems detected in Oncology and Hematology patients: kidney damage in the onco-hematologic patients.
- To analyze the incidence of acute kidney injury in hospitalized patients.

Main lines of research

- Treatment of cardio-renal syndrome by peritoneal dialysis.
- Diabetic kidney disease and Chronic kidney disease: risk factors and progression and proteinuria development. Diabetic kidney disease in dialysis patients.
- Hyperkalemia and chronic kidney disease.
- Onco-nephrology: kidney damage in the oncologic patient.
- Biomarkers of acute kidney injury.

• PUBLICATIONS

Number of articles	IF	Average IF
6	18,8	3,14

National collaborations	International collaborations	Corresponding author
3	2	-

SELECTED PUBLICATIONS

1. Harris T, Sandford R, de Coninck B, Devuyst O, Drenth JPH, Ecder T, Kent A, Gansevoort RT, Górriz JL, Ong ACM, Pirson Y, Torres VE, Budde K, Clément D, Derchi LE, Eleftheroudi M, Levtchenko E, Peters D, Van Poppel H, Vanholder R. European ADPKD Forum multidisciplinary position statement on autosomal dominant polycystic kidney disease care: European ADPKD Forum and Multispecialist Roundtable participants. Nephrology, Dialysis, Transplantation. 2017 Dec 22. IF: 4,47

2. Jardine MJ, Mahaffey KW, Neal B, Agarwal R, Bakris GL, Brenner BM, Bull S, Cannon CP, Charytan DM, de Zeeuw D, Edwards R, Greene T, Heerspink HJL, Levin A, Pollock C, Wheeler DC, Xie J, Zhang H, Zinman B, Desai M, Perkovic V; CREDENCE study investigators. The Canagliflozin and Renal Endpoints in Diabetes with Established Nephropathy Clinical Evaluation (CREDENCE) Study Rationale, Design, and Baseline Characteristics. American Journal of Nephrology. 2017 Dec 13; 46 (6): 462-472. IF: 2,542

3. Milián L, Peris JE, Gandía P, Andújar I, Pallardó L, Górriz JL, Blas-García A.Tenofovir-induced toxicity in renal proximal tubular epithelial cells: involvement of mitochondria. AIDS. 2017 Jul 31; 31 (12): 1679-1684. IF: 5,019

4. Román E, Mendizábal S, Jarque I, de la Rubia J, Sempere A, Morales E, Praga M, Ávila A, Górriz JL. Secondary thrombotic microangiopathy and eculizumab: A reasonable therapeutic option. Nefrología. 2017 Sep - Oct; 37 (5): 478-491. IF: 1,183

5. Cardells I, Payá A, Bondanza L, Miñana G, González M, Núñez J. Peritoneal Dialysis in Constrictive Pericarditis: a report of three cases. Revista Española de Cardiología (English ed.). 2017 Jun; 70 (6): 504-506. IF: 4,485

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: BCM-PD-02-INT

Title: *Iniciativa sobre la evolución de los pacientes con Diálisis-DP*

Principal Investigator: Alfonso Miguel Carrasco (Miguel González Rico, Mª Jesús Puchades Montesa as collaborating researchers)

Funding Body: Fresenius medical care

Beneficiary Institution: *Hospital Clínico Universitario de Valencia*

Duration: 2015-2021

Total Budget: 2.940€

Department of Neurology

• PUBLICATIONS

Number of articles	IF	Average IF
4	7,05	1,76

National collaborations	International collaborations	Corresponding author
3	-	1

SELECTED PUBLICATIONS

1. Gago-Veiga AB, Santos-Lasaosa S, Cuadrado ML, Guerrero ÁL, Irimia P, Láinez JM, Leira R, Pascual J, Sanchez Del Río M, Viguera J, Pozo-Rosich P. Evidence and experience with onabotulinumtoxinA in chronic migraine: Recommendations for daily clinical practice. Neurología. 2017 Nov 20. pii: S0213-4853 (17) 30324-9. IF: 2,103

2. Santos-Lasaosa S, Cuadrado ML, Gago-Veiga AB, Guerrero-Peral AL, Irimia P, Láinez JM, Leira R, Pascual J, Porta-Etessam J, Sánchez Del Río M, Viguera Romero J, Pozo-Rosich P. Evidence of and experience with the use of onabotulinumtoxinA in trigeminal neuralgia and primary headaches other than chronic migraine. Neurología. 2017 Nov 20. IF: 2,103

3. Alcala-Vicente C, Pérez-Miralles FC, Gascon-Gimenez F,

Bosca-Blasco I, Navarre-Gimeno A, Coret-Ferrer F, Casanova-Estruch B. Treatment of relapsing-remitting multiple sclerosis with fingolimod in routine clinical practice. Revista de Neurología. 2017 May 16; 64 (10): 445-453. IF: 0,743

4. Gascón-Giménez F, Coret-Ferrer F. Reversible subacute chorea caused by vitamin B12 deficiency. Neurologia. 2017 Jun; 32 (5): 342-343. IF: 2,103

Department of Neurophysiology

Main lines of research

- The importance of the clinic in the role of magnetic resonance imaging (MRI) and electromyography (EMG) in the diagnosis of cervical and lumbosacral radiculopathy. Situation: data collection continues and its inclusion on a basis for further statistical analysis. Currently we have 353 patients with lumbosacral radiculopathy, and 54 with cervical radiculopathy. We continue to collect cases to increase the size of the sample.
- Definitive diagnosis of sleep disorders after clinical and polysomnographic evaluation in patients with clinical suspicion of sleep apnea-hyponeal syndrome and normal or inconclusive respiratory polygraphy. Situation: data collection continues and its inclusion on a basis for further statistical analysis. We have 82 patients collected. We continue to collect cases to increase the size of the sample.
- (3) Characterization and evaluation of alterations in vibration, pain and thermal sensitivity in cirrhotic patients with minimal hepatic encephalopathy.

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI15/00035
Title: *Caracterización de las alteraciones neurológicas en pacientes con encefalopatía hepática mínima y de las alteraciones cerebrales responsables. Contribución del estrés oxidativo y la inflamación*
Principal Investigator: Carmina Montoliu Félix
Funding body: *Instituto de Salud Carlos III*
Beneficiary institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total budget: 159.115€

• THESIS

Thesis title: *Estudio electroencefalográfico de las alteraciones de vigilia y sueño en ratas sometidas a pesticidas*
Doctoral candidate: Rut Victorio Muñoz
Director(s): Paula Cases Bergón, Vicente Felipo Orts, Carmina Montoliu Félix
Date of the defense: 14/07/2017
Grade: *Sobresaliente "cum laude"*

Department of Ophthalmology

Strategic aims

- Study of retinochoroidal vascularization via techniques of OCT angiography, a new technology under development. The majority of Spanish-authored publications on OCT angiography appearing in ophthalmological journals correspond to research from the *Hospital Clínico* of Valencia group.

Main lines of research

- OCT for quantitative analysis of the retinal ganglion cell layer in patients with multiple sclerosis: correlation with the degree of disability and cerebral atrophy in magnetic resonance.

• PUBLICATIONS

Number of articles	IF	Average IF
1	1,07	1,07

National collaborations	International collaborations	Corresponding author
1	-	-

SELECTED PUBLICATIONS

1. Clemente-Tomás R, Hernández-Pérez D, Neira-Ibáñez P, Farías-Rozas F, Torrecillas-Picazo R, Osorio-Alayo V, Duch-Samper AM. Intracrystalline Ozurdex®: therapeutic effect maintained for 18 months. International Ophthalmology. 2017 Nov 30. IF: 1,077

• AWARD

Third prize in Clinical Cases awarded to Francisco Farias in the *Fisabio-Oftalmología Médica* (public medical center for eye disease) Glaucoma monographic conference, held in December 2017.

Department of Otorhinolaryngology

Strategic aims

- Osseointegrated implants.
- Cochlear Implants.
- Otoneurology.

Main lines of research

- Osseointegrated Implants: Results of New Implants with Hydroxyapatite.
- Cochlear Implants: Result of unilateral IC.
- Otoneurology: vHIT in cochlear implants.

• THESIS

Thesis title: *Alteraciones posturográficas en fases agudas del latigazo cervical*

Doctoral candidate: Rocío Puerta de Diego
Director(s): Jaime Marco Algarra
Date of the defense: 2017
Grade: *Sobresaliente "cum laude"*

Department of Pediatrics

• PUBLICATIONS

Number of articles	IF	Average IF
14	32,47	2,31

National collaborations	International collaborations	Corresponding author
12	1	1

SELECTED PUBLICATIONS

1. Kunz C, Meyer C, Collado MC, Geiger L, García-Mantrana I, Bertua-Ríos B, Martínez-Costa C, Borsch C, Rudloff S. Influence of Gestational Age, Secretor, and Lewis Blood Group Status on the Oligosaccharide Content of Human Milk. Journal of Pediatric Gastroenterology and Nutrition. 2017 May; 64 (5): 789-8. IF: 2,799
2. de Dios Caballero J, Vida R, Cobo M, Máiz L, Suárez L, Galeano J, Baquero F, Cantón R, Del Campo R. Individual Patterns of Complexity in Cystic Fibrosis Lung Microbiota, Including Predator Bacteria, over a 1-Year Period. mBio. 2017 Sep 26; 8 (5). IF: 6,956
3. Muñoz-Bonet JI, Ortega-Sánchez MD, León Guijarro JL. Management and long-term evolution of a patient with 3-hydroxy-3-methylglutaryl-coenzyme A lyase deficiency. Italian Journal of Pediatrics. 2017 Jan 19; 43 (1): 12. IF: 1,668
4. Boix-Amorós A, Martinez-Costa C, Querol A, Collado MC, Mira A. Multiple Approaches Detect the Presence of Fungi in Human Breastmilk Samples from Healthy Mothers. Scientific Reports. 2017 Oct 12; 7 (1): 13016. IF: 4,259
5. Rodríguez-Díaz J, García-Mantrana I, Vila-Vicent S, Gozalbo-Rovira R, Buesa J, Monedero V, Collado MC. Relevance of secretor status genotype and microbiota composition in susceptibility to rotavirus and norovirus infections in humans. Scientific Reports. 2017 Mar 30; 7: 45559. IF: 4,259

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: MAMI
Title: *MAMI The Power of Maternal Microbes on Infant Health*
Principal Investigator: María Carmen Collado (Cecilia Martínez



Costa as collaborating researcher)
Funding Body: *European Commission*
Beneficiary Institution: *Consejo Superior de Investigaciones Científicas*
Duration: 2015-2020
Total Budget: 1.499.978,43€

Reference: COST Action BM1407
Title: *Translational Research in primary ciliary dyskinesia – bench, bedside, and population perspectivs (BEAT-PCD)*
Principal Investigator: Antonio Moreno (Amparo Escribano Montaner as collaborator reseaarcher)
Funding Body: *European Commission*
Duration: 2015-2019

Reference: PI16/01233
Title: *Caracterización molecular de la discinesia ciliar primaria*
Principal Investigator: Antonio Moreno (Amparo Escribano Montaner as collaborator reseaarcher)
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación de Investigación Vall d'Hebrón*
Duration: 2017-2019
Total Budget: 110.715€

Reference: PI15/00466
Title: *Estudio multicéntrico de la estructura poblacional de Staphylococcus aureus, su relación con el microbioma, cocolonización patogénica por P. aeruginosa y situación clínica en fibrosis quística*
Principal Investigator: Rafael Cantón Moreno (Amparo Escribano Montaner as collaborator researcher)
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Biomédica Ramón y Cajal*
Duration: 2016-2018
Total Budget: 196.927,50€

Reference: PCIN-2017117
Title: *Obesidad materna y disfunción cognitiva en la descendencia: papel causa-efecto de la microbiota intestinal y prevención dietética temprana*
Principal Investigator: Consuelo Borrás Blasco (Cecilia Martínez Costa as collaborating researcher)
Funding Body: *Ministerio de Economía y Competitividad*
Beneficiary Institution: *Universidad de Valencia*
Duration: 2017-2020
Total Budget: 143.000€

Reference: INTIMIC-085
Title: *Maternal obesity and cognitive dysfunction in the offspring: causeeffect role of the GUT MicrobiOMe and early dietary prevention*
Principal Investigator: Consuelo Borrás Blasco (Daniel Monleón Salvadó, Vannina González Marrachelli, José Manuel Morales Tatay as collaborating researchers)
Funding Body: *JPI HDHL. European Commission*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017-2020
Total Budget: 778.240€

Title: *Edición génica del gen SERPINA1 mediante el uso de CRISPR/Cas9 en monocitos de pacientes con déficit de alfa-1 antitripsina*
Principal Investigator: Francisco Dasí (Amparo Escribano Montaner as collaborator researcher)
Funding Body: *Sociedad Española de Neumología y Cirugía Torácica (SEPAR)*
Entidad beneficiaria: *Hospital Clínico Universitario de Valencia*
Duration: 2016-2018
Total Budget: 12.000€

• THESIS

Thesis title: *Seguimiento del crecimiento y estado de nutrición de pacientes pediátricos con afectación neurológica severa. Desarrollo de una aplicación informática específica*
Doctoral candidate: Elena Crehuá Gaudiza
Director(s): Cecilia Martínez Costa, Caterina Calderón Garrido
Date of the defense: 13/11/2017
Grade: *Sobresaliente "cum laude"*

Thesis title: *Estudio del perfil de microRNAs circulantes en pacientes con déficit de α-1 antitripsina (DAAT). Implicaciones diagnósticas, pronósticas y terapéuticas*
Doctoral candidate: Sara Pastor Puente
Director(s): Amparo Escribano Montaner, Francisco José Dasí Fernández
Date of the defense: 18/12/2017
Grade: *Sobresaliente "cum laude"*
Quality recognition/Award: European PhD

- **AWARD**

Dr. Martínez Costa was appointed member of the Royal Academy of Medicine and Related Sciences of the Valencian Community in October 2017.

Department of Pneumology

- **PUBLICATIONS**

Number of articles	IF	Average IF
1	3,43	3,43

National collaborations	International collaborations	Corresponding author
-	-	-

SELECTED PUBLICATIONS

1. Martín Martorell P, Huerta M, Compañ Quilis A, Abellán R, Seda E, Blesa S, Chaves FJ, Dualde Beltrán D, Roselló Keränen S, Franco J, Insa A. Coexistence of EGFR, KRAS, BRAF, and PIK3CA Mutations and ALK Rearrangement in a Comprehensive Cohort of 326 Consecutive Spanish Nonsquamous NSCLC Patients. Clinical Lung Cancer. 2017 Nov; 18 (6): e395-e402. IF: 3,434

Department of Psychiatry

- **PUBLICATIONS**

Number of articles	IF	Average IF
2	7,89	3,94

National collaborations	International collaborations	Corresponding author
2	-	-

SELECTED PUBLICATIONS

1. Vilallonga R, Moreno Villares JM, Yeste Fernández D, Sánchez Santos R, Casanueva Freijo F, Santolaya Ochando F, Leal Hernando N, Lecube Torelló A, Castaño González LA, Feliu A, López-Nava G, Frutos D, Torres García AJ, Ruiz de Adana JC. Initial Approach to Childhood Obesity in Spain. A Multisociety Expert Panel Assessment. Obesity Surgery. 2017 Apr; 27 (4): 997-1006. IF: 3,947

2. Vilallonga R, Moreno Villares JM, Yeste Fernández D, Sánchez Santos R, Casanueva Freijo F, Santolaya Ochando F, Leal Hernando N, Lecube Torelló A, Castaño González LA, Feliu A, López-Nava G, Frutos D, de la Cruz Vigo F, Torres García AJ, de Ruiz de Adana JC. Erratum to: Initial Approach to Childhood Obesity in Spain. A Multisociety Expert Panel Assessment. Obesity Surgery. 2017 Apr; 27 (4): 1007. IF: 3,947

- **RESEARCH PROJECTS AND GRANTS FOR RESEARCH**

Reference: PI14/00044
Title: *Eficacia del entrenamiento metacognitivo individualizado (EMC+) en personas con psicosis de reciente evolución*
Principal Investigator: Susana Ochoa (Esther Lorente and Ana Luengo as collaborating researcher)
Funding body: *Instituto de Salud Carlos III*
Beneficiary institution: *Fundación para la investigación y docencia Sant Joan de Deu*
Duration: 2015-2018
Total budget: 92.565€

- **THESIS**

Thesis title: *Estudio comparativo del estilo de liderazgo y la cultura organizacional en asociaciones gremiales y directores de programas en psicología en Latinoamerica y España, con base en el Proyecto Globe*
Doctoral candidate: María Constanza Aguilar Bustamante
Director(s): Francisco José Santolaya Ochando, Wenceslao Peñate Castro
Date of the defense: 22/09/2017
Grade: *Sobresaliente "cum laude"*

Department of Radiologic Diagnosis

Main lines of research

- To participate in clinical trials with Hematology and Oncology Departments by performing CT and / or biopsies to check inclusion of patients in new chemotherapy treatments.
- To evaluate cerebral reperfusion syndrome after treatment of carotid stenosis by stent.
- To study gastric pre-oesophagectomy conditioning to reduce the incidence of dehiscence of sutured anastomoses.

• PUBLICATIONS

Number of articles	IF	Average IF
3	25,81	8,60

National collaborations	International collaborations	Corresponding author
2	2	-

SELECTED PUBLICATIONS

1. Saura C, Roda D, Roselló S, Oliveira M, Macarulla T, Pérez-Fidalgo JA, Morales-Barrera R, Sanchis-García JM, Musib L, Budha N, Zhu J, Nannini M, Chan WY, Sanabria Bohórquez SM, Meng RD, Lin K, Yan Y, Patel P, Baselga J, Tabernero J, Cervantes A. A First-in-Human Phase I Study of the ATP-Competitive AKT Inhibitor Ipatasertib Demonstrates Robust and Safe Targeting of AKT in Patients with Solid Tumors. Cancer discovery. 2017 Jan; 7 (1): 102-113. IF: 20,011
2. Martín Martorell P, Huerta M, Compañ Quilis A, Abellán R, Seda E, Blesa S, Chaves FJ, Dualde Beltrán D, Roselló Keränen S, Franco J, Insa A. Coexistence of EGFR, KRAS, BRAF, and PIK3CA Mutations and ALK Rearrangement in a Comprehensive Cohort of 326 Consecutive Spanish Non-squamous NSCLC Patients. Clinical Lung Cancer. 2017 Nov; 18 (6): e395-e402. IF: 3,434
3. Ferrando C, Romero C, Tusman G, Suarez-Sipmann F, Canet J, Dosdá R, Valls P, Villena A, Serralta F, Jurado A, Carrizo J, Navarro J, Parrilla C, Romero JE, Pozo N, Soro M, Villar J, Belda FJ. The accuracy of postoperative, non-invasive Air-Test to diagnose atelectasis in healthy patients after surgery: a prospective, diagnostic pilot study. BMJ Open. 2017 May 29; 7 (5): e015560. IF: 2,369

Department of Radiologic Protection

Thesis title: *Creación y desarrollo de un plan de control de calidad para tratamientos de radioterapia de intensidad modulada (IMRT)*
Doctoral candidate: Néstor Chinillach Ferrando
Director(s): Sergio Díez Domingo
Date of the defense: 18/09/2017
Grade: *Sobresaliente "cum laude"*

Department of Traumatology and Orthopedic Surgery

Strategic aims

- Cellular oxidative stress and its relation with idiopathic femoral osteonecrosis.
- Cellular oxidative stress and its relation with idiopathic femoral osteonecrosis.

Main lines of research

- Cellular oxidative stress and its relationship with idiopathic femoral osteonecrosis.
- Sequentiality of muscle contraction: importance in early detection of lumbopelvic, cervical and shoulder girdle dysfunction.
- Diagnosis and monitoring of the diabetic foot using infrared thermography.
- Cellular mechanisms to regulate inflammatory response in chronic inflammatory diseases.
- Protection strategies against osteoarticular deterioration.
- Robotics for precision in orthopedic reconstructive surgery.

- Rehabilitation to improve outcomes after total knee arthroplasty. Prospective randomized study.
- Local mechanical stimulation of mesenchymal cells for osteogenic and chondrogenic differentiation in regenerative medicine.

• PUBLICATIONS

Number of articles	IF	Average IF
5	13,19	2,63

National collaborations	International collaborations	Corresponding author
4	-	1

SELECTED PUBLICATIONS

1. Pino-Almero L, Mínguez-Rey MF, Rodríguez-Martínez D, Cibrián-Ortiz de Anda RM, Salvador-Palmer MR, Sentamans-Segarra S. Clinical application of back surface topography by means of structured light in the screening of idiopathic scoliosis. Journal of Pediatric Orthopedics. Part B. 2017 Jan; 26 (1):6 4-72. IF: 0,638
2. Sancho-Tello M, Forriol F, Martín de Llano JJ, Antolinos-Turpin C, Gómez-Tejedor JA, Gómez Ribelles JL, Carda C. Biostable scaffolds of polyacrylate polymers implanted in the articular cartilage induce hyaline-like cartilage regeneration in rabbits. International Journal of Artificial Organs. 2017 Jul 5; 40 (7): 350-357. IF: 1,169
3. Renovell-Ferrer P, Bertó-Martí X, Diranzo-García J, Barrera-Puigdorells L, Estrems-Díaz V, Silvestre-Muñoz A, Brú-Pomer A. Functional outcome after calcaneus fractures: a comparison between polytrauma patients and isolated fractures. Injury. 2017 Nov; 48 Suppl 6: S91-S95. IF: 1,894
4. Mata M, Milian L, Oliver M, Zurriaga J, Sancho-Tello M, de Llano JJM, Carda C. In Vivo Articular Cartilage Regeneration Using Human Dental Pulp Stem Cells Cultured in an Alginate Scaffold: A Preliminary Study. Stem Cells International. 2017; 2017: 8309256. IF: 3,54
5. Platas J, Guillén MI, Gomar F, Castejón MA, Esbrit P, Alcaraz MJ. Anti-senescence and Anti-inflammatory Effects of the C-terminal Moiety of PTHrP Peptides in OA Osteoblasts. The journals of gerontology. Series A, Biological Sciences and Medical Sciences. 2017 May 1; 72 (5): 624-631. IF: 5,957

• RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: RETICEF RD12/0043/0013
Title: *Red de Investigación en Envejecimiento y Fragilidad*
Principal Investigator: Mª José Alcaraz Tormo (Francisco Gomar Sancho as collaborator researcher)
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Universidad de Valencia*
Duración: 2013-2017
Presupuesto total: 39.484€

Reference: SAF2013-4874R
Title: *Mecanismos celulares reguladores de la respuesta inflamatoria en patologías inflamatorias crónicas*
Principal Investigator: Mª José Alcaraz Tormo (Francisco Gomar Sancho as collaborator researcher)
Funding Body: *Ministerio de Economía y Competitividad*
Beneficiary Institution: *Universidad de Valencia*
Duración: 2014-2017
Presupuesto total: 135.000€

• THESIS

Thesis title: Artroplastia total de rodilla navegada: relación de la estabilidad articular con los resultados clínicos y funcionales a medio plazo
Doctoral candidate: David García Aguilera
Director(s): Carlos Martín Hernández, Antonio Silvestre Muñoz
Date of the defense: 28/07/2017
Grade: *Sobresaliente "cum laude"*

• AWARDS

Award for best paper presented at the 36th biennial meeting of the Spanish Royal Physics Society, December 2017.

Award for best Scientific/Technical Study in the Ruzafa Municipal Board Scientific/Technical Competition for Young People and Researchers, September 2017.

Department of Urology

Strategic aims

- To consolidate the line of research related to metabolomics in prostate cancer.
- Open a new research line in relation to metabolomics in bladder cancer.
- Open a new research line in relation to oxidative stress and prostate cancer.

Main lines of research

- Usefulness of microRNAs in blood and urine in the diagnosis and prognosis of bladder cancer.
- Testosterone deficiency syndrome in the aging male and its relation to erectile dysfunction.
- Metabolic analysis of urine in patients with prostate cancer.

• PUBLICATIONS

Number of articles	IF	Average IF
5	5,11	1,02

National collaborations	International collaborations	Corresponding author
5	-	2

SELECTED PUBLICATIONS

1. Panach-Navarrete J, Martínez-Jabaloyas JM; DE-SDT study group. The influence of comorbidities on the aging males' symptoms scale in patients with erectile dysfunction. Aging Male. 2017 Sep; 20 (3): 146-152. IF: 2,108

2. Palmero-Martí JL, Panach-Navarrete J, Valls-González L, Ganau-Ituren A, Miralles-Aguado J, Benedicto-Redón A. Comparative study between thulium laser (Tm: YAG) 150W and greenlight laser (LBO: ND-YAG) 120W for the treatment of benign prostatic hyperpplasia: Short-term efficacy and security. Actas Urológicas Españolas. 2017 Apr; 41 (3): 188-193. IF: 1,181

3. Palmero-Martí JL, Panach-Navarrete J, Valls-González L, Ganau-Ituren A, Pastor-Lence JC, Benedicto-Redón A. Renal lithiasis, can we predict the need for retreatment in retrograde intrarenal surgery (RIRS)?. Archivos Españoles de Urología. 2017 Jun; 70 (5): 534-541. IF: 0,323

4. Durán-Rivera A, Palmero JL, Miralles J, Panach-Navarrete J, Morán E, Benedicto A. Mid-term safety and efficacy of high power thulium laser vaporization. Archivos Españoles de Urología. 2017 Nov; 70 (9): 751-758. IF: 0,323

5. Panach-Navarrete J, Morales-Giraldo A, Ferrandis-Cortés C, García-Morata F, Pastor-Lence JC, Martínez-Jabaloyas JM. Satisfaction and treatment adherence in erectile dysfunction in the medium and long term. Actas Urológicas Españolas. 2017 May; 41 (4): 258-266. IF: 1,181

Unit of Teaching and Dissemination of Knowledge

• PUBLICATIONS

Number of articles	IF	Average IF
3	6,224	2,07

National collaborations	International collaborations	Corresponding author
3	-	-

SELECTED PUBLICATIONS

1. Adverse events related to medication in hospitals from the Valencian Community. EPIDEA Study 2005-2013. Mollar-Maseres JB1, Aranaz-Andrés JM, Martin-Moreno JM, Miralles-Bueno JJ, Requena-Puche J, Martínez-Morel HR, Luján-Tolosa MM. Revista Española de Quimioterapia. 2017 Oct; 30 (5): 319-326. IF: 0.75

2. Vegetable and Fruit Intakes Are Associated with hs-CRP Levels in Pre-Pubertal Girls. Navarro P, de Dios O, Jois A, Gavela-Pérez T Gorgojo L, Martín-Moreno JM, Soriano-Guillen L, Garcés C. Nutrients. 2017 Mar 2; 9 (3). IF: 3.55

3. Analyzing the risk factors influencing surgical site infections: the site of environmental factors. Alfonso-Sanchez JL, Martinez IM, Martín-Moreno JM, González RS, Botía F. Canadian Journal of Surgery. 2017 Jun; 60 (3): 155-161. IF: 1.924

• 4.5 Other scientific contributions from scientific platforms

4.5.1 Biobank





biobanco@incliva.es

Team

Principal Investigator

Dr. Antonio Ferrández Izquierdo. Hospital. University.

Collaborating researchers:

Dr. Lorena Peiró Chova. INCLIVA

Technicians

Olga Bahamonde Ponce. INCLIVA
Marta Belda Moscardó. INCLIVA

ACTIVITIES DEVELOPED

Incorporation of samples in pre-existing collections:

Oncological Node:

- Collection of solid tumors: 154 new cases.
- Collection of peripheral blood and derivative products in patients suffering from breast cancer: 1592 new sample donations.
- Collections of peripheral blood and derivative products in patients suffering from lung cancer: 235 new sample donations.
- Collection of peripheral blood and derivative products in patients suffering from melanoma: 70 new cases.
- Collection of peripheral blood and derivative products in patients suffering from gastrointestinal: 602 new sample donations.

Immunological Diseases Node:

- Collection of peripheral blood and derivative products in patients suffering from Systemic Lupus Erythematosus or other autoimmune diseases: 10 new cases.

Cardiovascular Node:

- Collections from the cardiovascular node: no new cases.

Other collections:

- Collection sepsis gravis and septic shock: 113 new sample donations.
- Collection of peripheral blood and derivative products in patients suffering from Multiple Esclerosis: 2 new cases.
- Collection of peripheral blood and derivative products in standard population: 17 new cases.

Incorporation of new collections:

- Collection of peripheral blood and derivative products in patients suffering from head and neack tumors: 80 sample donations.
- Collections of peripheral blood and derivative products in patients suffering from brain tumors: 9 sample donations.
- Collections of peripheral blood and derivative products in patients suffering from gynecological tumors: 8 sample donations.

In summary, 2892 new sample donations have been received and 9891 samples have been processed in 2017 at INCLIVA Biobank facilities.

In addition, the Biobank has surplus diagnostic samples from the HCUV Pathology and Hematology service that may be used in research provided they have the corresponding Biobank Informed Consent.

Transfer of samples

Project	Ref./Agency	Principal Researcher/ Institution	Samples
BBI_06/2015. Análisis transcriptómico y proteómico de los cambios condicionados por miRNAs en el melanoma cutáneo: identificación de nuevos biomarcadores proteicos con significación pronóstica.	PROMETEOII/2015/009, *Generalitat Valenciana. Conselleria d'Educació, Cultura i Esport*	Dr. Carlos Monteagudo, HCUV/INCLIVA	Melanoma: plasma samples
BBI_03/2016; BBI_15/2016. Enfermedad mínima residual en cánceres colorrectales de alto riesgo resecados. Valor de las biopsias líquidas en el seguimiento y análisis de la heterogeneidad tumoral.	PI15/02180, ISCIII, *Ministerio de Economía y Competitividad*	Dr. Andrés Cervantes, HCUV/ INCLIVA	Gastrointestinal tumors: plasma and tissue

BBI_10/2016. MicroARNs como biomarcadores de invasión en cáncer de mama. Aplicación y nuevo uso de los excedentes de la determinación de ganglio centinela.	GV/2016/029, *Generalitat Valenciana. Conselleria d'Educació, Investigació, Cultura i Esport*	Dra. Lorena Peiró, INCLIVA	Breast cancer: plasma and tissue; Standard population: plasma
BBI_11/2016. Relación entre los biomarcadores de fibrosis cardíaca y la función de los grandes vasos en una población hipertensa con miocardiopatía hipertensiva.	Private Funds (ERESA) and CDTI	Dr. Fernando Martínez, HCUV/INCLIVA	Cardiovascular node: plasma and serum
BBI_13/2016; BBI_05/2017. Biomarcadores de respuesta a los inhibidores de tirosina quinasa mediante fenotipado metabolómico de biopsias líquidas de pacientes con adenocarcinoma pulmonar con mutaciones de EGFR.	2015/0345, IISLaFe	Dr. Oscar Juan Vidal, IISLaFe	Lung cancer: serum and FFPE
BBI_14/2016. Desarrollo de un test epigenético predictivo en pacientes con cáncer de mama precoz en el contexto neoadyuvante.	FAB-118, Ferrer Internacional S.A.	Dr. Manel Esteller, IDIBELL (Ferrer Internacional S.A)	Solid tumors: FFPE
BBI_01/2017. BRECAN RISK. Nuevo sistema de estratificación de riesgo y detección precoz basados en marcadores moleculares en cáncer de mama.	Sistemas Genómicos S.L	Dra. Ana Lluch, HCUV/INCLIVA (Sistemas Genómicos S.L)	Breast cancer: plasma and DNA
BBI_02/2017. Development of a predective epigenetic test in advanced colorectal cancer at the neoadjuvant setting	FAB-119, Ferrer Internacional S.A	Dr. Manel Esteller, IDIBELL (Ferrer Internacional S.A)	Solid tumors: FFPE
BBI_03/2017. Estrategias analíticas de identificación y caracterización de biomarcadores proteómicos para prevención y detección precoz de enfermedades raras, neurodegenerativas y cáncer.	CTQ2014-56777-R, Ministerio de Economía y Competitividad	Dra. M. Victoria Sanz Nebot, UB	Hematological diseases: serum; Standar population: serum
BBI_06/2017. Epigenética e inmunosupresión. Uso de las histonas circulantes y sus modificaciones posttraduccionales como biomarcadores de diagnóstico y pronóstico en sepsis y shock séptico.	PI16/01036, *Ministerio de Economía y Competitividad*	Dr. José Luis García Giménez, CIBERER	Sepsis gravis and septic shock: plasma; Standar population: plasma
BBI_07/2017. Molecular characterisation with NGS of patients with essential thrombocythaemia or polycythaemia vera who develop resistance to hydroxycarbamide according to the European LeukemiaNet criteria.	GILEAD Fellowship Program, 2016	Dr. José Vicente Cervera, IISLa Fe (GILEAD)	Hematological diseases: ADN
BBI_09/2007. Diagnóstico y estratificación de pacientes de lupus eritematoso sistémico mediante espectrometría de masas dirigida a la detección de histonas circulantes.	VLC-BIOCLINIC 2017, Subprograma A	Dr. Carlos Romá Mateo, UV Dra. M.ª José Forner, HCUV/ INCLIVA	Systemic Lupus Erythematosus: plasma; Standar population: plasma

In summary, 3651 aliquots have been provided in 2017 to respond to these sample requests.

- **RESEARCH PROJECTS AND GRANTS FOR RESEARCH**

Reference: PT13/0010/0004
Title: Biobank network
Principal Investigator: Josep Redón i Mas
Funding Body: *Instituto de Salud Carlos III*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2014-2017
Total Budget: 44.478€

Reference: GV/2016/029
Title: *MicroARNs como biomarcadores de invasión en cáncer de mama. Aplicación y nuevo uso de los excedentes de la determinación de ganglio centinela.*
Principal Investigator: Lorena Peiró Chova
Funding Body: *Generalitat Valenciana, Conselleria d'Educació, Investigació, Cultura i Esport*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017
Total Budget: 16.000€

- **PUBLICATIONS**

Note that this are 2017 scientific articles derived from the use of samples or services provided by the biobank.

Original articles

1. García-Giménez JL, Romá-Mateo C, Carbonell N, Palacios L, Peiró-Chova L, García-López E, García-Simón M, Lahuerta R, Gimenez-Garzó C, Berenguer-Pascual E, Mora MI, Valero ML, Alpízar A, Corrales FJ, Blanquer J, Pallardó FV. A new mass spectrometry-based method for the quantification of histones in plasma from septic shock patients. Scientific Reports. 2017 Sep 6; 7(1):10643. IF: 4,259
2. Seco-Cervera M, González-Rodríguez D, Ibáñez-Cabellos JS, Peiró-Chova L, González-Cabo P, García-López E, Vílchez JJ, Sanz-Gallego I, Pallardó FV, García-Giménez JL. Circulating miR-323-3p is a biomarker for cardiomyopathy and an indicator of phenotypic variability in Friedreich's ataxia patients. Scientific Reports. 2017 Jul 12; 7(1):5237. IF: 4,259
3. García-Giménez JL, Seco-Cervera M, Tollefsbol TO, Romá-Mateo C, Peiró-Chova L, Lapunzina P, Pallardó FV. Epigenetic biomarkers: Current strategies and future challenges for their use in the clinical laboratory. Critical Reviews in Clinical Laboratory Sciences. 2017 Nov - Dec; 54(7-8):529-550. IF: 5,34

4.5.2 Oncology Phase I Clinical Trials Unit

INCLIVA is the only hospital in Valencia performing Phase I cancer clinical trials, and one of the few in Spain. Phase I trials are those in which a substance or product is tested in humans for the first time.

INCLIVA is conducting, through the Oncology and Hematology Department, 189 clinical trials, 99 of them related to treatment in the early stages of testing (33 phase I or "first in human" and 66 phase II). INCLIVA's new facilities provide a full floor and a half specifically dedicated to host the unit.

The unit aims to develop and select new drugs through clinical trials and to perform studies related to the pathogenesis, prognosis and new experimental therapies in solid tumors.

FUNCTIONS:

The unit implements early clinical trials with experimental agents in the field of Oncology.

EQUIPMENTS:

- -80º C Freezer
- -20º C Freezer
- Refrigerated desktop centrifuge
- Scientific refrigerator
- Conventional fridge
- Defibrillator
- Electrocardiographic equipment
- 7 monitors (blood pressure, heart rate and 02 saturation)
- 7 double medication infusion pumps
- 7 heads gases (oxygen and vacuum)

LOCATION:

The following facilities are located on the second floor:

- Reception and waiting room
- 2 Consulting rooms
- Staff room

- Meeting room
- Therapy room

The third floor hosts the following facilities

- Clinical trials office
- Monitoring room
- Clinical trials archives

PERSON IN CHARGE:

Head of Unit: Prof. Andres Cervantes Ruipérez

E-mail: Andres.Cervantes@uv.es

Contact phone: +34 961973528

HUMAN RESOURCES

Medical doctors

- Dr. Alejandro Pérez Fidalgo
- Dr. Susana Roselló Keränen
- Dr. Cristina Herrando Meliá
- Dr. Marisol Huerta Lázaro
- Dr. Gema Bruixola Campos
- Dr. Desamparados Roda Perez
- Dr. Valentina Gambardella

Nurses

- Inmaculada Blasco Blasco
- Celia Martínez Ridaura
- Luna Porta Campos





5

Clinical trials and other studies

• 5.1. Clinical Research Ethics Committee (ECCR) Activity

On January 13th 2016 the new Royal Decree 1090/2015 came into force, regulating clinical trials with drugs, Medical Research Ethics Committees and the Spanish Clinical Studies Registry. This new regulatory framework has introduced important changes in the management and evaluation of human clinical trials at the national level. Since its publication, only one Committee is needed to evaluate a Clinical Trial, and issues a single and binding judgement for the entire country.

In response to this, the Clinical Research Ethics Committee of the Hospital Clínico Universitario de Valencia has obtained recertification in the ISO 9001 standard. This recognition guarantees the quality of the assessment performed by the ECCR, whose main goal is to ensure respect for the rights and safety of participants in clinical studies and other research initiatives.

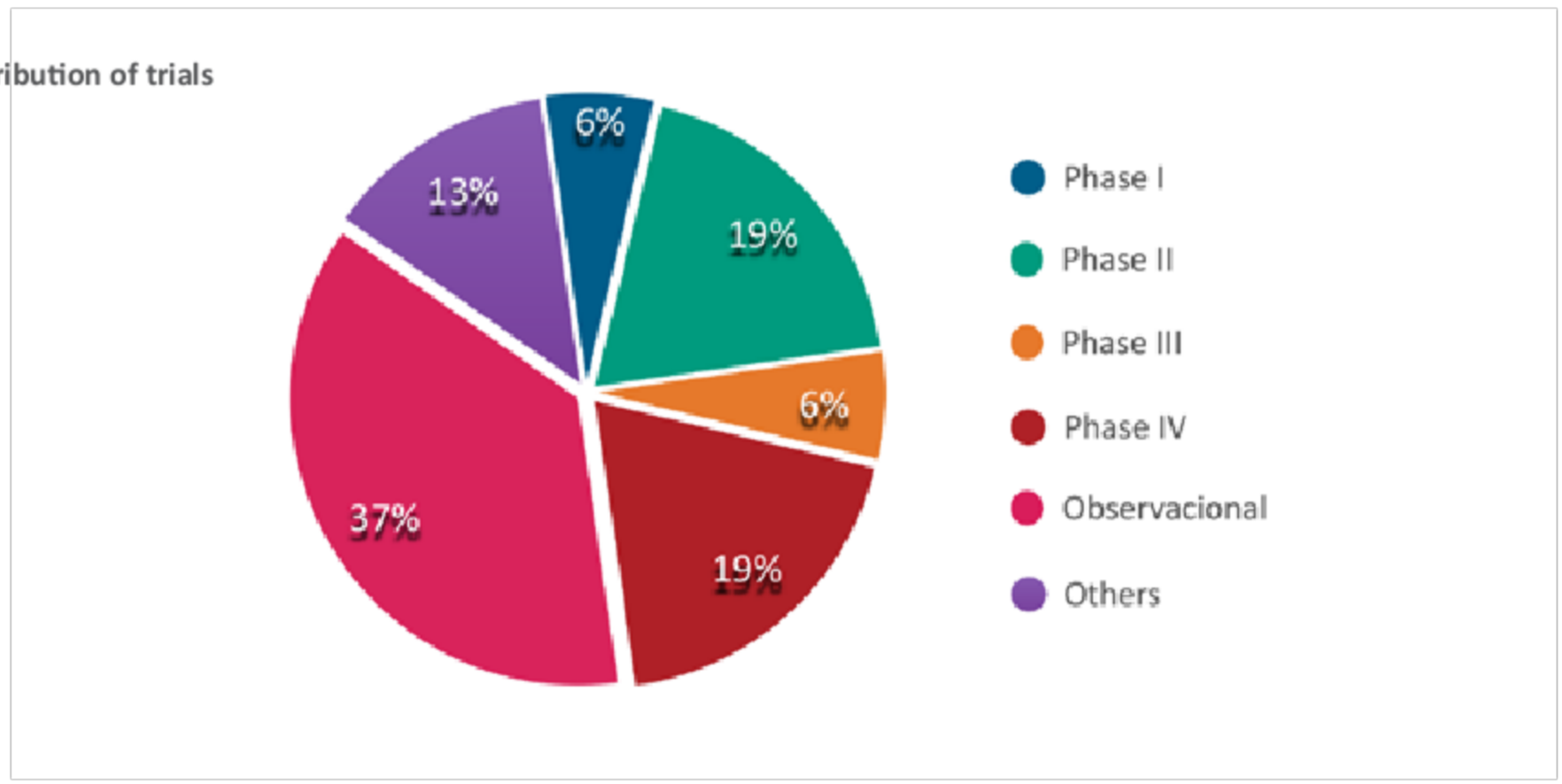

IQNet
THE INTERNATIONAL CERTIFICATION NETWORK
CERTIFICATE
IQNet and AENOR hereby certify that the organization
GENERALITAT VALENCIANA (COMITÉ ÉTICO DE INVESTIGACIÓN CLÍNICA – HOSPITAL CLÍNICO UNIVERSITARIO DE VALENCIA)
for the following field of activities
has implemented and maintains a
Quality Management System
which fulfils the requirements of the following standard
ISO 9001:2015
Registration Number: ES-0199/2016
AENOR


AENOR
Certificado del Sistema de Gestión de la Calidad
ER-0199/2006
GENERALITAT VALENCIANA
COMITÉ ÉTICO DE INVESTIGACIÓN CLÍNICA – HOSPITAL CLÍNICO UNIVERSITARIO DE VALENCIA

During 2017, the ECCR has processed a total of 16 studies (clinical trials and observational studies): 12 positively valued and 4 pending approval.

The distribution of these trials by phase is: Phase I: 1; Phase II: 3; Phase III: 1; Phase IV: 3; Observational studies: 6; others: 2.

The following graphic shows the number of clinical trials and other studies according to their typology.



Distribution of clinical studies depending on the department where they are performed is as follows:

SERVICE	Number
Anesthesia and Resuscitation	4
Cardiology	1
Digestive Medicine	2
Endocrinology	1
Gynecology	1
Haematology	2
Oncology	1
Pharmacy	1
Pneumology	2
Primary Care	1
TOTAL	16

5.2. Clinical research activity performed by the *Valencia Clínico-Malvarrosa* Health Department

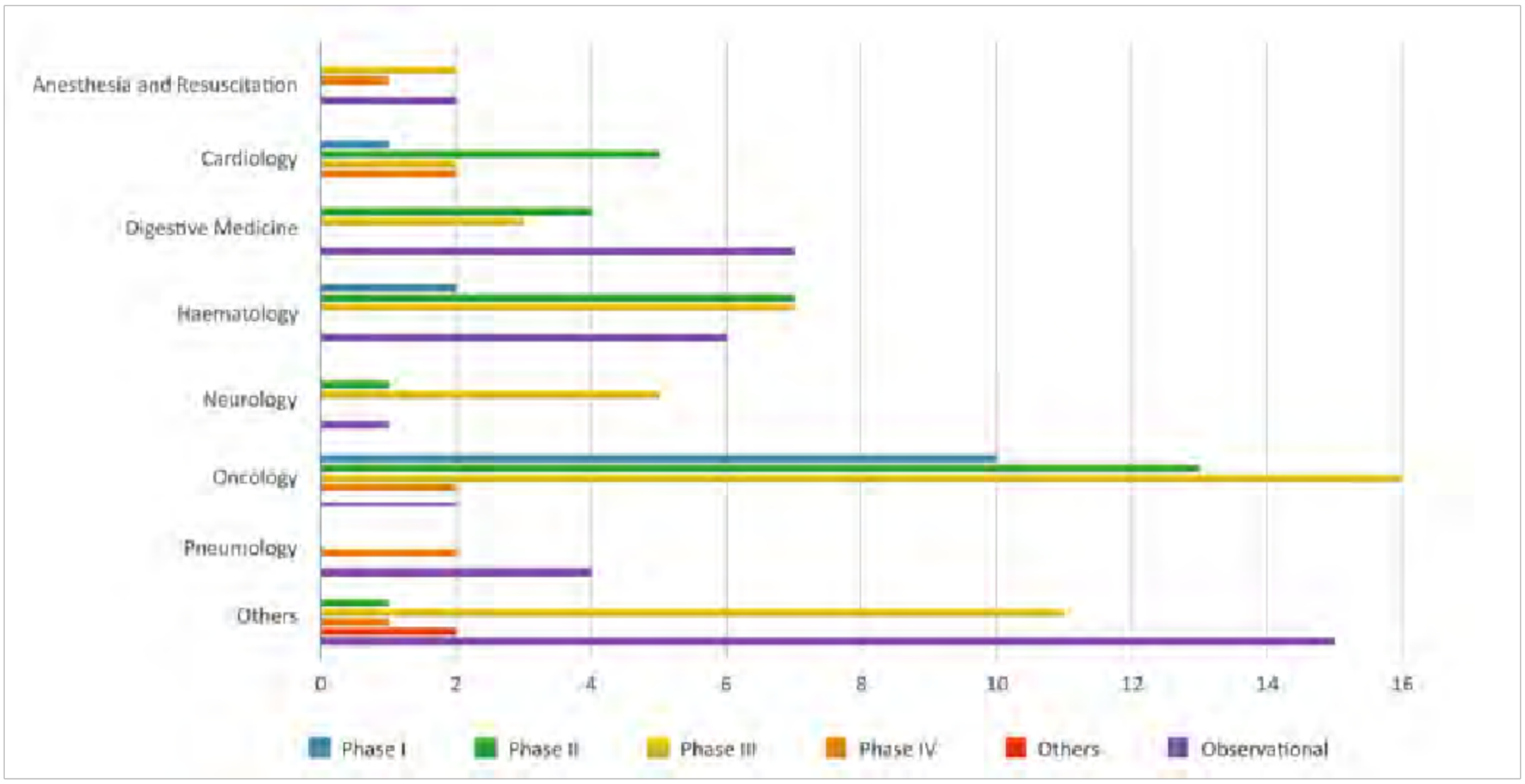
5.2.1. Activity during 2017

INCLIVA Health Research Institute manages the clinical studies (trials, observational studies, and research projects) carried out by *Hospital Clínico Universitario* and the Valencia Clínico-Malvarrosa Health Department researchers.

During 2017, INCLIVA has assessed a total of 143 studies (clinical trials and observational studies).

The distribution of these trials by phase is: Phase I: 13, Phase II: 31, Phase III: 46, Phase IV: 6, Observational studies: 43, others: 4. The following table shows the number of clinical trials and other studies according to their phase and department.

	Phase I	Phase II	Phase III	Phase IV	Others	Observational	TOTAL
Anesthesia and Resuscitation	-	-	2	1	-	2	5
Cardiology	1	5	2	2	-	6	16
Digestive Medicine	-	4	3	-	-	7	14
Haematology	2	7	7	-	-	6	22
Neurology	-	1	5	-	-	1	7
Oncology	10	13	16	2	-	2	43
Pneumology	-	-	-	-	2	4	6
Others	-	1	11	1	2	15	30
TOTAL	13	31	46	6	4	43	143



The Department of Medical Oncology leads in the number of trials assesed by INCLIVA, followed by the departments of Haematology, Cardiology and Digestive Medicine. These four services make up over 66% of the total processed trials.

SERVICE	Total	%
Anesthesia and Resuscitation	5	4
Cardiology	16	11
Digestive Medicine	14	10
Haematology	22	15
Neurology	7	5
Oncology	43	30
Pneumology	6	4
Others	30	21

In turn, the Principal Investigators (PI) distribution shown below indicates the number of PIs involved in clinical trial development:

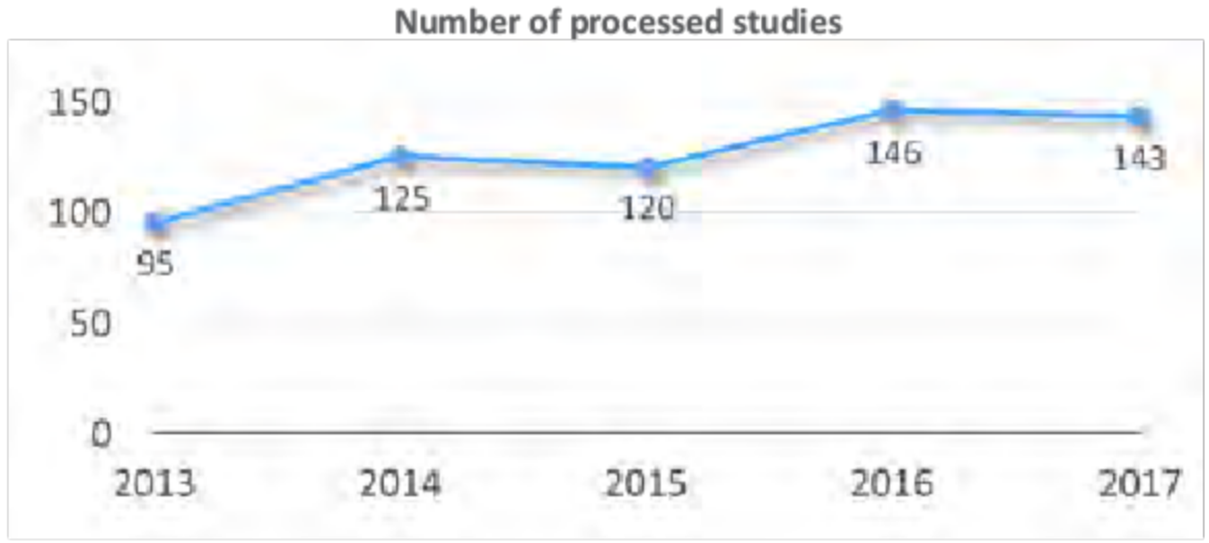
SERVICE	Number of PIs	%
Anesthesia and Resuscitation	4	6.9
Cardiology	6	10.3
Digestive Medicine	4	6.9
Haematology	7	12.1
Medical Oncology	8	13.8
Pneumology	4	6.9
Neurology	4	6.9
Others	21	36.2
Total	58	100

Regarding the distribution of studies by sponsor, 34 trials are considered Independent Clinical Research (trials from associations, groups, foundations, and private individuals), and the rest have been sponsored by the pharmaceutical industry.

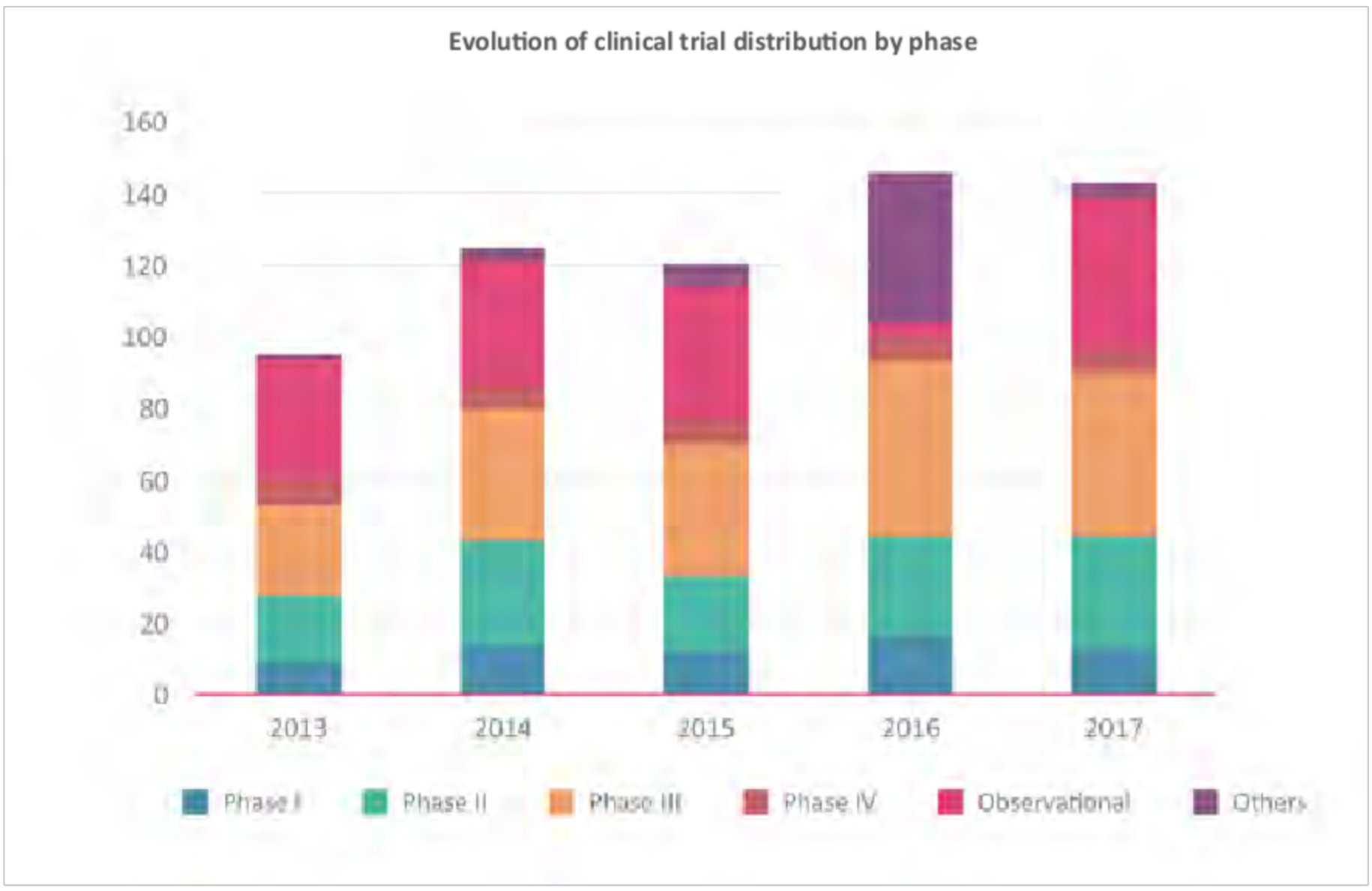
SPONSOR	Nº
INDEPENDENT CLINICAL RESEARCH	43
MERCK	7
ASTRAZENECA	6
NOVARTIS FARMACÉUTICA S.A.	5
BAYER	4
BRISTOL	4
GILEAD SCIENCES, INC	4
INCYTE	4
JANSSEN	4
ABBVIE	3
AMGEN	3
F. HOFFMANN-LA ROCHE LTD	3
MEDICAL SCIENTIA INNOVATION RESEARCH	3
ROCHE FARMA S.A.	3
TG THERAPEUTICS, INC	3
MERRIMACK PHARMACEUTICALS INC.	2
OTHER INDUSTRIAL SPONSORS	42

5.2.2 Assessment activity during last 5 years

The graphic below shows that the number of studies processed yearly remains close to a hundred.

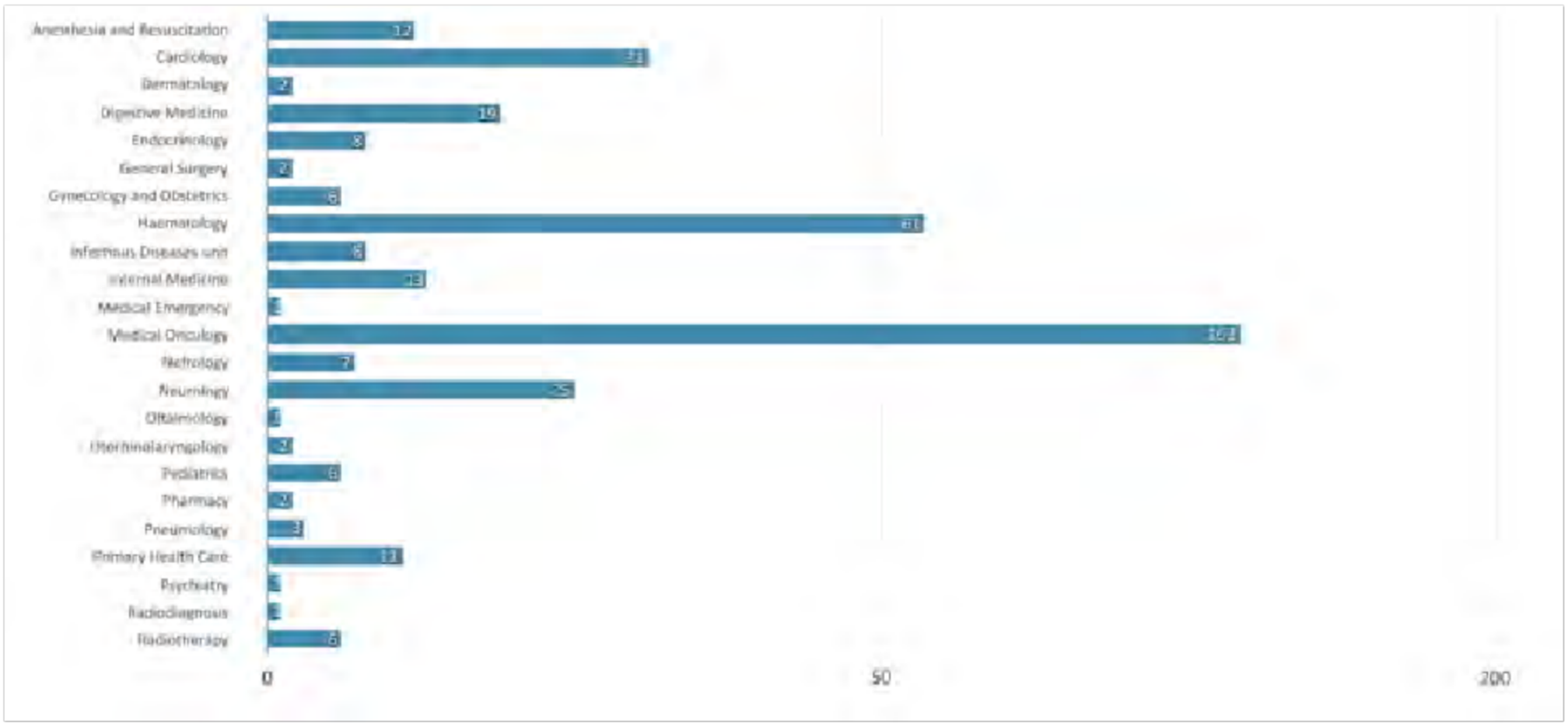


One of INCLIVA's main goals is to develop clinical research at its early stages, thus contributing to translational research that moves scientific knowledge from bench to bedside. In this regard, during the period 2013-2017, Phase I and Phase II trials are prioritized and their numbers remain stable as shown in the graph below.

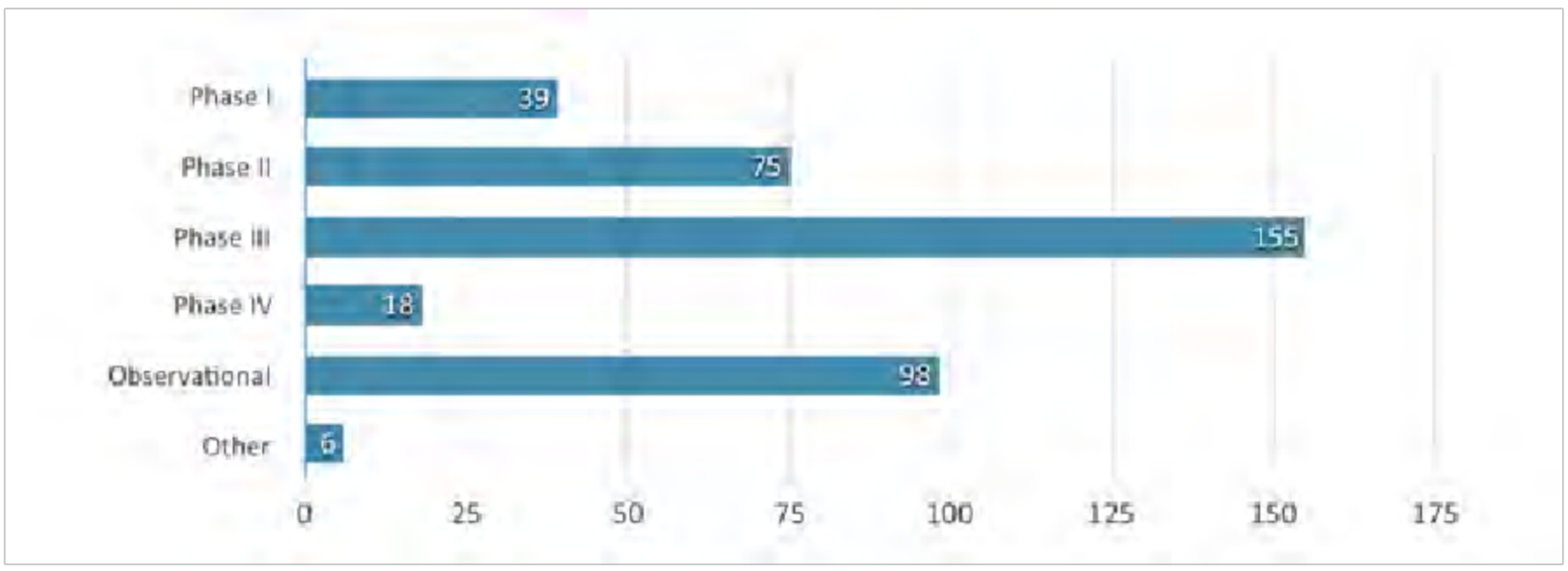


5.2.3. Ongoing studies

During 2017, there have been 391 active studies. The distribution of clinical trials per department analyzed below uses a semilogarithmic scale due to the major difference between the Department of Medical Oncology and the rest of the Departments.



The distribution of ongoing trials and other studies according to typology is as follows:







6

Initiatives for research promotion

6.1. VLC - Bioclinic research grants

The main aim of VLC-Bioclinic program is to promote the cooperation in research, technological development and innovation in health, in order to generate synergies and partnerships among researchers and professionals and strengthen translational research with innovative results that benefit patients.

Being aware that the processes of innovation and knowledge transfer require multidisciplinary collaboration among professionals from various fields, both the University of Valencia which is interested in establishing concrete partnerships with hospital foundations which are related to the area of specialization in health and INCLIVA, whose general objective is to promote, encourage, favour and implement the scientific and technical research, launched together in 2015 the VLC-Bioclinic Program.

After the excellent reception of this initiative, these are the projects active in 2017.

VLC- BIOCLINIC Subprogram A

Title: *Úlceras por compresión: optimización de un modelo animal para entender los mecanismos básicos y explorar nuevas oportunidades de prevención*
Principal Investigator: Amparo Ruiz Saurí, Iván Julián Rochina
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017
Total Budget: 4.000€

Title: *Estudio de compuestos de rutenio (III) basados en nucleobases como potenciales agentes antitumorales*
Principal Investigator: Gloria Ribas Despuig, Francisco José Martínez Lillo
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017
Total Budget: 4.000€

Title: *Diagnóstico y tratamiento de la calidad de vida de los profesionales de cuidados intensivos y paliativos: eficacia de intervenciones basadas en Mindfulness*
Principal Investigator: María Luisa Blasco Cortés, Laura Galiana Llinares
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017
Total Budget: 2.500€

Title: *Sistema de monitorización y ajuste de presión para ventilación no invasiva basado en IoT*
Principal Investigator: Francisco Javier Belda Nácher, Rosa María Cibrián Ortiz de Anda
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017
Total Budget: 4.000€

Title: *Evaluación del efecto del imiquimod en la proliferación y diferenciación de células procedentes de la médula ósea de pacientes con síndrome mielodisplásico o leucemia mieloide aguda*
Principal Investigator: Eva Villamón Ribate, María Luisa Gil Herrero
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017
Total Budget: 4.000€

Title: *Eriptosis como nuevo biomarcador de prognosis de enfermedad cardiovascular en sujetos hipercolesterolémicos*
Principal Investigator: Sergio Martínez Hervás, Antonio Cilla Tatay
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017
Total Budget: 4.000€

Title: *Diagnóstico y estratificación de pacientes de lupus eritematoso sistémico mediante espectrometría de masas dirigida a la detección de histonas circulantes*

Principal Investigator: Mª José Forner Giner, Carlos Romá Mateo
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017
Total Budget: 4.000€

Title: *Nuevas terapias dirigidas a la eliminación selectiva de células senescentes en el tratamiento de la disfunción vascular asociada al envejecimiento*
Principal Investigator: Pascual Medina Besso, Ana Costero Nieto
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017
Total Budget: 4.000€

Title: *Aplicación de la termografía infrarroja en pediatría*
Principal Investigator: Francisco Núñez Gómez, M. Rosario Salvador Palmer
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017
Total Budget: 4.000€

Title: *Diseño y prueba de concepto de una cinta rodante con tecnología inmersiva para valorar y reeducar la marcha en pacientes con secuelas de ictus*
Principal Investigator: Alejandro Ponz de Tienda, Mª Arántzazu Ruescas Nicolau
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017
Total Budget: 4.000€

Title: *Análisis proteómico de biopsias líquidas para personalizar las terapias dirigidas contra el adenocarcinoma pulmonar*
Principal Investigator: Amelia Insa Mollá, Julián Carretero Asunción
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017
Total Budget: 4.000€

Title: *Estudio de la viabilidad de técnicas de aprendizaje automático para discernir la presencia de endometriosis sin necesidad de cirugía* (ENDOMetriosis assessed by Machine Learning)
Principal Investigator: Raúl Gómez Gallego, José David Martín Guerrero
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017
Total Budget: 4.000€

Title: *Secuencialidad de la contracción muscular: importancia en la detección precoz de disfunciones lumbopélvicas, cervicales y de la cintura escapular*
Principal Investigator: Antonio Silvestre Muñoz, Josep Carles Benítez Martínez
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017
Total Budget: 4.000€

Title: *Diagnóstico y seguimiento del pie diabético mediante termografía infrarroja*
Principal Investigator: Carmen Blasco Molla, Rosa María Cibrián Ortiz de Anda
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017
Total Budget: 4.000€

Title: *Estudio de la respuesta inmune circulante frente a antígenos de diferenciación melanocitaria y su correlación con el estadio clínico en pacientes con melanoma cutáneo*
Principal Investigator: José María Martín Hernández, Carlos Monteagudo Castro

Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017
Total Budget: 4.000€

Title: *Efectos cognitivos de la cirugía cardiovascular mediante circulación extracorpórea (CEC)*
Principal Investigator: José Ángel Bahamonde Romano, Raúl Espert Tortajada
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017
Total Budget: 4.000€

Title: *Implicación de la familia de proteínas MBNL en cáncer de mama HER2+ y su posible relación con la respuesta/resistencia al tratamiento con trastuzumab*
Principal Investigator: Pilar Eroles Asensio, Rubén Artero Allepuz
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017
Total Budget: 4.000€

Title: *Análisis de datos avanzado como ayuda a la decisión en clínica*
Principal Investigator: María Téllez Plaza, Joan Vila Francés
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017
Total Budget: 4.000€

VLC- BIOCLINIC Subprogram B

Title: *Localización por computador de focos ectópicos en el tracto de salida del ventrículo derecho a partir de mapas electroanatómicos*
Principal Investigator: Francisco Javier Chorro Gascó, Miguel Lozano Ibáñez
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017
Total Budget: 8.500€

Title: *Desarrollo de un kit multiplex para la detección simultánea de biomarcadores para el diagnóstico y pronóstico de la sepsis y el shock séptico. Implementación de la patente europea*
Principal Investigator: Federico Pallardó Calatayud, Nieves Carbonell Monleón
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017
Total Budget: 8.500€

Title: *Detección en biopsia líquida del efecto de las fuerzas mecánicas en el cáncer a través de mutaciones implicadas en remodelación del citoesqueleto*
Principal Investigator: Rosa Noguera Salvá, Andrés Cervantes Ruipérez
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017
Total Budget: 9.500€

Title: *Diagnóstico precoz de la sepsis neonatal mediante la monitorización de la variabilidad cardiaca*
Principal Investigator: Empar Lurbe Ferrer, Javier Calpe Maravilla
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017
Total Budget: 9.500€

Title: *Desarrollo de péptidos bloqueadores de la toxicidad de expansiones CUG responsables de Distrofia Miótonica*
Principal Investigator: Rubén Artero Allepuz, Enrique García-España Monsonís

Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2017
Total Budget: 9.500€

Title: *Análisis de los perfiles de expresión de miRNAs utilizando mapas auto-organizados para el pronóstico de pacientes con déficit de alfa-1 tripsina*
Principal Investigator: Francisco Dasí, Marcelino Martínez
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017
Total Budget: 9.000€

Title: *Desarrollo de una herramienta para el diagnóstico temprano, monitorización y seguimiento por imagen cerebral, del deterioro cognitivo leve (encefalopatía hepática mínima) en pacientes cirróticos*
Principal Investigator: Carmina Montoliu, Jesús Malo
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017
Total Budget: 9.000€

Title: *Validación del estudio traslacional de un ensayo plasmónico de espermina en orina como biomarcador de cáncer colorrectal*
Principal Investigator: Guillermo Sáez, Julia Pérez
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017
Total Budget: 9.000€

Title: *Nueva diana farmacológica en la prevención del riesgo cardiometabólico*
Principal Investigator: José Tomás Real, Pilar D'Ocón
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017
Total Budget: 6.000€

Title: *Heterogeneidad clonal en cáncer: Biopsia líquida como tecnología de alto rendimiento*
Principal Investigator: Andrés Cervantes, Rosa Noguera
Funding Body: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Beneficiary Institution: *Fundación Investigación Hospital Clínico Universitario de Valencia*
Duration: 2016-2017
Total Budget: 6.000€

6.2 Grants for secondments in centers of excellence

To allow researchers to acquire new knowledge for clinical and research techniques, INCLIVA promotes every year it's Grants for research secondments in centers of excellence.

Since the establishment of this scholarship program, over 100 professionals have visited national and foreign centers. In 2017 the average number of awards was 13, 12 of them to international centers and 1 to national ones.

The awarded researchers and the assigned training centers in 2017 are shown in the following table:

Capilla Guasch, Pau
ICNE Sao Paulo, Brasil
Cassinello Fernández, Norberto
Azienda Ospedaliero Universitaria Pisana, Italia
Domínguez Navarro, Fernando
Cochrane Back and Neck Review Group, Canadá
Garcés Albir, Marina
Azienda Ospedaliero Universitaria Pisana, Italia
Gil Badenes, Joaquín
Massachusetts General Hospital, Estados Unidos
Gomes Marques, Patrice
Institute of Metabolic Science, Reino Unido

Herrero Cervera, Andrea
Whitaker Cardiovascular Institute, Estados Unidos
Llorca Cardenosa, Marta Jessica
The Institute of Cancer Research, Reino Unido
Martí Aguado, David
Hospital Clínic de Barcelona, España
Pellín Carcelén, Antonio
Institute of Biology, Medical Chemistry, Grecia
Placencia Morán, Paula
Instituto de Psicoanálisis Multifamiliar, Argentina
Téllez Plaza, María
Mailman School of Public Health, Estados Unidos
Zolfaroli, Irene
Azienda Ospedalierouniversitaria Careggi, Italia

6.3 Training and Teaching Activities

INCLIVA and its researchers play an important role in the training of researchers and of health sciences degree and master students, which come from of Valencian universities and other national and international regions.

The number of internal secondments in 2017 was 6 which represent an aggregate of 19 months of training during the period. A total of 15 stays outside of INCLIVA were carried out by researchers.

The Institute has kept on developing, along the year, its annual training program. The courses, seminars and educational conferences that have been developed during the year 2017 are the following:

Courses (16)

- *Curso "Fuentes y recursos de información" 2017*
- *III Workshop Internacional de Ecografía y Resonancia Anorrectal*
- *Fundamental Critical Care Support Course - Marzo 2017*
- *Curso "Comunicación de los resultados de investigación 2017"*
- *Curso "Cómo estructurar y presentar un proyecto de investigación clínica"*
- *Curso de Bioestadística I: Análisis exploratorio de datos (2017)*
- *Curso de bioestadística II: Comparación de grupos (2017)*
- *Curso de bioestadística III: Análisis estadístico de Ensayos Clínicos (2017)*
- *Curso de anatomía quirúrgica aplicada hepato-bilio-pancreática. 6ª edición*
- *Curso de Buenas Prácticas Clínicas para investigadores. 2ª edición*
- *Curso-taller de Ecocardiografía y Ecografía pulmonar aplicada al postoperado de c. cardíaca con simulación*
- *Curso de patología infecciosa 2017*
- *III Curso avanzado de educación diabetológica*
- *IX Curso de Ventilación Mecánica Pediátrica (Asistencia inicial y transporte)*
- *11TH Hands-on Course on Neurosurgical Approaches: endoscopy and microsurgery in the ventricular system and skull base*

INCLIVA Seminars (3)

- *Seminario INCLIVA - Dr. Mika Ala-Korpela.*
- *Seminario INCLIVA - José Jalife, M.D.*
- *Seminario INCLIVA - Prof. Antonio Ferrer-Montiel.*

Workshops (21)

- *I Jornada "Alianza en investigación traslacional en enfermedades raras de la Comunitat Valenciana"*
- *I Jornada científica de Residentes del Hospital Clínico Universitario de Valencia*
- *I Jornada Valenciana del Pie Zambo*
- *I Jornada del Comité de tumores y malformaciones vasculares HCUV*
- *Jornada "La investigación sanitaria con perspectiva de género"*
- *Jornada de investigación en Anestesiología y Cuidados Intensivos: Investigación en Sepsis*
- *II Jornada de investigación en prediabetes, diabetes y enfermedad cardiovascular*
- *Jornada Neumología Infantil y Pediatría de Atención Primaria: Obligadas a entenderse*
- *6ª Jornada de Actualización en Vacunas Hospital Malvarrosa*
- *Jornada de cooperación en innovación REDIT – INCLIVA*
- *II Jornada INCLIVA sobre Insuficiencia Cardiaca: "El paciente con diabetes"*

- *9ª Jornada Valenciana "Tabaquismo y Respiración": Tabaquismo y apnea del sueño*
- *Jornada "¿Qué sabemos de las enfermedades autoinflamatorias?"*
- *Jornada de Investigación en Enfermedades Raras: Ciliopatías*
- *Celebración de 30 años de actividad en Trasplante de Médula Ósea en el Hospital Clínico Universitario de Valencia*
- *I Jornada Investigación e Innovación Enfermera*
- *I Jornada de Enfermería Nefro-Vascular*
- *Jornada Interhospitalaria: Técnicas de imagen en la evaluación del paciente candidato a TAVI*
- *IV Jornada de formación para familiares - Fibrosis Quística*
- *Jornadas sobre el tratamiento quirúrgico de las metástasis peritoneales*
- *Thyroidectomies for Benign Cases: Live Surgery Workshop*
- *IV Workshop Cirugía laparoscópica colorrectal avanzada*

Conferences (2)

- *Seminario David García y Ana Ramos: "Exploración neurológica"*
- *Seminario Marcia Regina Cominetti*

Other activities in which INCLIVA participates (4)

- *Jornadas específicas de formación de Espondilioartritis para médicos de Atención Primaria*
- *Curso de bienvenida de residentes 2017*
- *Reunión anual de la sección de cardiología geriátrica*
- *Toma de decisiones en el ámbito de las enfermedades crónicas. El caso de la diabetes*





7

Highlights

JANUARY

INCLIVA joins the European Big Data Value Association in the field of biomedical research.

FEBRUARY

INCLIVA welcomed a visit from several University of Valencia participants in the fifth Biomedical Research Conference.

Gene key in developing resistance to HER2-positve breast cancer treatment identified for the first time - CCNE2 protein is identified as involved in resistance to HER2-positive breast cancer treatment.

MARCH

Álvaro Bonet and Ana Lluch received the R&D in Oncology award from representatives of the Best in Class awards.

APRIL

INCLIVA is the first health research foundation to obtain the seal of quality "Doing Business. Equal Opportunities" granted by the Vice Presidency and Ministry of Equality and Inclusive Policies of the *Generalitat Valenciana.*

MAY

The INCLIVA board renews its management, appointing Andrés Cervantes as new Director General and Vicente de Juan as Economic Director.

JUNE

Genetics also influences bone quality - two micro-RNAs alert to the risk of osteoporosis and bone fracture. These are the conclusions of collaborative research with other Spanish centers recently published in Scientific Reports.

JULY

INCLIVA coordinates the Spanish arm of a European project to improve treatment for patients with heart problems - INCLIVA the only Spanish participant in the BigData@Heart project.

AGOST

INCLIVA researchers develop *HistShock*, a diagnostic/prognostic kit for septic shock to reduce the over 5 million deaths per year from sepsis.

SEPTEMBER

Researchers from INCLIVA and the University of Valencia show the capacity for change of the structure and connectivity of interneurons in the adult brain, the communication bridge between neurons.

The Anesthesia Research Group obtains the ISO 9001: 2015 Standard accreditation.

OCTOBER

A new prosthetic implant is designed that stands out for safer implantation in collaboration with *Universidad Politécnica de Valencia.*

NOVEMBER

Mechanism identified that activates the hedgehog pathway involved in rhabdomyosarcoma, a type of childhood cancer - Experimental animal models showed that in cells without ligands, tumors could not grow or had limited growth.

DECEMBER

Ana Lluch and Carlos Simón join INCLIVA's Board.







8

INCLIVA social initiatives

INCLIVA's mission is "to contribute to improve citizen health and quality of life"; therefore, in addition to our own research projects, the institute is also involved in and committed to initiatives promoted by individuals close to someone ill.

INCLIVA is currently working on four joint initiatives: *Proyecto Mama*, *Proyecto Paula*, *Fundacion Le Cadó* and *Nico contra el Cancer*. One of the fundamental premises of the institute is maximum transparency in donations management.

These donations provide tax benefits under Article 66 of the Law 30/1994 of 24 November on Foundations and Tax Incentives for private participation in general interest activities.

8.1 Philanthropic Projects

PROYECTO PAULA

This project was set up in 2011 by Cristina Ponce, when her 8 year old daughter Paula was diagnosed with type 1 diabetes mellitus, a disease that completely destroyed her insulin-producing cells.

Proyecto Paula focuses on raising public and private funds and resources, to research diabetes and to find a cure for Paula and other people with this illness.

INCLIVA has several groups dedicated to research in diabetes and belongs to the Biomedical Research Centre in Diabetes and Associated Metabolic Diseases (CIBERDEM), a public consortium led by Spain's excellence in research in diabetes and related metabolic diseases, as well as the translation of research results into clinical practice.

PROYECTO MAMA / En tu seno

Proyecto Mama was started in September 2012 by Pedro Alarcon after the death of his mother from breast cancer. The purpose of this initiative is to raise public and private funds to investigate the disease.

Breast cancer is the most common tumor in women, appearing from around age 30, gradually increasing in impact, affecting up to 9% of the female population at 70 years of age.

FUNDACION LE CADO

Fundación Le Cado was created in 2010 under the leadership of its president Elvira Monferrer Daudi. This initiative seeks to unite efforts and resources in supporting this kind of tumor research, which is currently the fourth leading cause of death in women.

Fundación Le Cado collaborates with INCLIVA in funding the research project "Study of breast cancer in young women under 35 years," conducted by Dr. Gloria Ribas. It also involves other researchers such as Dr. Isabel Chirivella (a genetic diagnosis specialist physician) and Ms. Carmen Peña Chilet, the entire team led by the oncologist Dr. Ana Lluch.

NICO CONTRA EL CANCER

The movement "*Nico contra el cancer*" was formed in November 2015 in Ourense, after Nicolas Rodriguez Leal came home following a surgical intervention at the *Hospital La Paz* in Madrid.

The movement is led by his mother and aunts as an activity under the umbrella of the *Asociación NEN*, whose main objective is to finance research projects on childhood cancer, and more specifically solid tumors.



FUNDACION NEUROBLASTOMA

The Neuroblastoma Foundation, created in 2017, funds research on neuroblastoma, a particularly aggressive type of childhood cancer that affects the nervous system. Survival figures have not improved in recent years. The Neuroblastoma foundation informs families about existing treatments, and brings together families of sick children, motivating them to raise funds for research through numerous campaigns. The funds are destined to research projects and clinical trials in Spanish laboratories and hospitals.

8.2 Social initiatives news

INCLIVA's first project in Precipita, a funding record

The project *Improving childhood tumor diagnosis by bioimaging* by the researcher Rosa Noguera was the first INCLIVA project to be presented in the Precipita Network, the public micropatronage platform under the Ministry of Economy and Competitiveness.

Led by Dr. Noguera, the INCLIVA and *Universitat de Valencia* Research Group is specialized in oncopediatrics and specifically in the study of morphological and genetic techniques of the causes, development and new therapies of childhood bone tumors and soft tissues.

The project focuses on studying and relating forms, sizes, locations and connections between tumor cells and cells incorporated into the tumor mass, as well as the textures of intercellular elements in microscopic images reconstructed in 3D. These are accessible to all researchers via a website, expanding the global network of collaborative research in pediatric cancer.

The project met its goal of reaching 25,000€ in ninety days and finally surpassed it, reaching 32,950€, thus placing it among the projects to receive the most funding. According to Dr. Noguera, "any donation, even the smallest, is appreciated and we are very excited about the support shown. We have far exceeded our expectations. It is great that society is involved in supporting research because in the end we all benefit."

The contributions received will be used to hire two researchers in digital pathology, to enhance microscopic tumor image analysis and test the design of prototype patterns of different neuroblast tumor tissues at risk of relapse or showing poor response to therapy. These will be included in a website accessible to other researchers.

The INCLIVA management team and Dr. Noguera's Research Group want to thank the Precipita platform for their collaboration in promoting the project, as well as all those who have made a contribution to the project, in particular the port stevedores of SEVASA-puerto de Valencia for donating their Christmas basket, the company ALSA for its voluntary donations campaign from its website and the company Surus Inversa and its auctions platform Escrapalia.

8.3 Private philanthropic donations and acknowledgments

On behalf of INCLIVA, we want to thank all the people who have helped our research through their donations, for their support and solidarity. For us, this collaboration means much more than an economic contribution: it is the encouragement we need to keep investigating and working in research.

Private donations

María Dolores Almendros Catalá, Esteban Borreda Bolinches, Rafael Pascual Caballer Molina, Guillermo Caballero De Luján, Nicolás Carrión Domínguez, Joaquín Casado Catalina, Antonio Cerdán Muñoz, María Luisa Ebri Méndez, Natalia Font Ferrando, Claudia Galán Gras, Nuria Gelonch Soler, Olga María Herrero Chamorro, Alicia Martínez Espinosa, Fernando Rodríguez Miguélez, Rosalia Sánchez Rilla, Ana Sanz Moliner, Antonia Serrano Monedero, María Inmaculada Serrano Monedero.

Corporative donations

Abbott Laboratories S.A., Abbvie Spain S.L.U., Actelion Pharmaceutical España S.L., Asociació Familiars i Amics Pacients amb Neuroblastoma, Asociación La Virgen de los Dolores, Ayuntamiento de Puzol, Boston Scientific S.A., Canals Contra el Cáncer, Club D´Atletisme Meliana, Daiichi-Sankyo España S.A., Dextromedica S.L., Doctaforum Servicios, Fresenius Kabi España S.A., Fundación Bancaria Caixa D'Estalvis i Pensions de Barcelona, Fundación Española de Hematología y Hemoterapia, Fundación Lecadó, Fundación Neuroblastoma, Fundación Patrimonio Benéfico Marqués de Dos Aguas, Gaspunt S.A., GE Healthcare Biosciences S.A., Gestión de Bienes y Servicios S.L., Grupo Gasmedi S.L.U., Junta Asociada Provincial de Valencia de la Asociación Española Contra el Cáncer, Junta Local Contra el Cáncer de Llosa de Ranes, Junta Local Contra el Cáncer Montesa, Laboratorios Gebro Pharma S.A., Laboratorios VIIV Healthcare S.L., Logimed S.L.U., Merck S.L., Nestlé España S.A., OPC Congress S.L., Otsuka Pharmaceutical S.A., Pfizer Gep S.L.U., Prosmédica Valencia S.L., Radiometer Ibérica S.L., Roche Farma S.A., Sanlúcar Fruit S.L., Sociedad Amigos Internacionales de Pedralba, Sociedad Española de Arteriosclerosis, Sociedad Española Interdisciplinaria del Sida, Sofpromed Investigación Clínica S.L.U., SQR Medical Resources S.L.U., Sumedex S.A., Swedish Orphan Biovitrum S.L., Variocana Asociación Interna de Reiki y Terapias Alternativas, Vifor Fresenius Medical Care Renal Pharma España S.L.U., Vitro S.A., W.L. Gore y Asociados S.L.

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