



2020

**Annual Report**

Institut de Recerca  
Biomèdica de Lleida

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## Presentation

Since January 2020, I have the honor of directing IRBLleida. It is with great enthusiasm that I took on the challenge of improving the excellent research and innovation that is carried out at IRBLleida. I would like to thank Elvira Fernández Giráldez, Reyes Grases Reus and Manuel Sánchez de la Torre, for their hard work directing the Institute during the past years. The results of their dedication are clearly shown in this scientific report. I would also like to thank the members of the different Committees and Commissions that have contributed to the growth of the institute with their effort and generosity.

It is a pleasure to present in this report the scientific contributions and outstanding activities of all the people working at IRBLleida. The year 2020, with the COVID-19 pandemic, has provided a novel view, a new perspective of the future of biomedical research based on the profound self-confidence in the capacity of the research community to overcome major health threats for the population. In this regard, the scientists at IRBLleida have made significant contributions, participating in many research projects, six clinical trials and two observational studies aimed at better understanding COVID-19 and improving the therapeutic options available for this devastating pandemic.

During this difficult year, the number of publications and their quality has been maintained, with a total of 283 articles published in 2020 and 60% of them in the first quartile of their field of research, reflecting the efforts of our researchers to reach higher quality objectives every year. Meanwhile, our budget raised to reach 5,3 M €, confirming the economical robustness of the Institute against the uncertainty caused by the unique pandemic situation faced. Maintaining a balanced budget over time has been made possible through the sustained support of our Board of Trustees, the capacity of the 36 research groups at IRBLleida to obtain competitive funding and the generosity of the local society making significant donations for biomedical research.

**Our proposal for the future is to support the growth of the Institute, always aiming for the highest standards of excellence, by generating results that can eventually be translated into improvements in the health of the population. This will require renewed efforts on the promotion of the internationalisation of our research and the translation of the results to the productive sector, two aspects that will help us consolidate as a translational research institute with international recognition. We are ready to face the new challenges of 2021, hopefully slowly returning to the normal activity of the Institute after the COVID-19 pandemic and the exceptional funding opportunities that are to come from the local, national and EU administrations.**



**Diego Arango del Coro**  
IRBLleida Director

## Main achievements



**333**

Researchers



**389**

Total staff



**39**

Principal researchers



**283**

Scientific publications



**1.395**

Total IF



**4,93**

Medium FI



**60%**

Scientific production Q1



**38**

New competitive projects



**64**

Observational studies active  
(14 new in 2020)



**134**

Active clinical trials  
(34 new in 2020)



**5,3M**

Budget



**135**

Companies and entities collaborators



# Care and teaching framework

## Care and teaching framework

**IRBLleida acts as a cluster of all biomedical research carried out in Lleida and is associated to two institutions that conduct health research and implement innovation policies:**

- The University of Lleida (UDL) includes researchers from the Faculties of Medicine and Nursing and Physiotherapy.
- The Department of Health, which includes research professionals at:
  - Catalan Health Institute (ICS): Arnau de Vilanova University Hospital (HUAV), the Lleida Primary Care and Community and the Alt Pirineu-Aran Primary Care.
  - Gestió de Serveis Sanitaris (GSS): Santa Maria University Hospital (HUSM), Pallars Regional Hospital and Mental Health, and others.

It also interacts with the Lleida Agri-Food Science and Technology Park and Agrotecnio, the centre for research in agrotechnology at the School of Agrifood and Forestry Science and Engineering (ETSEA) of the Universitat de Lleida. The Lleida Health Region includes the counties of Les Garrigues, La Noguera, Pla d'Urgell, La Segarra, El Segrià and L'Urgell. The provision of health, educational, cultural, commercial and professional services to people living in other municipalities in the district of Lleida, and in part of the western fringe, the Pyrenees and even the Terres de l'Ebre, make Lleida a centre of attraction that goes beyond the district itself (with 370,000 inhabitants) to cover the needs of its 370,000 inhabitants. In terms of teaching, the IRBLleida receives support from the Health Sciences area of the University of Lleida with the degrees of Medicine, Nursing and Physiotherapy, and Human Nutrition and Dietetics. UdL lecturers and IRBLleida researchers also participate in the teaching of the Biotechnology degree. Since September 2009,

the Bachelor's Degree in Biomedicine has been taught in coordination with the University of Marburg, a pioneer in this degree in the world. The IRBLleida has a large animal facility located in Torrelameu, equipped with state-of-the-art experimental operating theatres, with the main objective of training surgeons, and facilities to carry out research activity in the porcine model.

## Healthcare activity in data

With regard to the Arnau de Vilanova University Hospital (HUAV), the available data show 250,637 outpatient consultations, of which 64,522 are first visits and 186,115 are subsequent visits. With regard to telemedicine visits, 93,264 were carried out and 36,424 day hospital sessions were held. There were 72,720 emergency visits during 2020.

It is a hospital with 438 stable beds (380 conventional beds, 42 adult critical beds, 8 adult semi-critical beds and 8 neonatal ICU beds). During peak periods, the centre also has 38 temporary conventional hospitalisation beds. The staff is made up of 2,219 professionals at the HUAV (including the MIRs) and 1,457 professionals at the Primary Care level.

The HUAV has been accredited for MIR teaching since 1984.

With regard to the Santa Maria University Hospital (HUSM), in 2020 there were 107,306 outpatient visits, of which 36,195 are first visits and 71,111 are subsequent visits. There were also 2,329 hospital discharges, 35,369 telemedicine visits, 5,081 day hospital sessions and 115,506 rehabilitation sessions. With regard to mental health and addiction care, 1,096 admissions and 935 admissions to the social and healthcare area were made.

The hospital has 97 beds available for specialised care (93 beds for conventional hospitalisation and 5 critical beds), 30 beds for social and health care and 54 beds for mental health care. The staff is made up of 1,147 professionals at the HUSM.

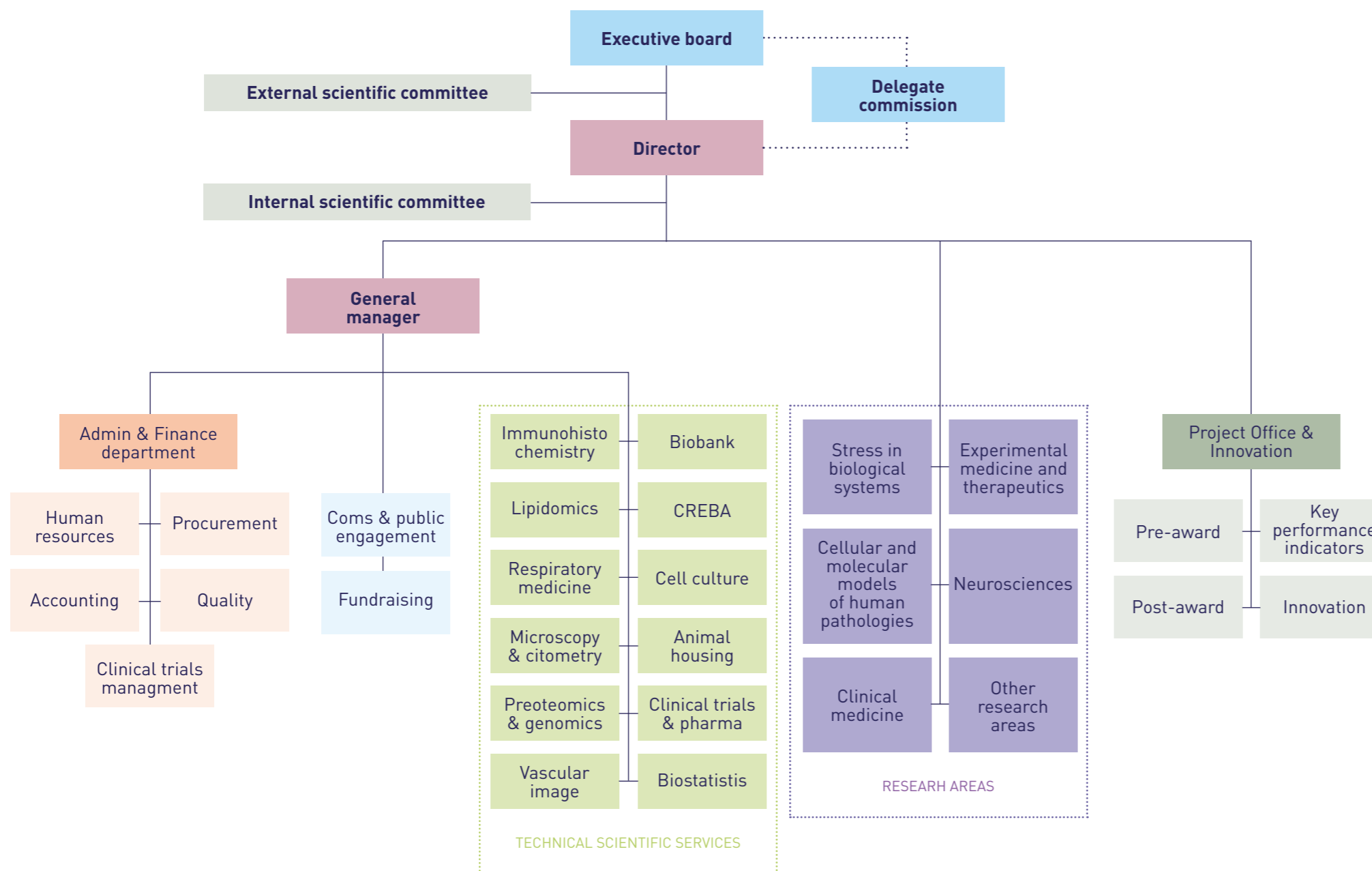




# 1. Organization

IRBLleida, in accordance with its statutes, is structured into the following bodies:

- **Governing:** the executive board and the delegate commission.
- **Consultative:** the internal scientific committee, the external scientific committee and the research council.
- **Direction and management:** the scientific director and the manager.



## SCIENTIFIC DIRECTION

**Director**  
Dr. Diego Arango

**Deputy director**  
Dr. Manuel Sánchez de la Torre

## IRBLLEIDA MANAGEMENT OFFICE

**Management**  
Ms. Reyes Grases

**Secretary**  
Ms. Naiara Vilaginés

**Human resources, financial and clinical trials**  
Ms. Eva López  
Ms. Noelia Pérez  
Ms. Elena Moscatel  
Ms. Sílvia Aresté  
Ms. Anna Fernández

**Reception and concierge**  
Mr. Fernando Tortras  
Ms. Georgina Tortras

**Business development (project promotion and management, scientific production, valorisation and transfer)**  
Ms. Irene Rosell  
Dr. Núria Bahi  
Dr. Serafí Cambray  
Ms. Judith Muñoz

**Fundraising**  
Mr. Josep M. Bosch

**Communication and public engagement**  
Ms. Meritxell Soria



# 1. Organization

The governance, representation and senior management of IRBLleida will correspond to the Executive Board, which has all the necessary powers to achieve its foundational aims. Its composition in 2020 was as follows:

## President

**Hon. Ms. Alba Vergés i Bosch**

*Health Minister of the Generalitat of Catalonia*

## First Vice-President

**Hon. Ms. Maria Àngels Chacón i Feixas**

*Enterprise and Knowledge Minister of the Generalitat of Catalonia*

**Hon. Mr. Ramon Tremosa i Balcells**

*Enterprise and Knowledge Minister of the Generalitat of Catalonia*

## Second Vice-President

**Dr. Jaume Puy Llorens**

*Rector of the University of Lleida*

**Dr. Francesc Xavier Grau Vidal**

*Secretary for Universities and Research of the Department of Business and Knowledge of the Generalitat de Catalunya*

## Member

**Dr. Robert Fabregat Fuentes**

*Director General for Health Research and Innovation of the Ministry of Health of the Catalan Government*

**Ms. Montserrat Llavayol Giralt**

*Deputy Director General for Health Research and Innovation of the Ministry of Health of the Government of Catalonia*

**Mr. Joan Talarn i Gilabert**

*President of the Diputació de Lleida*

**Dr. Joan Gómez Pallarès**

*Director General of Research of the Department of Enterprise and Knowledge of the Generalitat de Catalunya*

**Ms. Divina Farreny Justribó**

*Manager of the Lleida Health Region and the Alt Pirineu and Aran Region*

**Dr. Francesc Xavier Grau Vidal**

*Secretary for Universities and Research of the Department of Business and Knowledge of the Generalitat de Catalunya*

**Dr. Lluís Rovira Pato**

*Director of the Institució CERCA*

**Ms. Iolanda Font de Rubinat**

*Deputy Director General for Research of the Department of Enterprise and Knowledge of the Generalitat of Catalonia*

**Mr. Ramon Saladrígues Solé**

*Manager of the University of Lleida*

**Dr. Joaquim Ros Salvador**

*Vice-rector of Research at the University of Lleida / Professor at the Faculty of Medicine of the University of Lleida*

**Dr. Albert Sorribas Tello**

*Professor at the Faculty of Medicine of the University of Lleida*

**Dr. Ramon Sentís Berges,**

*Territorial manager of the Catalan Institute of Health in Lleida*

**Dr. Núria Nadal Braqué**

*Director of Primary Health Care of the Catalan Health Institute in Lleida*

**Dr. Pilar Vaqué Castilla**

*Director of Primary Health Care of the Catalan Health Institute in Lleida*

**Dr. Ferran Barbé Illa**

*Head of the Pneumology Department at the Arnau de Vilanova University Hospital in Lleida*

**Last meeting: 10/12/2020**

## 2. Delegate commission

**Dr. Robert Fabregat Fuentes**

*Director General for Health Research and Innovation of the Ministry of Health of the Catalan Government*

**Dr. Joan Gómez Pallarès**

*Director General of Research of the Department of Enterprise and Knowledge of the Generalitat de Catalunya*

**Dr. Lluís Rovira Pato**

*Director of the Institució CERCA*

**Mr. Ramon Saladrigues Solé**

*Manager of the University of Lleida*

**Dr. Joaquim Ros Salvador**

*Vice-rector of Research at the University of Lleida / Professor at the Faculty of Medicine of the University of Lleida*

**Dr. Ramon Sentís Berges**

*Territorial manager of the Catalan Institute of Health in Lleida*

Last meeting: 20/11/2020



### 3. Internal scientific committee

The Internal Scientific Committee is the IRBLleida's advisory body for its strategic and operational lines. It also supports the evaluation of the IRBLleida's different calls for proposals and the evaluation of projects. Its composition in 2020 was as follows:

#### President

**Dr. Diego Arango del Corro**  
*Scientific director*

#### Member

**Dr. Ferran Barbé Illa**  
*Head of group, translational research in respiratory medicine group*

**Dr. Montserrat Gea Sánchez**  
*Head of group, research group of health care (GRECS)*

**Dr. Esther Rubinat,**  
*Principal investigator, Research group of health care (GRECS)*

**Dr. Loreta Medina Hernández**  
*Head of group, evolutionary developmental neurobiology*

**Dr. Josep Montserrat Capdevila**  
*Primary care representative*

**Dr. Josep Pifarré Paredero**  
*Medical director of the department of mental health, Gestió de Serveis Sanitaris*

**Dr. José Manuel Porcel Pérez**  
*Head of group, cancer biomarkers (GReBiC)*

**Dr. Manel Portero Otín**  
*Principal investigator metabolic physiopathology*

**Dr. Francesc Purroy García**  
*Head of group, clinical neurosciences group*

**Dr. Joaquim Ros Salvador**  
*Head of group, oxidative stress biochemistry*

**Dr. Montse Rué Monné**  
*Head of group, systems biology and statistical methods for biomedical research*

**Dr. Joan Antoni Schoenenberger Arnaiz**  
*Chairman of the committee of ethics and clinical research (CEIC) of the Arnau de Vilanova University Hospital in Lleida*

**Dr. Eduard Solé Mir**  
*Chairman of the committee of ethics and clinical research (CEIC) of the Arnau de Vilanova University Hospital in Lleida*

**Dr. Alfons Segarra Medrano,**  
*Principal investigator, vascular and renal translational research group*

**Dr. Albert Sorribas Tello**  
*Head of group, systems biology and statistical methods for biomedical research*

**Dr. Jordi Torres Rosell**  
*Head of group, cell cycle group*

**Dr. Jorge Juan Olsina**  
*CREBA director*

**Ms. Eva López**  
*Quality manager*

**Dr. Serafí Cambray**  
*Head of innovation*

**Dr. José Manuel Valdivielso Revilla**  
*Training manager*

**Last meeting: 09/11/2020**

## 4. External scientific committee

**The Executive Board appoints an External Scientific Committee and its president, at the proposal of the Delegate Committee. The External Scientific Committee, made up of various members of recognised experience, acts as an advisory body to the Board of Trustees in the tasks entrusted to it and must meet at least once a year. The members of the External Scientific Committee must be appointed by the Board of Trustees for a term of five years, which may be extended indefinitely for equal periods of time.**

The functions of the External Scientific Committee are:

- To ensure the scientific quality of the Institute.
- To advise the scientific director, who must be the secretary in the performance of his or her duties.
- To report to the Executive Board on the general progress of the Institute in relation to the suitability of the strategic lines, the quality of scientific production and strategic vision.
- To report on the Institute's scientific and economic report.

The members who took part in 2020 are:

**Dr. Ángeles Almeida Parra**

*Doctor of Pharmacy. Scientific assistant director of the Biomedical Research Institute of Salamanca (IBSAL). Head of the Molecular Neurobiology Group in the IBSAL and the Institute of Biology and Functional Genomics (IBFG). Associate Professor of the University of Salamanca*

**Dr. Ernest Arenas**

*Doctor in Neuroscience, Karolinska Institutet (KI), Department of Medical Biochemistry and Biophysics (MBB). Area of research on stem cells in the fight against Parkinson's Disease*

**Dr. Cristina Casals Carro**

*Professor at the Complutense University of Madrid, Department of Biochemistry and Molecular Biology. Director of the Master's Degree in Biochemistry, Molecular Biology and Biomedicine at the Complutense University of Madrid*

**Dr. Antonio Guasch-Vallverdú**

*Nephrologist, Emory University Hospital. Research Area: hypertension, kidney transplant*

**Dr. Anna Lluch Hernández**

*Professor of Medicine at the Faculty of Medicine of the University of Valencia and Head of Hematology and Medical Oncology at the University Hospital of Valencia*

**Dr. Teresa Moreno Casbas**

*Senior Nurse. The Nursing Research Coordination and Development Unit (Investén-ISCIII), General Sub-Directorate of Networks and Cooperative Research Centres, ISCIII*

**Dr. Josep Rodés-Cabau**

*Cardiologist, Institute of Cardiology and Neurology of Quebec, Canada, Deputy Editor JACC*

**Dr. Carlos Rodríguez-Galindo**

*DANa / Farber / Boston Children's Cancer and Blood disorders Center. Director of the Global Health Initiative. Medical director of pediatric oncology clinical trials. Solid Tumors Programme Director*

**Dr. Mariano Rodríguez Portillo**

*Nephrologist, Professor of Nephrology, Queen Sofia Hospital (Córdoba), Coordinator of Teaching and Research at this centre, IP Maimonides Córdoba Biomedical Research Institute*

Last meeting: 03/12/2020

## 5. Research Council

**It is an advisory body to the Internal Scientific Committee chaired by the Institute's scientific director. The Research Council comprises the Heads of the Research Groups and the principal investigators (researchers with active projects funded by accredited external agencies) of IRBLleida.**



Last meeting: 28/01/2020

## 6. Clinical research ethics committee

The Ethics Committees on Research Ethics with Medicines (CEIm) are committees independent of the promoters of research projects and researchers whose purpose is to ensure the correction from a methodological, ethical and legal point of view of any research project that involves any physical or psychological risk to the human being (RD 1090/2015), ethical and legal point of view of any research project that involves any physical or psychological risk to human beings (RD 1090/2015, of 4 December, and Order of 24 October 2006).

The members who have taken part in 2020 are:

### President

**Dr. Eduard Solé Mir**  
*Paediatrician*

### Vice-president

**Dr. Xavier Gómez Arbonés**  
*Physician*

### Secretariat

**Ms. Núria Badia SanMartin**  
*Biologist*

### Members

**Dr. José Ramón Casas Iglesias**  
*Physician*

**Ms. Montse Salanilla Puértolas**  
*Alienates health professions*

**Dr. Joan Costa Pagès**  
*Physician, clinical pharmacologist*

**Ms. Lourdes Echevarria Cortada**  
*Representative of the user attention unit*

**Ms. Concepció Fonayet**  
*Grau graduate in nursing*

**Ms. Assumpta Fortuny Capafons**  
*Patients representative*

**Dr. Xavier Galindo Ortego**  
*ENT physician*

**Mr. Leonardo Galván Santiago**  
*Primary care pharmacist*

**Dr. Marta Ortega Bravo**  
*Primary care pharmacist*

**Dr. Eugeni Joan Paredes Costa**  
*Primary care pharmacist*

**Patients representative**  
**Dr. Manel Portero Otín**  
*Physician*

**Dr. Francesc Purroy García**  
*Neurologist*

**Ms. Esther Ribes Murillo**  
*Primary care pharmacist*

**Dr. Joan Antoni Schoenenberger Arnaiz**  
*Hospital pharmacist*

**Mr. Francesc Vergés Agustí**  
*Law graduate*

**Dr. Oriol Yuguero Torres**  
*Representative of the healthcare ethics committee*

**Mr. Raül Llevot Pérez**  
*Lawyer and expert with sufficient knowledge of data protection*

Last meeting: 09/11/2020

## 6. Clinical research ethics committee

Its area of influence is as follows:

### Health centres:

- CENTRE SOCIOSANITARI DE PUIGCERDÀ
- HOSPITAL UNIVERSITARI ARNAU DE VILANOVA DE LLEIDA
- HOSPITAL UNIVERSITARI DE SANTA MARIA CLÍNICA NOSTRA SENYORA DEL PERPETU SOCORS FUNDACIÓ SANT HOSPITAL
- HOSPITAL COMARCAL DEL PALLARS ESPITAU VAL D'ARAN
- HOSPITAL JAUME D'URGELL

### Primary Care centres:

- PUIGCERDÀ
- LES BORGES BLANQUES SANTA MARIA

### Research centres

- Lleida Biomedical Research Institute Fundació Dr. Pifarré Foundation (IRBLleida)
- IRBLleida Biobank

### Other centres

#### BALAGUER

- CAP Balaguer - Specialised care provided by GSS
- Day Centre
- Adult Mental Health Centre

#### CERVERA

- CAP Cervera - Specialised care provided by GSS
- Adult Mental Health Centre la Segarra

#### EL PONT DE SUERT

- CAP El Pont de Suert - Specialised care provided by GSS

#### LLEIDA

- Blood and Tissue Bank - HUAV
- CAP Balàfia - Pardinyes - Secà de Sant Pere - Specialised care provided by GSS
- Centre Mèdic & Podològic La Salut
- Hospital de Dia Miquel Martí i Pol
- Institut de Diagnòstic per la Imatge
- Residència Lleida-Balàfia I
- Residència Lleida Balàfia II
- Unitat de Diàlisi Sistemes Renals, SA
- University of Lleida



#### MOLLERUSSA

- CAP Mollerussa - Specialised care provided by GSS
- CAP Adult Mental Health

#### PONTS

- CAP Ponts - Specialised care provided by GSS

#### LA SEU D'URGELL

- Adult Mental Health Centre Fundació Sant Hospital

#### SORT

- Adult Mental Health Centre el Pallars Sobirà

#### TREMP

- CAP Adult Mental Health Tremp

#### TÀRREGA

- CAP Adult Mental Health Tàrrega
- CAP Tàrrega - Specialised care provided by GSS
- Mental Health Day Centre

## 7. Animal experimentation ethics committee

The Animal Experimentation Ethics Committee (CEEA) of the UdL was created with the aim of supporting researchers and teachers in their scientific and teaching work involving laboratory animal experimentation. Its function is to provide information on the performance of the procedures, prior assessment of the suitability of the procedure in relation to the objectives of the study, the possibility of obtaining valid conclusions with as few animals as possible and consideration of alternative methods.

The members who have taken part in 2020 are:

### President

**Dr. Joaquim Ros Salvador**

*Vice-Rector for Science and Technology Policy at the UdL. / Dr. Olga Martin Belloso, Vice-Rector for Science and Technology Policy at the UdL*

### Secretariat

**Dr. Carme Piñol Felis**

*SCT Animal Welfare Advisor - Rodent/Raptile Animal Facility - Departament de Medicina de la UdL*

### Members

**Dr. José A. Moreno Martínez**

*Animal Welfare Advisor ETSEA center - Department of Animal Science of the UdL*

**Dr. Daniel Babot Gaspà,**

*Researcher at the ETSEA of the Department of Animal Science of the UdL*

**Dr. Xavier Gómez Arbonés**

*Researcher in Medicine at the Department of Medicine of the UdL*

**Dr. Frederic Casals Martí,**

*Researcher at the ETSEA of the Department of Animal Science of the UdL*

Last meeting: 15/12/2020

CREBA's CEEA is the body in charge of overseeing the welfare of animals used in teaching and scientific tasks that involve experimentation in a porcine model.

The members who have taken part in the year 2020 are:

### President and secretariat

**Dr. Dolores C. García Olmo**

*Veterinarian in charge of Animal Welfare and Health at CREBA*

### Vice-president

**Dr. Serafi Cambray Carner**

*Projects and Innovation manager at IRBLLeida and associate professor at the University of Lleida*

### Members

**Dr. Carme Mias Carballal**

*CREBA surgical coordinator, general surgeon at the Hospital Universitari Arnau de Vilanova and associate professor at the University of Lleida*

**Dr. José Manuel Valdivielso Revilla**

*Researcher at IRBLLeida and associate professor at the University of Lleida*

**Dr. Marcelino Bermúdez López**

*Principal investigator at the IRBLLeida and associate professor at the University of Lleida*

**Dr. Sara Puy**

*CREBA veterinary surgery*

**Carlos Alberto Rombola**

*Thoracic surgery section chief at the Hospital Arnau de Vilanova de Lleida and associate professor at the University of Lleida*

Last online evaluation: July 2020





## 8. Internal commissions

IRBLleida is structured into different committees and commissions to organize its activity, research and comply with the different directors of the research institutes.

### 8.1. Internal commission of scientific evaluation

The IRBLleida Internal Scientific Evaluation Commission (hereinafter CIAC), is the permanent evaluation commission and its function is to supervise the processes of evaluation and prioritization of internal proposals (from IRBLleida members or grants coordinated by IRBLleida) that are submitted to different calls (staff, projects, training ...), both coordinated by the IRBLleida and by other funding sources.

#### Functions

- To establish the appropriate evaluation criteria for each call for applications that requires prioritisation and/or selection of internal candidates.
- To evaluate and prioritise the proposals received in accordance with the established criteria.

- To establish the terms and conditions for internal calls for applications, which will subsequently be reviewed and, if necessary approved by the Internal Scientific Committee and the IRBLleida Board of Directors.
- To communicate the results of the assessment to the IRBLleida management.
- To respond to possible complaints and/or grievances related to points 1 and 2.
- To review and approve proposals submitted to ISCIII calls for proposals.
- To monitor periodically the internal grants that may be required.
- To produce reports on the evaluations carried out (feedback). In case of consultation, comments on the proposal can be made available to each candidate/researcher.

#### Members

**Dr. Manel Portero Otín**  
*President*

**Dr. Serafí Cambray Carner**  
*Secretariat*

**Dr. Nuria Bahí Pla**  
*Member*

**Dr. Joan Blanco Blanco**  
*Member*

**Dr. Silvia Bielsa Martín**  
*Member*

**Dr. Cristina Martínez Martínez**  
*Member*

**Dr. Jose Manuel Valdivielso Revilla**  
*Member*

## 8.2. Biosafety commission

The concept of biosafety encompasses a broad and diversified set of regulatory groups related to the protection of living beings and the environment from biological agents, factors and risks. These include regulations on plant health, animal health, food safety, human health and safety, environmental safety and biodiversity protection.

The IRBLleida's Biosafety Commission is responsible for assessing the biosafety risk of projects initiated at the institution, providing support in training activities for users of tissue culture facilities with biosafety level 2 or higher, proposing improvements to processes or protocols and advising the centre's management on biosafety issues.

### Functions

- To participate, while verifying the degree of compliance with current legal and internal regulations, in the assessment, identification, review and approval of facilities and research and teaching activities related to the export or import, the release into the environment, contained use, production, transport, commercialisation, packaging, destruction and/or elimination of biological agents, whether genetically modified or not, and the derivatives, products or samples that contain them. The Committee is entitled to request from the research personnel responsible for a given project or procedure with biosafety implications, any additional information considered necessary to carry out its functions.
- To carry out a prior assessment of the installations and activities that require authorisation, before notifying the competent authority, as well as to establish a register and custody of the legally required documentation.
- To control and guarantee that the IRBLleida's activities and installations comply with current legal and internal regulations.
- To establish the biosafety procedures to be applied by the IRBLleida Biosafety Committee.
- To issue the certificates required of it in accordance with its competences.
- Proposing, when necessary, the improvement of facilities/equipment in terms of biosafety.

- To register the reception and packaging of biological agents, GMOs and/or their derivatives classified in risk group two or higher.
- To review information on biological incidents or accidents and notify the competent authorities of any incident, contamination or serious accident involving biohazardous material.
- To disallow the initiation and suspend any activity that is not in accordance with current regulations.
- To assess and inform IRBLleida management of any complaints submitted by any member of the research community regarding possible irregularities in areas within the Committee's remit.
- To assess and train research teams working in laboratories on aspects related to biosafety.
- To ensure that the confidentiality of the data and information provided to the Committee is guaranteed.
- To guarantee the necessary coordination with the scientific and technical services of the IRBLleida, the Ethics and Animal Experimentation Committee (CEEA) of the University of Lleida, the Ethics and Animal Experimentation Committee (CEEA) of CREBA and the Ethics Committee for Research with Medicines.
- Any other function attributed to it by law or by the governing bodies of the IRBLleida.

### Members

**Dr. Maria Ruiz Miró**  
*President*

**Dr. Marta Rafel Borrell**  
*Secretary*

**Dr. Nuria Bahí Pla**  
*Member*

**Dr. Marcelí Bermúdez López**  
*Member*

**Dr. Eloi Garí Marsol**  
*Member*

**Ms. Eva López Truco**  
*Member*

**Dr. Carme Piñol Felis**  
*Member*

**Dr. Judith Ribas Fortuny**  
*Member*



### Contact

[comitebioseguretat@irbllleida.cat](mailto:comitebioseguretat@irbllleida.cat)

## 8.3. Equality commission

The aim of the IRBLleida Equality Committee is to facilitate compliance with existing legislation on equality and diversity management. The members of the Committee have a confidentiality agreement, as this body is a facilitator in the management of issues related to equality of gender, race, religious beliefs or geographical origin.

### Functions

- To prepare the IRBLleida 2021-2024 Equality Plan in accordance with current regulations: Organic Law 3/2007 of 22 March, Royal Decree 713/2020 of 28 May, and Royal Decree 901/2020 of 13 October.
- To share the IRBLleida 2021-2024 Equality Plan with all workers to incorporate improvements suggestions and final approval by voting.
- To register the IRBLleida 2021-2024 Equality Plan in REGCON. (Register of Collective Agreements) of the Ministry of Labor and Social Economy of the Spanish Government.
- To guarantee an egalitarian selection process and guarantee equal opportunities in the access, selection and permanence of staff.

- To promote staff participation in the area of equal opportunities.
- To raise awareness and train staff on issues of equality.
- To encourage a non-sexist or discriminatory use of language and images.
- To guarantee the conciliation of work, personal and family life.
- To implement measures for prevention, detection and intervention in cases of sexual harassment and harassment on the grounds of sex.
- To incorporate the gender perspective in the mission, vision and values of the organization.

### Members

**Dr. Águeda Martínez Barriocanal**  
*President*

**Ms. Elena Moscatel Mendelsohn**  
*Secretariat*

**Mr. Ivan Hidalgo Muñoz**  
*Member*

**Dr. Marcelí Bermúdez López**  
*Member*

**Dr. Serafí Cambray Carner**  
*Member*

**Ms. Irene Rosell Mena**  
*Member*

**Ms. Meritxell Soria Yenez**  
*Member*



### Contact

[igualtat@irbllleida.cat](mailto:igualtat@irbllleida.cat)

## 8.4. Quality commission

The IRBLleida Quality Committee is the central body for IRBLleida's quality policy and assumes responsibility for the design, implementation and enforcement of the Quality Plan. It is also the assessment body and consults government bodies on quality policy issues.

### Functions

- In relation to the Quality Plan:
  - a) To write the Quality Plan.
  - b) Review and verify compliance with the Quality Plan annually.
  - c) To write an annual report on the Quality Plan.
- Others functions related to the Quality Management System:
  - a) To analyse non-conformities and formulate the corresponding corrective and/or preventive actions.
  - b) To propose initiatives for the improvement (objectives) of Quality.
  - c) To propose quality assessment methods and instruments.
  - d) To carry out an evaluation of the actions.
  - e) To inform the IRBLleida's governing bodies of the processes and results of quality assessment.
  - f) To assess quality issues.

### Members

- Mr. Joan Vives Tomas  
*President*
- Ms. Elena Moscatel Mendelsohn  
*Secretary*
- Ms. Laura Batalla Peinado  
*Member*
- Mr. Xavier Cabré Ollé  
*Member*
- Dr. Anna Casanovas Llorens  
*Member*
- Ms. Eva López Truco  
*Member*
- Dr. Maria Ruiz Miró  
*Member*
- Dr. Joan Antoni Schoenenberger Arnaiz  
*Member*
- Mr. Eduard Solé Mir  
*Member*

### Working group

- Mr. Joan Vives Tomas  
*President*
- Ms. Elena Moscatel Mendelsohn  
*Secretary*
- Ms. Eva López Truco  
*Member*
- Dr. Maria Ruiz Miró  
*Member*
- Ms. Meritxell Soria Yenez  
*Member*



**Contact**  
qualitat@irbllleida.cat

## 8.5. Teaching committee

The IRBLleida Teaching Committee facilitates the compliment of the Institute's Training Plan and gives answers to the Directorate's questions on training-related aspects.

### Functions

- Organisation of External Seminars and Friday Seminars.
- Identification of training needs in scientific aspects for IRBLleida staff.
- Establishment of a Training Plan and prioritisation of training activities.

### Members

**Dr. Diego Arango del Corro**  
*President*

**Mr. Lluís Surroca Bertran**  
*Secretary*

**Dr. Rui Alves Vaqueiro de Castro**  
*Member*

**Dr. Glòria Arqué Fusté**  
*Member*

**Dr. Sílvia Bielsa Martín**  
*Member*

**Dr. Anna Casanovas Llorens**  
*Member*

**Dr. Fabien Delaspre**  
*Member*

**Dr. Esther Desfilis Barceló**  
*Member*

**Ms. Maria Alba Gairí Burgués**  
*Member*

**Dr. Dolores Garcia Olmo**  
*Member*

**Dr. Cristina Martínez Martínez**  
*Member*

**Ms. Aurora Pérez Gómez**  
*PhD student*

**Ms. Meritxell Soria Yenez**  
*Member*

**Dr. José Manuel Valdivielso Revilla**  
*Vocal*

## 8.6. Works council

The IRBLleida Works Council is the representative body of the company's employees. The members of the Committee are elected democratically for 4-year mandates and the number of representatives to be appointed is related to the number of staff contracted to the company.

### Functions

- Advice and defense of workers' rights.
- Ordinary meetings with Management.
- Negotiation of the Collective Agreement or other collective agreements with the Management.
- Inspection of the decisions, actions and omissions of the Management in labor matters.

### Members

**Ms. Meritxell Martín Garí**  
*President*

**Ms. Raquel Martí Cabús**  
*Member*

**Dr. Marta Rafel Borrell**  
*Member*

**Ms. Laura Rumi Carrera**  
*Member*

**Dr. M. Alba Sorolla**  
*Member*

**Ms. Meritxell Soria Yenez**  
*Member*

**Mr. Fernando Tortras Pastor**  
*Member*

**Dr. Joan Valls Marsal**  
*Member*

**Dr. José Manuel Valdivielso Revilla**  
*Member*

## 8.7. Technical training commission

The IRBLleida Technical Training Commission is responsible for preparing and managing the training of staff with a contract with IRBLleida.

### Functions

- To design the training plan for staff under contract with the IRBLleida linked to the Institute's general objectives.
- To monitor training activities, to control their quality and the access to training activities.
- To control the cost derived from the training activities through the tripartite training fund or FUNDAE.

### Members

**Dr. José Manuel Valdivielso Revilla**  
*President*

**Mr. Lluís Surroca Bertran**  
*Secretary*

**Ms. Meritxell Martín Garí**  
*Member*

**Ms. Elena Moscatel Mendelsohn**  
*Member*

**Mr. Joan Vives Tomàs**  
*Member*

## 8.8. Joint commission

The Joint Committee is integrated by the management and executive staff of IRBLleida and the heads of the departments of Basic Medical Sciences, Medicine and Experimental Medicine of the University of Lleida (UdL).

### Functions

- To coordinate the management of the activity, the distribution of equipment and the general maintenance of equipment.

### Members

Dr. Diego Arango del Corro  
Dr. Jacint Boix Torras  
Dr. Elisa Cabiscol Catalan  
Dr. Carme Piñol Felis  
Mr. Joan Vives Tomas





# Strategic lines and singular areas

# 1. CREBA

**The Center for Applied Biomedical Experimental Research (CREBA) is devoted to research and training in the field of biomedicine.**

Promoted by the Diputació de Lleida and the Institut de Recerca Biomedical of Lleida, CREBA was created in response to the growing demand for specialized and quality facilities for translational research and continuing education of researchers and health professionals.

Taking advantage of the wide productive activity of our province, the CREBA specializes in techniques and models applied to pigs as an experimental animal, which currently has a growing interest in the field of biomedicine.

In addition to the purely technical and scientific lines of work, CREBA is very active on transparency and dissemination of their scientific activity in schools and social groups.

CREBA has teaching and simulation classrooms, as well as four large operating rooms equipped with cutting edge technology for open, laparoscopic surgery or other techniques interventionists. It also has a housing area of pigs.



## EXPERIMENTAL OPERATING ROOMS

- 3 individual operating rooms (with a surgical table each).
- 1 multiple operating room, with capacity for 5 surgical tables.

*The structure and construction have been carried out in accordance with the operating room standards of Human Medicine.*

## FACILITIES AND SURGICAL EQUIPMENT

- Complete laparoscopic surgery equipment (Karl Storz brand), with the possibility of fluorescence-guided surgery and 3D Technology.
- Electrosurgical systems (monopolar and bipolar energy platforms).
- Cardiovascular and respiratory monitoring systems for large animals.
- Monitors of various sizes (40, 43, 28, and 24), which can receive images of the laparoscopy system, a zenithal camera on surgery, or an ambient camera. Resources can also be projected from a computer or mobile device on these screens.
- Surgical LED lights, with color temperature control, brightness and light focus amplitude.
- Audiovisual equipment that allows live visualization, recording and broadcasting interventions in high



- definition, both on a large screen in the operating room itself, and remotely.
- Stainless steel surgical tables, with an area of 150 x 60 cm, in the form of 2 tilting blades (book type). Electric, adjustable in height and inclination.
- Mobile columns with electrical, gas, video and audio connections, and with control of surgical lights.
- Centralized supply of gases (O<sub>2</sub>, CO<sub>2</sub>, and medicinal air) and vacuum.
- Surgical material for open and laparoscopic surgery.

## LIVE IMAGE EQUIPMENT

- Mobile C-arm, Philips brand, BV Endura model (traumatology and angiography).
- Hanging aprons (1 mm lead) and other radiological protections.
- Surgical tables with a radiolucent surface of 150 x 60 cm. Electric, adjustable in height.
- Ultrasound.

## OTHER EQUIPMENT

- Defibrillator.
- Parasympathetic Tone Monitoring Equipment (PTA).
- Infusion pumps.

## 2. The health bus, a transversal project of the IRBLleida



'The Health Bus' is a successful experience. Since January 2019, it has continued to visit numerous municipalities in the province of Lleida in order to review a total of 1,827 patients, previously visited in 2015, with the aim of learning about the evolution of atheromatosis, the hidden kidney disease and peripheral arterial pathology, after 4 years. The project, led by the Vascular and Renal Translational Research Group, has the participation of four other IRBLleida groups: Translational Research in Respiratory Medicine, Immunology and Metabolism Research Group (GRIM), Clinical Neurosciences and Metabolic Pathophysiology.

**Health benefit:** Thanks to "El Bus de la Salut" we have detected numerous hidden (unknown) pathologies of great prevalence:

- Arterial diseases (84.5% of people visited).
- Kidney disease (24% of people visited).
- Diabetes (4.6% of people visited).
- Prediabetes (49.2% of people visited).
- Hypertension (35% of people visited).

The importance of its detection lies in the fact that an intervention (pharmacological or not) can prevent morbidity and mortality and the resulting disabilities. In addition, being an asymptomatic population,

it helps to strengthen the commitment to make lifestyle changes in order to control the risk factors for cardiovascular diseases.

- **Benefit in saving health resources in pathologies** of high morbidity and mortality and disabilities. Treatment of potentially preventable diseases in hospitals (myocardial infarctions, strokes, dialysis treatment, transplantation ...) accounts for a large proportion of the health budget, as well as significant costs in dependencies and social.

- **Equity in Health Care:**

- 'The Health Bus' generates knowledge integrating traditional risk factors, environmental and socio-economic factors. The massive analysis of all these data will allow the application of personalized medicine in pathologies in which risk estimation is applied without taking into account the individual vulnerability or the environment.
- Brings diagnostic technologies closer to rural areas distant from hospital centers, allowing prevention to avoid health problems that lead to greater dependence and thus reducing the quality of life of patients.



- Reinforces the role of nursing professionals, who are responsible for the studies carried out in 'El Bus de la Salut'.



# Scientific services





## DETAILS

### Head of Service

Dr. Xavier Matias-Guiu

### Service Coordinator

Dr. Maria Ruiz Miró

### Service Members

Ms. Anna Serrate

Ms. Ingrid Prats

Dr. Catherine Fleitas

Ms. Sara Serrano

Integration of new donations to the collections during 2020:

- TUMOR BANK - **871**
- PLEURAL LIQUID BANK - **64**
- STROKE - **299**
- ALZHEIMER - **149**
- SLEPP APNEA - **281**
- COVID-19 - **1315**
- EL BUS DE LA SALUT - **513**

Project Management: **26 different projects**

Assignment of projects: **18 different projects**

## 1. Biobank

The IRBLleida's Biobank, authorized by the Department of Health of Catalonia on April 29 2013 and entered in the ISCIII National Register of Biobanks with reference B.0000682, is the unit in charge of the central management of human samples and associated personal data for research purposes. Biobank's tasks are focused on the procurement, storage, management and distribution of large collections of human biological samples for the scientific community, guaranteeing the quality of samples at each step, promoting, facilitating and performing collaborative biomedical research using human biological samples in accordance with current Spanish law.

IRBLleida's Biobank is a member of the regional Tumour Bank Network of Catalonia (XBTC) and the Spanish Biobank Network (RNBB).

The IRBLleida Biobank supports biomedical research in Lleida, from the healthcare system (Arnau de Vilanova University Hospital and Santa Maria Hospital), and from the University of Lleida. The Biobank started as a cancer tumour bank, thanks to a special initiative of the Spanish Ministry of Education and Science in 2004. During the years 2008, 2013 and 2017, the Carlos III Institute of Health has granted various grants for the adaptation, maintenance, improvement and participation in the Biobank Platform (RNBB). During this time the Biobank has created different types of sample collections from neurology, endocrinology, internal medicine, respiratory medicine, oncology and others with different types of samples such as serum, plasma, blood, nucleic acids, pleural fluid, etc. During 2020, the Biobank has adapted to the current SARS-CoV2 pandemic by modifying the sample processing room with increased biosecurity and creating new sample collection circuits for patients with COVID-19. At the end of 2020, the Biobank became part of the new ISCIII Platform, the Biobank and Biomodels Platform.

The Biobank is UNE EN ISO 9001: 2015 certified. The scope of application of the IRBLleida Biobank's quality management system covers all activities of analysis and service, from the reception, processing, storage and sending of biological samples from donors for biomedical research.

The IRBLleida Biobank is coordinated and assigned to the Clinical Research Ethics Committee of the Arnau de Vilanova University Hospital.

The members of the External Scientific Committee of the Biobank are:

- 1) Dr. Judith Pallarès
- 2) Dr. Jordi Tarragona
- 3) Dr. Rosa M<sup>a</sup> Martí Laborda
- 4) Dr. Joan Viñas

### Services platform

- Assignment of human biological samples for research projects.
- Project management and collections of human biological samples
- Automated extraction of nucleic acids from human biological samples.
- Ethical, scientific and legal advice for the treatment of samples and clinical data.



## DETAILS

### Flow Cytometry Unit Managers:

Dr. Conchi Mora  
Dr. Anaïs Panosa

### Confocal Microscopy Unit Managers:

Dr. Jordi Calderó  
Dr. Anaïs Panosa

### Flow Cytometry

Usual studies:

- Apoptosis
- Cell Cycle
- Immunophenotyping
- Oxidative stress
- Bead arrays

Collaboration in scientific articles: **4**

### Confocal Microscopy

Collaboration in scientific articles: **11**

## 2. Microscopy and cytometry

The Microscopy and Cytometry Service is divided into two locations, one for the Flow Cytometry Unit and the other for the Confocal Microscopy Unit. Both units are located in the basement of the Biomedicine building, in laboratories B-1.5 and B-1.1 respectively.

The Flow Cytometry Unit currently has a digital analyzer cytometer FACS Canto-II (from Becton Dickinson) with three lasers 4-2-2 configuration, capable of analyzing up to eight different colours. The cytometer is equipped with a computer to control the operation and comes installed with FACS Diva v. 6.1.1 analysis software. Also available is a magnetic cell separator device, Automac Pro (Miltenyi Biotec) in a cabin class II biosafety.

In addition, the service also offers additional software for different applications such as ModFit LT for the analysis of cell cycle FCAP Array experiments CBA (BD) and two analysis software file licenses for FlowLogic cytometry (Invai). Other facilities available in the Cytometry Service are: a 4°C refrigerator, a vortex, a set of micropipettes, a printer, and computer independent analysis data.

Services offered include: cell cycle studies, oxidative stress (various fluorescent probes) studies for immunophenotyping, apoptosis (annexin V, caspase 6, phosphorylated histone H3, etc ...), analysis concentration of cytokines by cytometric bead array (CBA BD), among others.

The Confocal Microscopy Unit, managed by the University of Lleida, currently, has the following microscopes and other equipment:

- Olympus FV500 confocal microscope with 4 lasers (405 nm, 488nm, 543 nm, 633 nm) and 4 lenses (10x, 20x, 40x and 60x); The microscope is attached to a computer where the FluoView 500 imaging software is installed.

- Olympus FV1000 spectral confocal microscope with 5 laser lines: 405nm, 488 nm, 543 nm, 559 nm and 635 nm. It has 4x, 10x, 20x, 40x (oil), 60x (oil) and 100x (oil) lenses. It can also be used with phase contrast and DIC. This microscope also allows experiments to be performed *in vivo* and over time, as it has a cabin with CO<sub>2</sub> and temperature control.
- Olympus FV10i confocal desktop microscope (10x and 60x objectives (oil)).
- Olympus BX51 epifluorescence microscope (10x, 20x, 40x, 60x objectives (oil)).
- Zeiss Axio Observer Z1 epifluorescence microscope: also with phase contrast and DIC. It allows *in vivo* time-lapse studies and has different excitation filters covering a wide range of wavelengths.
- Zeiss Axioskop 2 clear field microscope with color camera, but also equipped with an LED source and monochrome camera to display fluorescence. It is equipped with 2.5x, 10x, 20x, 40x, 60x lenses (oil).
- Leica CM1950 cryostat with automatic cutting.
- Leica CM3000 cryostat.
- Microme cryostat.
- Leica RM2235 microtome.
- Vibratome Leica VT 1000S.



#### DETAILS

##### Scientific Advisor

Dr. Montse Martínez

##### Technical Manager

Dr. Montse Martínez

##### Team

Dr. Joan Valls

Dr. Carles Forné

Participation in research projects: **5**

Collaborations with research groups: **39**

Publications: **9**

Teaching in university degrees: **4**

Courses or seminars given: **1**

## 3. Biostatistics

The Biostatistics Unit (UBiostat) aims to provide methodological support and training in statistics to researchers. At UBiostat, we work with researchers to better design studies, analyze data, and extract useful information to advance research.

The functions of the UBiostat are:

- Provide methodological advice in the design, data analysis and publication of studies.
- Participate in multidisciplinary teams to improve data collection, validation and integration processes.
- Organize and participate in research statistics and methodology courses.





#### DETAILS

##### Scientific advisor

Dr. Judit Ribas

##### Technical manager

Dr. Marta Rafel

##### Support technician

Mr. Iván Hidalgo

##### Facilities:

- 2 rooms for cell lines, 2 rooms for primary cell cultures, 1 room for binocular magnifying glasses.
- 1 NCB2 + negative pressure chamber for human primary culture and manipulation of human samples with or without the presence of Sars-CoV-2.
- 1 positive pressure room for long-lasting or delicate cell lines (stem cells ...).

##### Equipment

- Incubators at 37°C at 5% CO<sub>2</sub>.
- Laminar flow hoods.
- Biolla flow hoods.
- Thermostatic baths.
- Centrifuges (one with anti-aerosols).
- Inverted phase contrast and fluorescence microscopes with coupled camera.
- Binocular magnifiers, fluorescence magnifier with built-in camera.
- Hypoxia hood.

Users: **69 users, 28 groups**

## 4. Cell culture

The Cell Culture Service (SCT-CC) is a research support infrastructure, in self-service or with the support of technical staff, to grow *in vitro* all types of mammalian cells allowing its study and characterization at the physiological, biochemical and molecular level. The service also supports the accreditation of the ministry of activities with type II GMOs.

The service is also in charge of the supervision, maintenance and training of the facilities with biological containment of level 2+ for the manipulation of human samples in general or SARS-CoV-2 +.

The main objectives of the service are:

- Ensure the proper functioning and compliance with regulations in the different spaces and equipment for cell culture.
- Train its users in the preservation of asepsis and biosecurity in the different techniques of cell culture, as well as to carry out the detection and prophylaxis of contaminants such as mycoplasma.
- Advise both on technical issues and on the design and / or execution of experiments.
- Maintenance of their own cell stock and the one from research groups in liquid nitrogen.

##### Usual services:

- Maintenance, expansion and freezing of stable or primary cell cultures.
- Treatment of cell cultures with specific drugs.
- Transfection/infection/electroporation of cell cultures with foreign or suppressive genes.
- Production of genetically transformed cell lines in a stable way.
- Lentivirus production.
- Production of 3D cell cultures.
- Observation of kinetics and cell migration.
- Cell Culture preparation for subsequent studies of fluorescence, cytometry, immunoprecipitation, etc.





#### DETAILS

##### Responsible

Dr. Carme Piñol

##### Appointed veterinarian

Dr. José Antonio Moreno

##### Staff

Mr. Albert Ardèvol

Ms. Leticia Fabre

Ms. Núria Moix

Ms. Jessica Pairada

Mr. Marc Collado

Mr. Iván Aparicio

## 5. Animal housing facility

The animal housing facility offers different services to researchers, including:

- Breeding of different species and strains of rodents (mouse and rat) for teaching and research.
- Advice on the import of special models from authorized external suppliers and other research centers.
- Installations for the maintenance of rodents in the course of the experimental procedure.
- Advice for compliance with the legislation regulating the use of animals for teaching and research: facilities, operation, records, staff, ethics committees, project processing and procedures with experimental animals.
- Advice on animal the handling, care and anesthesia procedures.
- Advice to researchers on issues related to animal welfare regarding their acquisition, housing, care and use.
- Advice to researchers on the application of the requirement for replacement, reduction and refinement, and information on technical and scientific advances in the application of this requirement.
- Advisory functions in relation to the state of health and treatment of animals.
- Training of animal user staff with the functions of experimenter and design of projects and procedures.

#### In detail

The rodent animal House facilities occupy two floors with an area of 1,200 m<sup>2</sup>. It has a large housing area for animals free of pathogens and other opportunistic germs (SOPF) of 326.05 m<sup>2</sup> and a SOPF laboratory of 27.33 m<sup>2</sup>, equipped with PhotonImager® for *in vivo* image capture.

It also has a quarantine area of 45.49 m<sup>2</sup>. In addition to a conventional housing area of 75.93 m<sup>2</sup>, and laboratories, operating rooms and autopsy rooms adding a total of 54.97 m<sup>2</sup>, equipped with magnifying glasses, microscopes and isoflurane anesthesia machines.



## DETAILS

### Scientific director

Dr. Joan A. Schoenenberger

### Head of SCT pharma and clinical trials pharmacist

Ms. Laura Rumi Carrera

### Nurses coordinators of clinical trials

Ms. Veronica Martinez Fabra  
Ms. Irene Garcia Cantariño  
Ms. Raquel Marti Cabus  
Ms. Raquel Alcaraz  
Ms. Monica Baldrich Mora

### Clinical trial monitor

Dr. Amalia Zapata

### Clinical trial monitor and clinical trial assistant

Ms. Cristina Casas

### Clinical trial monitor/coordinator and data manager

Ms. Laia Martinez Ribot

### Lab technician

Ms. Aida Moroba Estor

## 6. Pharma

The mission of the IRBLleida Pharma Scientific-Technical Service LLEIDA is to support Clinical Research of the Institute in everything they need to carry out any clinical trial with medications. To develop this mission the unit aims to achieve the following objectives:

- Offer technical support and advice to research groups that request it on the design of the study, coordination and realization of the same in the field assistance.
- Help clinical trials be conducted in compliance with Good Standards Clinical Practice (NBPC) in research.

### Facilities and equipment

The pharma Scientific-Technical Service platform integrates different professionals who are in charge of the coordination, realization and management of the clinical trial. The basic structure consists of: a project manager, a pharmacist, a laboratory technician and a nurse. Our service have available all the tools and computer programs to carry out the study; the facilities are the appropriate for the current activity and includes a dispensary to perform the specific tasks of nursing, a laboratory with HPLC analysis systems and temperature - controlled areas for nursing preservation of test drugs.

### Type of studies

The pharma Scientific-Technical Service supports all types of clinical trials, from the moment of approach of the main hypothesis and design of the project, up to the coordination and organization of the clinical trial. This service also manages the necessary procedures to present and approve, if necessary, the studies at the level of CEIMs and regulatory agencies.

Before requesting the services of the Pharma Scientific-Technical Service, the principal investigator (PI) have to fill in an Application questionnaire and meet with the head of the unit to jointly analyze the study and develop an action plan.



#### DETAILS

**Scientific Responsible**  
Dr. Xavier Matias-Guiu

**Technical Responsible**  
Dr. Maria Santacana

**Collaborating faculty staff**  
Ms. Sònia Gatus  
Dr. Judit Pallarés

**Collaborating technical staff**  
Ms. Maria Carrelé (CIBER)

**Collaboration in research projects**  
- Internal 21  
- External 3

Collaborations with research groups: **24**

Nº of immunohistochemistry stainings: **2027**

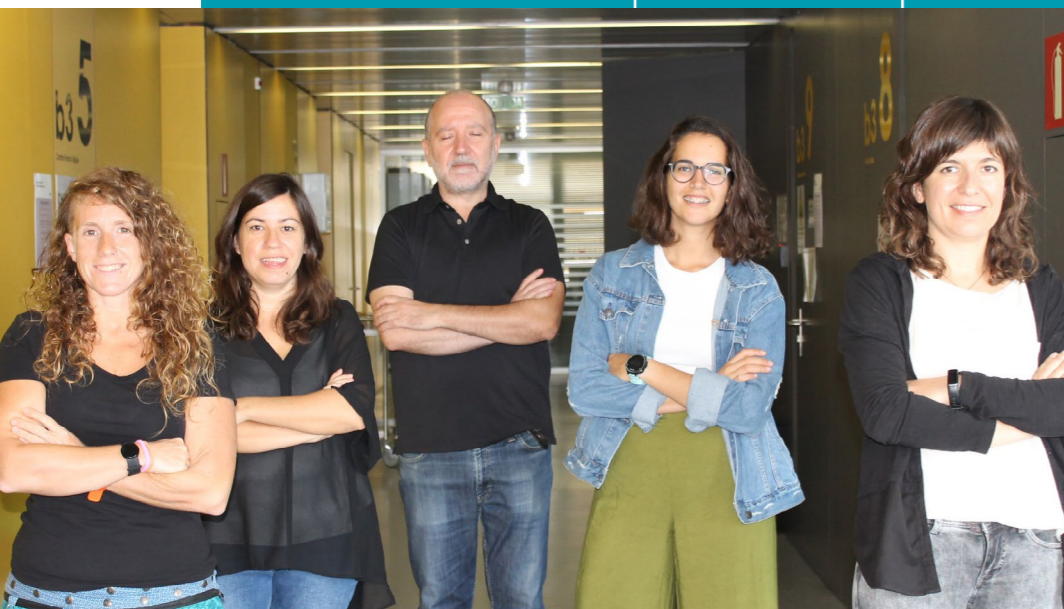
## 7. Immunohistochemistry

The Service offers support in the processing of:

- Tissues (human, animal) included in paraffin.
- Frozen tissues.
- Cytologies.
- *In vitro* cell cultures.

#### Services:

- Preparation of paraffin and frozed blocks.
- Microtomy.
- Histological staining (Hematoxylin-Eosin).
- Special stains (Histochemistry).
- Immunohistochemical protocol for the detection of proteins in human, porcine and mouse tissues using concentrated or prediluted antibodies.
- Construction of Tissue Micro Arrays (TMA Grand Master, 3D HISTECH).
- Immunohistochemical protocol of double staining. Detection of two proteins simultaneously in the same tissue section.
- Immunofluorescence technique.
- Digital scanning of slices (Pannoramic® 250 Flash III, 3D HISTECH).
- Analysis of immunohistochemical images using the ACIS® III Instrument and the specific software Quant modul (3D HISTEC).
- *In situ* hybridization using FISH (Fluorescent *in situ* Hybridization) or CISH (Chromogenic *in situ* Hybridization).
- Optical microscopy.
- Quality controls.



#### DETAILS

##### Responsible

Dr. Reinald Pamplona  
Dr. Mariona Jové

##### Head of the Service

Dr. Èlia Obis

##### Lab Technicians

Ms. Meritxell Martín  
Ms. Natàlia Mota

Collaborations in projects: **14**

Samples Analyzed: **3,888**

Scientific Articles derived from platform: **15**

Communications in congresses: **3**

## 8. Lipidomics

Lipidomics is a newly emerged discipline that studies lipid species and their metabolism on a large scale. The Lipidomics Service has state-of-the-art equipment and technology to perform lipidomics and metabolomics analyzes with high sensitivity, selectivity and specificity.

#### Services

- Experimental design and advice for sampling.
- Sample processing with standardized protocols.
- Quality controls at every step.
- Lipid profile analysis with GC-FID.
- Undirected lipidomic analysis with LC-MS type QTOF.
- Directed lipidomic analysis with LC-MS type QQQ.
- Non-targeted metabolomic analysis with QTOF-type LC-MS.
- Targeted metabolomic analysis with LC-MS type QQQ.
- Data processing, bioinformatics and statistical analysis.
- Access to databases and interpretation of results.

#### Aplicacions

- Biomarker discovery and development of diagnostic tests.
- Identification of targets for drug development.
- Monitoring of the effects caused by nutrients and drugs.
- Integration of results with other omics.

#### Equipment

- GC gas chromatography equipment (Agilent 7890A) coupled to an FID flame ionization detector (Agilent Technologies, Barcelona, Spain).
- GC detection system coupled to a mass spectrometer (Agilent 6890, Agilent Technologies).
- Two HPLC liquid chromatography equipment (Cap Pump 1200 Series G1376A, Nano Pump 1200 Series G2226A, Agilent Technologies).
- Two UPLC liquid chromatography equipment (Agilent 1290 Infinity Quaternary Pump).
- Two QTOF mass detection systems (QTOF LC / MS G6520A and 6545, Agilent Technologies).
- QQQ mass detection system (Triple Quad 6420 LC / MS Agilent Technologies).
- Ionization system in nanoelectrospray using Chip Cube technology (HPLC Chip Cube G4240A, Agilent Technologies).
- Specific software for bioinformatics analysis (MassHunter Data Acquisition, MassHunter Qualitative Analysis, MassHunter Quantitative Analysis, MassHunter Mass Profiler, Agilent).



#### DETAILS

##### Responsible

Dr. Ferran Barbé Illa

##### Team

Dr. Esther Sapiña

Dr. Adriano Targa

Dr. David de Gonzalo

Ms. Lola Martínez

Ms. Anna Moncusí

## 9. Respiratory medicine and chronic pathologies

The Scientific and Technical Service of Respiratory Medicine and Chronic Pathologies provides specialized support for performing respiratory functional tests and monitoring activities specializing in the field of respiratory medicine and chronic diseases.

The service has access to specific technical equipment and has polysomnography, respiratory polygraphy, actigraphy, spirometers, devices for ambulatory blood pressure monitoring (MAP), among others, for the provision of the services offered .

#### Justification and objectives:

1. The study of respiratory diseases.
2. Promote health and learning new techniques for exploring and treating respiratory diseases.
3. Advance in the study of personalized medicine.
4. Encourage the development and implementation of new technologies to assess respiratory diseases.
5. Provide technical support and advice, under request, to research groups on possible experimental applications as well as the processing of samples for each of the applications.
6. Contribute to the training in diagnostic techniques of health professionals in general and in particular to pneumology physicians, especially in teaching programs and progressive evaluation, as well as in the professional development of all professionals related to respiratory diseases (technical, statistical, nursing and medical...).
7. Provide expert advice in the field of respiratory diseases to researchers inside and outside IRBLleida.
8. Promote a cross-cutting interaction between research, innovation and knowledge transfer.
9. Develop and exploit the clinical, analytical, image and biobank databases of all the populations studied and make them available to other research groups.



#### DETAILS

##### Responsibles

Dr. Enric Herrero  
Dr. Joaquim Ros  
Ms. Isabel Sánchez

## 10. Proteomics and genomics

The Genomics and Proteomics Platform of the UdL is located on the 4th floor of the Biomedicina 2 building, inside IRBLleida. This service offers technology for the study of genes and gene expression or proteome. The equipment of the unit integrates technological platforms to perform genotypic analysis, gene expression analysis and proteomic analysis of complex samples, techniques that are an essential tool for current basic and clinical research in the field of cellular and molecular biology. Its main objective is to use its experience to provide scientific and technological support in the area of proteomics and genomics, knowledge difficult to find in other fields.

The Service is open to researchers from the UdL, the IRBLleida and to other universities, public or private entities, who want to access its human and technological potential.

##### Usual genomic studies

- Gene and miRNA expression.
- Genotyping on basis of different molecular markers.
- Gene variation.
- DNA methylation.
- NGS applications.
- Genotyping of SNPs by MALDI-TOF mass spectrometry.
- Detection and quantification of microorganisms and GMOs.
- Determination of viral load.

##### Usual proteomic studies

- Quantification of proteins by Western Blot.
- Protein expression studies using antibody microchips.
- Differential or expression proteomics based on two-dimensional gels.
- Determination of the molecular mass of proteins / peptides by MALDI-TOF mass spectrometry.
- Identification of proteins on a large scale, in samples of medium complexity (eg subproteomes, protein complexes, ...) by means of LC-MALDI-MS / MS.



#### DETAILS

##### Unit Responsible

Dr. Jose Manuel Valdivielso

##### Research nurse

Ms. Eva castro Boqué

##### Imaging Technician

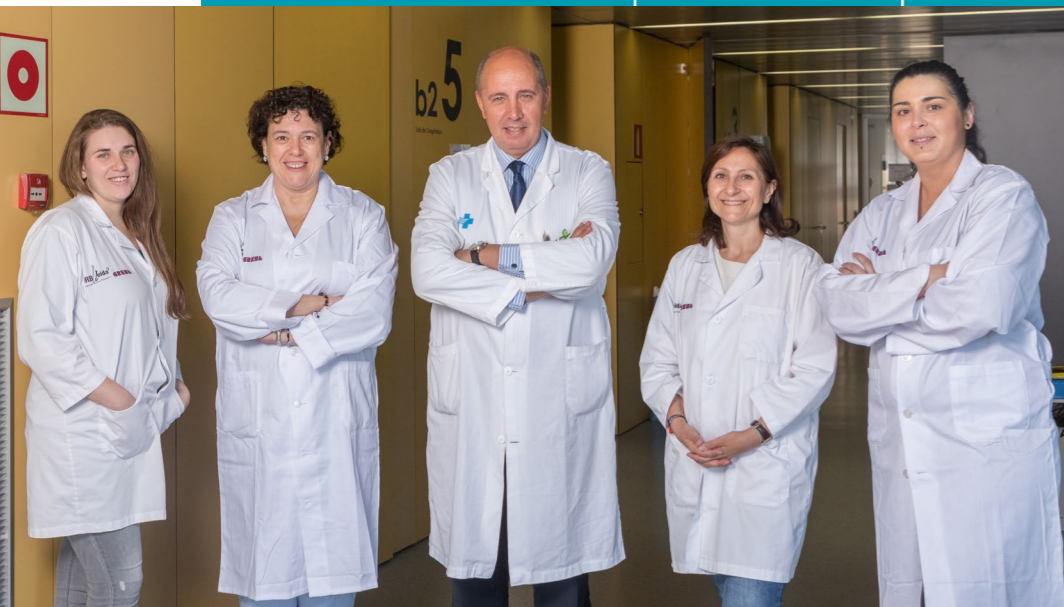
Ms. Virtudes Maria del Amo

## 11. Vascular image laboratory - UDETMA

The Scientific and Technical Service of the Laboratory of Vascular Imaging (UDETMA) of the Biomedical Research Institute of Lleida (IRBLleida), is currently located in the UDETMA (Unit of Detection and Treatment of Atherothrombotic Diseases), on the ground floor of the Biomedicina II building of IRBLleida.

#### Objectives:

1. Diagnosis of subclinical or asymptomatic atheromatosis using specific techniques and validated non-invasive instruments in a population with cardiovascular risk factors.
2. Moving towards personalized medicine: assessing individually the health of the arteries and the impact of risk on them.
3. Calculate the vascular age and if there is a dissociation with the chronological age due to the action of risk factors (accelerated arterial aging).
4. Change the paradigm in the assessment and treatment of cardiovascular risk taking into account the existence of asymptomatic target organ injury (presence of arterial atheroma plaque).
5. Research into the development and implementation of new technologies for the evaluation of atheromatosis, its prevention and evolution: composition of the plaque, atheromatous charge (total plaque area, number of affected territories), 3D ultrasound, contrast ultrasound microbubbles for the study of vasa vasorum...
6. Training on diagnostic techniques for atheromatous disease for health professionals (X-ray technicians, nurses, doctors...)
7. Provide expert advice in the field of atherothrombotic disease to IRBLleida researchers and external researchers.
8. Support research, innovation and knowledge transfer.
9. Have clinical, analytical, image and biobank databases of all the populations studied, and make them available to different research groups (internal and external).



## DETAILS

### Director

Dr. Jorge J. Olsina

### Technical Director

Dr. Dolores García Olmo

### Team

Ms. Marta Farré  
 Ms. Silvia López Bellón  
 Dr. Sara Puy

### Frequent collaborating physicians

Ms. Mireia Merichal  
 Ms. M. Carme Mias  
 Mr. Josep Aixalà  
 Ms. Montse Macià  
 Ms. Marta Simó  
 Mr. Jaume Pelegrí  
 Mr. Alfredo Escartín  
 Ms. Yolanda Maestre  
 Ms. Ljubica Sarmiento  
 Mr. David García Belmonte  
 Ms. Cristina Gas  
 Mr. Antonio Montero  
 Mr. Felipe Sarró  
 Mr. Ramon Jové  
 Mr. Jaume Mas  
 Mr. Pau Solé

Mr. Jaume Peroy  
 Mr. Pablo Muriel  
 Mr. Xavier Vila  
 Mr. Rafael Villalobos  
 Mr. Gian Pier Protti  
 Ms. Maite Santamaría  
 Ms. Ana Calvo  
 Ms M<sup>a</sup> José Pelegay  
 Mr. Ferrán González-Huix  
 Ms. Núria Torreguitart

Training activities: **24**  
 Students: **427**  
 Research Projects: **5**  
 Activities with schools and social groups: **7**

## 12. CREBA

CREBA (Center for Applied Biomedical Experimental Research) is dedicated to carry out research and training in biomedicine. Is promoted by the Diputació de Lleida and the Institut de Recerca Biomèdica de Lleida. CREBA was born in response to the growing demand for facilities specialized and quality for translational research and continuing education of health professionals.

CREBA was officially inaugurated on September 1, 2016 by Molt Hon. Mr. President of the Generalitat, Carles Puigdemont, and His Excellency Mr. President of the Diputació de Lleida, Joan Reñé.

### Facilities

- Three surgery rooms equipped with 3D laparoscopic technology and indocyanine green detection.
- Surgical training room with five fully equipped tables.
- Complete equipment for conventional, endoscopic surgery and interventional radiology.
- Simulation room with devices for learning in laparoscopic surgery.
- Teaching room connected to a videoconference system (capacity for 30 people).
- Meeting room (capacity for 10 people).
- Laboratory for the preparation of biological samples.
- Stable area for long-term animal survival.



[www.creballeida.org](http://www.creballeida.org)

Twitter: [@creballeida](https://twitter.com/creballeida)

Facebook: [creballeida](https://www.facebook.com/creballeida)

LinkedIn: [Company/creba](https://www.linkedin.com/company/creba)



# Communication



## 1. Corporative image



Corporate image: use of corporate colours of the IRBLleida logo in different elements, such as presentations, welcome manual, greetings cards...

## 2. Institutional representation and public relations

The communication area is responsible for organising different types of events such as external visits and conferences, internal events, collaborating in the organisation of informative activities (seminars, conferences, workshops, etc.), among others.

Another of the activities carried out by the Communication Department are monthly meetings with local communication references in the healthcare field (Department of Health, Primary Care and Arnau de Vilanova University Hospital).

### Summary of activities 2020

#### VISITS



**21/02/2020**

Torrevecens Institute, Lleida. Workshop at the laboratory of the Vascular and Renal Translational Research Group.

#### SEMINARS

Collaboration in the reservation of spaces and internal and external communication of the different seminars by means of publication on the website or e-mail dissemination.

#### SEMINARS

25 Friday seminars

#### SEMINARS

14 External seminars

#### SEMINARS

11 RISCAT seminars

#### SEMINARS

10th extraordinary workshop Jesús Montoliu

### 3. Promotional material

Leaflet for IRBLeida featuring the slogan "Som recerca Som futur Som IRBLeida". It includes a map of the research centers, contact information, and logos of partner institutions like the University of Lleida and CERCA.

Top banner of the "Amic/amiga IRBLeida" campaign. It features a young girl in a lab coat and safety goggles, with the text "pel teu futur pel nostre futur" and "FES-TE AMIC/AMIGA DE L'IRBLeida". The website [www.amicsirbllleida.cat](http://www.amicsirbllleida.cat) is also displayed.

Bottom banner of the "Amic/amiga IRBLeida" campaign, identical to the top one, featuring the same young girl and promotional text.

Two vertical roll-up banners for IRBLeida. The top one features the logo and slogan "Som recerca Som futur Som IRBLeida" with the website [www.irbllleida.cat](http://www.irbllleida.cat). The bottom one features a close-up of a gloved hand using a pipette in a lab, with statistics: "+350 Investigadors i Investigadores" and "+35 Grups de recerca".

Detailed view of the IRBLeida general leaflet, showing sections for "IRBLeida, recerca translacional", "367 investigadors", "36 grups de recerca", and "DADES RELLEVANTS 2019".

367	428	316
PERSONES INVESTIGADORES PERSONAL INVESTIGADOR	TRIPLES PUBLICACIONS (111 articles / 215 papers)	PUBLICACIONS CIENTÍFIQUES PUBLICACIONS CIENTÍFIQUES
28	1.554,9	144
PROJECTES DE INVESTIGACIÓ PERCENTATGE DE PROJECTES DE INVESTIGACIÓ	VALOR ECONÒMIC DE LA RECERCA (MILIONS D'EUROS)	INDICadors de RECERCA INDICadors de RECERCA
5,8 ME	75	9.000
PREMIERES DE RECERCA PREMIERES DE RECERCA	ESTUDIS TRANSLACIONALS EN ACTES ESTUDIS TRANSLACIONALS EN ACTES	INDICadors de RECERCA INDICadors de RECERCA
7	54%	166
PREMIERES DE RECERCA PREMIERES DE RECERCA	PROJECCIONS CIENTÍFIQUES DE 2019 DE PROJECCIONS CIENTÍFIQUES DE 2019	INDICadors de RECERCA INDICadors de RECERCA

IRBLeida general leaflet

Amic/amiga IRBLeida campaign.

Graphic for the "WELCOME PACK" with the text "GUIA BENVINGUDA IRBLeida". It features a stylized molecular structure and the IRBLeida logo.

Welcome pack

Graphic for the "MEMÒRIA DE LA RESPONSABILITAT SOCIAL CORPORATIVA DEL 2019 DE IRBLeida". It features a stylized molecular structure and the IRBLeida logo.

IRBLeida's Corporate Social Responsibility Report 2019 and bookmark: 12 activities

IRBLeida Roll-ups

## 4. Internal communication

Monthly electronic bulletin with the news of the month, as well as an interview with a person from the centre and a collaborating entities and companies.



Social activities:

### Fruit Day Pilot Programme - AECC



### IRBLeida carnival



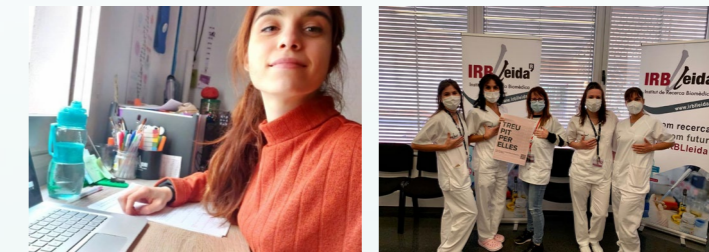
### Adhesion to the European Mobility Week



### Blood Donation Marathon



### Own campaigns on social networks (#joemquedoacasa, World Breast Cancer Day)



### Researchers's Night



### II Jornada Som Recerca

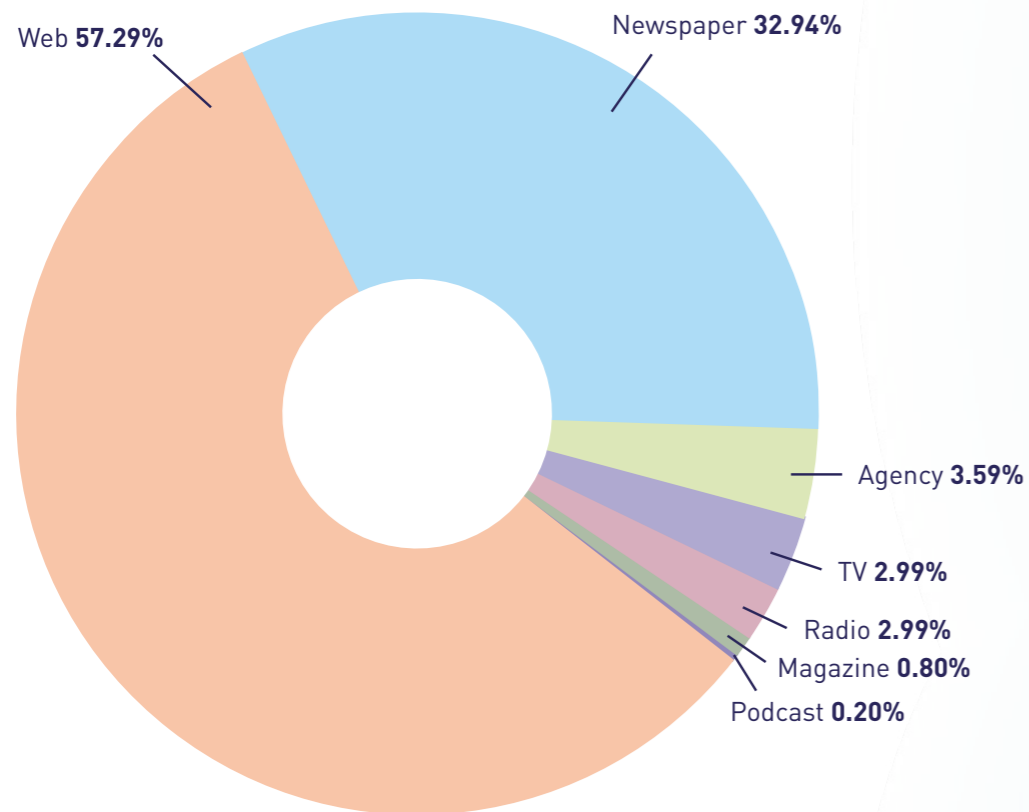


## 5. External communication

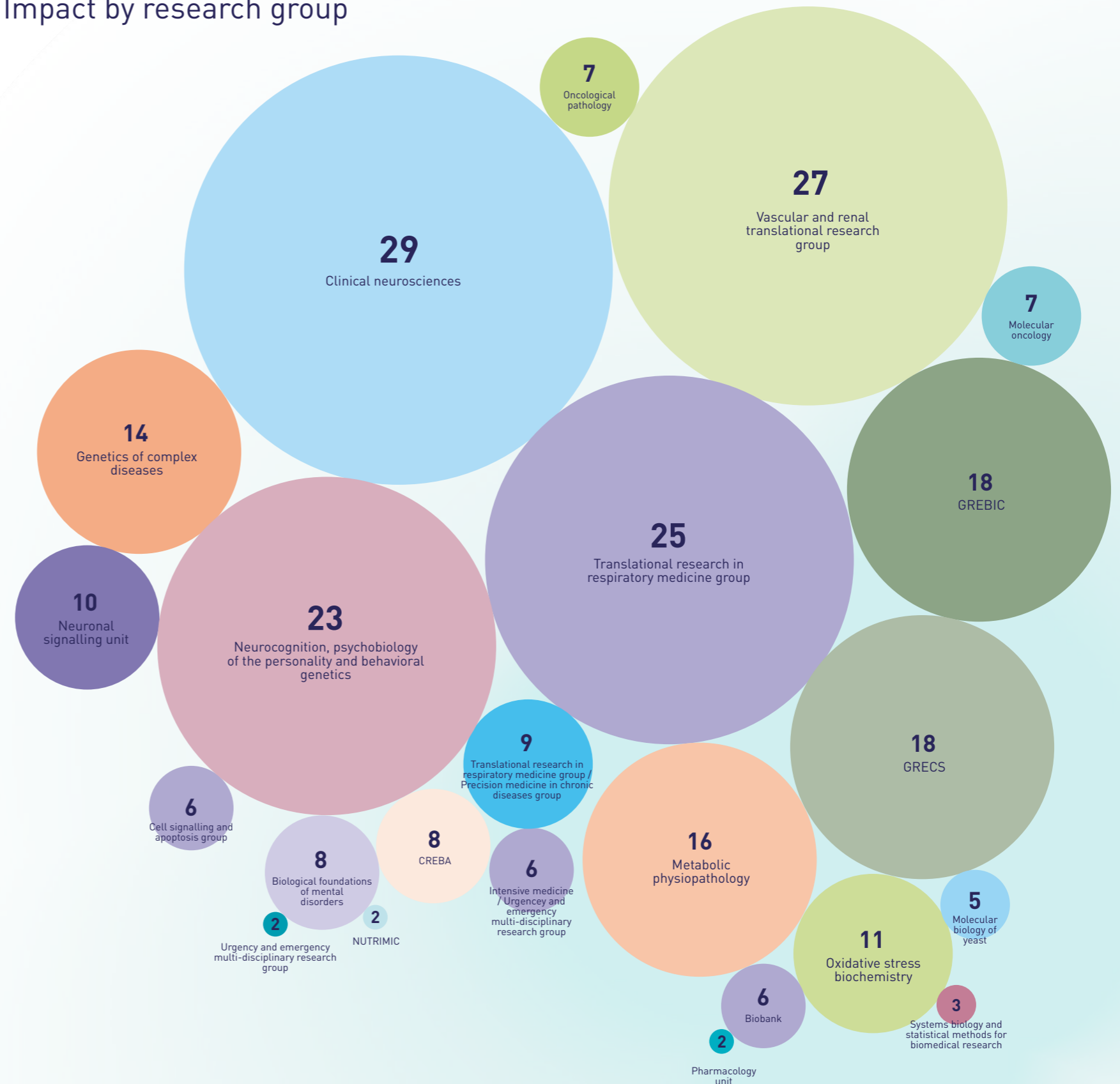
### Press

In 2020, 72 press releases were sent out, generating 501 press impacts.

- Web (57.29%)
- Newspaper (32.94%)
- Agency (3.59%)
- TV (2.99%)
- Radio (2.19%)
- Magazine (0.80%)
- Podcast (0.20%)



### Impact by research group



## 5. External communication

### Social Media

	2016	2017	2018	2019	2020
Twitter	1,257	1,530	1,820	2,096	2,414
Facebook	-	-	172	257	432
Linkedin	-	284	428	666	1,366
Instagram	-	-	-	-	828

### Web

	2019	2020
Users	36,988	45,803
New users	35,815	44,704
Sessions	71,377	87,473
Pages / session	3.04	2.72

# Fundraising



## Fundraising



The contributions made by companies and entities that work with IRBLleida have the mission of promoting, developing, managing and disseminating biomedical research in Lleida.

Donations allow us to investigate major diseases such as cancer, stroke, multiple sclerosis, diabetes, pleura, aging, the nervous system, the cardiovascular system, disorders and respiratory infections, and mental disorders, among others, to provide better services to our population. At present, IRBLleida has the support of 135 companies and entities from Lleida, whose help the search for their groups has produced important results.

### Why donate to the IRBLleida?

- To promote health research and have an impact on the quality of life of the population.
- To improve the treatment of many diseases to benefit the health of our children, grandchildren and future generations.
- To collaborate with the scientific community, patients and the public.
- To promote Lleida and the region.
- To share the values of the IRBLleida: responsibility, respect, rigour, generosity in synergy, independence of judgement, fairness in the distribution of resources, social commitment, leadership and enthusiasm.

### Information 2020

**135**

Total collaborating companies

**9**

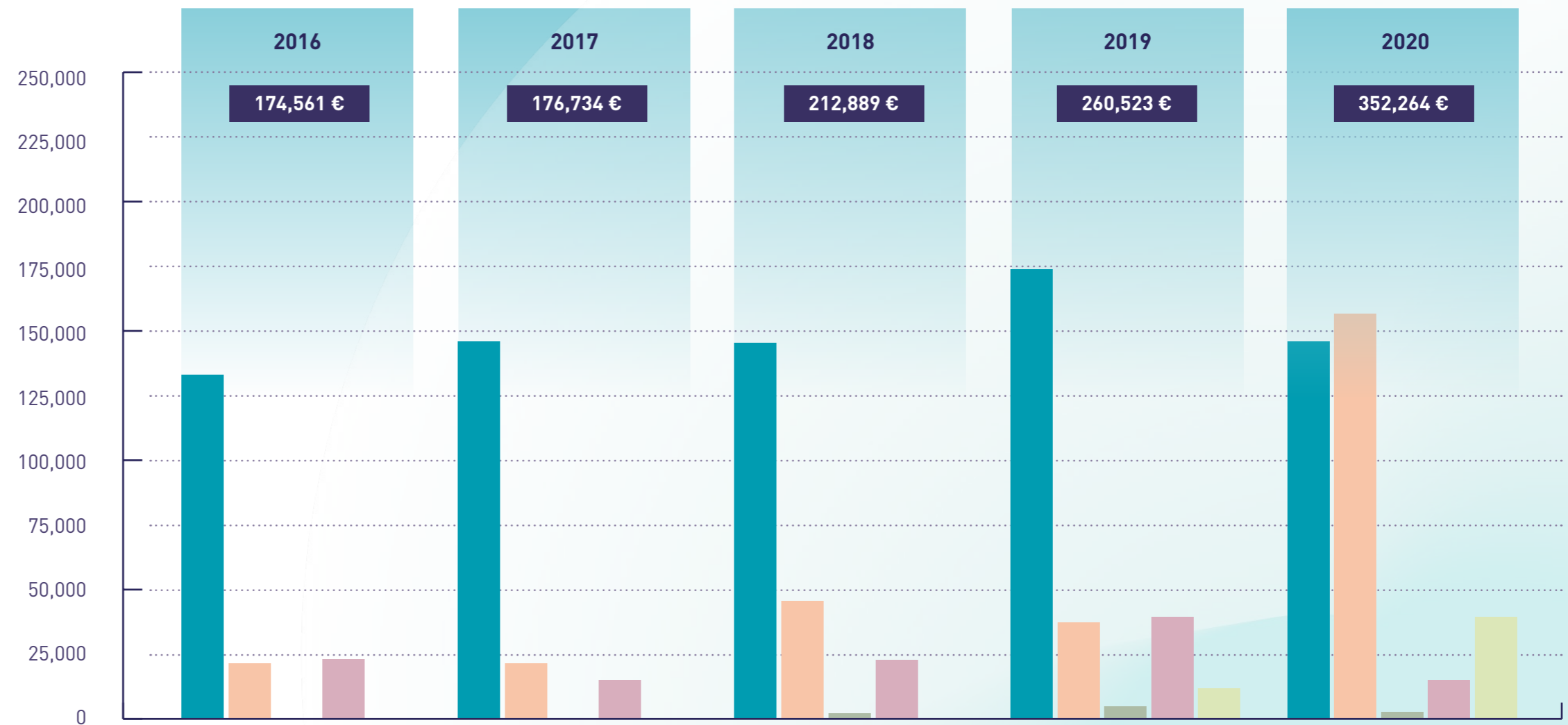
New collaborators

**179,370€**

Contribution to IRBLleida



## Fundraising



Category	2016	2017	2018	2019	2020
Collaborating companies and entities	133,561 €	143,382 €	142,799 €	174,084 €	145,671 €
Major donors (more than 12,000 €)	20,000 €	20,000 €	47,000 €	32,000€	158,000 €
Microfunding	0 €	0 €	1,140 €	3,972 €	1,708 €
Mamapop	21,000 €	13,352 €	21,950 €	35,467 €	13,040 €
Other activities (Confinarun, Paquita Ràfales)	0 €	0 €	0 €	15,000€	33,845 €

# Fundraising

## Lleida companies and entities

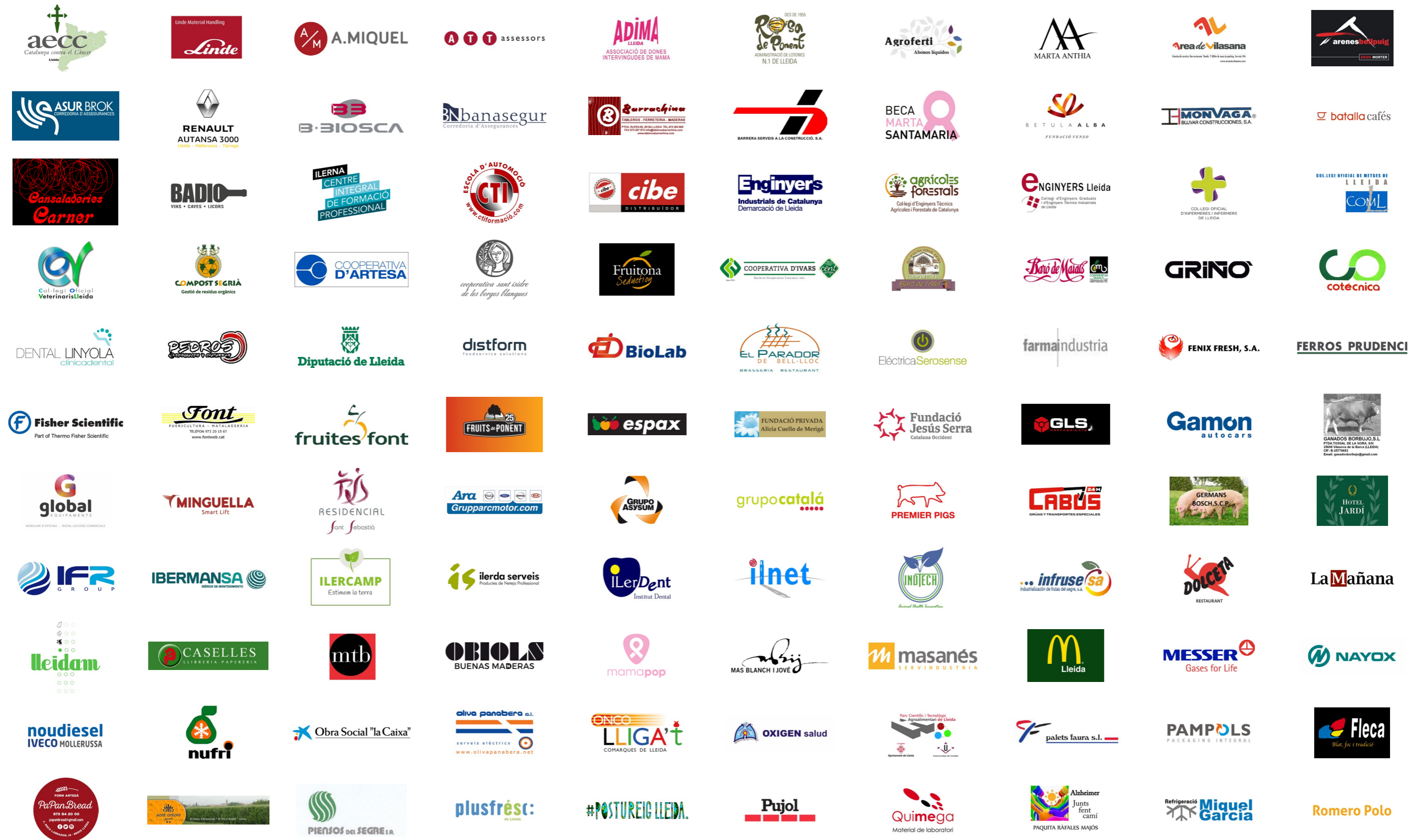


# Fundraising

## Catalonia companies and entities



# Collaborating companies and Entities



## Collaborating companies and Entities





# Research activity

# Global data on scientific production

In 2020, IRBLleida researchers produced a total of 283 scientific publications, of which 267 are original publications, 13 review articles and 3 letters.

	Publications	Average IF	Cummulative IF
Articles	267	4.88	1,303.0
Reviews	13	6.38	83.0
Letters	3	2.96	8,9
<b>Total</b>	<b>283</b>	<b>4.92</b>	<b>1,349.9</b>

Table 1. Scientific production 2020. Number of publications and accumulated impact factor (IF), according to the 2019 Journal Citation Report.

## Publications according to Typology

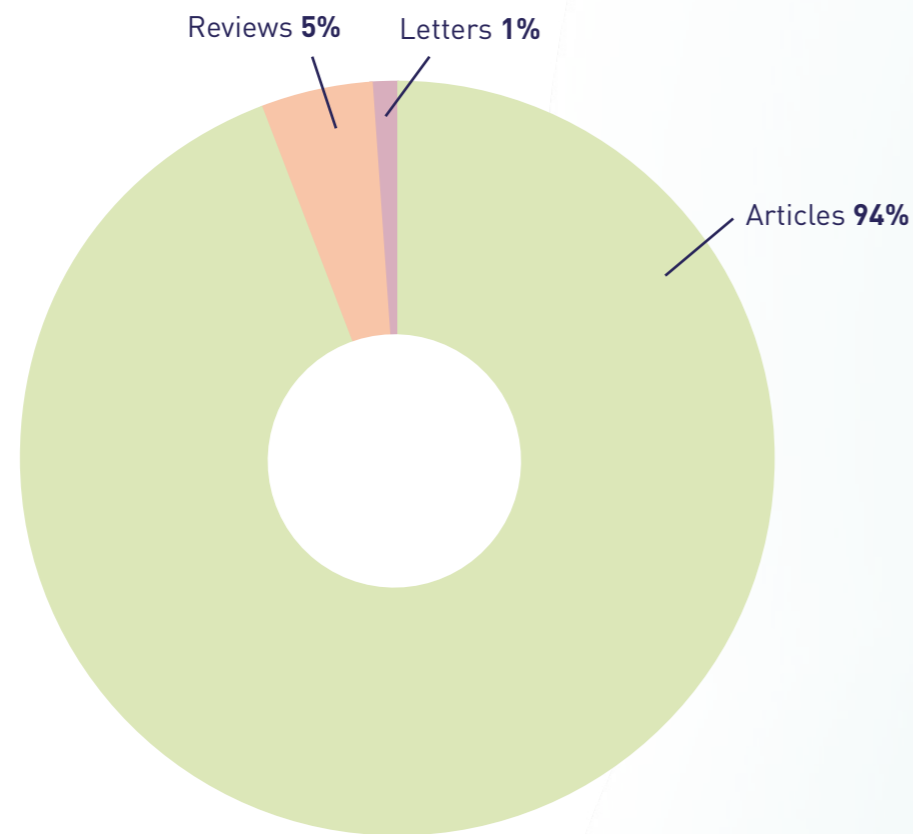


Figure 1. Scientific production in percentage of publications according to typology (article, review and other types of publications).

Of the total number of indexed publications in 2020, 60.4% belong to the first quartile of the specialty (171 publications) and 19.1% to the second quartile (54 publications). This represents that 79.5% of the scientific production of the IRBLleida has been made in the best journals of the specialty. Of the indexed scientific publications of 2020, 21.2% have been published in first decile journals.

## Publications by Quartile

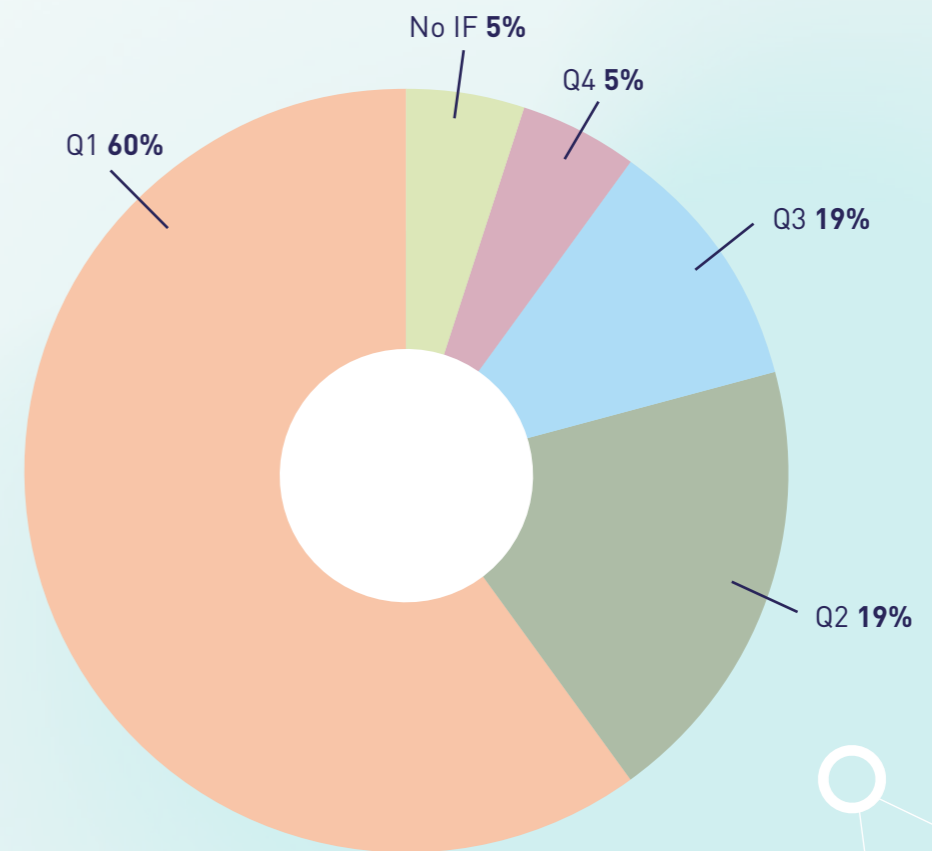


Figure 2. Scientific production for 2020 by specialty quartiles. Percentage of publications per quartile (Q).

# Global data on scientific production

## Nº publications by quartile

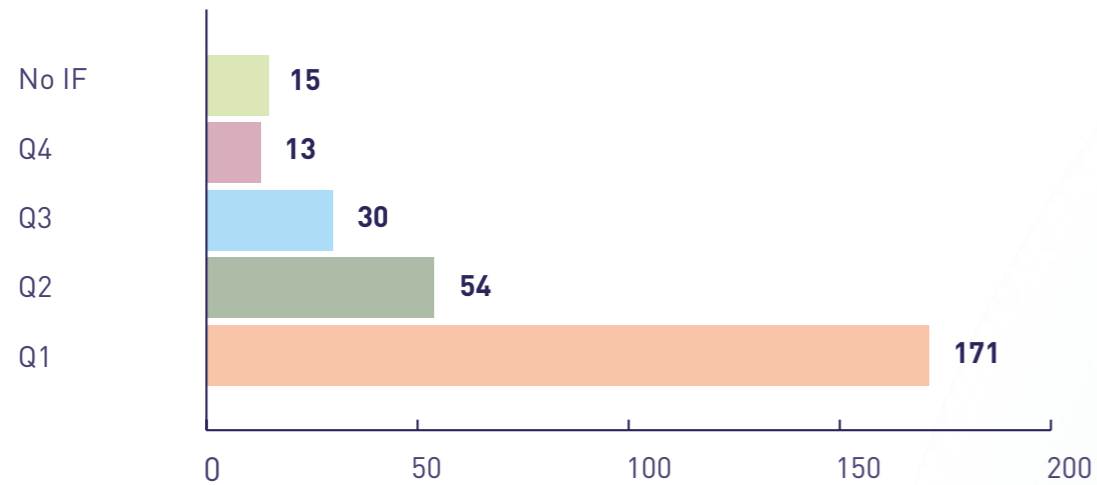


Figure 3. Total number of scientific publications per specialty quartile (Q).

## 1st quartile and decile historical series

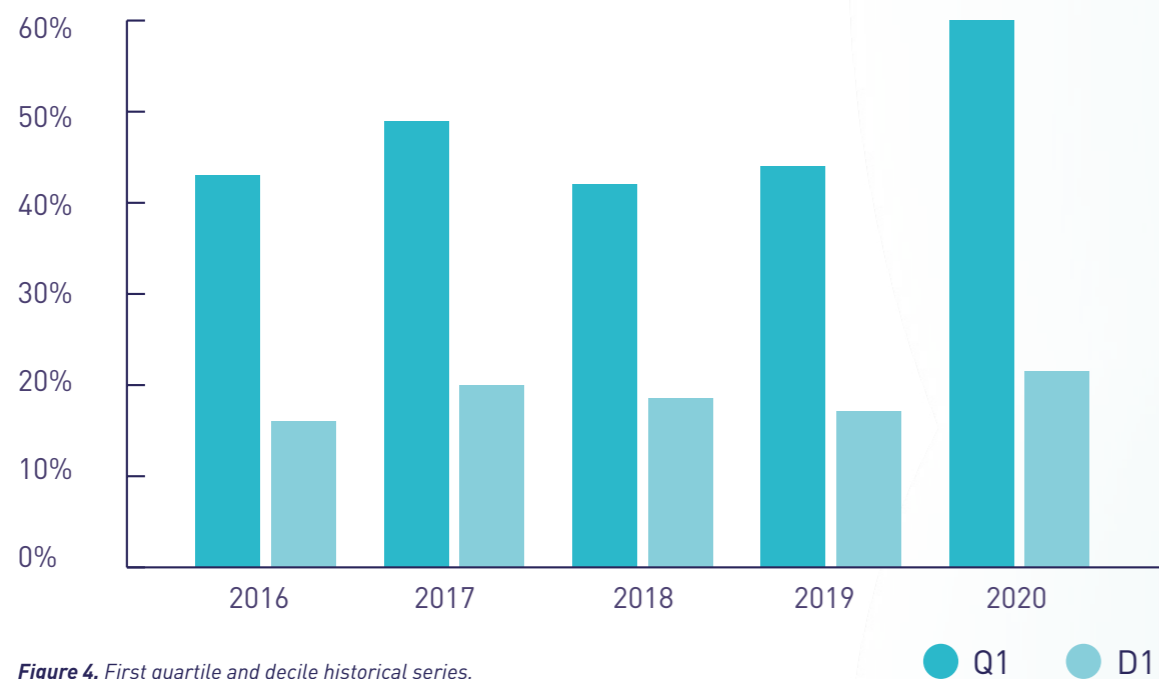


Figure 4. First quartile and decile historical series.

The accumulated impact factor and the number of publications have slightly decreased in 2020 compared to 2019, but the average impact factor is the highest of all the historical series. Figures 5 and 6 show the evolution of scientific production in the last 5 years, in number of publications, number of cumulative citations and average and cumulative impact factor (JCR).

## Publications and citations historical series



Figure 5. Total number of publications in the last 5 years. The blue line indicates the cumulative number of citations per year.

## Impact factor historical series

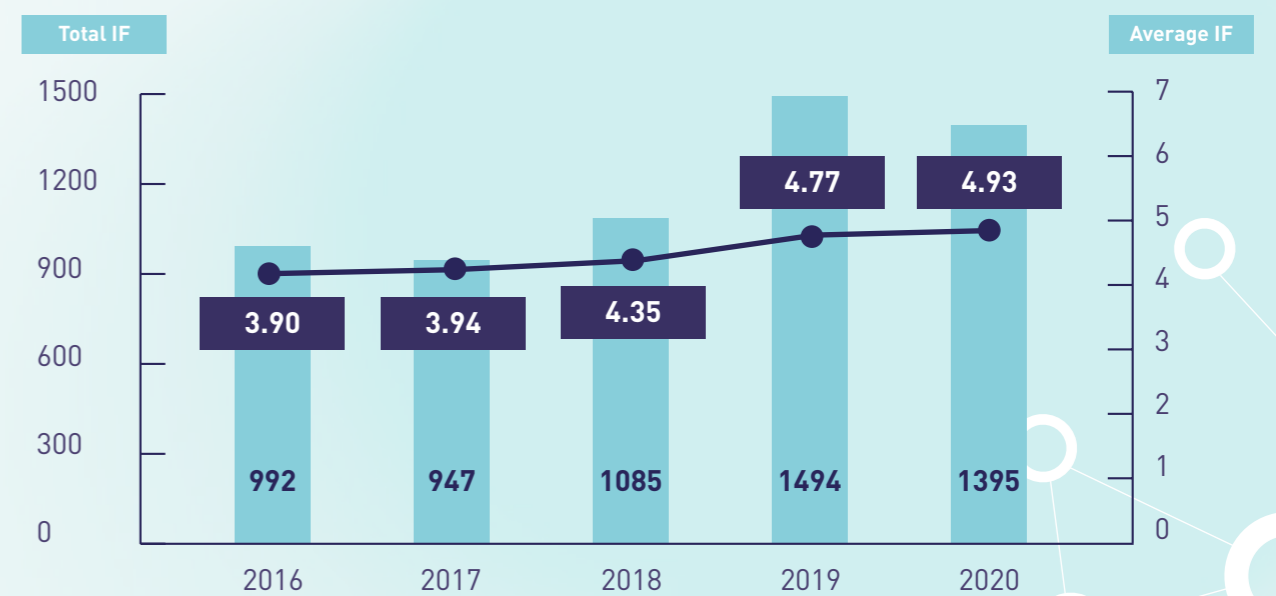


Figure 6. Evolution of the accumulated Impact Factor (IF) (bars) and average Impact Factor (points). The 2020 IF has been calculated according to the 2019 journal citation report.





## Global data on scientific production

Of the 2020 publications 50% have been led by IRBLleida researchers (Figure 7), understanding leadership as the first and/or last author or corresponding. The remaining 50% correspond to publications in which IRBLleida researchers participate in the research team. The 32.5% of publications have been in international collaboration (Figure 8), and 91% of publications have been in international journals (Figure 9).

### Publication leadership

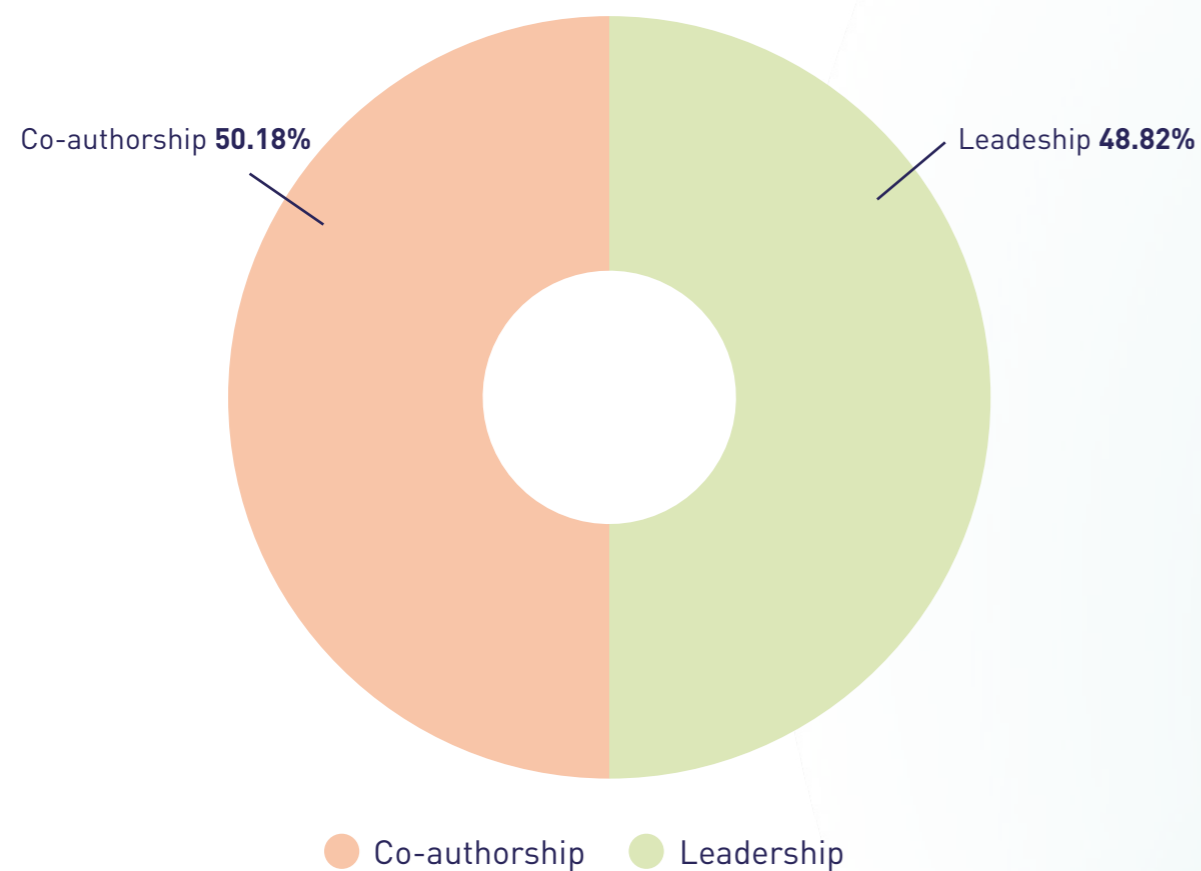


Figure 7. Distribution of 2020 publications according to IRBLleida research leadership.

### Collaborations on publications

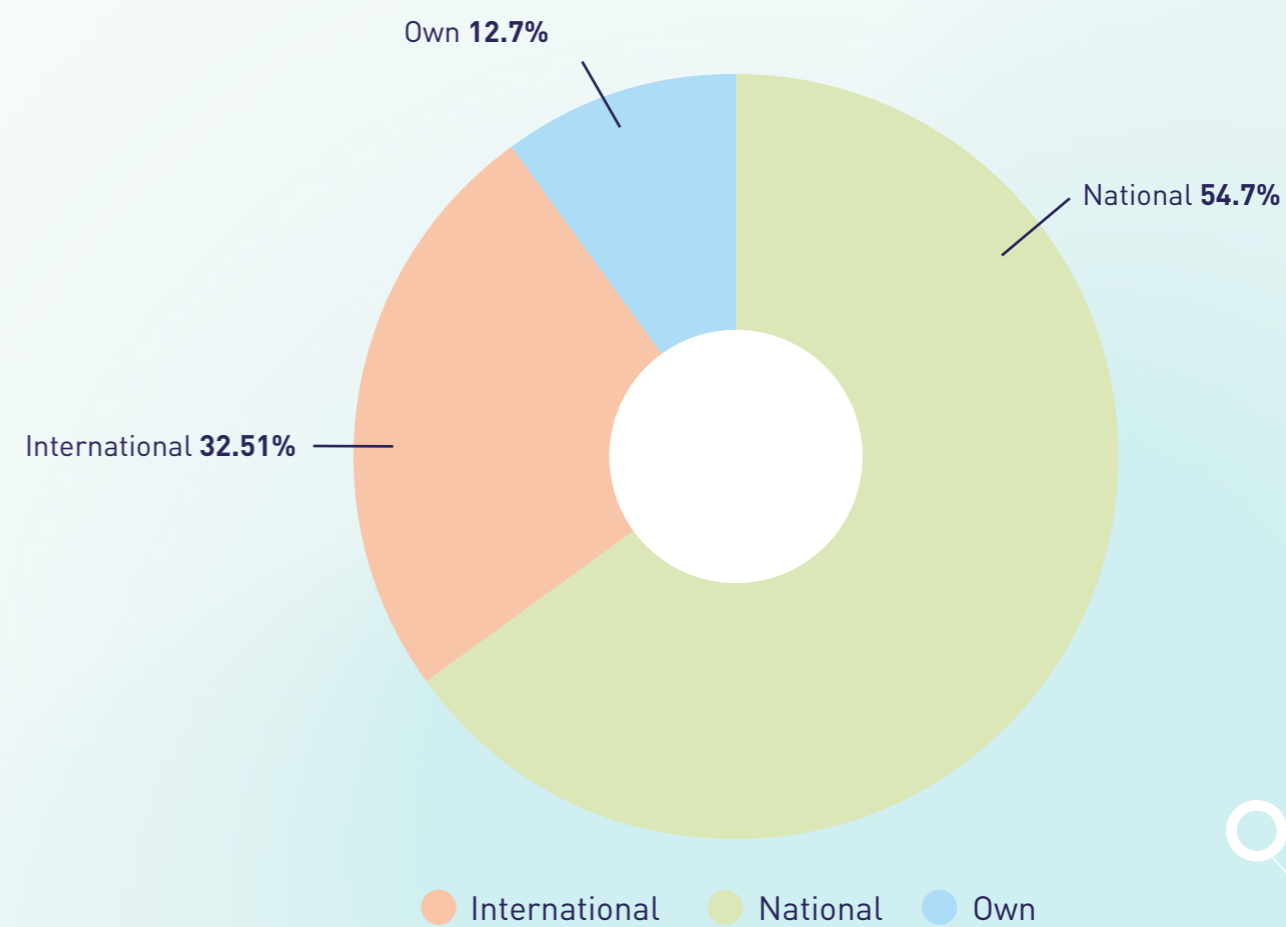


Figure 8. Distribution of 2020 publications according to precedence of collaborators. International means publications of IRBLleida groups with participation of international groups, national means publications of IRBLleida groups with participation of national groups, own means publications of IRBLleida groups with participation only of other IRBLleida groups.

# Global data on scientific production

## Impact Scope

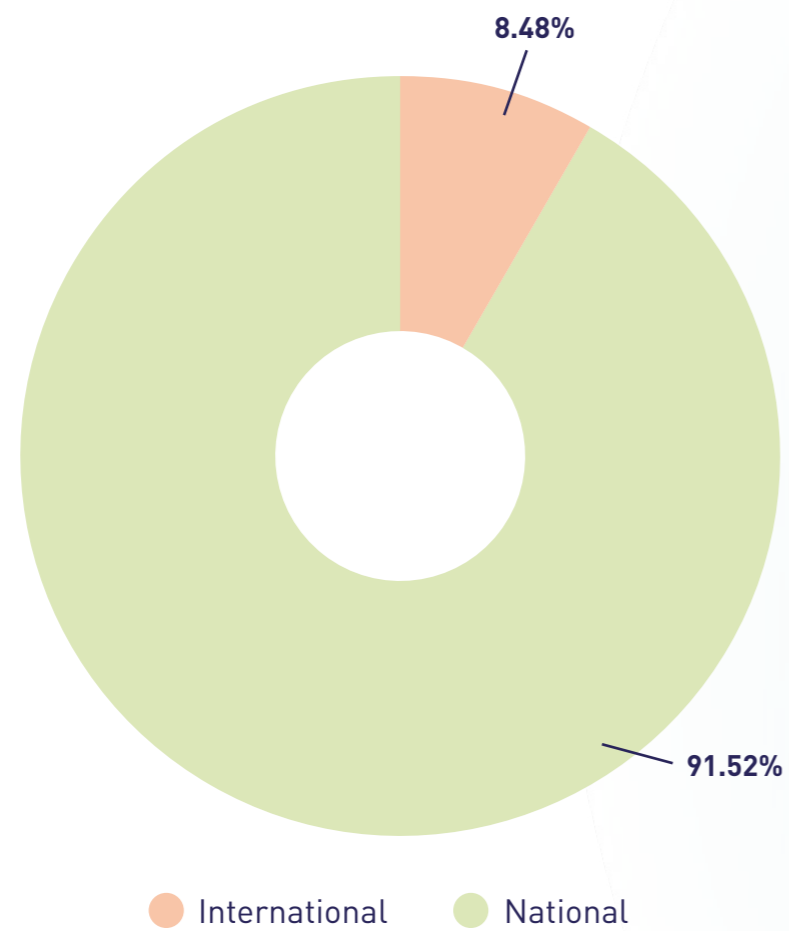


Figure 9. Distribution of 2020 scientific publications according to the national or international scope of the journal.

## Project success rate

In 2020 IRBLleida researchers have requested a total of 53 projects in national competitive public calls, of which 23 have been granted,

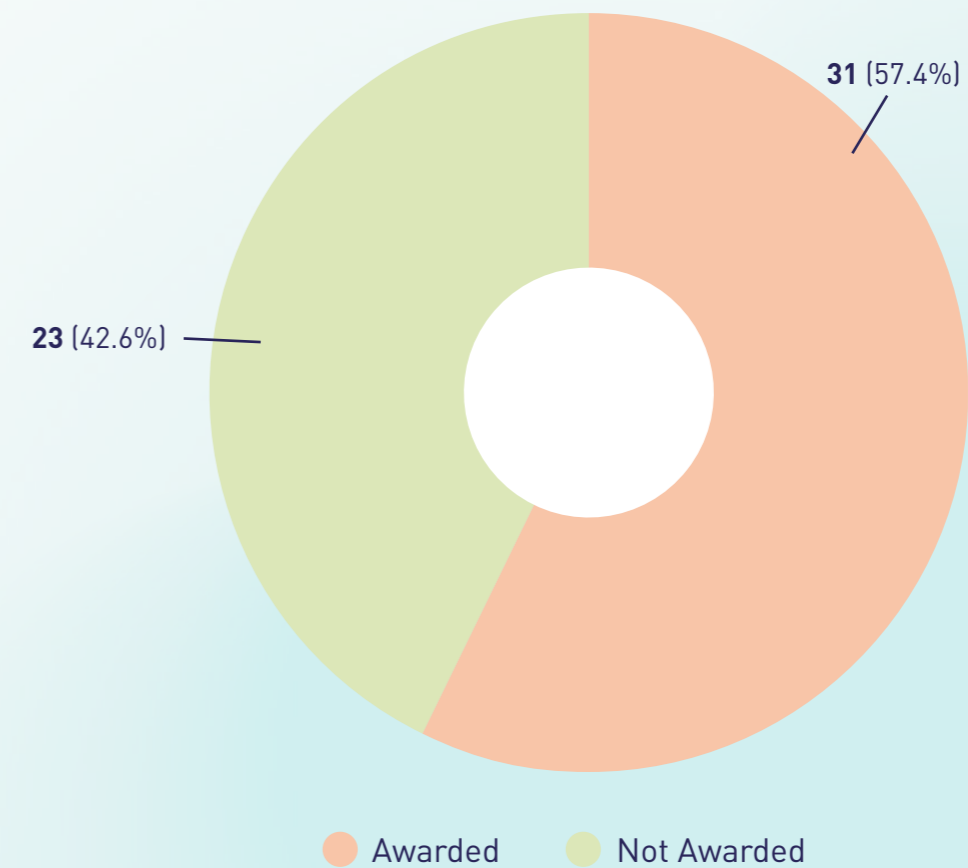


Figure 10. Success Rate on public competitive projects applied for in 2020.

## Global data on scientific production

### Clinical Practice Guidelines 2020

During 2020 IRBLleida researchers have published 7 clinical practice guidelines in indexed scientific journals or as a non indexed document.

Kind of document	Title	Researcher	Research group	Scope
Article	WHO classification of tumors of the female genital tract (2019-20)	Xavier Matias-Guiu	Oncological pathology	International
Article	ESGO/ESTRO/ESP guidelines for the management of patients with endometrial carcinoma (co-chairman)	Xavier Matias-Guiu	Oncological pathology	International
Article	ESMO recommendations on predictive biomarker testing for homologous recombination deficiency and PARP inhibitor benefit in ovarian cancer	Xavier Matias-Guiu	Oncological pathology	International
Article	Mutational screening of BRCA1/2 genes as a predictive factor for therapeutic response in epithelial ovarian cancer: A consensus guide from the Spanish Society of Pathology (SEAP-IAP) and the Spanish Society of Human Genetics (AEGH)	Xavier Matias-Guiu	Oncological pathology	International
Article	Guías de práctica clínica basadas en la evidencia para el manejo de la sedoanalgesia y delirium en el paciente adulto críticamente enfermo International Society of Gynecological Pathologists	Jesús Caballero	Intensive Medicine	National
Article	Recomendaciones para el tratamiento nutrometabólico especializado del paciente crítico: farmaconutrientes, nutrientes específicos, fibra, simbióticos cancer: results from a survey of Spanish medical oncologists	Lluís Servià	Intensive Medicine	National
Article	Diagnòstic i tractament de l'esclerosi múltiple	Luís Brieva	Neuroimmunology	National

Table 2. Clinical Practice Guidelines published in 2020.

# Global data on scientific production

## Theses directed by IRBLleida researchers in 2020

During 2020, IRBLleida researchers have defended 15 doctoral theses.

PhD Student	Thesis	Director/s	Group
<b>Sonia Gatus</b>	Alteracions metabòliques en el càncer d'endometri	Xavier Matias-Guiu	Oncological pathology
<b>Francisco de Borja Cerdá Dalmau</b>	Evaluación prospectiva de un protocolo actuación para la metatarsalgia por insuficiencia de primer radio: Resultados de tratamiento conservador y quirúrgico	Juan Viñas/Laura Prats	Clinical and experimental research in digestive and hematological pathology
<b>Carles Forné Izquierdo</b>	Models matemàtics i estadístics aplicats a la presa de decisions en salut	Montserrat Rué	Systems biology and statistical methods for biomedical research
<b>Maria Alba Gairi Burgués</b>	Valoración de la madurez para la toma de decisiones sanitarias en menores afectados de enfermedad aguda y crónica en un contexto hospitalario	Montserrat Esqueda/Eduardo Sole	Biological foundations of mental disorders
<b>Minerva Granado Casas</b>	Adherencia a la Dieta Mediterránea y resultados percibidos por el paciente en la diabetes autoinmune	Didac Mauricio/Joan Torres	Vascular and renal translational research group
<b>Cristian Didier</b>	Ginseng, ¿Una ayuda ergogénica para corredores? Conexión entre el metabolismo lipídico, inflamación y estrés oxidativo con el rendimiento deportivo	Alba Naudí/Jose Serrano	Metabolic physiopathology
<b>Antonio Mesalles</b>	Cirugía de implantes dentales guiada por ordenador mínimamente invasiva	Juan Viñas	Clinical and experimental research in digestive and hematological pathology
<b>Silvia Rodriguez</b>	Barreras y facilitadores en el cumplimiento de la care bundle en dispositivos de acceso vascular	Maria Luisa Guitard/ Mercedes Palomar	Intensive Medicine
<b>Maria Magdalena Torres</b>	Predictores de retirada e infecciones asociados al catéter pleural tunelizado: estudio retrospectivo de 336 procedimientos	Juan Manuel Porcel/Silvia Bielsa	Research group in Cancer Biomarkers
<b>Rafael Villalobos</b>	Estudio biomecánico del cierre de la pared abdominal	Jorge Juan Olsina	Experimental surgery
<b>Lara Nogueras</b>	Estado redox periférico y biomarcadores pronóstico en la esclerosis múltiple	Hugo Gonzalo/ Reinald Pamplona	Metabolic physiopathology
<b>Carolina López</b>	Sympathetic activation and breathing during sleep in type 2 diabetes mellitus	Albert Lecube	Research Group in Immunology and Metabolism
<b>Celia Vived</b>	Identificación de nuevas vías de señalización de la ciclina D3 implicadas en la viabilidad y funcionalidad de la célula beta pancreática en la diabetes autoinmune	Concepción Mora	Research Group in Immunology and Metabolism
<b>Rebeca Berdún Hernández</b>	Fisiopatología molecular de l'obesitat prepuberal induïda per dieta hipercalòrica i la seva modulació per compostos probiòtics en un model preclínic porcí	Mariona Jové/Manel Portero	Metabolic Physiopathology
<b>Sandra de la Fuente</b>	Development of new therapeutic strategies for spinal muscular atrophy	Rosa Soler	Neuronal Signaling

Table 3. List of doctoral theses defended during 2020 at the University of Lleida and directed by IRBLleida researchers.

## Other research indicators

### Research networks and platforms

Reference	Acronym	Funder/Entity	Principal investigator	Research group
<b>RD16/0009/0011</b>	REDINREN	ISCIII (RETICS)	J.M. Valdivielso	Vascular and renal translational research group
<b>COST Action B26</b>	ESADA	European Cooperation in Science & Technology (COST)	F. Barbé	Translational research in respiratory medicine group
<b>CB07/06/2008</b>	CIBERES	ISCIII (CIBER)	F. Barbé	Translational research in respiratory medicine group
<b>RD16/0019/0017</b>	INVICTUS PLUS	ISCIII (RETICS)	F. Purroy	Clinical neurosciences
<b>812699</b>	IMPROVE-PD	European Commision- MSCA - ITN - 2018	J.M. Valdivielso	Vascular and renal translational research group
<b>COST CA18216</b>	VascAgeNet	European Cooperation in Science & Technology (COST)	J.M. Valdivielso	Vascular and renal translational research group
<b>COST CA15203</b>	MitoEAGLE	European Cooperation in Science & Technology (COST)	J. Boada, L. Nogueras	Neuroimmunology and metabolic physiopathology
<b>RD16/0015/0008</b>	REMM	ISCIII (RETICS)	L. Brieva	Neuroimmunology
<b>H2020-MSCA-ITN-2018-812777</b>	CHICKENSTRESS	European Commision- MSCA - ITN - 2019	L. Medina	Evolutionary developmental neurobiology
<b>PT17/0015/0027</b>	Plataforma nacional de Biobancos	ISCIII (Plataformas)	X. Matias-Guiu	Biobank IRBLLeida
<b>CB16/12/00231</b>	CIBERONC	ISCIII (CIBER)	X. Matias-Guiu	Oncological pathology
<b>PT20/00021</b>	Plataforma de Biobancos y Biomodelos	ISCIII (Platforms)	X. Matias-Guiu, D. Arango	Oncological pathology, molecular oncology
<b>RED2018-102372-T</b>	INESGEN	MICIUN (Research Networks)	J. Torres	Cell cycle
<b>RED2018-102457-T</b>	MetaboRed	MICIUN (Research Networks)	M. Jové	Metabolic physiopathology
<b>COST CA19105</b>	epiLipidNET	European Cooperation in Science & Technology (COST)	R. Pamplona	Metabolic physiopathology
<b>CB07/08/0024</b>	CIBERDEM	ISCIII (CIBER)	A. Lecube	Research group in immunology and metabolism (GRIM)
	INFECMOL	Grupo de acción Iberus	G. Belli	Molecular biology of yeast
<b>CB07/06/2008</b>	CIBERES	ISCIII (CIBER)	M. Sánchez	Precision medicine in chronic diseases group
	INCOSACT		M. Sánchez	Precision medicine in chronic diseases group
	APORED	Various Organizations	J.Boix, J. Ribas	Pharmacology unit
<b>CA19137</b>	COST	European Cooperation in Science & Technology (COST)	O. Yuguero	Urgency and emergency multi-disciplinary research group

Table 4. Research Networks and Researchs Platforms with IRBLLeida researchers.

## Other research indicators

### Research groups certified by Generalitat de Catalunya 2017-2020

Reference	Kind of group	Research group	Principal investigator
2017 SGR 01558	GRE <sup>1</sup>	Nutrition, metabolism and microbiota in patients with heart failure (NUTRIMIC)	J.L. Morales
2017 SGR 01620	GRE <sup>1</sup>	Research in cancer biomarkers group (GReBiC)	A. Novell
2017 SGR 01268	GRPRE <sup>1</sup>	Clinical neurosciences	F. Purroy
2017 SGR 00848	GRC <sup>2</sup>	Vascular and renal translational research group	E. Fernández
2017 SGR 01316	GRE <sup>2</sup>	Cross-sectional urgency and emergency research group	O. Yuguero
2017 SGR 01368	GRC <sup>2</sup>	Gynecological and other related cancers group	X. Matias-Guiu
2017 SGR 01368	GRE <sup>2</sup>	Neuroimmunology	H. Gonzalo
2017 SGR 00458	GRE <sup>2</sup>	Quality indicators and specifications in the clinical laboratory	M. Ibarz
2017 SGR 00569	GRC <sup>1</sup>	Eukaryotic cell cycle	E. Garí
2017 SGR 00008	GRC <sup>2</sup>	Neurocognition, psychobiology of personality and genetics of behavior	A. Aluja
2017 SGR 00133	GRC <sup>2</sup>	Systems biology and statistical methods for biomedical research	R. Alves
2017 SGR 00168	GRC <sup>2</sup>	Cell neurobiology	J. Calderó
2017 SGR 00291	GRC <sup>2</sup>	Group on statistical and economic analysis in health (GRAEES)	M. Rué
2017 SGR 00306	GRC <sup>2</sup>	Cellular stress and survival in eukaryotic models	E. Herrero
2017 SGR 00696	GRC <sup>2</sup>	Metabolic pathophysiology	R. Pamplona
2017 SGR 00759	GRC <sup>2</sup>	Evolutionari and developmental neurobiology	L. Medina
2017 SGR 00802	GRC <sup>2</sup>	Translational research in respiratory medicine	F. Barbé
2017 SGR 00822	GRC <sup>2</sup>	Immunology and metabolism group	J. Verdaguer
2017 SGR 01457	GRE <sup>2</sup>	Promotion of healthy aging and chronic care (PESAC)	C. Nuin

**Table 5.** IRBLleida research groups recognized by the Generalitat 2017-2020. GRE: Emerging group; GRPRE: Pre-consolidated group; GRC: Consolidated group.

<sup>1</sup> Recognized and funded group.

<sup>2</sup> Recognized Group.

## Innovation and knowledge transference

### Research results protected by patent application through 2020

Year	IRBLleida researchers	Reference	Title
2014	J. Serrano M. Portero R. Pamplona	ES2402643B1	Anticholesterolemic fibre combination
2015	F. Barbé M. Sánchez A. Sánchez	PCT/EP2015/080183	HIPARCO: Method for predictive response to continuous positive air pressure
2016	M.Portero R. Pamplona M. Jové	PCT/EP2016/066825	FINGOLIMOD: Procedimientos y composiciones para el diagnóstico y tratamiento de la adrenoleucodistrofia
2016	R. Villalobos M <sup>a</sup> . C. Mias	PCT/ES2017/070096	Instrumento para medir parámetros asociados a una incisión en un tejido y procedimiento para medir parámetros en una incisión en un tejido mediante dicho instrumento
2017	D. García del Olmo	PCT/EP2018/076906	Methods for identifying cancer patients at high risk of developing metastasis
2019	J. Verdaguer L. Egia E. Rosell C. Mora M. Corral	EP3756680A1	Intermediate filament-derived peptides and their uses
2019	R. Soler A. Garcerà S. de la Fuente	PCT/ES2018/070177	Treatment for Spinal Muscular Atrophy

**Table 6.** Patent applications in progress in 2020 participated by IRBLleida researchers.

## Scientific production by research area

To compile the following tables, the details of publications by IRBLleida areas and groups have taken into account the original publications, letters and review articles. In the number of articles of first quartile (Q1) are also considered articles of first decile (D1).

Research Areas	Number of publications	Total IF	Average IF	Q1 Publications	D1 Publications
Stress in biological systems	35	207.94	5.94	29 (82%)	10 (28%)
Clinical medicine	123	601.51	4.89	70 (57%)	26 (21%)
Therapeutic and experimental medicine	109	552.63	5.07	69 (63%)	23 (21%)
Cellular and molecular models of human pathologies	13	69.38	5.33	8 (61%)	4 (30%)
Neurosciences	39	155.92	3.99	19 (49%)	5 (13%)
Other research lines	16	48.15	3	10 (62%)	4 (25%)

Table 7. Distribution of scientific production 2020 by research areas. Total number of publications by area and accumulated IF based on JCR 2019.

### Publications and total impact factor by research area

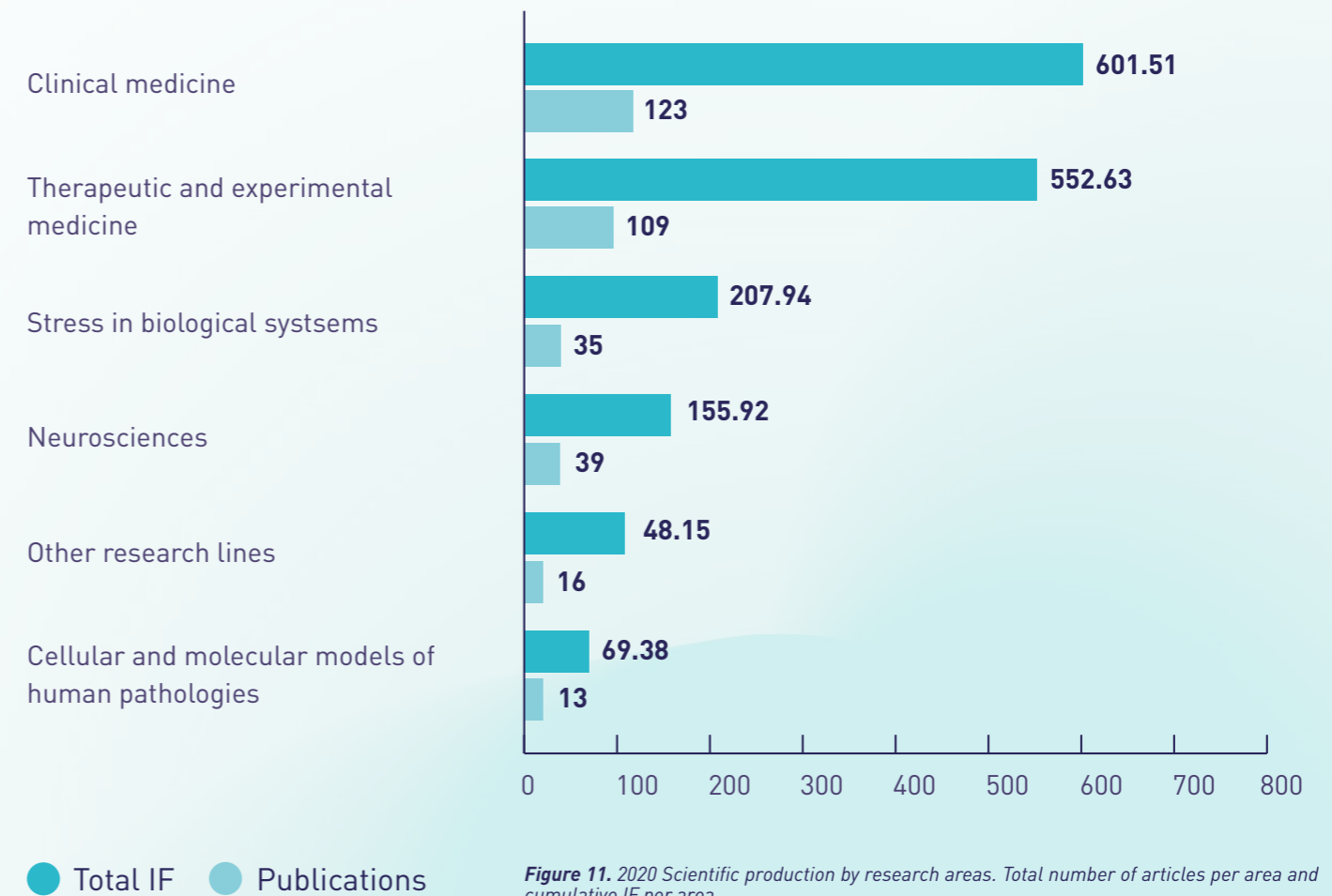


Figure 11. 2020 Scientific production by research areas. Total number of articles per area and cumulative IF per area.



## Scientific production by group

Group	Total Publications	Q1	Q1 %	D1	D1 %	Total IF	Average IF	Not indexed publications
Oncological pathology	33	25	75.8%	12	36.4%	190	5.74	0
Vascular and renal translational research group	31	21	67.7%	6	19.4%	164	5.28	1
Translational research in respiratory medicine group	28	22	78.6%	10	35.7%	186	6.65	1
Precision medicine in chronic diseases group	27	23	85.2%	9	33.3%	189	6.99	0
Metabolic physiopathology	26	22	84.6%	8	30.8%	161	6.19	0
Clinical neurosciences	22	12	54.5%	4	18.2%	99	4.48	0
Research group in immunology and metabolism (GRIM)	20	11	55.0%	2	10.0%	93	4.63	0
Research group of cancer biomarkers (GReBiC)	19	10	52.6%	4	21.1%	97	5.11	3
Research group of health care (GRECS)	16	10	62.5%	4	25.0%	48	3.01	0
Pharmacoepidemiology	12	4	33.3%	1	8.3%	25	2.07	2
Applied epidemiology	11	3	27.3%	0	0.0%	30	2.74	1
Cell cycle	10	5	50.0%	2	20.0%	47	4.68	3
Experimental surgery	10	4	40.0%	0	0.0%	25	2.54	1
Intensive medicine	10	1	10.0%	0	0.0%	13	1.33	3
Neurocognition, psychobiology of the personality and behavioral genetics	9	4	44.4%	0	0.0%	26	2.83	0
Clinical and experimental research in digestive and hematological pathology	9	5	55.6%	2	22.2%	54	6.02	0
Translational research group on infectious diseases	7	4	57.1%	2	28.6%	40	5.76	1
Systems biology and statistical methods for biomedical research	5	4	80.0%	1	20.0%	23	4.67	0
Urgency and emergency multi-disciplinary research group	4	1	25.0%	0	0.0%	8.1	2.02	0
Oxidative stress biochemistry	3	2	66.7%	1	33.3%	19	6.47	0

**Table 8.** 2020 scientific production by research groups. Total publications per group, and number of publications in first decile and first quartile of JCR. Average and cumulative IF based on JCR 2019. It should be noticed that the publications result of collaboration between different groups, have been valued for all the groups that sign the authorship.

## Scientific production by group

Group	Total Publications	Q1	Q1 %	D1	D1 %	Total IF	Average IF	Not indexed publications
Genetics of complex diseases	3	1	33.3%	0	0.0%	7.8	2.59	1
Indicators and specifications of the quality in the clinical laboratory	3	1	33.3%	0	0.0%	8.8	2.92	0
Neuroimmunology	3	0	0.0%	0	0.0%	3.8	1.27	0
Experimental neuromuscular pathology	3	2	66.7%	1	33.3%	18	5.90	0
Biological foundations of mental disorders	2	1	50.0%	0	0.0%	3.9	1.95	1
Molecular oncology	2	1	50.0%	1	50.0%	15	7.47	0
Cell signalling and apoptosis group	2	2	100.0%	1	50.0%	15	7.60	0
Neuronal signalling unit	2	1	50.0%	0	0.0%	10	5.11	0
Calcium cellular signalling	1	1	100.0%	1	100.0%	7.4	7.36	0
Cell signalling in yeast	1	1	100.0%	0	0.0%	4	4.01	0
Pharmacology unit	1	1	100.0%	0	0.0%	4.2	4.22	0
Molecular biology of yeast	0	0	0.0%	0	0.0%	0	0.00	0
Drosophyla working line	0	0	0.0%	0	0.0%	0	0.00	0
Evolutionary developmental neurobiology	0	0	0.0%	0	0.0%	0	0.00	0
Molecular and developmental neurobiology	0	0	0.0%	0	0.0%	0	0.00	0
Nutrition, metabolism and microbiota in patients with heart failure (NUTRIMMIC)	0	0	0.0%	0	0.0%	0	0.00	0
Oncogenic signalling and development	0	0	0.0%	0	0.0%	0	0.00	0

**Table 8 continue.** 2020 scientific production by research groups. Total publications per group, and number of publications in first decile and first quartile of JCR. Average and cumulative IF based on JCR 2019. It should be noticed that the publications result of collaboration between different groups, have been scored for all the groups that co-author the publication.

# Scientific production by group

## Total publications and total IF

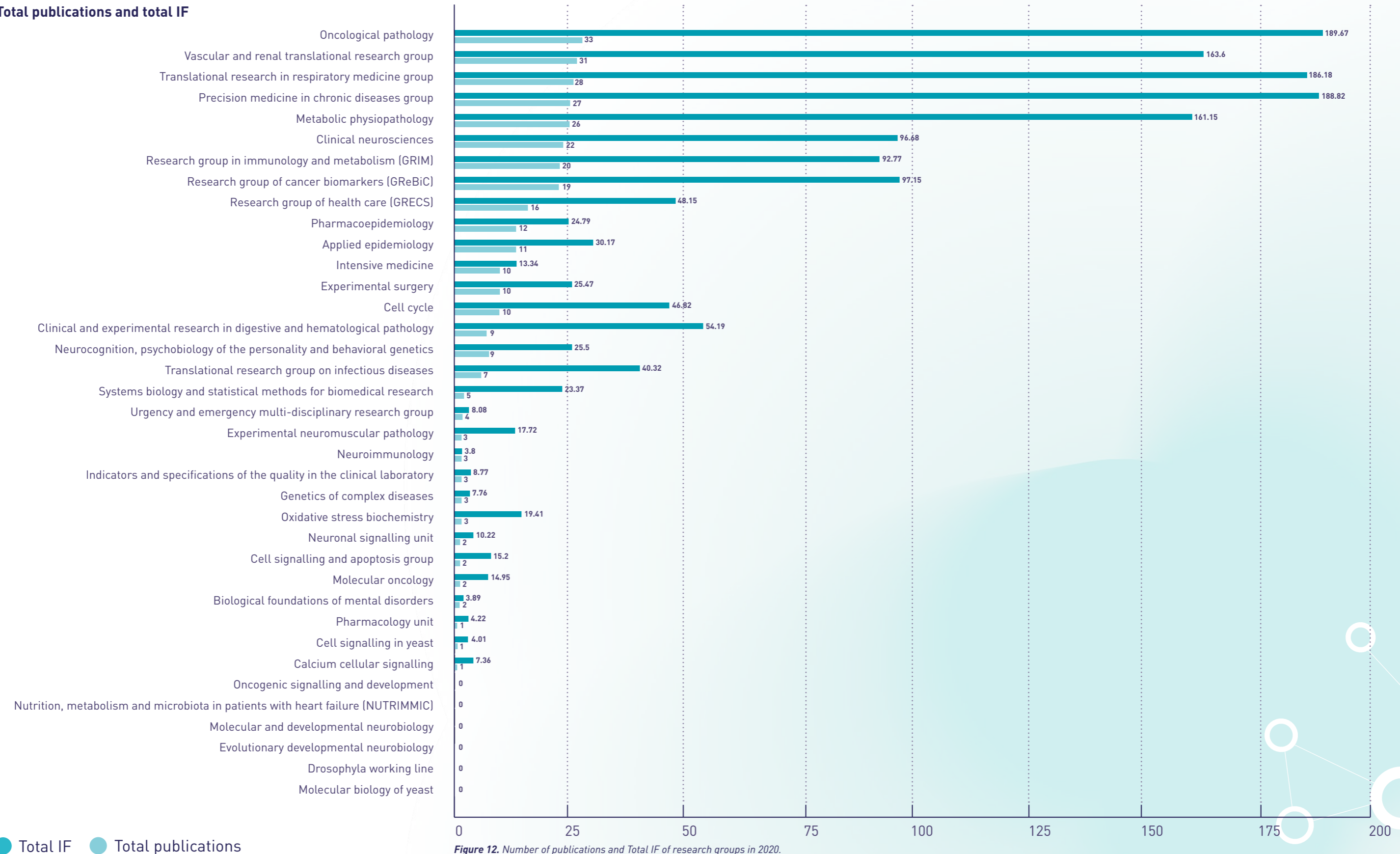


Figure 12. Number of publications and Total IF of research groups in 2020.

# Scientific production by group

Average IF and percentage of Q1 publications per group

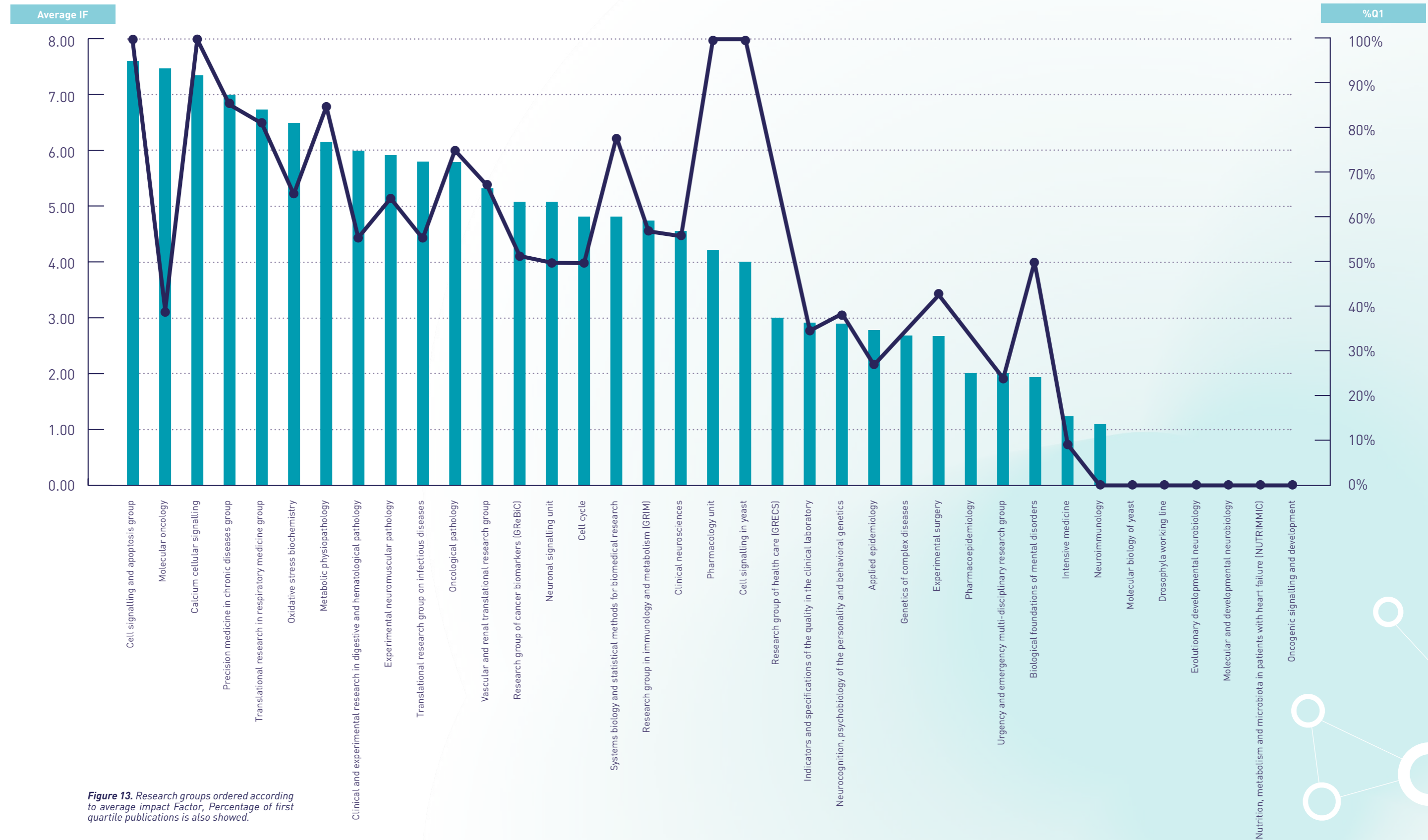


Figure 13. Research groups ordered according to average impact Factor, Percentage of first quartile publications is also showed.

## Global data on financing

### Research grants awarded in 2020

The grants awarded to IRBLleida in 2020 were 54, for a total amount of 4,529,093 €. Table 9 shows competitive grants awarded from national, regional or International agencies and non-competitive funds.

Agency	Number of Projects	Funds (€)
Competitive regional	8	697,252.00
Competitive national	27	2,923,175.00
Competitive international	1	174,966.00
Non-competitive	9	733,844.70
<b>Total</b>	<b>45</b>	<b>4,529,093.00</b>

**Table 9.** Total funds obtained during 2020 from grants awarded to IRBLleida researchers.

Table 10 shows the total amount and number of grants awarded per funding agency.

Scope	Funder	Number of Grants	Funds (€)
Regional	Agència de gestió d'ajuts universitaris i de recerca (AGAUR)	1	<b>71,100.00</b>
	Universitat de Lleida	7	<b>427,777.00</b>
	Diputació de Lleida	8	<b>394,195.00</b>
	Fundació La Marató de TV3	1	<b>198,375.00</b>
Nacional	Instituto de Salud Carlos III (ISCIII)	19	<b>2,160,566.49</b>
	Ministerio de Ciencia, Innovación y Universidades (MICIUN)	7	<b>756,609.00</b>
	Fundación Sociedad Española de Endocrinología y Nutrición	1	<b>6,000.00</b>
Internacional	European Joint Programme Rare Diseases	1	<b>174,966.00</b>

**Table 10.** Number of grants and amounts in € raised by IRBLleida in 2020 according to the funding agency.

### Intramural calls for the incorporation of researchers

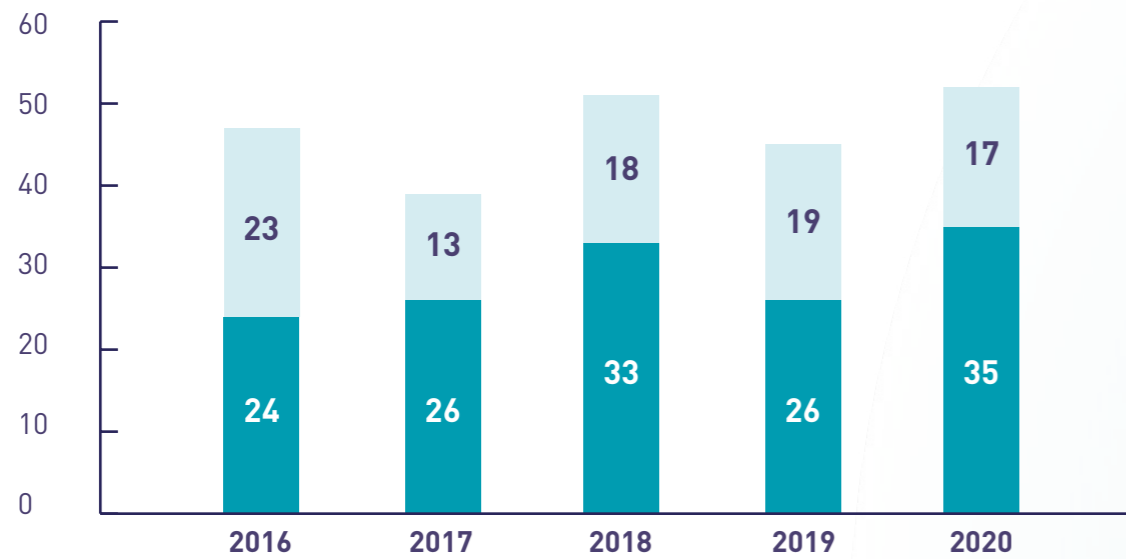
This year, 10 one-year positions have been offered to researchers thanks to funding received from the Diputació de Lleida. Of these, 1 was intended to encourage research in the clinical setting (post-MIRs), at the Lleida Health Region (modality A); 1 was intended to encourage research in the clinical setting (post-MIRs), at the High Pyrenees and Aran Health Region (modality B); 1 aimed at promoting research in experimental models of the Center for Advanced Biomedical Research (CREBA), modality C; and 7 intended to favor the completion of doctoral theses in progress within the IRBLleida research groups, modality D. Finally, the place in modality B was deserted and 2 places have offered in the mode A, as it was the only who had a substitute. Two positions on modality D were not conceded due to lack of candidates. A total of 8 positions were awarded.

# Global data on financing

## Clinical trials and observational studies

The total number of clinical trials and observational studies started during 2020 been was 52 (35 clinical trials and 17 observational studies). The total income from clinical trials during 2020 was 1,365,707 €, and from observational studies was 111,856 €.

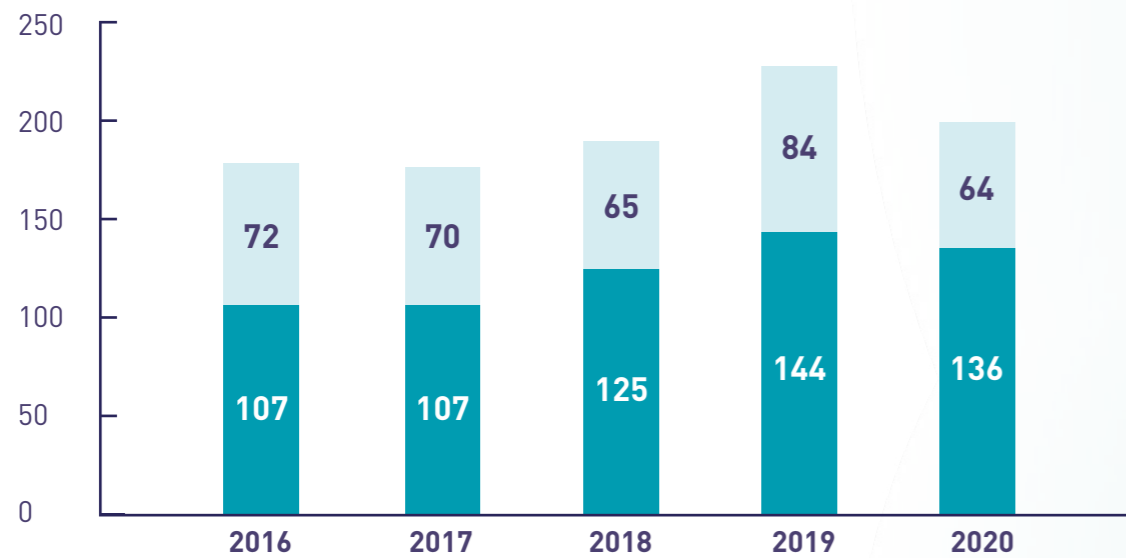
### New clinical trials and observational studies



● Clinical trials ● Observational studies

Figure 14. Historical data on new clinical trials and observational studies.

### Active clinical trials and observational studies



● Active clinical trials ● Active observational studies

Figure 15. Historical data on active clinical trials and observational studies.

## Clinical trials and observational studies funds

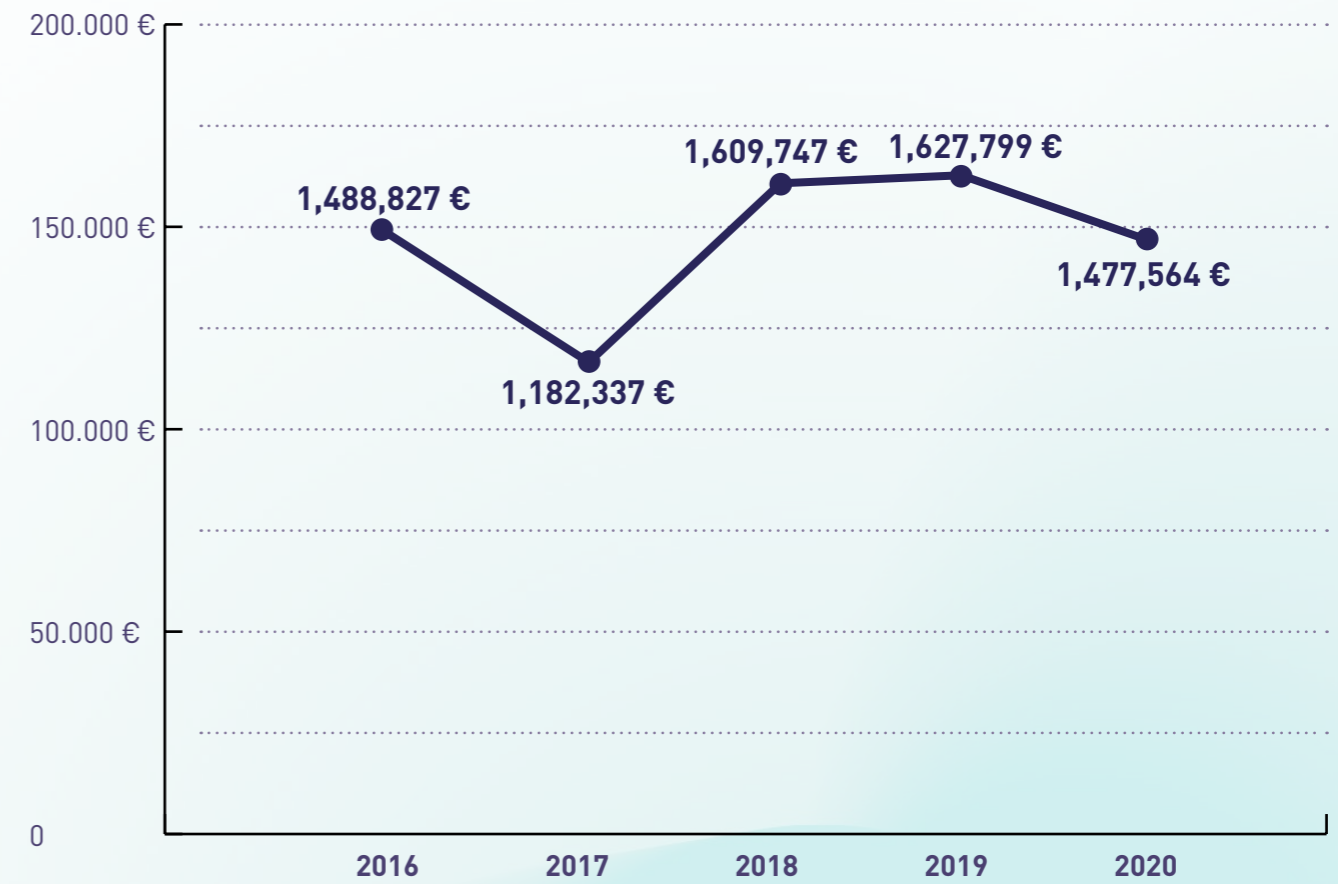


Figure 16 Historical data on funds from clinical trials and observational studies.



# Research activity by areas and groups

## Area 1. Stress in biological systems

The groups in this area of research have the common denominator of studying the effects of stress on biological systems.

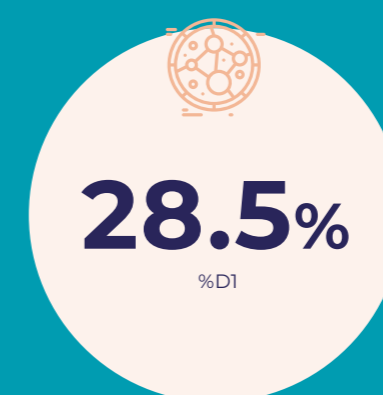
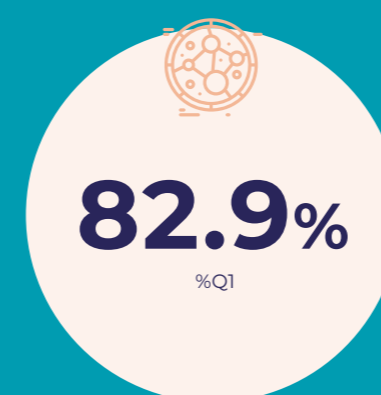
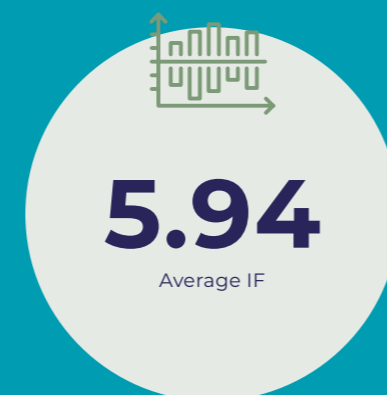
All cells, both individually and as a tissue, have the capacity to respond to changes in environmental conditions. We refer to stress, in a broad sense, as those conditions that jeopardise cell viability or, at least, prevent the cell from expressing its potential in an optimal way. This adaptation requires complex mechanisms, as parameters such as growth, cell proliferation, metabolic activity and repair mechanisms have to be adjusted.

The mechanisms that combat stress situations - the proteins involved, transcription activating factors sensitive to the cell's redox status - are common to many types of organism, so it is not surprising that the study models used by the different groups cover a wide range of cellular systems: from yeasts to mice, established cell lines or primary cultures of post-mitotic tissues. This diversity is enriching, because it helps to establish similarities and differences between different types of organisms. *In silico* models are also proposed to explain metabolic adaptations to different situations.

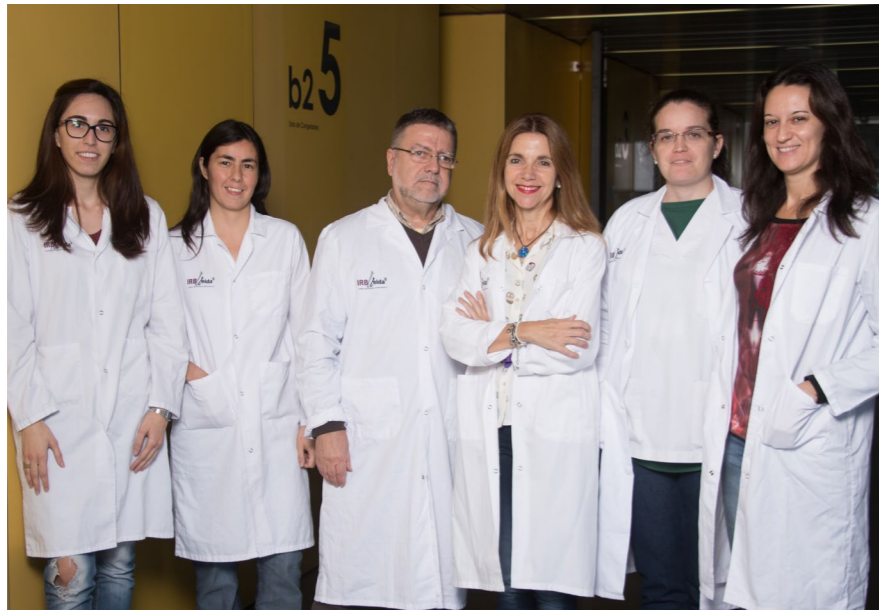
As can be seen in the summary of the main lines of research of each group, the aspects analysed are different. In some cases, the relationship between stress and cell proliferation is analysed. These two facts are highly interrelated, since, for example, cell-stressful treatments cause a transitory arrest of the cell cycle, either in the G1 phase or in the G2-M transition. Another aspect is the study of oxidative damage in macromolecules *in situations* of stress, aging or neurodegeneration. The idea is to study which functions are most affected and how this observed damage can explain metabolic and

structural changes that affect cellular functions which, at the same time, explain the loss of viability.

### Groups







## 1.1. Cell signalling in yeast

Our current research areas have both a basic and applied orientation:

### Basic orientation:

1. Responses to stress mediated by signal transduction pathways (TOR, Ras / PKA, AMPK/Snf1, Pkc1-MAPK, GCN2, PDK1/YPK1 ...).
2. Study of the mechanisms of iron homeostasis, its relationship with the recycling of nutrients through autophagy and its impact on aging and mortality in *Saccharomyces cerevisiae*, with a transnational objective towards studies related to iron deficiency anemia and breast cancer.
3. Humanization of yeast with human ferritins in order to delve into the mechanisms of iron homeostasis and cell survival.

### Applied orientation:

1. Design of strategies to increase endogenous iron levels for use as a nutritional supplement.
2. Design strategies for directed evolution to obtain improved strains for use in food production.



#### Group leader

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#### Location

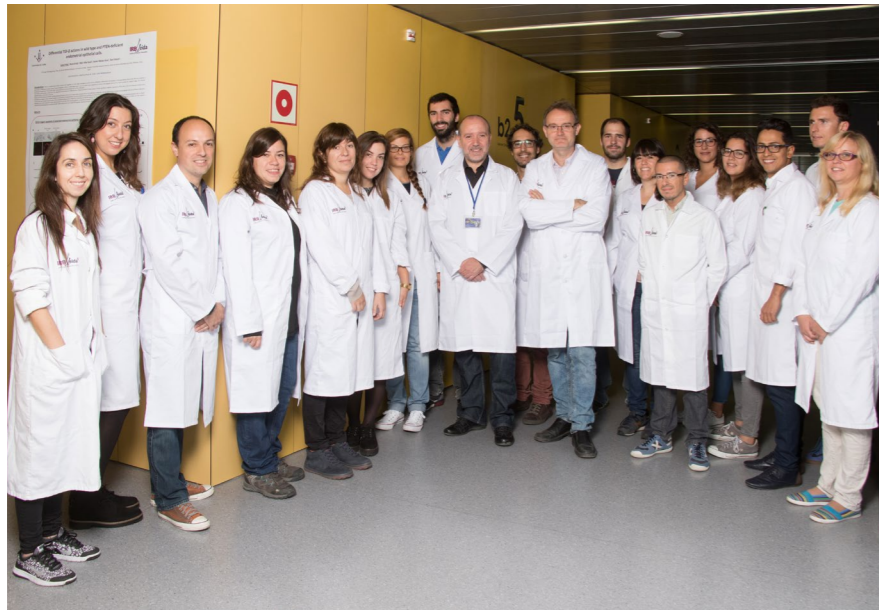
Biomedicine | 4th Floor | Lab 4.25

### Research team

M <sup>a</sup> Angeles de la Torre Ruiz	Group leader
Nuria Pujol Carrion	PhD student
Sandra Montellà Manuel	Research technician
M. Inmaculada Montoliu Sanchis	Researcher

### Publications

Mechoud MA, Pujol-Carrion N, Montella-Manuel S, de la Torre-Ruiz MA. Interactions of GMP with Human Glrx3 and with *Saccharomyces cerevisiae* Grx3 and Grx4 Converge in the Regulation of the Gcn2 Pathway. *Appl Environ Microbiol.* 2020 Jul 2; 86(14):e00221-20. PMID: 32414791. Q1 IF:4,016



## 1.2. Metabolic physiopathology

The overall goal of our investigations concerned the role of metabolism and oxidative stress (including free radical chemistry, redox biology and antioxidants) in the aging process and age-associated diseases. We have investigated the role of metabolism and oxidative stress in animal models (vertebrates and invertebrates) and humans in which aging rate and longevity are different or are experimentally modified (e.g. caloric restriction, methionine restriction, and genetic manipulations) or pathologically affected (e.g. metabolic diseases,

cardiovascular disease, cancer, neurodegenerative diseases). If the aging process could be slowed or even reversed the incidence of age-related diseases would diminish significantly.

### Research team

Reinald Pamplona Gras	Group leader
Anna Fernandez Bernal	PhD student
Chiara Rossi	PhD student
Joaquim Sol Cullere	PhD student
Jose Daniel Galo Licona	PhD student
Laia Fontdevila Olivé	PhD student
Lara Nogueras Penabad	PhD student
Pascual Torres Cabestany	PhD student
Rebeca Berdun Hernandez	PhD student
Jose Serrano Casasola	Principal investigator
Manuel Portero Otin	Principal investigator
Mariona Jove Font	Principal investigator
David Argiles Baulo	Research technician
Joan Prat Corominas	Researcher
Jordi Boada Pallas	Researcher
Reyna Rodriguez Mortera	Researcher
Victoria Ayala Jove	Researcher



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## 1.2. Metabolic physiopathology

### Projects

PI	Funding agency	Project	Budget (€)
Manuel Portero	Instituto de Salud Carlos III	<b>Metabolismo lipídico intracelular, procesamiento de ARNm y estrés celular en la encrucijada de la fisiopatología de la esclerosis lateral amiotrófica</b>	214,170
Manuel Portero	Instituto de Salud Carlos III	<b>Reposicionamiento terapéutico dirigido a inhibición de expresión de ACE2 y de proteólisis de trómero S viral</b>	133,500

### Publications

Bermúdez-López, Marcelino; Martínez-Alonso, Montse; Castro-Boqué, Eva; Betriu, Àngels; Cambray, Serafí; Farràs, Cristina; Barbé, Ferran; Pamplona, Reinald; Lecube, Albert; Mauricio, Dídac; Purroy, Francisco; Valdivielso, José Manuel; Fernández, Elvira. Bermúdez-López M, Martínez-Alonso M, Castro-Boqué E, Betriu À, Cambray S, Farràs C, Barbé F, Pamplona R, Lecube A, Mauricio D, Purroy F, Valdivielso JM, Fernández E; ILERVAS project collaborators. *Revista Española de Cardiología. (Engl Ed)*. 2020 Nov 5;S1885-5857(20)30424-2. PMID: 33162389. Q1 IF4,642

Martín-Masot R, Mota-Martorell N, Jové M, Maldonado J, Pamplona R, Nestares T. Alterations in One-Carbon Metabolism in Celiac Disease. *2020 Dec 2;12(12):3723*. PMID: 33276620 *Nutrients*. Q1 IF4,546

Park M, Nishimura T, Baeza-Garza CD, Caldwell ST, Pun PBL, Prag HA, Young T, Sauchanka O, Logan A, Forkink M, Gruszczuk AV, Prime TA, Arndt S, Naudi A, Pamplona R, Coughlan MT, Tate M, Ritchie RH, Caicci F, Kaludercic N, Di Lisa F, Smith RAJ, Hartley RC, Murphy MP, Krieg T. Confirmation of the Cardioprotective Effect of MitoGamide in the Diabetic Heart. *Cardiovascular Drugs and Therapy*. 2020 Dec; 34(6):823-834. PMID: 32979176. Q1 IF4,069

Jové M, Mota-Martorell N, Pradas I, Martín-Gari M, Ayala V, Pamplona R. The Advanced Lipoxidation End-Product Malondialdehyde-Lysine in Aging and Longevity. *Antioxidants (Basel)*. 2020 Nov 15;9(11):1132. PMID: 33203089 Q1 IF5,014

Arnoriaga-Rodríguez M, Mayneris-Perxachs J, Burokas A, Contreras-Rodríguez O, Blasco G, Coll C, Biarnés C, Miranda-Olivos R, Latorre J, Moreno-Navarrete JM, Castells-Nobau A, Sabater M, Palomo-Buitrago ME, Puig J, Pedraza S, Gich J, Pérez-Brocal V, Ricart W, Moya A, Fernández-Real X, Ramió-Torrentà L, Pamplona R, Sol J, Jové M, Portero-Otin M, Maldonado R, Fernández-Real JM. Obesity Impairs Short-Term and Working Memory through Gut Microbial Metabolism of Aromatic Amino Acids. *Cell Metabolism*. 2020 Oct 6; 32(4):548-560.e7. PMID: 33027674. Q1 IF21,567

González J, Gracia-Lavedan E, Pamplona R, Fernández E, Lecube A, de-Torres JP, Barbé F, Torres G; ILERVAS Study Group. Protein succination as a potential surrogate biomarker of airway obstruction. The ilervas project. *Respiratory Medicine*. 2020 Oct; 172:106124. PMID: 32919375. Q2 IF3,095

Jové M, Mota-Martorell N, Pradas I, Galo-Licon JD, Martín-Gari M, Obis È, Sol J, Pamplona R. The Lipidome Fingerprint of Longevity.

*Molecules*. 2020 Sep 22;25(18):4343. PMID: 32971886 Q2 IF3,267

Bauer KC, Huus KE, Brown EM, Bozorgmehr T, Petersen C, Cirstea MS, Woodward SE, McCoy J, Hun J, Pamplona R, Ayala V, Finlay BB. Dietary Intervention Reverses Fatty Liver and Altered Gut Microbiota during Early-Life Undernutrition. *mSystems*. 2020 Sep 8;5(5):e00499-20. PMID: 32900869. Q1 IF6,633

Cunill J, Babot C, Santos L, Serrano JCE, Jové M, Martín-Garí M, Portero-Otin M. *In Vivo* Anti-Inflammatory Effects and Related Mechanisms of Processed Egg Yolk, a Potential Anti-Inflammaging Dietary Supplement. *Nutrients* 2020 Sep 4;12(9):2699. PMID: 32899660. Q1 IF4,546

Jové M, Tibau J, Serrano JC, Berdún R, Rodríguez-Palmero M, Font-I-Furnols M, Cassanyé A, Rodríguez-Mortera R, Sol J, Rassendren H, Fàbrega E, Crescenti A, Castell A, Sabater M, Ortega FJ, Martín-Gari M, Quintanilla R, Puigjaner J, Moreno JA, Prat J, Arola L, Fernández-Real JM, Pamplona R, Portero-Otin M. Molecular phenomics of a high-calorie diet-induced porcine model of prepubertal obesity. *J Nutr Biochem*. 2020 Sep;83:108393. PMID: 32512501. Q1 IF4,873

Mota-Martorell N, Jove M, Pradas I, Berdún R, Sanchez I, Naudi A, Gari

## 1.2. Metabolic physiopathology

E, Barja G, Pamplona R. Gene expression and regulatory factors of the mechanistic target of rapamycin (mTOR) complex 1 predict mammalian longevity. *Geroscience* 2020 Aug;42(4):1157-1173. PMID: 32578071

Mota-Martorell N, Jove M, Pradas I, Sanchez I, Gómez J, Naudi A, Barja G, Pamplona R. Low abundance of NDUFV2 and NDUFS4 subunits of the hydrophilic complex I domain and VDAC1 predicts mammalian longevity. *Redox Biology*. 2020 Jul;34:101539. PMID: 32353747. Q1 IF9,986

Puig J, Biarnes C, Pedraza S, Vilanova JC, Pamplona R, Fernández-Real JM, Brugada R, Ramos R, Coll-de-Tuero G, Calvo-Perxas L, Serena J, Ramió-Torrentà L, Gich J, Gallart L, Portero-Otin M, Alberich-Bayarri A, Jimenez-Pastor A, Camacho-Ramos E, Mayneris-Perxachs J, Pineda V, Font R, Prats-Puig A, Gacto ML, Deco G, Escrichs A, Clotet B, Paredes R, Negredo E, Triaire B, Rodríguez M, Heredia-Escámez A, Coronado R, de Graaf W, Prevost V, Mitulescu A, Daunis-I-Estadella P, Thió-Henestrosa S, Miralles F, Ribas-Ripoll V, Puig-Domingo M, Essig M, Figley CR, Figley TD, Albensi B, Ashraf A, Reiber JHC, Schifitto G, Md Nasir U, Leiva-Salinas C, Wintermark M, Nael K, Vilalta-Franch J, Barretina J, Garre-Olmo J. The Aging Imageomics Study: rationale, design and baseline characteristics of the study population. *Mechanisms of ageing and development*. 2020 Jul;189:111257. PMID: 32437737. Q1 IF4,304

Arnoriaga-Rodríguez M, Mayneris-Perxachs J, Burokas A, Pérez-Brocal V, Moya A, Portero-Otin M, Ricart W, Maldonado R, Fernández-Real JM. Gut bacterial ClpB-like gene function is associated with decreased body weight and a characteristic microbiota profile. *Microbiome*. 2020 Apr 30;8(1):59. PMID: 32354351. Q1 IF11,607

Sánchez E, Betriu À, Salas-Salvadó J, Pamplona R, Barbé F, Purroy F, Farràs C, Fernández E, López-Cano C, Mizab C, Lecube A;

ILERVAS project investigators. Mediterranean diet, physical activity and subcutaneous advanced glycation end-products' accumulation: a cross-sectional analysis in the ILERVAS project. *European journal of nutrition*. 2020 Apr;59(3):1233-1242. PMID: 31065845. Q1 IF4,664

Ballester M, Quintanilla R, Ortega FJ, Serrano JCE, Cassanyé A, Rodríguez-Palmero M, Moreno-Muñoz JA, Portero-Otin M, Tibau J. Dietary intake of bioactive ingredients impacts liver and adipose tissue transcriptomes in a porcine model of prepubertal early obesity. *Scientific reports*. 2020 Mar 25;10(1):5375. PMID: 32214182 Q1 IF3,998

Jové M, Pradas I, Mota-Martorell N, Cabré R, Ayala V, Ferrer I, Pamplona R. Succination of Protein Thiols in Human Brain Aging. *Front Aging Neuroscience*. 2020 Mar 6;12:52. PMID: 32210786. Q1 IF4,362

Torres P, Andrés-Benito P, Fernández-Bernal A, Ricart M, Ayala V, Pamplona R, Ferrer I, Portero-Otin M. Selected cryptic exons accumulate in hippocampal cell nuclei in Alzheimer's disease with and without associated TDP-43 proteinopathy. *Brain*. 2020 Mar 1;143(3):e20 PMID: 32016361. Q1 IF11,337

Moreno JA, Díaz-Gómez J, Fuentes-Font L, Angulo E, Gosálvez LF, Sandmann G, Portero-Otin M, Capell T, Zhu C, Christou P, Nogareda C. Poultry diets containing [keto]carotenoid-enriched maize improve egg yolk color and maintain quality. *Animal Feed Science and Technology* February 2020 IF2,582

Torres P, Cacabelos D, Pairada J, Bauer KC, Boada J, Fontdevila L, Rossi C, Povedano M, Ferrer I, Pamplona R, Finlay BB, Portero-Otin M, Ayala V. Gender-Specific Beneficial Effects of Docosahexaenoic

Acid Dietary Supplementation in G93A-SOD1 Amyotrophic Lateral Sclerosis Mice. *Neurotherapeutics*. 2020 Jan;17(1):269-281. PMID: 31755041. Q1 IF6,035

Yin X, Willinger CM, Keefe J, Liu J, Fernández-Ortiz A, Ibáñez B, Peñalvo J, Adourian A, Chen G, Corella D, Pamplona R, Portero-Otin M, Jove M, Courchesne P, van Duijn CM, Fuster V, Ordovás JM, Demirkan A, Larson MG, Levy D. Lipidomic profiling identifies signatures of metabolic risk. *EBioMedicine*. 2020 Jan;51:102520. PMID: 31877415. Q1 IF5,736

Sánchez E, Sánchez M, Betriu À, Rius F, Torres G, Purroy F, Pamplona R, Ortega M, López-Cano C, Hernández M, Bueno M, Fernández E, Salvador J, Lecube A; ILERVAS project collaborators. Are Obesity Indices Useful for Detecting Subclinical Atheromatosis in a Middle-Aged Population? *Obesity Facts* 2020;13(1):29-39. PMID: 31968341. Q2 IF3,514

Prieto I, Alarcón CR, García-Gómez R, Berdún R, Urgel T, Portero M, Pamplona R, Martínez-Ruiz A, Ruiz-Sanz JI, Ruiz-Larrea MB, Jove M, Cerdán S, Monsalve M. Metabolic adaptations in spontaneously immortalized PGC-1a knock-out mouse embryonic fibroblasts increase their oncogenic potential. *Redox Biology*. 2020 Jan;29:101396. PMID: 31926622 Q1 IF9,986

Purroy F, Arque G, Mauri G, García-Vázquez C, Vicente-Pascual M, Pereira C, Vazquez-Justes D, Torres-Querol C, Vena A, Abilleira S, Cardona P, Forné C, Jiménez-Fàbrega X, Pagola J, Portero-Otin M, Rodríguez-Campello A, Rovira À, Martí-Fàbregas J. REMOTE Ischemic Preconditioning Among Acute Ischemic Stroke Patients in Catalonia: REMOTE-CAT PROJECT. *Frontiers in Neurology*. 2020 Sep 25;11:569696. PMID: 33101178Q2 IF2,889



### 1.3. Molecular biology of yeast

The group studies the effect of environmental stress conditions on cell proliferation in yeast *Saccharomyces cerevisiae*, as a model for a genetically manipulable unicellular eukaryotic organism, as well as the transduction pathways and enzymatic systems involved in the defense and repair of stress damage. Particular emphasis is placed on oxidative stress (given its biomedical implications), and on the protective role of glutaredoxin systems, which are involved in various cellular processes, since, among other functions, they participate in the formation of proteins with Fe centers -S. Defects in these co-factors cause various cellular disorders such as mitochondrial dysfunction, alterations in iron homeostasis and genomic instability, alterations associated with numerous human diseases.

#### Other projects in collaboration:

- Titol: Improvement of the technological and nutritional properties of food using gels and emulsions formed from carbohydrates unpurified obtained from alternative sources (CARBOTECH). Ministry of Science, Innovation and universities. Call 2018.
- Titol: Molecular mechanisms involved in coordinating chromosome replication and disjunction (CHOREDIS). Ministry of Science, Innovation and universities. Call 2018.



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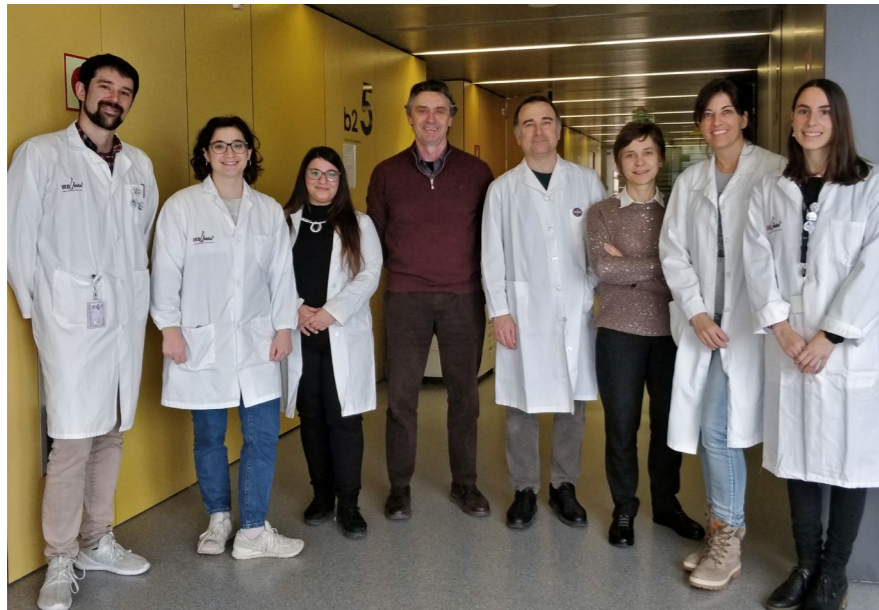
#### Research team

Gemma Belli Martinez

Group leader

M. Inmaculada Montoliu Sanchis

Research technician



## 1.4. Oxidative stress biochemistry

The Biochemistry of Oxidative Stress group analyses altered mitochondrial functions in a disease called Friedreich Ataxia caused by deficient levels of frataxin, a mitochondrial protein. In this pathology, there is an alteration in the mitochondrial calcium and iron homeostasis, which leads to alterations in the redox state of proteins, in the membrane potential and, in general, loss of mitochondrial functions. To study this pathology, we use primary cultures of neurons and cardiomyocytes, which are the most affected tissues in this disease; we also use a new mouse model called FXN151F and lymphoblasts obtained from patients. Based on these results, we design therapeutic strategies trying to improve the quality of life of patients, since to date, there is no effective cure; in this regard, we are analysing the effects of calcitriol, the active form of vitamin D and also molecules focused on restoring mitochondrial membrane potential. These trials are carried out in collaboration with biopharma companies and also with hospitals, where pilot clinical trials are being initiated.



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### Research team

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Elena Britti	PhD student
Marta Medina Carbonero	PhD student
Elisa Cabiscol Catala	Principal investigator
Fabien Delaspre	Principal investigator
Jordi Tamarit Sumalla	Principal investigator
Roser Pane Domenec	Research technician

## 1.4. Oxidative stress biochemistry

### Publications

Britti E, Ros J, Esteras N, Abramov AY. Tau inhibits mitochondrial calcium efflux and makes neurons vulnerable to calcium-induced cell death. *Cell Calcium*. 2020 Mar;86:102150. PMID: 31918031. Q1 IF 4,8

Purroy R, Medina-Carbonero M, Ros J, Tamarit J. Frataxin-deficient cardiomyocytes present an altered thiol-redox state which targets actin and pyruvate dehydrogenase. *Redox Biol*. 2020 May;32:101520. PMID: 32279039 Q1 IF: 9,9

Britti E, Delaspre F, Tamarit J, Ros J. Calpain-Inhibitors Protect Frataxin-Deficient Dorsal Root Ganglia Neurons from Loss of Mitochondrial Na<sup>+</sup>/Ca<sup>2+</sup> Exchanger, NCLX, and Apoptosis. *Neurochem Res*. 2021 Jan;46(1):108-119. PMID: 32249386 Q2 IF3,1

Int J Mol Sci. 2020 Dec 16;21(24):9574. doi: 10.3390/ijms21249574. Mitochondrial localization of the Yeast Forkhead Factor Hcm1. *International Journal OF Molecular Sciences*. 2020 Dec 16;21(24):9574. PMID: 33339134 Q1 IF4,556.



## 1.5. Systems biology and statistical methods for biomedical research

The group focuses on two parallel research lines: Systems Biology and Statistical Methods for Biomedical Research.

The first line develops mathematical tools and methods for research in Bioinformatics, Computational Biology, and Systems and Synthetic Biology. The methods are applied to analyze and integrate large molecular, omics, and clinical databases in order to understand how the molecular circuits of cells and organisms evolved and work from a Systems perspective.

The Statistical Methods line for Biomedical Research develops and applies statistical models to evaluate health interventions and collaborates closely with clinical and translational research groups. The group works on the design and analysis of clinical studies, on the economic evaluation of health interventions, on the development of advanced methods for survival analysis, and on joint models of longitudinal data.



### Group leader

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Montserrat Rué Monné	Group leader
Rui Carlos Vaqueiro De Castro Alves	Group leader
Hèctor Perpiñán Fabuel	External collaborator
Abel Lucido Garbulo	Researcher
Alberto Marin Sanguino	Researcher
Baldiri Salvado Lopez	Researcher
Ester Vilapriño Terre	Researcher



## 1.5. Systems biology and statistical methods for biomedical research

### Projects

PI	Funding agency	Project	Budget (€)
Albert Sorribas	Instituto de Salud Carlos III	Development of a simulation environment as a tool to support the design of studies and clinical trials.	43,318

### Publications

Pons-Rodriguez A, Forné Izquierdo C, Vilaplana-Mayoral J, Cruz-Esteve I, Sánchez-López I, Reñé-Reñé M, Cazorla C, Hernández-Andreu M, Galindo-Ortego G, Llorens Gabandé M, Laza-Vásquez C, Balaguer-Llaquet P, Martínez-Alonso M, Rué M; DECIDO Group. Feasibility and acceptability of personalised breast cancer screening (DECIDO study): protocol of a single-arm proof-of-concept trial. *Bmj Open*. 2020 Dec 23;10(12):e044597. PMID: 33361170 Q2 IF2,496

Sarlabous L, Aquino-Esperanza J, Magrans R, de Haro C, López-Aguilar J, Subirà C, Batlle M, Rué M, Gomà G, Ochagavía A, Fernández R, Blanch L. Development and validation of a sample entropy-based method to identify complex patient-ventilator interactions during mechanical ventilation. *Scientific Reports*. 2020 Aug 17;10(1):13911. PMID: 32807815. Q1 IF3,998

Stjepanovic N, Villacampa G, Nead KT, Torres-Esquius S, Melis GG, Nathanson KL, Teule A, Brunet J, Y Cajal TR, Llorca G, Dienstmann R, Rue M, Domchek SM, Balmaña J. Association of premenopausal risk-reducing salpingo-oophorectomy with breast cancer risk in BRCA1/2 mutation carriers: Maximising bias-reduction. *European Journal Of Cancer*. 2020 Jun;132:53-60. PMID: 32325420. Q1 IF7,275

Bartolome J, Alves R, Solsona F, Teixido I. EasyModel: user-friendly tool for building and analysis of simple mathematical models in systems biology. *Bioinformatics*. 2020 Feb 1;36(3):976-977. PMID: 31504183. Q1 IF5,610

Hobmeier K, Goëss MC, Sehr C, Schwaminger S, Berensmeier S, Kremling A, Kunte HJ, Pflüger-Grau K, Marin-Sanguino A. Anaplerotic Pathways in *Halomonas elongata*: The Role of the Sodium Gradient. *Front Microbiol*. 2020 Sep 25;11:561800. PMID: 33101236. Q1 IF4.236

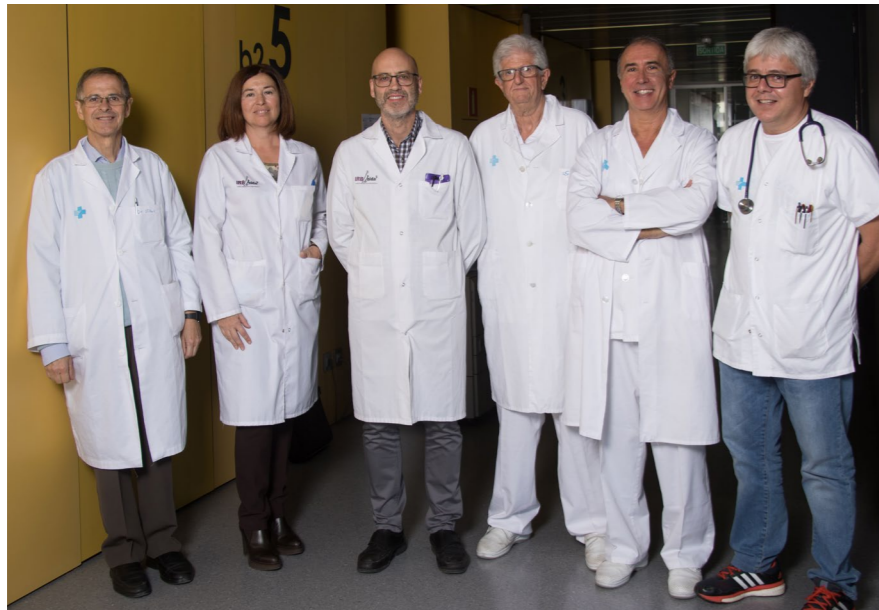
Bromig L, Kremling A, Marin-Sanguino A. Understanding biochemical design principles with ensembles of canonical non-linear models. *PLoS One*. 2020 Apr 30;15(4):e0230599. PMID: 32353072. Q1 IF3.101

## Area 2. Experimental medicine and therapeutics

The Area of Experimental Medicine and Therapeutics was created with the aim of studying the physiology, pathology and therapy of human diseases, both from samples obtained in patients and in animal and cellular models. Therefore, it proposes a translational research between clinical and basic research that allows the study of pathologies that are very prevalent in daily clinical practice. The area consists of eight research groups with a proven track record and has prestigious national and international collaborations.

### Groups





## 2.1. Clinical and experimental research in digestive and hematological pathology

Our group's research deals with colorectal carcinogenesis and with hematologic diseases. It has a clinical and experimental. We are also interested in teaching investigation in our fields. The group was formed and registered in 1995 and is a consolidated research group at the University of Lleida.

### Research interests:

- Prognostic factors in patients with colorectal cancer.

- Factors related to diagnosis and treatment of colorectal cancer.
- Study of chemically induced colonic carcinogenesis in murine experimental models.
- Telomerase activity in cell neoplastic cells.
- Laboratory techniques and procedures in hematology (hematologic analyzers and flow cytometry).
- Clinical and basic research in blood diseases.

### Research team

Josep Maria Reñé Espinet	Group leader
Javier Gómez Arbonés	Principal investigator
M. Carmen Piñol Felis	Principal investigator
Antonio Garcia Guiñon	Researcher
Armando Luaña Galan	Researcher
Carlos Aracil Blanch	Researcher
Elisabeth Talavera Ramos	Researcher
Eva Sese Abizanda	Researcher
Jordi Garreta Mesegue	Researcher
Josep Maria Miñana Calafat	Researcher
Juan Armando Rodríguez Oballe	Researcher
Juan Buenestado Garcia	Researcher
Maria Cristina Marzo Alonso	Researcher
Maria Tehas Crespo	Researcher
Montserrat Planella De Rubinat	Researcher
Montserrat Teixido Amoros	Researcher
Natividad Zaragoza Velasco	Researcher
Tamara Revuelto Artigas	Researcher
Tomas Garcia Cerecedo	Researcher



#### Group leader

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## 2.1. Clinical and experimental research in digestive and hematological pathology

### Publications

Alvarado-Tapias E, Ardevol A, Garcia-Guix M, Montañés R, Pavel O, Cuyas B, Graupera I, Brujats A, Vilades D, Colomo A, Poca M, Torras X, Guarner C, Concepción M, Aracil C, Torres F, Villanueva C. Short-term hemodynamic effects of  $\beta$ -blockers influence survival of patients with decompensated cirrhosis. *Journal of Hepatology*. 2020 Oct;73(4):829-841. PMID: 32298768. Q1 IF20,582

Ardevol A, Alvarado-Tapias E, Garcia-Guix M, Brujats A, Gonzalez L, Hernández-Gea V, Aracil C, Pavel O, Cuyas B, Graupera I, Colomo A, Poca M, Torras X, Concepción M, Villanueva C. Early rebleeding increases mortality of variceal bleeders on secondary prophylaxis with  $\beta$ -blockers and ligation. *Digestive And Liver Disease*. 2020 Sep;52(9):1017-1025. PMID: 32653417. Q2 IF3,57

Bars-Cortina D, Martínez-Bardají A, Macià A, Motilva MJ, Piñol-Felis C. Consumption evaluation of one apple flesh a day in the initial phases prior to adenoma/adenocarcinoma in an azoxymethane rat colon carcinogenesis model. *Journal of Nutritional Biochemistry*. 2020 Sep;83:108418. PMID: 32592950. Q1 IF4,873

Ribera JM, García O, Moreno MJ, Barba P, García-Cadenas I, Mercadal S, Montesinos P, Barrios M, González-Campos J, Martínez-Carballeira D, Gil C, Ribera J, Vives S, Novo A, Cervera M, Serrano J, Lavilla E, Abella E, Tormo M, Amigo ML, Artola MT, Genescà E, Bravo P, García-Belmonte D, García-Guiñón A, Hernández-Rivas JM, Feliu E; PETHEMA Group of the Spanish Society of Hematology. Treatment of Frail Older Adults and Elderly Patients With Philadelphia Chromosome-negative Acute Lymphoblastic Leukemia: Results of a Prospective Trial With Minimal Chemotherapy. *Clinical Lymphoma Myeloma & Leukemia*. 2019 Aug 15;125(16):2810-2817. PMID: 31012967. Q3 IF2,298

Genescà E, Morgades M, Montesinos P, Barba P, Gil C, Guàrdia R, Moreno MJ, Martínez-Carballeira D, García-Cadenas I, Vives S, Ribera J, González-Campos J, González-Gil C, Zamora L, Ramírez JL, Díaz-Beya M, Mercadal S, Artola MT, Cladera A, Tormo M, Bermúdez A, Vall-Llovera F, Martínez P, Amigo ML, Monsalvo S, Novo A, Cervera M, García-Guiñón A, Juncà J, Ciudad J, Orfao A, Ribera JM. Unique clinico-biological, genetic and prognostic features of adult early T-cell precursor acute lymphoblastic leukemia. *Haematologica*. 2020 Jun;105(6):e294-e297. PMID: 31537688. Q1 IF7,116

Casanova MJ, Chaparro M, Mínguez M, Ricart E, Taxonera C, García-López S, Guardiola J, López-San Román A, Iglesias E, Beltrán B, Sicilia B, Vera MI, Hinojosa J, Riestra S, Domènech E, Calvet X, Pérez-Calle JL, Martín-Arranz MD, Aldeguer X, Rivero M, Monfort D, Barrio J, Esteve M, Márquez L, Lorente R, García-Planella E, de Castro L, Bermejo F, Merino O, Rodríguez-Pérez A, Martínez-Montiel P, Van Domselaar M, Alcaín G, Domínguez-Cajal M, Muñoz C, Gomollón F, Fernández-Salazar L, García-Sepulcre MF, Rodríguez-Lago I, Gutiérrez A, Argüelles-Arias F, Rodríguez C, Rodríguez GE, Bujanda L, Llaó J, Varela P, Ramos L, Huguet JM, Almela P, Romero P, Navarro-Llavat M, Abad Á, Ramírez-de la Piscina P, Lucendo AJ, Sesé E, Madrigal RE, Charro M, García-Herola A, Pajares R, Khorrami S, Gisbert JP. Effectiveness and Safety of the Sequential Use of a Second and Third Anti-TNF Agent in Patients With Inflammatory Bowel Disease: Results From the Eneida Registry. *Inflammatory Bowel Diseases*. 2020 Mar 4;26(4):606-616. PMID: 31504569. Q2 IF4,261

Ribera JM, García O, Moreno MJ, Barba P, García-Cadenas I, Mercadal S, Montesinos P, Barrios M, González-Campos J, Martínez-Carballeira D, Gil C, Ribera J, Vives S, Novo A, Cervera M, Serrano

J, Lavilla E, Abella E, Tormo M, Amigo ML, Artola MT, Genescà E, Bravo P, García-Belmonte D, García-Guiñón A, Hernández-Rivas JM, Feliu E; PETHEMA Group of the Spanish Society of Hematology. A pediatric regimen for adolescents and young adults with Philadelphia chromosome-negative acute lymphoblastic leukemia: Results of the ALLRE08 PETHEMA trial. *Cancer* 2019 Aug 15;125(16):2810-2817. PMID: 31012967. Q2 IF3,491

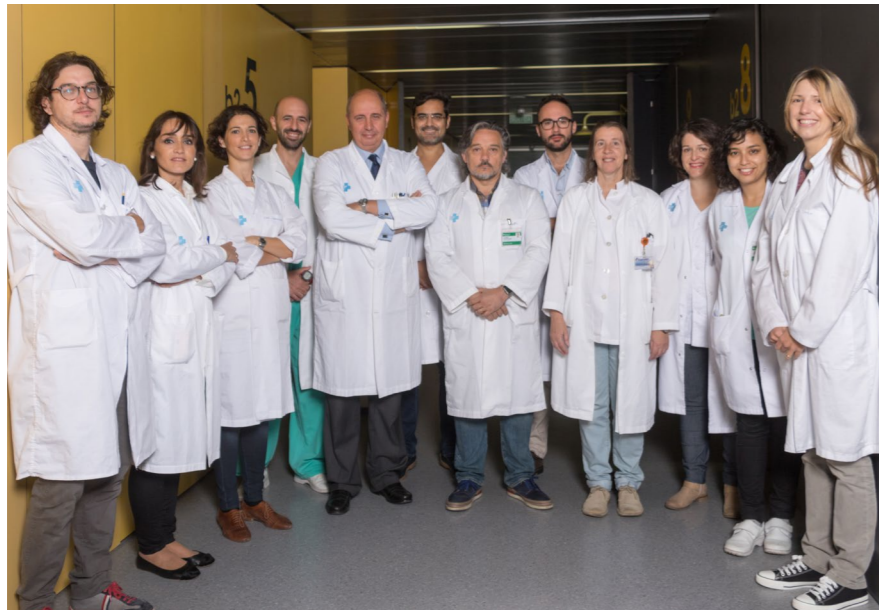
Chen Q, Perales C, Soria ME, García-Cehic D, Gregori J, Rodríguez-Frías F, Buti M, Crespo J, Calleja JL, Tabernero D, Vila M, Lázaro F, Rando-Segura A, Nieto-Aponte L, Llorens-Revull M, Cortese MF, Fernandez-Alonso I, Castellote J, Niubó J, Imaz A, Xiol X, Castells L, Riveiro-Barciela M, Llaneras J, Navarro J, Vargas-Blasco V, Augustin S, Conde I, Rubín Á, Prieto M, Torras X, Margall N, Forn X, Mariño Z, Lens S, Bonacci M, Pérez-Del-Pulgar S, Londoño MC, García-Buey ML, Sanz-Cameno P, Morillas R, Martró E, Saludes V, Masnou-Ridaura H, Salmerón J, Quíles R, Carrión JA, Forné M, Rosinach M, Fernández I, García-Samaniego J, Madejón A, Castillo-Grau P, López-Núñez C, Ferri MJ, Durández R, Sáez-Royuela F, Diago M, Gimeno C, Medina R, Buenestado J, Bernet A, Turnes J, Trigo-Daporta M, Hernández-Guerra M, Delgado-Blanco M, Cañizares A, Arenas JI, Gomez-Alonso MJ, Rodríguez M, Deig E, Olivé G, Río OD, Cabezas J, Quiñones I, Roget M, Montoliu S, García-Costa J, Force L, Blanch S, Miralbés M, López-de-Goicoechea MJ, García-Flores A, Saumoy M, Casanovas T, Baliellas C, Gilabert P, Martin-Cardona A, Roca R, Barenys M, Villaverde J, Salord S, Camps B, Silvan di Yacovo M, Ocaña I, Sauleda S, Bes M, Carbonell J, Vargas-Accarino E, Ruzo SP, Guerrero-Murillo M, Von Massow G, Costafreda MI, López RM, González-Moreno L, Real Y, Acero-Fernández D, Viroles S, Pamplona X, Cairó M, Ocete MD, Macías-Sánchez JF, Estébanez A, Quer JC, Mena-de-Cea Á, Otero A, Castro-Iglesias Á, Suárez F, Vázquez Á,

## 2.1. Clinical and experimental research in digestive and hematological pathology

Vieito D, López-Calvo S, Vázquez-Rodríguez P, Martínez-Cerezo FJ, Rodríguez R, Macenlle R, Cachero A, Mereish G, Mora-Moruny C, Fábregas S, Sacristán B, Albillos A, Sánchez-Ruano JJ, Baluja-Pino R, Fernández-Fernández J, González-Portela C, García-Martin C, Sánchez-Antolín G, Andrade RJ, Simón MA, Pascasio JM, Romero-Gómez M, Antonio Del-Campo J, Domingo E, Esteban R, Esteban JI, Quer J. Deep-sequencing reveals broad subtype-specific HCV resistance mutations associated with treatment failure. *Antiviral Research*. 2020 Feb;174:104694. PMID: 31857134. Q1 IF4,101

Bernet Sánchez A, Bellés Bellés A, Aramburu Arnuelos J, Jover Sanz A, Sesé Abizanda E, Vallverdú Vidal M, García González M. Entamoeba histolytica liver abscess case: could stool PCR avoid it? *Diagnosis (Berl)*. 2020 Jan 28;7(1):69-73. PMID: 31256063

Ballester-Clau R, Torres Vicente G, Cucala Ramos M, Aracil Blanch C, Miñana Calafat JM, Pijoan Comas E, Reñé Espinet JM, Planella de Rubinat M. Efficacy and Safety of Treatment With Ferric Carboxymaltose in Patients With Cirrhosis and Gastrointestinal Bleeding. *Frontiers in Medicine*. 2020 Apr 17;7:128. PMID: 32363194 Q1 IF3,9



## 2.2. Experimental surgery

The group intends to develop interdisciplinary projects with special interest in those technologies and methodologies related to abdominal wall surgery and with applicability to other surgeries such as bariatric, hepatic, etc. In particular, the group studies the biomechanical response of the closure of the abdominal wall versus physical and anthropometric factors with the use of measuring instruments designed for this purpose that measure the traction forces of the abdominal wall after the intervention. The objective is to achieve optimum closure of the abdominal wall after an intervention, avoiding tensions and future hernias in the patient.

The Experimental Surgery Group is subdivided into 4 nodes:

- Digestive Surgery.
- Abdominal wall.
- Endocrine surgery.
- Thoracic surgery.

The Experimental Surgery research group is integrated by surgeons, anesthetists, veterinarians and research and management technicians who work to develop interdisciplinary projects with special interest in those technologies and methodologies related to experimental surgery and the training of health professionals, as well as the development of instruments with applicability to different surgical specialties, such as the abdominal and hepatic walls, among others.

Defined lines of research can currently be identified in the Experimental Surgery group, such as the abdominal wall, led by Dr. Villalobos, who began with the study of the biomechanics of the abdominal wall to find out the physical and anthropometric factors that intervene during the closure and obtain the patent of

an instrument that allows measurements to be made to determine the closing forces. Likewise, the group has carried out experimental studies using non-biological glues to fix the meshes to the abdominal wall to surgically repair the eventrations in a porcine experimental model of abdominal wall defect.

Postgraduate training represents a new line of research for the group by conducting studies on the impact of physical or biological clinical simulation on improving the training of professionals in the health sciences. Research in the pig model as an experimental model to study different surgical, diagnostic and therapeutic techniques marks many of the projects that are currently being carried out: anatomy, pain control, lung transplantation, safety in intestinal sutures, etc., with the aim of to be able to obtain experimental models that allow, in the long run, to extrapolate the findings in the human clinic and make a quality translational medicine. The research activities of this group are carried out at the CREBA Center of the IRBLleida.



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### Research team

## 2.2. Experimental surgery

### Research team

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Fulthon Frank Vela Polanco	PhD student
Alfredo Escartin Arias	Principal investigator
Juan A. Baena Fustegueras	Principal investigator
Alba Boldo Dolz	Research technician
Ana Pinillos Somalo	Researcher
Antonio Montero Matamala	Researcher
Carlos A Rombolá	Researcher
Carlos Alfredo Fraile Olivero	Researcher
Cristina Gas Ruiz	Researcher
Dolores Garcia Olmo	Researcher
Fernando Herrerias Gonzalez	Researcher
Ferney David Gomez Baez	Researcher
Gien Pier Protti Ruiz	Researcher
Jaume Ortega Alcaide	Researcher
Jordi Escoll Rufino	Researcher
Jose E Sierra Grañon	Researcher
Ljubica Monica Sarmiento Marasovic	Researcher
Lourdes Susana Díaz Dorronsoro	Researcher
Lucia Milla Collado	Researcher
Mari Cruz De La Fuente Juarez	Researcher
Maria Carmen Mias Carballal	Researcher
Maria Rufas Acin	Researcher
Maria Teresa Santamaria Gomez	Researcher
Marta Gonzalez Duaigues	Researcher
Mireia Merichal Resina	Researcher
Mireia Merichal Resina	Researcher
Nuria Mestres Petit	Researcher
Pablo Muriel Alvarez	Researcher
Rafael Villalobos Mori	Researcher
Sara Puy Lopez	Researcher
Yolanda Maestre Gonzalez	Researcher



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## 2.2. Experimental surgery

### Publications

Carmona-Maurici J, Cuello E, Ricart-Jané D, Miñarro A, Baena-Fustegueras JA, Peinado-Onsurbe J, Pardina E. Effect of bariatric surgery on inflammation and endothelial dysfunction as processes underlying subclinical atherosclerosis in morbid obesity. *Surgery for Obesity and Related Diseases*. 2020 Dec;16(12):1961-1970. PMID: 32933868. Q1 IF3,812

Carmona-Maurici J, Amigó N, Cuello E, Bermúdez M, Baena-Fustegueras JA, Peinado-Onsurbe J, Pardina E. Bariatric surgery decreases oxidative stress and protein glycosylation in patients with morbid obesity. *Eur J Clin Invest*. 2020 Nov;50(11):e13320. PMID: 32535887. Q1 IF3,481

García-Olmo DC, Peiró-Pastor R, Picazo MG, Olmedillas-López S, García-Arranz M, Aguado B, García-Olmo D. Liquid biopsy by NGS: Differential presence of exons (DPE) is related to metastatic potential in a colon-cancer model in the rat. *Translational Oncology*. 2020 Nov;13(11):100837. PMID: 32736333 Q2 IF3,558

Carmona-Maurici, Júlia ; CUELLO GUZMAN, ELENA; ... OLSINA KISSLER, JORGE J.; ... BAENA FUSTEGUERAS, JUAN A.; ... Pardina, Eva. Impact of bariatric surgery on subclinical atherosclerosis in patients with morbid obesity. *Surgery for Obesity and Related Diseases* Q1 IF3,812

Carmona-Maurici J, Cuello E, Ricart-Jané D, Miñarro A, Baena-Fustegueras JA, Peinado-Onsurbe J, Pardina E. Effect of bariatric surgery in the evolution of oxidative stress depending on the presence of atheroma in patients with morbid obesity. *Surgery for Obesity and Related Diseases*. 2020 Dec;16(12):1961-1970. PMID: 32933868. Q1 IF3,812

Merichal Resina M, Cerdan Santacruz C, Sierra Grañón E, Tarragona Foradada JA, Olsina Kissler JJ. Leiomyosarcoma of the colon. A very uncommon condition with poor prognosis. *Gastroenterol Hepatol*. 2020 Apr; 43(4):200-201. PMID: 31864684. Q4 IF1,581

Villalobos Mori R, Maestre González Y, Mias Carballal M, Gas Ruiz C, Protti Ruiz G, Escartin Arias A, Olsina Kissler JJ. Novel method for delayed primary closure and incisional hernia prevention in open abdomen: COMbined and MODified Definitive Abdominal wall closure (COMODA). *Hernia*. 2020 Apr;24(2):395-401. PMID: 30968285. Q2 IF2,768

Merichal M, Tur J, Melé J, Olsina JJ. Acute abdomen with hemoperitoneum: A rare manifestation of gastric volvulus. *Cirugia Esp*. 2020 Mar;98(3):160. PMID: 31079839. Q3 IF1,323

Alfredo Jover-Sáenz, María FernandaRamírez-Hidalgo, Montserrat VallverdúVidal, Merce GarcíaGonzález, Santiago ManuelCano Marrón, Alfredo EscartínArias, Miquel FalgueraSacrest, DolorsCastellana-Perelló, FernandoBarcenilla-Gaite, Translational Research Group on Infectious Diseases of Lleida (Head Group, TRIDLE- IRBLleida). Antimicrobial stewardship program at a tertiary care academic medical hospital: Clinical, microbiological and economic impact. A 5-year temporary descriptive study. *Infection Prevention in Practice*. Volume 2, Issue 2, June 2020

Tur Martínez J, Muriel P, Escartín A, Olsina JJ. Duodenal segmentary resection for gastrointestinal stromal tumour: A full laparoscopic approach. *CIRUGIA ESPANOLA*. 2020 Feb;98(2):96. PMID: 31739976. Q3 IF1,323

Tur Martínez J, Escartín A, Pardina M, Olsina JJ. Celiacomesenteric trunk: A rare vascular variant. *Cirugía Española*. 2020 Jan;98(1):46. PMID: 31208726. Q3 IF1,323

Muriel P, Escartín A, González ML, Olsina JJ. Robotic cholecystectomy in situs inversus totalis. *Cirugía Española*. 2020 Nov;98(9):554. PMID: 32386727. Q3 IF1,323

Salvador; S A Escartín; M González; P Muriel; F Vela; J Jara; JJ Olsina. Robotic Nissen funduplication for the treatment of hiatal hernia and gastroesophageal reflux disease: a case for surgeons training in robotic surgery. *Epublication WebSurg.com*, Nov 2020;20(11).

Salvador H, Escartín A, González M, Muriel P, Jara J, Vela F, Olsina JJ. Funduplicatura nissen asistida por robot en hernia de hiato tipo 4. 14/10/20 en el VIDEO ATLAS DE LA AEC. ISSN 26607375

Jara J, A Escartín; P Muriel; F Vela; H Salvador; M González; Olsina JJ. Segmentectomía III hepática robótica. 14/12/20 en el VIDEO ATLAS DE LA AEC. ISSN 26607375

Merichal Resina M, Cerdan Santacruz C, Sierra Grañón E, Tarragona Foradada JA, Olsina Kissler JJ. Melanoma anal, una patología radicalmente distinta al melanoma cutáneo, con un pronóstico infausto. *Cirugía Española*. 2020 Oct; 98(8):491-493. PMID: 31898949. Q3 IF1323

Osorio J, Jericó C, Miranda C, Santamaría M, Artigau E, Galofré G, Garsot E, Luna A, Puértolas N, Aldeano A, Olona C, Molinas J, Feliu J, Videla S, Tebe C, Pera M. Improved postoperative outcomes and reduced transfusión rates after implementation of a Patient Blood



## 2.2. Experimental surgery

Management program in gastric cancer surgery. European Journal of Surgical Oncology. 2020 Nov 27:S0748-7983(20)31025-8. doi: 10.1016/j.ejso.2020.11.129. Online ahead of print.. 2020 Nov 27:S0748-7983(20)31025-8. PMID: 33267997. Q1 IF3,95

Rossell J, Brindefalk B, Baena-Fustegueras JA, Peinado-Onsurbe J, Udekwu KI. Diet change affects intestinal microbiota restoration and improves vertical sleeve gastrectomy outcome in diet-induced obese rats. European Journal of Nutrition. 2020 Dec;59(8):3555-3564. PMID: 32055963. Q1 IF4,66

- GlobalSurg Collaborative (AMBRONA DAVID). Surgical site infection after gastrointestinal surgery in children: an international, multicentre, prospective cohort study. BMJ GlobAL Health. Q1 IF4,28

- EuroSurg Collaborative (AMBRONA DAVID, SALVADOR HELENA): Safety of hospital discharge before return of bowel function after elective colorectal surgery. British Journal of Surgery. Q1 IF5,67

- RIFT Study Group on behalf of the West Midlands Research Collaborative (AMBRONA DAVID, SALVADOR HELENA) Evaluation of appendicitis risk prediction models in adults with suspected appendicitis. British Journal of Surgery. Q1 IF5,67



## 2.3. Genetics of complex diseases

The group has been conducting research since January 1995 in the study of the genetic variability of the Vitamin D Receptor and its role in the susceptibility to HIV infection and the clinical progression of AIDS. The group currently coordinates an interdisciplinary research comprising by doctors and researchers from the Hospital Clínic de Barcelona, the University of Jaén and the University of Santiago de Compostela to study the role of the vitamin D receptor in HIV infection that causes AIDS. Following a strategy of “genes candidates” we are currently evaluating the role of allelic variants of different genes involved in the metabolism of vitamin D.



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### Research team

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Group leader

Ricard Lopez Ortega

Researcher

## 2.3. Genetics of complex diseases

### Publications

Laplana M, Yuguero O, Fibla J. Lack of protective effect of chloroquine derivatives on COVID-19 disease in a Spanish sample of chronically treated patients. *PLoS One*. 2020 Dec 14;15(12):e0243598. PMID: 33315903. Q2 IF2,74

Fibla J, Oromi N, Pascual-Pons M, Royo JL, Palau A, Fibla M. De novo assembly of the Brown trout (*Salmo trutta m. fario*) brain and muscle transcriptome: transcript annotation, tissue differential expression profile and SNP discovery. *Bmc Research Notes*. 2020 Nov 2;13(1):503. PMID: 33138858. Q2 IF 1.34

Laplana M, Bravo MJ, Fernández-Fuertes M, Ruiz-García C, Alarcón-Martin E, Colmenero JD, Caruz A, Fibla J, Real LM, Royo JL. Toll-Like Receptor 2 Promoter -196 to -174 Deletion Affects CD4 Levels Along Human Immunodeficiency Virus Infection Progression. *J Infect Dis*. 2020 Nov 13;222(12):2007-2011. PMID: 32516401. Q1 IF 5.022

Jorge C, Targa A, Benítez ID, Dakterzada F, Torres G, Minguez O, Carnes A, Pujol M, Gibert A, López R, Gaeta AM, Dalmases M, Farré R, Sánchez-de-la-Torre M, Barbé F, Piñol-Ripoll G. Obstructive sleep apnoea and cognitive decline in mild-to-moderate Alzheimer's disease. *Eur Respir J*. 2020 Nov 19;56(5):2000523. PMID: 32554539. Q1 IF12,339

Targa A, Dakterzada F, Benítez ID, de Gonzalo-Calvo D, Moncusí-Moix A, López R, Pujol M, Arias A, de Batlle J, Sánchez-de-la-Torre M, Barbé F, Piñol-Ripoll G. Circulating MicroRNA Profile Associated with Obstructive Sleep Apnea in Alzheimer's Disease. *Mol Neurobiol*. 2020 Nov;57(11):4363-4372. PMID: 32720075. Q1 IF4,5

Vázquez-Justes D, Peñalva-García J, López R, Mitjana R, Begue R, González-Mingot C. Parkinsonism phenotype in a family with adult onset Alexander disease and a novel mutation of GFAP. *Clin Neurol Neurosurg*. 2020 Aug;195:105893. PMID: 32417628. Q3 IF1,53



## 2.4. Molecular oncology

The main interest of our laboratory is the study of molecular events underlying the oncogenic process, especially in colorectal, gastric and head-and-neck cancer. Gaining a deeper understanding of the molecular mechanisms responsible for the tumorigenic process is essential to improve the diagnosis and treatment of these patients. We are also interested in the identification of novel biomarkers capable of predicting therapy response, thus contributing to treatment personalization for colorectal cancer patients. Finally, we explore novel therapeutic options for microvillus inclusion disease (MVID), a life-threatening rare intestinal disease.



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### Research team

Diego Arango el Corro	Group leader
Estefania Anguita Espinosa	PhD student
Li Jing	PhD student
Nuria Vivancos Guiu	PhD student
Agueda Martinez Barriocanal	Researcher

## 2.4. Molecular oncology

### Projects

PI	Funding agency	Project	Budget (€)
Diego Arango	European Joint Programme	Antioxidant treatment as a novel therapeutic option for microvillus inclusion disease. ARMED	174,966

### Publications

Montanuy H, Martínez-Barriocanal Á, Antonio Casado J, Rovirosa L, Ramírez MJ, Nieto R, Carrascoso-Rubio C, Riera P, González A, Lerma E, Lasa A, Carreras-Puigvert J, Helleday T, Bueren JA, Arango D, Minguillón J, Surrallés J. Gefitinib and Afatinib Show Potential Efficacy for Fanconi Anemia-Related Head and Neck Cancer. Clin Cancer Res. 2020 Jun 15;26(12):3044-3057. PMID: 32005748. Q1 IF:10,107

Martínez-Barriocanal Á, Arango D, Dopeso H. PVT1 Long Non-coding RNA in Gastrointestinal Cancer. Frontiers in oncology. 2020 Jan 31;10:38. PMID: 32083000. Q2 IF4,848



## 2.5. Oncological pathology

The group studies the molecular alterations of endometrial and skin cancers, in correlation with clinical and pathological characteristics, using descriptive molecular pathology tools (immunohistochemistry, *in situ* hybridization, sequencing, epigenetics, gene gain and loss), as well as *in vitro* functional analysis in cell cultures (2D and 3D), and experimental animals. The objective is to transfer the results to clinical practice for the benefit of patients.

The group's research activity focuses on the following priority lines of research:

### Endometrial cancer

1. Implementation of the "OMIC" techniques for the identification of new diagnostic, prognostic or predictive markers of response to specific therapies in endometrial cancer.
2. Understand the immunological characteristics of endometrial carcinoma by evaluating the inflammatory microenvironment of different types of endometrial tumors and their recurrences. To propose clinical trials in endometrial cancer subtypes.
3. Analysis of the anti-tumor responses of antineoplastic drugs, through the use of *in vitro* cultures in two and three dimensions. Study of the mechanisms involved in resistance to apoptosis and conventional therapies in endometrial cancer.
4. Generation of new animal models (CAG-Cre: ER; PTEN<sup>fl/fl</sup>; ARID1A<sup>fl/fl</sup>, TP53...), to check drug responses in invasion and metastasis processes.
5. Updating the pathological analysis of endometrial cancer to improve the prediction of the prognosis and the response to therapy; transfer of new molecular information to clinical practice. Incorporation of molecular classification, based on TCGA

### Melanoma cancer

1. Secretome study and its implication in tumoral progression, cellular behaviour and genetic phenotype.
2. Investigate the modulation of the tumor microenvironment immune system, especially macrophage activation (TAMs), related to mutational phenotype and/or the acquisition of resistance.
3. Study and identification of new target therapies to promote personalized treatment in melanoma patients.
4. Use of mice models to analyse new drugs and evaluate their therapeutic potential in preclinical models.
5. Study of new biomarkers in biopsy of melanoma patients with different clinic-pathological stages to have a prognostic value or predictive response.



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## 2.5. Oncological pathology

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Cristina Megino Luque	PhD student
Ines de la Rosa Zurera	PhD student
Pol Siso Camarasa	PhD student
Raul Navaridas Fernandez de Bobadilla	PhD student
Francisco Javier Dolcet Roca	Principal investigator
Nuria Eritja Sanchez	Principal investigator
Rosa Maria Marti Laborda	Principal investigator
Ana Velasco Sanchez	Research technician
Clara Molins Escuder	Research technician
Maria Carrele Sole	Research technician
Marta Hereu Bordes	Research technician
Anna Macia Armengol	Researcher
Dolors Cuevas Sanchez	Researcher
Douglas Rene Sanchez Guzman	Researcher
Elena Estarán Silvan	Researcher
Felipe Vilardell Villellas	Researcher
Izaskun Urdanibia Ascanio	Researcher
Johanna Del Pilar Vargas Ramos	Researcher
Jordi Tarragona Foradada	Researcher
Judit Pallares Quixal	Researcher
Maria Pilar Gallel Vicente	Researcher
Sonia Gatius Caldero	Researcher



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## 2.5. Oncological pathology

### Projects

PI	Funding agency	Project	Budget (€)
Xavier Matias-Guiu	Instituto de Salud Carlos III	Plataforma de biobancos y biomodelos	205,700
Xavier Dolcet	Ministerio de Ciencia e Innovación	Descifrando redes de señalización en el cáncer de endometrio: papel del microRNA-424(322)/503 neoplasias endometriales y su regulación por las vías PI3K/AKT y TGF-beta/Smad	151,250
Nuria Eritja	Instituto de Salud Carlos III	Papel de ARID1A en la carcinogénesis endometrial dependiente de contexto. Análisis de los mecanismos moleculares y posibles implicaciones terapéuticas	87,120

### Publications

Romero I, Rubio MJ, Medina M, Matias-Guiu X, Santacana M, Schoenenberger JA, Guerra EM, Cortés A, Minig L, Coronado P, Cueva JF, Gómez L, Malfettone A, Sampayo M, Llombart-Cussac A, Poveda A. An olaparib window-of-opportunity trial in patients with early-stage endometrial carcinoma: POLEN study. *Gynecol Oncol*. 2020 Dec;159(3):721-731. PMID: 32988624. Q1 IF4,623

Miller RE, Leary A, Scott CL, Serra V, Lord CJ, Bowtell D, Chang DK, Garsed DW, Jonkers J, Ledermann JA, Nik-Zainal S, Ray-Coquard I, Shah SP, Matias-Guiu X, Swisher EM, Yates LR. ESMO recommendations on predictive biomarker testing for homologous recombination deficiency and PARP inhibitor benefit in ovarian cancer. *Ann Oncol*. 2020 Dec;31(12):1606-1622. PMID: 33004253. Q1 IF18,274

Mellid S, Coloma J, Calsina B, Monteagudo M, Roldán-Romero JM, Santos M, Leandro-García LJ, Lanillos J, Martínez-Montes ÁM, Rodríguez-Antona C, Montero-Conde C, Martínez-López J, Ayala R, Matias-Guiu X, Robledo M, Cascón A. Novel DNMT3A Germline Variant in a Patient with Multiple Paragangliomas and Papillary Thyroid Carcinoma. *Cancers (Basel)*. 2020 Nov 9;12(11):3304. PMID: 33182397 Q1 IF6,126

Canal García E, Vargas Ramos JDP, Aguayo Ortiz R. Cellulitis-

like Sweet Syndrome caused by adalimumab therapy for severe hidradenitis suppurativa. *Australasian Journal of Dermatology* 2020 Nov;61(4):e448-e449. PMID: 32567672. Q3 IF1,789

Podlipnik S, Carrera C, Boada A, Richarz N, Marcoval J, Ferreres JR, Bodet D, Martí RM, Segura S, Sabat M, Dalmau J, Quintana M, Azon A, Curcó N, Formigon M, Olivella-Garcés MR, Zaballos P, Sola J, Galvany L, Baliu-Piqué C, Alegre M, Pasquali P, Malveyh J, Puig S, On Behalf Of The Network Of Melanoma Centres Of Catalonia. Incidence of Melanoma in Catalonia, Spain, Is Rapidly Increasing in the Elderly Population. A Multicentric Cohort Study. *Journal of Clinical Medicine*. 2020 Oct 23;9(11):3396. PMID: 33113930. Q1 IF3,303

Rodríguez-Hernandez I, Maiques O, Kohlhammer L, Cantelli G, Perdrix-Rosell A, Monger J, Fanshawe B, Bridgeman VL, Karagiannis SN, Penin RM, Marcolval J, Martí RM, Matias-Guiu X, Fruhwirth GO, Orgaz JL, Malanchi I, Sanz-Moreno V. WNT11-FZD7-DAAM1 signalling supports tumour initiating abilities and melanoma amoeboid invasion. *Nature Communications* 2020 Oct 20;11(1):5315. PMID: 33082334. Q1 IF12,121

Blasco N, Beà A, Barés G, Girón C, Navaridas R, Irazoki A, López-Lluch G, Zorzano A, Dolcet X, Llovera M, Sanchis D. Involvement of the

mitochondrial nuclease EndoG in the regulation of cell proliferation through the control of reactive oxygen species. *Redox Biology*. 2020 Oct;37:101736. PMID: 33032073. Q1 IF9,986

Cuatrecasas M, Gorostiaga I, Riera C, Saperas E, Lloret G, Costa I, Matias-Guiu X, Carrato C, Navarro M, Pineda M, Dueñas N, Brunet J, Marco V, Trias I, Busteros JI, Mateu G, Balaguer F, Fernández-Figueras MT, Esteller M, Musulén E. Complete Loss of EPCAM Immunoexpression Identifies EPCAM Deletion Carriers in MSH2-Negative Colorectal Neoplasia. *Cancers (Basel)*. 2020 Sep 29;12(10):2803. PMID: 33003511. Q1 IF6,126

Megino-Luque C, Moiola CP, Molins-Escuder C, López-Gil C, Gil-Moreno A, Matias-Guiu X, Colas E, Eritja N. Small-Molecule Inhibitors (SMIs) as an Effective Therapeutic Strategy for Endometrial Cancer. *Cancers (Basel)*. 2020 Sep 24;12(10):2751. PMID: 32987790. Q1 IF6,126

López-Cano C, Gutiérrez-Carrasquilla L, Barbé F, Sánchez E, Hernández M, Martí R, Ceperuelo-Mallafre V, Dalmasas M, Fernández-Veledo S, Vendrell J, Hernández C, Simó R, Lecube A. Effect of Type 2 Diabetes Mellitus on the Hypoxia-Inducible Factor 1-Alpha Expression. Is There a Relationship with the Clock Genes?



## 2.5. Oncological pathology

Journal of Clinical Medicine. 2020 Aug 13;9(8):2632. PMID: 32823749. Q1 IF3,303

Bonet M, Rodrigo A, Vázquez S, Carrizo V, Vilardell F, Mira M. Adjuvant therapy for true ampullary cancer: a systematic review. Clin Transl Oncol. 2020 Aug;22(8):1407-1413. PMID: 31927720. Q3 IF2,737

Da Cruz Paula A, da Silva EM, Segura SE, Pareja F, Bi R, Selenica P, Kim SH, Ferrando L, Vahdatinia M, Soslow RA, Vidal A, Gatus S, Przybycin CG, Abu-Rustum NR, Matias-Guiu X, Rubin BP, Reis-Filho JS, DeLair DF, Weigelt B. Genomic profiling of primary and recurrent adult granulosa cell tumors of the ovary. Modern Pathology. 2020 Aug;33(8):1606-1617. PMID: 32203090 Q1 IF5,988

Dámaso E, González-Acosta M, Vargas-Parra G, Navarro M, Balmaña J, Ramon Y Cajal T, Tuset N, Thompson BA, Marín F, Fernández A, Gómez C, Velasco À, Solanes A, Iglesias S, Urgel G, López C, Del Valle J, Campos O, Santacana M, Matias-Guiu X, Lázaro C, Valle L, Brunet J, Pineda M, Capellá G. Comprehensive Constitutional Genetic and Epigenetic Characterization of Lynch-Like Individuals. Cancers (Basel). 2020 Jul 5;12(7):1799. PMID: 32635641. Q1 IF6,126

Mayo-de-Las-Casas C, Velasco A, Sanchez D, Martínez-Bueno A, Garzón-Ibáñez M, Gatus S, Ruiz-Miró M, Gonzalez-Tallada X, Llordella I, Tresserra F, Rodríguez S, Aldeguer E, Roman-Canal B, Bertran-Alamillo J, García-Peláez B, Rosell R, Molina-Vila MA, Matias-Guiu X. Detection of somatic mutations in peritoneal lavages and plasma of endometrial cancer patients: a proof-of-concept study. Int J Cancer. 2020 Jul 1;147(1):277-284. PMID: 31953839. Q1 IF5,145

Alonso-Alconada L, de la Fuente A, Santacana M, Ferreiros A, Lopez-Lopez R, Matias-Guiu X, Abal M. Biomimetic device and

foreign body reaction cooperate for efficient tumour cell capture in murine advanced ovarian cancer. Dis Model Mech. 2020 Jun 17;13(6):dmm043653. PMID: 32764154. Q1 IF4,651

Lahiguera Á, Hyroššová P, Figueras A, Garzón D, Moreno R, Soto-Cerrato V, McNeish I, Serra V, Lazaro C, Barretina P, Brunet J, Menéndez J, Matias-Guiu X, Vidal A, Villanueva A, Taylor-Harding B, Tanaka H, Orsulic S, Junza A, Yanes O, Muñoz-Pinedo C, Palomero L, Pujana MÀ, Perales JC, Viñals F. Tumors defective in homologous recombination rely on oxidative metabolism: relevance to treatments with PARP inhibitors. Embo Molecular Medicine. 2020 Jun 8;12(6):e11217. PMID: 32400970. Q1 IF8,821

Moreno S, Maiques O, Gatus S, Veà A, Barrera J, Barcelo C, Santacana M, Soria X, Matias-Guiu X, Martí RM. Descriptive study of naevus involution in a series of 74 patients with atypical naevus syndrome under SIAscopy digital follow-up. J Eur Acad Dermatol Venereol. 2020 Jun;34(6):1210-1217. PMID: 31732990. Q1 IF5,248

Lopez-Martin JA, Arance Fernández A, Ríos-Martín JJ, Hernández-Losa J, Alós Hernández L, Cerezuela Fuentes P, Ortiz Reina S, Ortega Izquierdo E, Martí RM, Soberino García J, Ferrer Fábrega B, Rodríguez Peralto JL; ABSOLUT-BRAF Study Group. Frequency and Clinicopathological Profile Associated with BrafMutations in Patients with Advanced Melanoma in Spain. Translational Oncology 2020 Jun;13(6):100750. PMID: 32422543. Q2 IF3,558

Reijnen C, Gogou E, Visser NCM, Engerud H, Ramjith J, van der Putten LJM, van de Vijver K, Santacana M, Bronsert P, Bulten J, Hirschfeld M, Colas E, Gil-Moreno A, Reques A, Mancebo G, Krakstad C, Trovik J, Haldorsen IS, Huvila J, Koskas M, Weinberger V, Bednarikova M, Hausnerova J, van der Wurff AAM, Matias-Guiu

X, Amant F; ENITEC Consortium, Massuger LFAG, Snijders MPLM, Küsters-Vandeveldde HVN, Lucas PJF, Pijnenborg JMA. Preoperative risk stratification in endometrial cancer (ENDORISK) by a Bayesian network model: A development and validation study. PLoS Med. 2020 May 15;17(5):e1003111. PMID: 32413043. Q1 IF10,500

Sánchez E, Mizab C, Sauret A, Barbé F, Martí R, López-Cano C, Hernández M, Gutiérrez-Carrasquilla L, Carmona P, González J, Dalmases M, Hernández C, Simó R, Lecube A. Effect of Subcutaneous Insulin on Spirometric Maneuvers in Patients with Type 1 Diabetes: A Case-Control Study. Journal of Clinical Medicine. 2020 Apr 25;9(5):1249. PMID: 32344939. Q1 IF3,303

Bozic M, Caus M, Rodrigues-Diez RR, Pedraza N, Ruiz-Ortega M, Garí E, Galle P, Panadés MJ, Martínez A, Fernández E, Valdivielso JM. Protective role of renal proximal tubular alpha-synuclein in the pathogenesis of kidney fibrosis. Nature Communications. 2020 Apr 23;11(1):1943. doi: 10.1038/s41467-020-15732-9. PMID: 32327648. Q1 IF12,121

Delgado-García, Mercedes; Weynand, Birgit; ...MATIAS-GUIU GUIA, XAVIER; ... Biscuola, Michele. Clinical performance evaluation of the Idylla™ EGFR Mutation Test on formalin-fixed paraffin-embedded tissue of non-small cell lung cancer. BMC Cancer Q3 IF3,150

Fernández-de-Misa R, Hernández-Machín B, Combalía A, García Muret MP, Servitje O, Muniesa C, Gallardo F, Pujol RM, Martí RM, Ortiz-Brugués A, Maroñas-Jiménez L, Ortiz-Romero PL, Blanch Rius L, Izu R, Román C, Cañueto J, Blanes M, Morillo M, Bastida J, Peñate Y, Pérez Gala S, Espinosa Lara P, Pérez Gil A, Estrach T. Prognostic factors in patients with primary cutaneous anaplastic large cell

## 2.5. Oncological pathology

lymphoma: a multicentric, retrospective analysis of the Spanish Group of Cutaneous Lymphoma. *J Eur Acad Dermatol Venereol.* 2020 Apr;34(4):762-768. PMID: 31591786. Q1 IF5,248

Merichal Resina M, Cerdan Santacruz C, Sierra Grañón E, Tarragona Foradada JA, Olsina Kissler JJ. Leiomyosarcoma of the colon. A very uncommon condition with poor prognosis. *Gastroenterol Hepatol.* 2020 Apr;43(4):200-201. PMID: 31864684. Q4 IF1,581

Matias-Guiu X, Stanta G, Carneiro F, Ryska A, Hoefler G, Moch H; European Society of Pathology (ESP). The leading role of pathology in assessing the somatic molecular alterations of cancer: Position Paper of the European Society of Pathology. *Virchows Arch.* 2020 Apr;476(4):491-497. PMID: 32124002. Q2 IF2,906

Mendoza S, Fernández-Irigoyen J, Santamaría E, Zudaire T, Guarch R, Guerrero-Setas D, Vidal A, Santos-Salas J, Matias-Guiu X, Ausín K, Díaz de Cerio MJ, Martín-Sánchez E. Absence of Nuclear p16 Is a Diagnostic and Independent Prognostic Biomarker in Squamous Cell Carcinoma of the Cervix. *Int J Mol Sci.* 2020 Mar 19;21(6):2125. PMID: 32204550. Q1 IF4,556

León-Castillo A, Gilvazquez E, Nout R, Smit VT, McAlpine JN, McConechy M, Kommoss S, Brucker SY, Carlson JW, Epstein E, Rau TT, Soslow RA, Ganesan R, Matias-Guiu X, Oliva E, Harrison BT, Church DN, Gilks CB, Bosse T. Clinicopathological and molecular characterisation of 'multiple-classifier' endometrial carcinomas. *J Pathol.* 2020 Mar;250(3):312-322. PMID: 31829447. Q1 IF5,979

Santiago-O'Farrill JM, Weroha SJ, Hou X, Oberg AL, Heinzen EP, Maurer MJ, Pang L, Rask P, Amaravadi RK, Becker SE, Romero I, Rubio MJ, Matias-Guiu X, Santacana M, Llombart-Cussac A, Poveda

A, Lu Z, Bast RC Jr. Poly(adenosine diphosphate ribose) polymerase inhibitors induce autophagy-mediated drug resistance in ovarian cancer cells, xenografts, and patient-derived xenograft models. *Cancer.* 2020 Feb 15;126(4):894-907. PMID: 31714594 Q1 IF5,742

Cuevas D, Velasco A, Vaquero M, Santacana M, Gatus S, Eritja N, Estaran E, Matias-Guiu X. Intratumor heterogeneity in endometrial serous carcinoma assessed by targeted sequencing and multiplex ligation-dependent probe amplification (MLPA). A DESCRIPTIVE STUDY. *Histopathology.* 2020 Feb;76(3):447-460. PMID: 31550396. Q1 IF3,626

Berenguer Frances MA, Linares-Galiana I, Cañas Cortés R, Marín I Borrás S, Gutiérrez Miguélez C, Najjari D, Slocker A, Bellobí C, Santacana M, Pané Foix M, Alonso MH, Navarro-Martin A, Comas Antón S, Guedea F. Changes of CD68, CD163, and PD-L1 tumor expression during high-dose-rate and pulsed-dose-rate brachytherapy for cervical cancer. *Brachytherapy.* 2020 Jan-Feb;19(1):51-59. PMID: 31690516. Q3 IF1,853

García-de-la-Fuente MR, Santacana M, Verdager J, Vilardell F, Garí E, Casanova JM. Characterisation of the inflammatory response triggered by topical ingenol mebutate 0.05% gel in basal cell carcinoma. *Australasian Journal of Dermatology.* 2020 May;61(2):e200-e207. PMID: 31944277. Q3 IF1,789.

Barceló C, Sisó P, Maiques O, García-Mulero S, Sanz-Pamplona R, Navaridas R, Megino C, Felip I, Urdanibia I, Eritja N, Soria X, Piulats JM, Penin RM, Dolcet X, Matías-Guiu X, Martí RM, Macià A. T-Type calcium channels as potential therapeutic targets in vemurafenib-resistant BRAF V600E melanoma: TTCCs are therapy target in BRAF V600E melanoma. *J Invest Dermatol.* 2020 Jun;140(6):1253-1265.

PMID: 31877318. Q1 IF7,143

Barceló C, Sisó P, Maiques O, de la Rosa I, Martí RM, Macià A. T-type calcium channels: A potential novel target in melanoma. *Cancers (Basel).* 2020 Feb 8;12(2):391. PMID: 32046241. Q1 IF6,126



## 2.6. Pharmacology unit

The Unit was originally established by Dr. Boix and currently it brings together the expertise of several Pharmacology fellows at the University of Lleida. The research interest of this Unit revolves around the mechanism of action of several experimental or clinical drugs. The members of the Units have a strong background in the study of Cell death processes and their modulation. In addition, the Unit has always prioritized research aiming a therapeutic benefit in areas like cancer or inflammatory diseases.

The Unit includes two independent groups:

1. **“Molecular pharmacology”**, directed by Prof. Boix
2. **“Pharmacology of the cellular stress”**, directed by Prof. Ribas



### Group leader

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### Research team

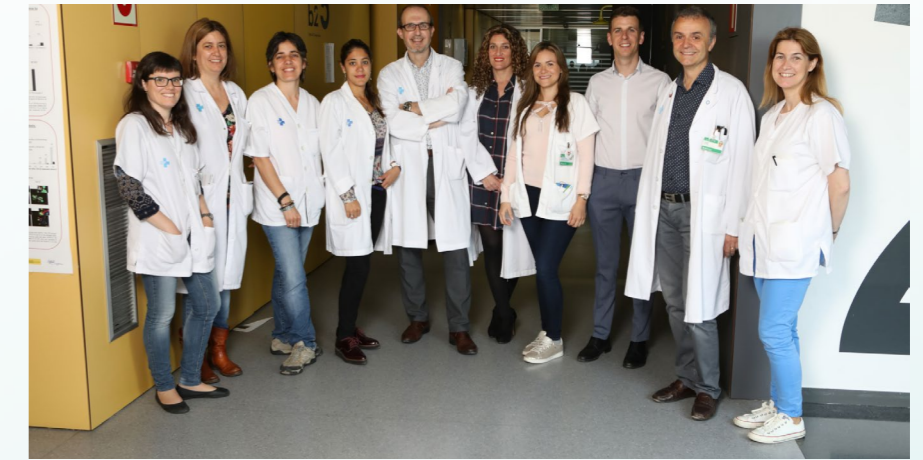
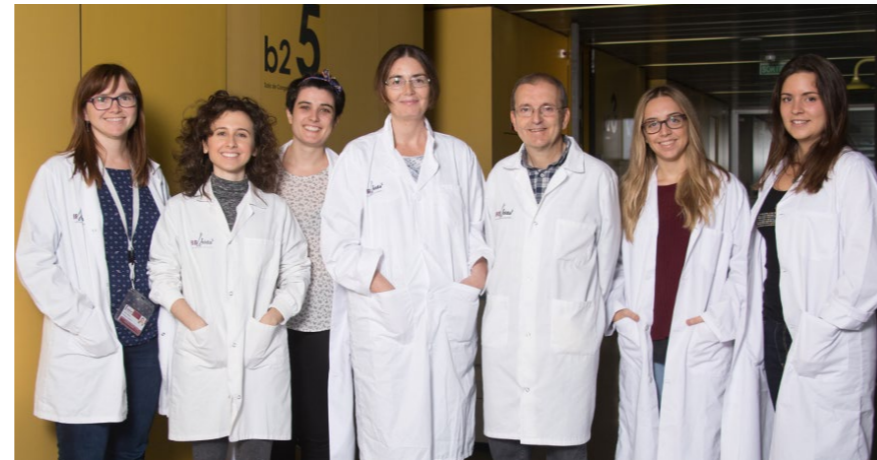
Jacint Boix Torras	Group leader
Judit Ribas Fortuny	Group leader
Javier Chicote González	PhD student
Aida Beà Tarrega	Research technician

### Publications

Chicote González, Javier; Yuste, Víctor J; Boix Torras, Jacint; Ribas Fortuny, Judit. Cell Death Triggered by the Autophagy Inhibitory Drug 3-Methyladenine in Growing Conditions Proceeds With DNA Damage. *Frontiers in Pharmacology* Q1 IF4,225

## 2.7. Research group in Immunology and metabolism (GRIM)

The Research Group in Immunology and Metabolism (GRIM) is subdivided into 2 nodes that represent the basic and clinical research of the group.



### Group leader

Dr. Joan Verdaguer Autonell  
Dr. Concepción Mora Giral  
Dr. Albert Lecube Torelló



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### • Basic node: immunology and immunopathology group (GRIIP)

The GRIIP is the basic research node of the Research Group in Immunology and Metabolism (GRIM). The group of the University of Lleida (UdL) and the Institute of Biomedical Research of Lleida (IRBLleida) is currently constituted by two principal investigators, Joan Verdaguer and Concepción Mora, and their respective research units. Both investigators have a long history as leading researchers in R & D for more than a decade and a half in the field of immunology and autoimmunity. Both researchers are members of the same research group recognized by the Generalitat (SGR) of the UdL and IRBLleida since its inception.

The research objective of the group is the study of the mechanisms of loss of immunological tolerance in autoimmune endocrine diseases, and more specifically in Type 1 Diabetes (T1D), and in the study of tools for the diagnosis and treatment of these diseases. The group also aims to lay the foundations on a future immunotherapy of T1D and other endocrinopathies of autoimmune origin, through participation and collaboration with different research and care groups.

### Research team

### • Clinical node: obesity, diabetes and metabolism research group (ODIM)

The ODIM is the clinical research node of the Immunology and Metabolism Research Group (GRIM). The main lines of research of the Group are organized around 4 main branches:

- Morbid obesity and its comorbidities, with great interest in the development of personalized medicine, based on:
  - The genetic propensity to develop comorbidities such as non-alcoholic fatty liver, apnea syndrome or type 2 diabetes mellitus.
  - The ability to predict comorbidity resolution and weight loss after bariatric surgery.
- The study of cellular and molecular signaling mechanisms involved in the cellular response to insulin, initially focused on the characterization of PKR1 phosphokinase.
- Deepen the study of cardiovascular disease in the “other” diabetes: diabetes mellitus type 1, diabetes type LADA, and monogenic diabetes.
- Confirmation that the lung is the target organ of late complications of type 2 diabetes mellitus.

## 2.7. Research group in Immunology and metabolism (GRIM)



### Group leader

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### Research team

Albert Lecube Torelló	Group leader
Concepción Mora Giral	Group leader
Juan Verdaguer Autonell	Group leader
Celia Vived Maza	PhD student
Estela Rosell Mases	PhD student
Júlia Luna Salinas	PhD student
Marta Corral Pujol	PhD student
Anna Hernandez Ribalta	Research technician
Carolina Lopez Cano	Researcher
Enric Sanchez Peña	Researcher
Ferran Rius Riu	Researcher
Liliana Patricia Gutierrez Carrasquilla	Researcher
Maria Dolores Santos Rey	Researcher
Marta Bueno Diez	Researcher
Marta Hernandez Garcia	Researcher
Raquel Marti Cabus	Researcher

## 2.7. Research group in immunology and metabolism (GRIM)

### Projects

PI	Funding agency	Project	Budget (€)
Albert Lecube	Sociedad Española Endocrinología	<b>Impacto de la composición corporal en la prevalencia, gravedad, propagación y pérdida de inmunidad en la infección por COVID-19</b>	5,000
Joan Verdaguer	Ministerio de Ciencia e Innovación	<b>Modelación de la microbiota intestinal en las etapas iniciales del desarrollo de la diabetes autoinmune en el ratón NOD, modelo de la diabetes tipo 1 humana</b>	121,000

### Publications

Bermúdez-López M, Martínez-Alonso M, Castro-Boqué E, Betriu À, Cambray S, Farràs C, Barbé F, Pamplona R, Lecube A, Mauricio D, Purroy F, Valdivielso JM, Fernández E; ILERVAS project collaborators. Localización y carga de ateromatosis subclínica en población con un riesgo cardiovascular bajo-moderado: estudio ILERVAS. *Rev Esp Cardiol (Engl Ed)*. 2020 Nov 5;S1885-5857(20)30424-2. PMID: 33162389. Q1 IF4,642

Zhang RH, Zhou JB, Cai YH, Shu LP, Simó R, Lecube A. Non-linear association between diabetes mellitus and pulmonary function: a population-based study. *Respiratory Research*. 2020 Nov 4;21(1):292. PMID: 33148273 Q2 IF3,924

Carmona-Maurici J, Cuello E, Ricart-Jané D, Miñarro A, Baena-Fustegueras JA, Peinado-Onsurbe J, Pardina E. Impact of bariatric surgery on subclinical atherosclerosis in patients with morbid obesity. *Surgery for Obesity and Related Diseases*. 2020 Dec;16(12):1961-1970. 2020 Aug 14. PMID: 32933868 Q1 IF3,812

González J, Gracia-Lavedan E, Pamplona R, Fernández E, Lecube A, de-Torres JP, Barbé F, Torres G; ILERVAS Study Group. Protein succination as a potential surrogate biomarker of airway obstruction. *The ilervas project.. Respir Med*. 2020 Oct;172:106124. PMID: 32919375. Q2 IF3,095

Caixàs A, Villaró M, Arraiza C, Montalvá JC, Lecube A, Fernández-García JM, Corio R, Bellido D, Llisterri JL, Tinahones FJ. SEEDO-SEMERGEN consensus document on continuous care of obesity between Primary Care and Specialist Hospital Units 2019. *Med Clin (Barc)*. 2020 Sep 25;155(6):267.e1-267.e11. PMID: 32081378. Q3 IF1,635

López-Cano C, Gutiérrez-Carrasquilla L, Barbé F, Sánchez E, Hernández M, Martí R, Ceperuelo-Mallafre V, Dalmases M, Fernández-Veledo S, Vendrell J, Hernández C, Simó R, Lecube A. Effect of Type 2 Diabetes Mellitus on the Hypoxia-Inducible Factor 1-Alpha Expression. Is There a Relationship with the Clock Genes? *Journal of Clinical Medicine*. 2020 Aug 13;9(8):2632. PMID: 32823749. Q1 IF3,303

Amor AJ, Castelblanco E, Hernández M, Gimenez M, Granado-Casas M, Blanco J, Soldevila B, Esmatjes E, Conget I, Alonso N, Ortega E, Mauricio D. Advanced lipoprotein profile disturbances in type 1 diabetes mellitus: a focus on LDL particles. *Cardiovascular Diabetology*. 2020 Aug 9;19(1):126. PMID: 32772924. Q1 IF7,332

Chen XF, Yan LJ, Lecube A, Tang X. Editorial: Diabetes and Obesity Effects on Lung Function. *Front Endocrinol (Lausanne)*. 2020 Jul 16;11:462. PMID: 32765427. Q2 IF3,644

Castelblanco E, Sanjurjo L, Barranco-Altirriba M, Falguera M, Hernández M, Soldevila B, Sarrias MR, Franch-Nadal J, Arroyo JA, Fernandez-Real JM, Alonso N, Mauricio D. The Circulating Fatty Acid Transporter Soluble CD36 Is Not Associated with Carotid Atherosclerosis in Subjects with Type 1 and Type 2 Diabetes Mellitus. *Journal of Clinical Medicine*. 2020 Jun 2;9(6):1700. PMID: 32498389. Q1 IF3,303

Villalba A, Rodriguez-Fernandez S, Perna-Barrull D, Ampudia RM, Gomez-Muñoz L, Pujol-Autonell I, Aguilera E, Coma M, Cano-Sarabia M, Vázquez F, Verdaguer J, Vives-Pi M. Repurposed Analog of GLP-1 Ameliorates Hyperglycemia in Type 1 Diabetic Mice Through Pancreatic Cell Reprogramming. *Frontiers in Endocrinology*. 2020 May 13;11:258. PMID: 32477262. Q2 IF3,644

Bethel MA, Stevens SR, Buse JB, Choi J, Gustavson SM, Iqbal N, Lokhnygina Y, Mentz RJ, Patel RA, Öhman P, Schernthaner G, Lecube A, Hernandez AF, Holman RR. Exploring the Possible Impact of Unbalanced Open-Label Drop-In of Glucose-Lowering Medications on EXSCEL Outcomes. *Circulation*. 2020 Apr 28;141(17):1360-1370. PMID: 32098501. Q1 IF23,603

Sánchez E, Mizab C, Sauret A, Barbé F, Martí R, López-Cano C, Hernández M, Gutiérrez-Carrasquilla L, Carmona P, González J,

## 2.7. Research group in immunology and metabolism (GRIM)

Dalmases M, Hernández C, Simó R, Lecube A. Effect of Subcutaneous Insulin on Spirometric Maneuvers in Patients with Type 1 Diabetes: A Case-Control Study. *Journal of Clinical Medicine*. 2020 Apr 25;9(5):1249. PMID: 32344939. Q1 IF3,303

Santos MD, Buti M, López-Cano C, Sánchez E, Vidal A, Hernández M, Lafarga A, Gutiérrez-Carrasquilla L, Rius F, Bueno M, Lecube A. Dynamics of Anthropometric Indices in a Large Paired Cohort With 10 Years of Follow-Up: Paving the Way to Sarcopenic Obesity. *Front Endocrinol (Lausanne)*. 2020 Apr 17;11:209. PMID: 32425882. Q2 IF3,644

Hollanda A, Lecube A, Rubio MA, Sánchez E, Vilarrasa N, Oliva JG, Fernández-Soto ML, Salas-Salvadó J, Ballesteros-Pomar MD, Ciudin A, Torres F, Vidal C, Morales MJ, Valdés S, Pellitero S, Miñambres I, Masmiquel L, Goday A, Suarez L, Flores L, Bueno M, Caixàs A, Bretón I, Cámara R, Olbeyra R, Penso R, José de la Cruz M, Simó-Servat A, Pereyra-García FM, López-Mezquita ET, Gils A, Fidilio E, Bandrés O, Martínez Á, Abuín J, Marques-Pamies M, Tuneu L, Arteaga M, Castañer O, Goñi F, Arrizabalaga C, Botana MA, Calañas A, Rebollo Á. New Metrics to Assess Type 2 Diabetes After Bariatric Surgery: The "Time-Within-Remission Range". *J Clin Med*. 2020 Apr 9;9(4):1070. PMID: 32283783. Q1 IF3,303

Gutiérrez-Carrasquilla L, López-Cano C, Sánchez E, Barbé F, Dalmases M, Hernández M, Campos A, Gaeta AM, Carmona P, Hernández C, Simó R, Lecube A. Effect of Glucose Improvement on Nocturnal Sleep Breathing Parameters in Patients with Type 2 Diabetes: The Candy Dreams Study. *Journal of Clinical Medicine*. 2020 Apr 4;9(4):1022. PMID: 32260419. Q1 IF3,303

Sánchez E, Betriu À, Salas-Salvadó J, Pamplona R, Barbé F, Purroy F, Farràs C, Fernández E, López-Cano C, Mizab C, Lecube A;

ILERVAS project investigators. Mediterranean diet, physical activity and subcutaneous advanced glycation end-products' accumulation: a cross-sectional analysis in the ILERVAS project. *European journal of nutrition*. 2020 Apr;59(3):1233-1242. PMID: 31065845. Q1 IF4,664

Simó R, Lecube A. Looking for solutions to lung dysfunction in type 2 diabetes. *Annals of translational medicine*. 2020 Apr;8(8):521. PMID: 32411744. Q 2 IF3,297

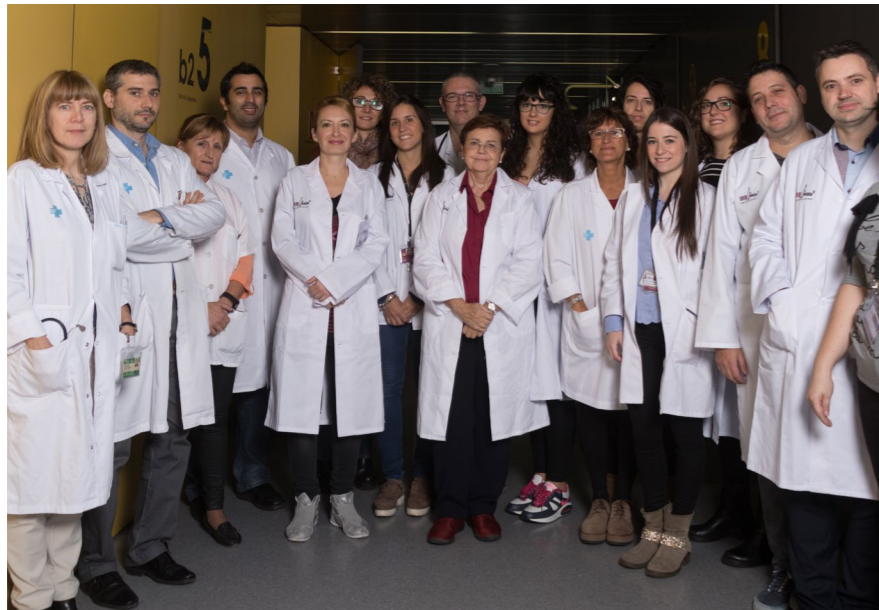
Pironi L, Steiger E, Brandt C, Joly F, Wanten G, Chambrier C, Aimasso U, Sasdelli AS, Zeraschi S, Kelly D, Szczepanek K, Jukes A, Di Caro S, Theilla M, Kunecki M, Daniels J, Serlie M, Poullenet F, Wu J, Cooper SC, Rasmussen HH, Compher C, Seguy D, Crivelli A, Pagano MC, Hughes SJ, Guglielmi FW, Kozjek NR, Schneider SM, Gillanders L, Ellegard L, Thibault R, Matras P, Zmarzly A, Matysiak K, Van Gossum A, Forbes A, Wyer N, Taus M, Virgili NM, O'Callaghan M, Chapman B, Osland E, Cuerda C, Sahin P, Jones L, Won Lee AD, Masconale L, Orlandoni P, Izbéki F, Spaggiari C, Bueno M, Doitchinova-Simeonova M, Garde C, Serralde-Zúñiga AE, Olveira G, Krznaric Z, Czako L, Kekstas G, Sanz-Paris A, Jáuregui EP, Murillo AZ, Schafer E, Arends J, Suárez-Llanos JP, Lal S; Home Artificial Nutrition and Chronic Intestinal Failure Special Interest Group of ESPEN; European Society for Clinical Nutrition and Metabolism. Home parenteral nutrition provision modalities for chronic intestinal failure in adult patients: An international survey. *Clin Nutr*. 2020 Feb;39(2):585-591. PMID: 30992207. Q1 IF6,36

Granado-Casas M, Martín M, Martínez-Alonso M, Alcubierre N, Hernández M, Alonso N, Castelblanco E, Mauricio D. The Mediterranean Diet is Associated with an Improved Quality of Life in Adults with Type 1 Diabetes. *Nutrients*. 2020 Jan 2;12(1):131. PMID: 31906543. Q1 IF4,546

García-de-la-Fuente MR, Santacana M, Verdaguer J, Vilardell F, Garí E, Casanova JM. Characterisation of the inflammatory response triggered by topical ingenol mebutate 0.05% gel in basal cell carcinoma. *Australasian Journal of Dermatology*. 2020 May;61(2):e200-e207. PMID: 31944277. Q3 IF1,789

Sánchez E, Sánchez M, Betriu À, Rius F, Torres G, Purroy F, Pamplona R, Ortega M, López-Cano C, Hernández M, Bueno M, Fernández E, Salvador J, Lecube A; ILERVAS project collaborators. Are Obesity Indices Useful for Detecting Subclinical Atheromatosis in a Middle-Aged Population? *Obesity Facts*. 2020;13(1):29-39. PMID: 31968341. Q2 IF3,514

Lecube A, Sánchez E, Monereo S, Medina-Gómez G, Bellido D, García-Almeida JM, Martínez de Icaya P, Malagón MM, Goday A, Tinahones FJ; on behalf of the Spanish Society of Obesity. On behalf of the Spanish Society of Obesity. Factors Accounting for Obesity and Its Perception among the Adult Spanish Population: Data from 1,000 Computer-Assisted Telephone Interviews. *Obesity Facts*. 2020;13(4):322-332. PMID: 32663824 Q2 IF3,514



## 2.8. Vascular and renal translational research group

Vascular and Renal Translational Research (VRTR) Group from the IRBLleida is a multidisciplinary group with basic and clinical scientists working in an integrated environment. The main focus of our research group is the identification of factors involved in the progression of chronic kidney disease (CKD) and cardiovascular complications in CKD from the basic/translational and the clinical point of view. Through an array of diverse experimental approaches that include molecular biology, biochemistry, *in vivo* animal models of disease and state-of-the-art vascular imaging techniques, scientists of VRTR group join their efforts in solving challenging scientific problems.

VRTR group has stable collaborations with several renal divisions around Spain, as we are members of the Spanish Network for Renal Diseases (REDinREN ISCIII) funded by the Spanish Government. VRTR group has been successfully leading the NEFRONA and ILERVAS project, with main objective in investigating vascular disease and hidden kidney disease. VRTR group holds collaborations with various international research groups in the USA, Canada, Netherlands, Italy and France. Researchers from the VRTR group are actively involved in several national and international EU-funded consortia.

The main research lines of the Vascular and Renal Translational Research Group are:

- Identification of molecular mechanisms involved in the progression of chronic kidney disease.
- Factors involved in glomerular diseases.
- Identification of factors involved in the acceleration of atherosclerosis and vascular calcification in chronic kidney disease.
- Factors involved in the disruption of mineral homeostasis in chronic kidney disease.
- Vitamin D receptor in health and disease.



### Group leader

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### Location

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### Research team



## 2.8. Vascular and renal translational research group

### Research Team

Jose Manuel Valdivielso Revilla	Group leader
Auria Eritja Sanjuan	PhD student
Aurora Pérez Gómez	PhD student
Maite Caus Enriquez	PhD student
Alfons Segarra Medrano	Principal investigator
Milica Bozic	Principal investigator
Alicia Garcia Carrasco	Research technician
Ana Maria Martinez Bardaji	Research technician
M. Elisabet Samsó Piñol	Research technician
M. Teresa Vidal Balleste	Research technician
Cristina Martinez Martinez	Researcher
Elias Jatem Escalante	Researcher
Eva Castro Boque	Researcher
Jordi Roig Carcel	Researcher
Jose Felipe Sarro Sobrin	Researcher
Juan Miguel Diaz Tocados	Researcher
Lourdes Craver Hospital	Researcher
Marcelino Bermudez Lopez	Researcher
Maria Molina Gomez	Researcher
Maria Paz Marco Mayayo	Researcher
Marisa Martin Conde	Researcher
Minerva Granado Casas	Researcher
Nuria Dolade Masot	Researcher
Serafin Cambray Carner	Researcher
Virtudes Maria De Lamo	Researcher



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## 2.8. Vascular and renal translational research group

### Projects

PI	Funding agency	Project	Budget (€)
Jose Manuel Valdivielso	Instituto de Salud Carlos III	Movilidad de profesionales sanitarios e investigadores del SNS (M-BAE)	15,000
Jose Manuel Valdivielso	Ministerio de Ciencia e Innovación	Acciones de Dinamización "Europa Investigación 2020"	15,000

### Publications

Bermúdez-López M, Martínez-Alonso M, Castro-Boqué E, Betriu À, Cambray S, Farràs C, Barbé F, Pamplona R, Lecube A, Mauricio D, Purroy F, Valdivielso JM, Fernández E; ILERVAS project collaborators. Localización y carga de ateromatosis subclínica en población con un riesgo cardiovascular bajo-moderado: estudio ILERVAS. Rev Esp Cardiol (Engl Ed). 2020 Nov 5;S1885-5857(20)30424-2. PMID: 33162389 Revista Española de Cardiología. Q1 IF4,642

Martínez Fernández L, Sánchez-Alvarez JE, Morís de la Tassa C, Bande Fernández JJ, María V, Fernández E, Valdivielso JM, Betriu A. Factores de riesgo asociados a la calcificación valvular en pacientes con enfermedad renal crónica. Análisis del Estudio Nefrona. Nefrologia (Engl Ed). 2021 May-Jun;41(3):337-346. PMID: 33358625. Q4 IF1,544

Cambray S, Bermudez-Lopez M, Bozic M, Valdivielso JM; NEFRONA investigators. Association of a single nucleotide polymorphism combination pattern of the Klotho gene with non-cardiovascular death in patients with chronic kidney disease. Clin Kidney J. 2020 Mar 14;13(6):1017-1024. PMID: 33391745. Q1 IF3,388

Salvo-Romero E, Martínez C, Lobo B, Rodiño-Janeiro BK, Pigrau M, Sánchez-Chardi AD, González-Castro AM, Fortea M, Pardo-

Camacho C, Nieto A, Expósito E, Guagnozzi D, Rodríguez-Urrutia A, de Torres I, Farré R, Azpiroz F, Alonso-Cotoner C, Santos J, Vicario M. Overexpression of corticotropin-releasing factor in intestinal mucosal eosinophils is associated with clinical severity in Diarrhea-Predominant Irritable Bowel Syndrome. Sci Rep. 2020 Nov 26;10(1):20706. PMID: 33244004. Q1 IF3,998

Carmona-Maurici J, Amigó N, Cuello E, Bermúdez M, Baena-Fustegueras JA, Peinado-Onsurbe J, Pardina E. Bariatric surgery decreases oxidative stress and protein glycosylation in patients with morbid obesity. Eur J Clin Invest. 2020 Nov;50(11):e13320. PMID: 32535887. Q1 IF3,481

Mederer T, Schmitteckert S, Volz J, Martínez C, Röth R, Thumberger T, Eckstein V, Scheuerer J, Thöni C, Lasitschka F, Carstensen L, Günther P, Holland-Cunz S, Hofstra R, Brosens E, Rosenfeld JA, Schaaf CP, Schriemer D, Ceccherini I, Rusmini M, Tilghman J, Luzón-Toro B, Torroglosa A, Borrego S, Sze-Man Tang C, Garcia-Barceló M, Tam P, Paramasivam N, Bewerunge-Hudler M, De La Torre C, Gretz N, Rappold GA, Romero P, Niesler B. A complementary study approach unravels novel players in the pathoetiology of Hirschsprung disease. PLoS Genet. 2020 Nov 5;16(11):e1009106. PMID: 33151932. Q1 IF5,174

Prieto-Velasco M, Del Pino Y Pino MD, Buades Fuster JM, Craver

Hospital L, Pons Prades R, Ruiz San Millán JC, Salgueira Lazo M, de Sequera Ortiz P, Vega Díaz N. Advanced Chronic Kidney Disease Units in Spain: a national survey on standards of structure, resources, results and patient safety. Nefrologia (Engl Ed). 2020 Nov-Dec;40(6):608-622. PMID: 33032839. Q4 IF1,544

PMID: 33032839. Q4 IF1,544

Carmona-Maurici J, Cuello E, Ricart-Jané D, Miñarro A, Baena-Fustegueras JA, Peinado-Onsurbe J, Pardina E. Impact of bariatric surgery on subclinical atherosclerosis in patients with morbid obesity. Surg Obes Relat Dis. 2020 Dec;16(12):1961-1970. PMID: 32933868. Q1 IF3,812

Matsushita K, Jassal SK, Sang Y, Ballew SH, Grams ME, Surapaneni A, Arnlov J, Bansal N, Bozic M, Brenner H, Brunskill NJ, Chang AR, Chinnadurai R, Cirillo M, Correa A, Ebert N, Eckardt KU, Gansevoort RT, Gutierrez O, Hadaegh F, He J, Hwang SJ, Jafar TH, Kayama T, Kovesdy CP, Landman GW, Levey AS, Lloyd-Jones DM, Major RW, Miura K, Muntner P, Nadkarni GN, Naimark DM, Nowak C, Ohkubo T, Pena MJ, Polkinghorne KR, Sabanayagam C, Sairenchi T, Schneider MP, Shalev V, Shlipak M, Solbu MD, Stempniewicz N, Tollitt J, Valdivielso JM, van der Leeuw J, Wang AY, Wen CP, Woodward M, Yamagishi K, Yatsuya H, Zhang L, Schaeffner E, Coresh

## 2.8. Vascular and renal translational research group

J. Incorporating kidney disease measures into cardiovascular risk prediction: Development and validation in 9 million adults from 72 datasets. *Eclinicalmedicine*. 2020 Oct 14;27:100552. PMID: 33150324

Marchant V, Tejera-Muñoz A, Marquez-Expósito L, Rayego-Mateos S, Rodrigues-Diez RR, Tejedor L, Santos-Sanchez L, Egido J, Ortiz A, Valdivielso JM, Fraser DJ, López-Cabrera M, Selgas R, Ruiz-Ortega M. IL-17A as a Potential Therapeutic Target for Patients on Peritoneal Dialysis. *Biomolecules*. 2020 Sep 24;10(10):1361. PMID: 32987705. Q2 IF4,082

Sumida K, Nadkarni GN, Grams ME, Sang Y, Ballew SH, Coresh J, Matsushita K, Surapaneni A, Brunskill N, Chadban SJ, Chang AR, Cirillo M, Daratha KB, Gansevoort RT, Garg AX, Iacoviello L, Kayama T, Konta T, Kovesdy CP, Lash J, Lee BJ, Major RW, Metzger M, Miura K, Naimark DMJ, Nelson RG, Sawhney S, Stempniewicz N, Tang M, Townsend RR, Traynor JP, Valdivielso JM, Wetzels J, Polkinghorne KR, Heerspink HJL; Chronic Kidney Disease Prognosis Consortium. Conversion of Urine Protein-Creatinine Ratio or Urine Dipstick Protein to Urine Albumin-Creatinine Ratio for Use in Chronic Kidney Disease Screening and Prognosis : An Individual Participant-Based Meta-analysis. *Ann Intern Med*. 2020 Sep 15;173(6):426-435. PMID: 32658569. Q1 IF21,317

Rayego-Mateos S, Morgado-Pascual JL, Valdivielso JM, Sanz AB, Bosch-Panadero E, Rodrigues-Diez RR, Egido J, Ortiz A, González-Parra E, Ruiz-Ortega M. TRAF3 Modulation: Novel Mechanism for the Anti-inflammatory Effects of the Vitamin D Receptor Agonist Paricalcitol in Renal Disease. *J Am Soc Nephrol*. 2020 Sep;31(9):2026-2042. PMID: 32631974. Q1 IF9,274

Martínez C, Lasitschka F, Thöni C, Wohlfarth C, Braun A, Granzow M, Röth R, Dizdar V, Rappold GA, Hausken T, Langeland N, Hanevik K, Niesler B. Comparative expression profiling in the intestine of patients with Giardia-induced postinfectious functional gastrointestinal disorders. *Neurogastroenterol Motil*. 2020 Sep;32(9):e13868. PMID: 32391639. Q2 IF2,946

Cambray S, Ibarz M, Bermudez-Lopez M, Marti-Antonio M, Bozic M, Fernandez E, Valdivielso JM. Magnesium Levels Modify the Effect of Lipid Parameters on Carotid Intima Media Thickness. *Nutrients*. 2020 Aug 28;12(9):2631. PMID: 32872319. Q1 IF4,546

Amor AJ, Castelblanco E, Hernández M, Gimenez M, Granado-Casas M, Blanco J, Soldevila B, Esmatjes E, Conget I, Alonso N, Ortega E, Mauricio D. Advanced lipoprotein profile disturbances in type 1 diabetes mellitus: a focus on LDL particles. *Cardiovascular Diabetology*. 2020 Aug 9;19(1):126. PMID: 32772924. Q1 IF7,332

Martinez-Gonzalez D, Dòria M, Martínez-Alonso M, Alcubierre N, Valls J, Verdú-Soriano J, Granado-Casas M, Mauricio D. Adaptation and Validation of the Diabetic Foot Ulcer Scale-Short Form in Spanish Subjects. *Journal of Clinical Medicine*. 2020 Aug 3;9(8):2497. PMID: 32756508. Q1 IF3,303

Valdivielso JM, Eritja À, Caus M, Bozic M. Glutamate-Gated NMDA Receptors: Insights into the Function and Signaling in the Kidney. *Biomolecules*. 2020 Jul 15;10(7):1051. PMID: 32679780. Q2 IF4,082

Rayego-Mateos S, Valdivielso JM. New therapeutic targets in chronic kidney disease progression and renal fibrosis. *Expert Opinion On Therapeutic Targets*. 2020 Jul;24(7):655-670. PMID: 32338087. Q1 IF5,473

Castro-Alonso C, D'Marco L, Pomes J, Del Amo Conill M, García-Diez AI, Molina P, Puchades MJ, Valdivielso JM, Escudero V, Bover J, Navarro-González J, Ribas B, Pallardo LM, Gorriz JL. Prevalence of Vertebral Fractures and Their Prognostic Significance in the Survival in Patients with Chronic Kidney Disease Stages 3-5 Not on Dialysis. *Journal of Clinical Medicine*. 2020 May 25;9(5):1604. PMID: 32466297. Q1 IF3,303

Martínez-López D, Roldan-Montero R, García-Marqués F, Nuñez E, Jorge I, Camafeita E, Minguez P, Rodriguez de Cordoba S, López-Melgar B, Lara-Pezzi E, Fernández-Ortiz A, Ibáñez B, Valdivielso JM, Fuster V, Michel JB, Blanco-Colio LM, Vázquez J, Martin-Ventura JL. Complement C5 Protein as a Marker of Subclinical Atherosclerosis. *Journal Of The American College Of Cardiology*. 2020 Apr 28;75(16):1926-1941. PMID: 32327104. Q1 IF20,589

Bozic M, Caus M, Rodrigues-Diez RR, Pedraza N, Ruiz-Ortega M, Garí E, Galle P, Panadés MJ, Martinez A, Fernández E, Valdivielso JM. Protective role of renal proximal tubular alpha-synuclein in the pathogenesis of kidney fibrosis. *Nature Communications*. 2020 Apr 23;11(1):1943. doi: 10.1038/s41467-020-15732-9. PMID: 32327648. Q1 IF12,121

Sánchez E, Betriu À, Salas-Salvadó J, Pamplona R, Barbé F, Purroy F, Farràs C, Fernández E, López-Cano C, Mizab C, Lecube A; ILERVAS project investigators. Mediterranean diet, physical activity and subcutaneous advanced glycation end-products' accumulation: a cross-sectional analysis in the ILERVAS project *European journal of nutrition*. 2020 Apr;59(3):1233-1242. PMID: 31065845. Q1 IF4,664

Martínez-Sena T, Soluyanova P, Guzmán C, Valdivielso JM, Castell JV, Jover R. The Vitamin D Receptor Regulates Glycerolipid and Phospholipid Metabolism in Human Hepatocytes. *Biomolecules*.

## 2.8. Vascular and renal translational research group

2020 Mar 24;10(3):493 PMID: 32213983. Q2 IF4,082

Vila MDM, Remeseiro B, Grau M, Elosua R, Betriu À, Fernandez-Giraldez E, Igual L. Semantic segmentation with DenseNets for carotid artery ultrasound plaque segmentation and CIMT estimation. *Artif Intell Med.* 2020 Mar;103:101784. PMID: 32143791. Q1 IF4,383

Alcubierre N, Granado-Casas M, Real J, Perpiñán H, Rubinat E, Falguera M, Castelblanco E, Franch-Nadal J, Mauricio D. Spanish People with Type 2 Diabetes Show an Improved Adherence to the Mediterranean Diet. *Nutrients.* 2020 Feb 20;12(2):560. PMID: 32093385. Q1 IF4,546

Segarra A, Arredondo KV, Jaramillo J, Jatem E, Salcedo MT, Agraz I, Ramos N, Carnicer C, Valtierra N, Ostos E. Efficacy and safety of bortezomib in refractory lupus nephritis: a single-center experience. *Lupus.* 2020 Feb;29(2):118-125. PMID: 31865857. Q3 IF2,251

Falguera M, Vilanova MB, Alcubierre N, Granado-Casas M, Marsal JR, Miró N, Cebrian C, Molló À, Franch-Nadal J, Mata-Cases M, Castelblanco E, Mauricio D. Prevalence of pre-diabetes and undiagnosed diabetes in the Mollerussa prospective observational cohort study in a semi-rural area of Catalonia. *BMJ Open.* 2020 Jan 20;10(1):e033332. PMID: 31964673. Q2 IF2,496

Granado-Casas M, Martin M, Martínez-Alonso M, Alcubierre N, Hernández M, Alonso N, Castelblanco E, Mauricio D. The Mediterranean Diet is Associated with an Improved Quality of Life in Adults with Type 1 Diabetes. *Nutrients.* 2020 Jan 2;12(1):131. PMID: 31906543. Q1 IF4,546

Palau V, Riera M, Duran X, Valdivielso JM, Betriu A, Fernández E, Pascual J, Soler MJ. Circulating ADAMs are associated with renal and cardiovascular outcomes in chronic kidney disease patients. *Nephrol Dial Transplant.* 2020 Jan 1;35(1):130-138. PMID: 30102333. Q1 IF4,531

Solache-Berrocal G, Barral-Varela AM, Areces-Rodríguez S, Junco-Vicente A, Vallina-Álvarez A, Corte-Torres MD, Valdivielso JM, Llosa JC, Morís C, Martín M, Rodríguez I. Correlation of Micro-Computed Tomography Assessment of Valvular Mineralisation with Histopathological and Immunohistochemical Features of Calcific Aortic Valve Disease. *J Clin Med.* 2019 Dec 21;9(1):29. PMID: 31877754. Q1 IF3,303

Konturek TJ, Martinez C, Niesler B, van der Voort I, Mönnikes H, Stengel A, Goebel-Stengel M. The Role of Brain-Derived Neurotrophic Factor in Irritable Bowel Syndrome. *Front Psychiatry.* 2021 Jan 14;11:531385. PMID: 33519536. Q2 IF2,849

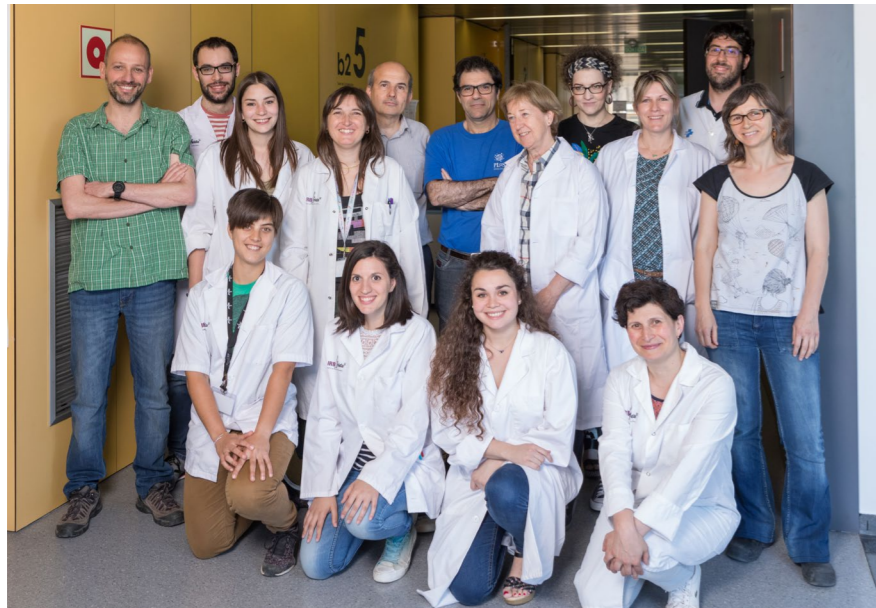
## Area 3. Cellular and molecular models of human pathologies

This area integrates the research groups interested in the analysis of cellular mechanisms that control cell proliferation and differentiation, as well as signalling pathways involved in cell survival and cell death. Alterations in the processes of cell proliferation, cell survival and cell death can be the origin or aggregating elements in various human pathologies such as cancer, neurodegenerative diseases and cardiac pathologies such as myocardial infarction.

The aim of the research groups in this area is to identify the key factors in the control of these cellular processes and the alterations that occur in pathological situations. The experimental models used are very diverse. *Saccharomyces cerevisiae* is used as a single-cell eukaryotic model because of the ease with which it can be genetically manipulated and the relatively minor complexity of its genome. On the other hand, neuronal primary cultures, cell lines from neural tissue, cancer cells and primary cultures of rat and mouse cardiomyocytes are used. Likewise, other cell types, such as embryonic fibroblasts and primary brain cancer cultures (gliomas), are also being undertaken. In recent years, projects have been initiated that involve the analysis of these processes in cells derived from genetically modified animals: knockouts and overexpressors (transgenics) for certain genes of interest, as well as mice in which the wild-type gene has been exchanged for the same modified gene (knockin). Gene silencing is widely used as a tool to identify the functions of key components in signalling cascades in different models.

### Groups





## 3.1. Cell cycle

The Cell Cycle group studies the molecular mechanisms that regulate the division of eukaryotic cells, in particular:

- (A) The mechanisms dependent on SUMO and SMC complexes that ensure genome stability during the cycle and in response to DNA damage.
- (B) The mechanisms involved in the control of Cell Cycle entry and its relation to polarity, cell adhesion and migration.

Mouse embryonic fibroblasts, cell lines and primary cultures of human keratinocytes are used as models of cell adhesion and polarity whereas budding yeast and human cell lines are employed for chromosome replication, cohesion and segregation studies.

The overall goal of this work is to contribute to a better understanding of the processes that are altered during the loss of genome integrity and in diseases such as cancer.

### Research team

Eloi Garí Marsol	Group leader
Jordi Torres Rosell	Group leader
Clara Matas Nadal	PhD student
Eva Irene Ibars Estiarte	PhD student
Joan Codina Fabra	PhD student
Marc Tarres Escalona	PhD student
Marta Guasch Vallés	PhD student
Neus Perez Lorite	PhD student
Roger Ferran Solé Soler	PhD student
Sonia Nikolova Apostolova	PhD student
Francisco Ferrezuelo Muñoz	Principal investigator
Neus Colomina Gabarrella	Principal investigator
Sonia Rius Balcells	Research technician
Celia Casas Herranz	Researcher
Jose Manuel Casanova Seuma	Researcher
Neus Pedraza Gonzalez	Researcher
Rafael Aguayo Ortiz	Researcher



#### Group leader

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## 3.1. Cell cycle

### Projects

PI	Funding agency	Project	Budget (€)
Eloi Garí	Ministerio de Ciencia e Innovación	Caracterización de funciones no canónicas del complejo ciclina DI-CDK4 implicadas en señalización	145,200

### Publications

Bozic M, Caus M, Rodrigues-Diez RR, Pedraza N, Ruiz-Ortega M, Garí E, Gallel P, Panadés MJ, Martínez A, Fernández E, Valdivielso JM. Protective role of renal proximal tubular alpha-synuclein in the pathogenesis of kidney fibrosis. *Nature Communications*. 2020 Apr 23;11(1):1943. PMID: 32327648. Q1 IF12,121

Coccia E, Planells-Ferrer L, Badillos-Rodríguez R, Pascual M, Segura MF, Fernández-Hernández R, López-Soriano J, Garí E, Soriano E, Barneda-Zahonero B, Moubarak RS, Pérez-García MJ, Comella JX. SIVA-1 regulates apoptosis and synaptic function by modulating XIAP interaction with the death receptor antagonist FAIM-L. *Cell Death Dis*. 2020 Feb 3;11(2):82. PMID: 32015347. Q1 IF6,304

Gilaberte Y, Casanova JM, García-Malinis AJ, Arias-Santiago S, García de la Fuente MR, Pamiés-Gracia M, Ramirez-Palomino J, Ruiz-Campos I, Gracia-Cazaña T, Buendia-Eisman A. Skin Cancer Prevalence in Outdoor Workers of Ski Resorts. *J Skin Cancer*. 2020 Jan 28;2020:8128717. PMID: 32231797

Matas-Nadal C, Bech-Serra JJ, Guasch-Vallés M, Fernández-Armenteros JM, Barceló C, Casanova JM, de la Torre Gómez C, Aguayo Ortiz R, Garí E. Evaluation of Tumor Interstitial Fluid-Extraction Methods for Proteome Analysis: Comparison of Biopsy Elution

versus Centrifugation. *J Proteome Res*. 2020 Jul 2;19(7):2598-2605. PMID: 31877049. Q1 IF4,074

García-de-la-Fuente MR, Santacana M, Verdaguer J, Vilardell F, Garí E, Casanova JM. Characterisation of the inflammatory response triggered by topical ingenol mebutate 0.05% gel in basal cell carcinoma. *Australas J Dermatol*. 2020 May;61(2):e200-e207. PMID: 31944277. Q3 IF1,789

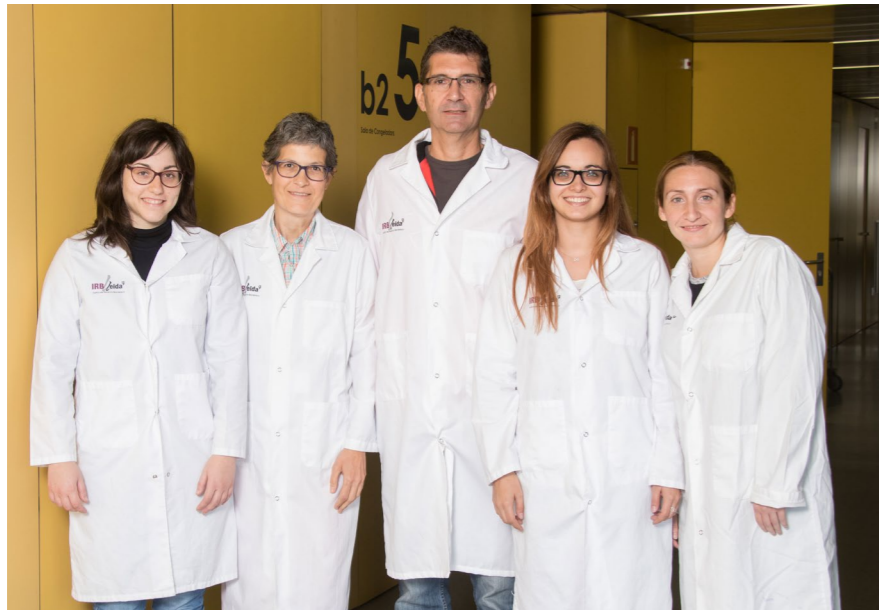
anal Garcia E, Vargas Ramos JDP, Aguayo Ortiz R. Cellulitis-like Sweet Syndrome caused by adalimumab therapy for severe hidradenitis suppurativa. *Australas J Dermatol*. 2020 Nov;61(4):e448-e449. PMID: 32567672. Q3 IF1,789

Gutierrez-Escribano P, Hormeño S, Madariaga-Marcos J, Solé-Soler R, O'Reilly FJ, Morris K, Aicart-Ramos C, Aramayo R, Montoya A, Kramer H, Rappsilber J, Torres-Rosell J, Moreno-Herrero F, Aragon L. Purified Smc5/6 Complex Exhibits DNA Substrate Recognition and Compaction. *Mol Cell*. 2020 Dec 17;80(6):1039-1054.e6. PMID: 33301732. Q1 IF15,584

Solé-Soler R, Torres-Rosell J. Smc5/6, an atypical SMC complex with two RING-type subunits. *Biochem Soc Trans*. 2020 Oct 30;48(5):2159-2171. PMID: 32964921. Q1 IF5,16

Mota-Martorell N, Jove M, Pradas I, Berdún R, Sanchez I, Naudi A, Gari E, Barja G, Pamplona R. Gene expression and regulatory factors of the mechanistic target of rapamycin (mTOR) complex 1 predict mammalian longevity. *Geroscience* 2020 Aug;42(4):1157-1173. PMID: 32578071

Badia M, Casanova JM, Serviá L, Montserrat N, Codina J, Trujillano J. Dermatological Manifestations in the Intensive Care Unit: A Practical Approach. *Crit Care Res Pract*. 2020 Sep 26;2020:9729814. PMID: 33062328



## 3.2. Cell signalling and apoptosis group

The lines of research of the Cell Signaling and Apoptosis Group are: Study of the processes that regulate differentiation, survival and cell death in cardiac tissue. Investigation of the mechanisms involved in these processes is essential to address the treatment of diseases of the cardiovascular system.



### Group leader

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### Research team

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Aida Beà Tàrrega	PhD student



## 3.2. Cell signalling and apoptosis group

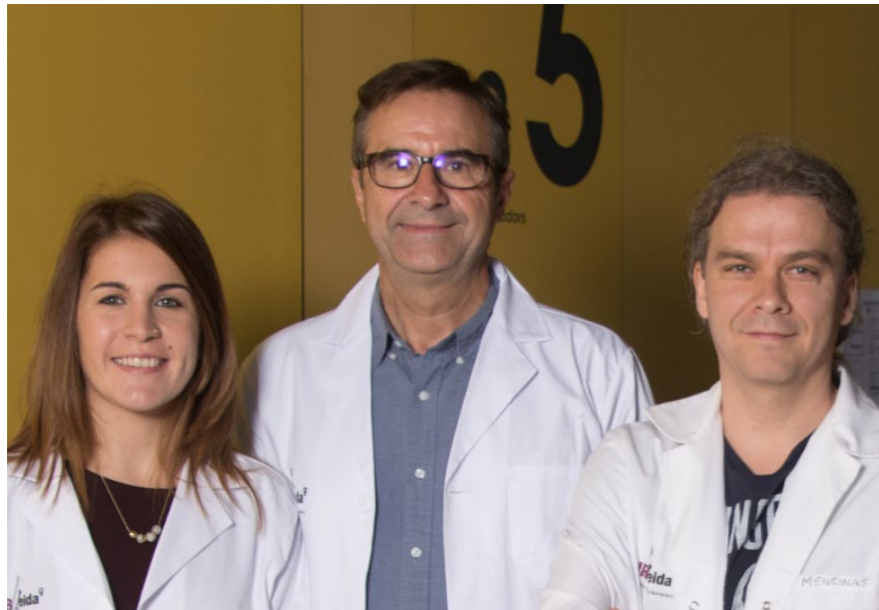
### Projects

PI	Funding agency	Project	Budget (€)
Daniel Sanchís	Ministerio de Ciencia e Innovación	Mecanismos implicados en el papel de EndoG en el desarrollo y el metabolismo del corazón. Relación de EndoG y otros genes apoptóticos con la patofisiopatología cardíaca.	96,800

### Publications

Blasco N, Beà A, Barés G, Girón C, Navaridas R, Irazoki A, López-Lluch G, Zorzano A, Dolcet X, Llovera M, Sanchis D. Involvement of the mitochondrial nuclease EndoG in the regulation of cell proliferation through the control of reactive oxygen species. *Redox Biol.* 2020 Oct;37:101736. PMID: 33032073. Q1 IF9,986

Chen M, Ji C, Yang Q, Gao S, Peng Y, Li Z, Gao X, Li Y, Jiang N, Zhang Y, Bian X, Chen C, Zhang K, Sanchis D, Yan F, Ye J. AKT2 regulates development and metabolic homeostasis via AMPK-dependent pathway in skeletal muscle. *Clin Sci (Lond).* 2020 Sep 18;134(17):2381-2398. PMID: 32880392. Q1 IF5,223



### 3.3. Oncogenic signalling and development

The group considers a genetic approach to the mechanisms that regulate the activated cell signaling pathways by proto-oncogen Ret, and its regulation by the putative tumor suppressor Sprouty. As a fundamental tool, the group uses lines of mutant mice generated by homologous recombination. The studies cover different fields such as renal development and the peripheral nervous system, or the biology of tumors of neuroendocrine origin.



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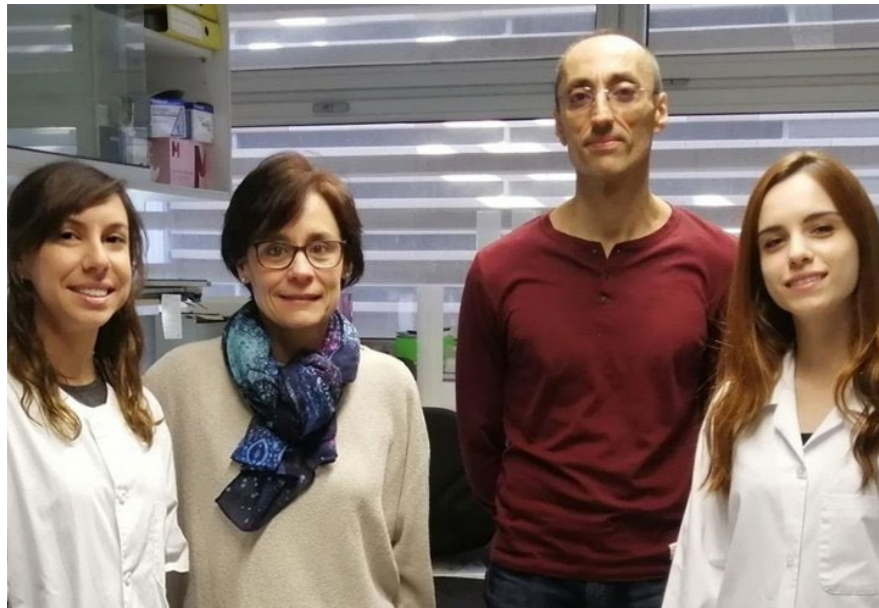
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#### Research team

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Gisela Altes Bargallo	PhD student
Marta Hereu Bordes	Research technician
Joan Ribera Calvet	Researcher



### 3.4. Calcium cellular signalling

Understanding the adaptive responses developed by cancer cells during tumour progression and relapse should allow the development of novel therapeutic strategies against cancer. Cancer cells adapt to changing microenvironments (involving nutrient and/or oxygen deprivation) through the activation of the unfolded protein response (UPR) and autophagy. These processes are also highly relevant in terms of chemoresistance and recurrence. The group works on Glioblastoma, an aggressive brain tumour characterized

by fast growth, high invasivity and resistance to treatment. Currently they are addressing how interfering with the UPR and deregulating macroautophagy affects cell proliferation and survival, *in vitro* and *in vivo*, to devise possible new anti-tumoural strategies. The group uses primary cultures established from tumour biopsies and biochemical, cell and molecular biology techniques, together with gene silencing and calcium imaging.



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Lia Alza Blanco	PhD student
David Argiles Baulo	Research technician
Anna Visa Pretel	Researcher

## 3.4. Calcium cellular signalling

### Publications

Alza L, Nàger M, Visa A, Cantí C, Herreros J. FAK Inhibition Induces Glioblastoma Cell Senescence-Like State through p62 and p27. *Cancers*. (Basel). 2020 Apr 27;12(5):1086. PMID: 32349327. Q1 IF6,126

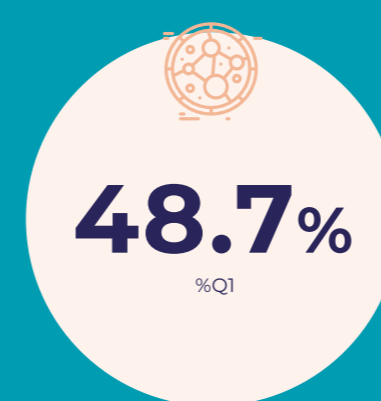
Alza L, Visa A, Herreros J, Cantí C. The rise of T-type channels in melanoma progression and chemotherapeutic resistance. *Biochim Biophys Acta Rev Cancer*. 2020 Apr;1873(2):188364. PMID: 32275934. Q1 IF7,365

## Area 4. Neurosciences

Neuroscientific research is one of the priority objectives of attention in almost all the strategic approaches to scientific policy of almost all the agents promoting biomedical research. The personal and social problems derived from incurable neurodegenerative diseases, many of which are linked to ageing, make it necessary to pay particular attention to the development of scientific knowledge in this field, as it is absolutely essential to make progress in the fight against these diseases. There is full agreement among the scientific community to consider the brain as the most complex object in existence, at least within the small portion of the universe that we can cover. For this reason, getting to know the nervous system is, therefore, one of the great challenges facing science today.

Recent developments in the field of molecular genetics, proteomics, new cell visualisation techniques and other technological advances are very powerful tools that characterise the current state of neuroscientific research. Many of these techniques are available at the Institute and are the basis of the work of the research groups in this area, as they address specific aspects of neurodegeneration and neuromuscular pathology from a cellular and molecular point of view.

### Groups





## 4.1. Clinical neurosciences

The Clinical Neurosciences group was created with the aim of bringing together all the neurological research carried out in the Lleida hospital setting in 2008. During 2020 the group has been coordinated by Dr. Piñol and Dr. Purroy. Currently, it is a translational research group made up of different professional profiles (neurologists, radiologists, psychologists, nurses, vascular surgeons, geriatricians, psychologists, clinical biochemists, biologists, biotechnologists, and biomedicians). The group is subdivided into two nodes representing research in cerebrovascular diseases and research in cognitive impairment:

- **Cerebrovascular diseases**

The group aims to improve the diagnosis, prognosis and treatment of patients, through the identification of biomarkers (neuroimaging, biologics) and the understanding of the molecular mechanisms involved in strokes. It is developing a clinical trial of remote ischemic tolerance in patients with stroke code criteria (study REMOTECAT-trials.gov NCT03375762). It is part of the “Spanish Network of Cerebral Vascular Diseases” of the Carlos III Institute (INVICTUS-plus).

- **Cognitive impairment**

It aims to improve the diagnosis of people with cognitive impairment through biological biomarkers and its association with sleep pathology.



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### Research team

## 4.1. Clinical neurosciences

### Research team

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Coral Torres Querol	PhD student
Cristina Pereira Priego	PhD student
Farida Dakterzada Sedaghat	PhD student
Leila Romero El Khayat	Research technician
Gerard Piñol Ripoll	Principal investigator
Cristina Garcia Vazquez	Researcher
Alejandro Quilez Martinez	Researcher
Ana Belen Vena Martinez	Researcher
Anna Carnes Vendrell	Researcher
Daniel Vazquez Justes	Researcher
Francisco Torres Bondia	Researcher
Gerard Josep Mauri Capdevila	Researcher
Gloria Arque Fuste	Researcher
Jaume Mas Atance	Researcher
Jordi Sanahuja Montesinos	Researcher
Juan Farre Pons	Researcher
Maria Isabel Gil Garcia	Researcher
Mikel Vicente Pascual	Researcher
Nuria Montala Palau	Researcher
Nuria Torreguitart Mirada	Researcher
Pau Sole Florensa	Researcher
Ramon Jové Talavera	Researcher



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## 4.1. Clinical neurosciences

### Projects

PI	Funding agency	Project	Budget (€)
Francisco Purroy	Instituto de Salud Carlos III	Determinación del tiempo de inicio del ictus isquémico y el tejido recuperable mediante la firma ómica: OMIC IS BRAIN	185,130
Coral Torres	Instituto de Salud Carlos III	Movilidad de personal investigador contratado en el marco de la AES (M-AES)	10,005

### Publications

Bermúdez-López M, Martínez-Alonso M, Castro-Boqué E, Betriu À, Cambray S, Farràs C, Barbé F, Pamplona R, Lecube A, Mauricio D, Purroy F, Valdivielso JM, Fernández E; ILERVAS project collaborators. Localización y carga de ateromatosis subclínica en población con un riesgo cardiovascular bajo-moderado: estudio ILERVAS. *Rev Esp Cardiol (Engl Ed)*. 2020 Nov 5;S1885-5857(20)30424-2. PMID: 33162389. Q1 IF4,642

Dakterzada F, Targa A, Benítez ID, Romero-ElKhayat L, de Gonzalo-Calvo D, Torres G, Moncusí-Moix A, Huerto R, Sánchez-de-la-Torre M, Barbé F, Piñol-Ripoll G. Identification and validation of endogenous control miRNAs in plasma samples for normalization of qPCR data for Alzheimer's disease. *Alzheimers Res Ther*. 2020 Dec 5;12(1):163. PMID: 33278902. Q1 IF6,116

Torres-Bondia F, Dakterzada F, Galván L, Buti M, Besanson G, Gill E, Buil R, de Batlle J, Piñol-Ripoll G. Proton pump inhibitors and the risk of Alzheimer's disease and non-Alzheimer's dementias. *Scientific Reports*. 2020 Dec 3;10(1):21046. PMID: 33273636. Q1 IF3,998

Jorge C, Targa A, Benítez ID, Dakterzada F, Torres G, Minguez O, Carnes A, Pujol M, Gibert A, López R, Gaeta AM, Dalmases M, Farré R, Sánchez-de-la-Torre M, Barbé F, Piñol-Ripoll G. Obstructive

sleep apnoea and cognitive decline in mild-to-moderate Alzheimer's disease. *European Respiratory Journal* 2020 Nov 19;56(5):2000523. PMID: 32554539. Q1 IF12,339

Targa A, Dakterzada F, Benítez ID, de Gonzalo-Calvo D, Moncusí-Moix A, López R, Pujol M, Arias A, de Batlle J, Sánchez-de-la-Torre M, Barbé F, Piñol-Ripoll G. Circulating MicroRNA Profile Associated with Obstructive Sleep Apnea in Alzheimer's Disease. *Molecular Neurobiology*. 2020 Nov;57(11):4363-4372. PMID: 32720075. Q1 IF4,5

Quílez A, Baraldés-Rovira M, Gallego Y, Sanahuja J, Mauri-Capdevila G, Purroy F. Risk-benefit assessment of treatment of epileptic women of childbearing age with valproic acid. *Seizure*. 2020 Nov;82:27-30. PMID: 32979602. Q3 IF2,522

Latorre R, Purroy F. Parálisis periódica hipocaliémica: revisión sistemática de casos publicados. *Rev Neurol*. 2020 Nov 1;71(9):317-325. PMID: 33085076. Q4 IF0,562

Mauri-Capdevila, G; Ois, A; Jove, M; PORTERO, M; Sol, J; Campello, AR; Roquer, J; Vicente-Pascual, M; Justes, DV; Purroy, F. Lipidomics signature of stroke recurrence after transient ischemic attack. *International journal of stroke* 15 600-600

Boada M, López OL, Olazarán J, Núñez L, Pfeffer M, Paricio M, Lorites J, Piñol-Ripoll G, Gámez JE, Anaya F, Kiproff D, Lima J, Grifols C, Torres M, Costa M, Bozzo J, Szczepiorkowski ZM, Hendrix S, Páez A. A randomized, controlled clinical trial of plasma exchange with albumin replacement for Alzheimer's disease: Primary results of the AMBAR Study. *Alzheimers Dement*. 2020 Oct;16(10):1412-1425. PMID: 32715623. Q1 IF17,12

Gual N, Pérez LM, Castellano-Tejedor C, Lusilla-Palacios P, Castro J, Soto-Bagaria L, Coll-Planas L, Roqué M, Vena AB, Fontecha B, Santiago JM, Lexell EM, Chiatti C, Iwarsson S, Inzitari M. IMAGINE study protocol of a clinical trial: a multi-center, investigator-blinded, randomized, 36-month, parallel-group to compare the effectiveness of motivational interview in rehabilitation of older stroke survivors. *BMC Geriatr*. 2020 Sep 4;20(1):321. PMID: 32887564. Q1 IF2,145

Vázquez-Justes D, Sanahuja J, Diez J, Rubinat E, Begué R, Salas C, Vicandi C, Gil MI, Purroy F, Mauricio D. Incidental findings on brain MRI in a cohort of diabetic patients. *Journal of Neuroradiology*. 2020 Sep;47(5):343-348. PMID: 30098369 Q2 IF2,423

Lara B, Carnes A, Dakterzada F, Benitez I, Piñol-Ripoll G. Neuropsychiatric symptoms and quality of life in Spanish patients with Alzheimer's disease during the COVID-19 lockdown. *European*



## 4.1. Clinical neurosciences

Journal of Neurology. 2020 Sep;27(9):1744-1747. PMID: 32449791. Q1 IF4,516

Vázquez-Justes D, Peñalva-García J, López R, Mitjana R, Begue R, González-Mingot C. Parkinsonism phenotype in a family with adult onset Alexander disease and a novel mutation of GFAP. Clin Neurol Neurosurg. 2020 Aug;195:105893. PMID: 32417628. Q3 IF1,53

Purroy F, García C, Mauri G, Pereira C, Torres C, Vazquez-Justes D, Vicente-Pascual M, Vena A, Arque G. Induced neuroprotection by remote ischemic preconditioning as a new paradigm in ischemic stroke at the acute phase, a systematic review. BMC Neurol. 2020 Jul 2;20(1):266. PMID: 32615939 BMC Neurology. Q3 IF2,356

Torres-Bondía F, de Battlle J, Galván L, Buti M, Barbé F, Piñol-Ripoll G. Trends in the consumption rates of benzodiazepines and benzodiazepine-related drugs in the health region of Lleida from 2002 to 2015. BMC Public Health. 2020 Jun 1;20(1):818. PMID: 32487058. Q2 IF2,521

Sánchez E, Betriu À, Salas-Salvadó J, Pamplona R, Barbé F, Purroy F, Farràs C, Fernández E, López-Cano C, Mizab C, Lecube A; ILERVAS project investigators. Mediterranean diet, physical activity and subcutaneous advanced glycation end-products' accumulation: a cross-sectional analysis in the ILERVAS project. European Journal of Nutrition. 2020 Apr;59(3):1233-1242. PMID: 31065845. Q1 IF4,664  
Gaeta AM, Benítez ID, Jorge C, Torres G, Dakterzada F, Minguez O, Huerto R, Pujol M, Carnes A, Dalmases M, Gibert A, Farré R, de la Torres MS, Barbé F, Piñol-Ripoll G. Prevalence of obstructive sleep apnea in Alzheimer's disease patients. J Neurol. 2020 Apr;267(4):1012-1022. PMID: 31832828. Q1 IF3,956

Cullell N, Carrera C, Muiño E, Torres-Aguila NP, Cárcel-Márquez J,

González-Sánchez J, Gallego-Fabrega C, Molina J, Besora S, Sotoca J, Buongiorno MT, Jiménez-Conde J, Giralt-Steinhauer E, de Torres-Chacón R, Montaner J, Mancha F, Cabezas JA, Martí-Fàbregas J, Prats-Sánchez L, Camps-Renom P, Purroy F, Cambray S, Freijo MDM, Vives-Bauzá C, Tur S, Font MÀ, López-Cancio E, Hernandez-Perez M, Obach V, Calleja A, Arenillas J, Rodríguez-Yáñez M, Castillo J, Sobrino T, Fernández-Cádenas I, Krupinski J. Genome-Wide Association Study of VKORC1 and CYP2C9 on acenocoumarol dose, stroke recurrence and intracranial haemorrhage in Spain. Scientific Reports. 2020 Feb 18;10(1):2806. PMID: 3207134.1 Q1 IF3,998

Sánchez E, Sánchez M, Betriu À, Rius F, Torres G, Purroy F, Pamplona R, Ortega M, López-Cano C, Hernández M, Bueno M, Fernández E, Salvador J, Lecube A; ILERVAS project collaborators. Are Obesity Indices Useful for Detecting Subclinical Atheromatosis in a Middle-Aged Population? Obesity Facts. 2020;13(1):29-39. PMID:3196834. 1Q2 IF3,514

Vena AB, Cabré X, Piñol R, Molina J, Purroy F. Assessment of incidence and trends in cerebrovascular disease in the healthcare district of Lleida (Spain) in the period 2010-2014. Neurologia. 2020 Jan 14;S0213-4853(19)30143-4 PMID: 31952889 Q3 IF2,283

Purroy F, Arque G, Mauri G, García-Vázquez C, Vicente-Pascual M, Pereira C, Vazquez-Justes D, Torres-Querol C, Vena A, Abilleira S, Cardona P, Forné C, Jiménez-Fàbrega X, Pagola J, Portero-Otin M, Rodríguez-Campello A, Rovira À, Martí-Fàbregas J. REMOTE Ischemic Preconditioning Among Acute Ischemic Stroke Patients in Catalonia: REMOTE-CAT PROJECT. Frontiers in Neurology. 2020 Sep 25;11:569696. PMID: 33101178. Q2 IF2,889

Colàs-Campàs L, Farre J, Mauri-Capdevila G, Molina-Seguín J, Aymerich N, Ois Á, Roquer J, Tur S, García-Carreira MDC,

Martí-Fàbregas J, Cruz-Culebras A, Segura T, Arque G, Purroy F. Inflammatory Response of Ischemic Tolerance in Circulating Plasma: Preconditioning-Induced by Transient Ischemic Attack (TIA) Phenomena in Acute Ischemia Patients (AIS). Frontiers in Neurology. 2020 Oct 29;11:552470. PMID: 33192985. Q2 IF2,889

Gomis M, Dávalos A, Purroy F, Cardona P, Rodríguez-Campello A, Martí-Fàbregas J, Pagola J, Pardo L, Muñoz-Narbona L, Benabdelhak I, Lara-Rodríguez B, Cuadrado-Godia E, Martínez-Domeño A, Juega JM, Serena J, Alvarez-Ballano J, Paipa A, Roquer J, Abilleira S, Neeter R, van de Groep A, Molina C. Stroke Risk Analysis, a System With a High Detection Rate of Atrial Fibrillation in Stroke and Transient Ischemic Attack. Stroke. 2020 Jan;51(1):262-267. PMID: 31842722. Q1 IF7,19

Johnston SC, Amarenco P;...THALES Investigators (Purroy Francisco). Ticagrelor and Aspirin or Aspirin Alone in Acute Ischemic Stroke or TIA. New England Journal of Medicine. Q1 IF74,69

Amarenco P, Denison H; THALES Steering Committee and Investigators (Purroy Francisco). Ticagrelor Added to Aspirin in Acute Nonsevere Ischemic Stroke or Transient Ischemic Attack of Atherosclerotic Origin. Stroke. Q1 IF7,19

Amarenco P, Denison H... THALES Steering Committee and Investigators (Purroy Francisco). Ticagrelor Added to Aspirin in Acute Ischemic Stroke or Transient Ischemic Attack in Prevention of Disabling Stroke: A Randomized Clinical Trial. JAMA Neurology. Q1 IF13,6

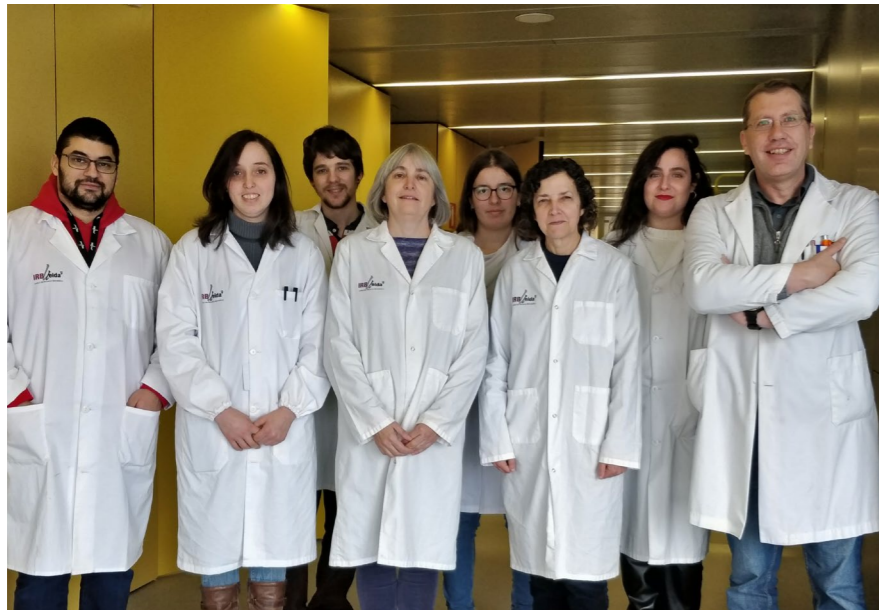
Flores A, Ustrell X, Seró L, Pellisé A, Rodriguez P, Viñas J, Ribó M, Krupinski J, Más N, Garcia S, Palomer Soler E, Cocho D, Canovas

## 4.1. Clinical neurosciences

D, Purroy F, Serena J, Zaragoza-Brunet J, Obach V, Perez de la Ossa N, Cardona P, Molina CA, Abilleira S, Rubiera M; Catalan Stroke Code and Reperfusion Consortium. Vascular Occlusion Evolution in Endovascular Reperfusion Candidates Transferred from Primary to Comprehensive Stroke Centers. *Cerebrovascular Diseases*. 2020;49(5):550-555. PMID: 33091908 Q2 IF2,68

Requena M, Olivé-Gadea M, Boned S, Ramos A, Cardona P, Urra X, Serena J, Silva Y, Purroy F, Ustrell X, Abilleira S, Tomasello A, Perez de la Ossa N, Molina CA, Ribo M, Rubiera M; Catalan Stroke Code and Reperfusion Consortium (Cat-SCR). Clinical and neuroimaging criteria to improve the workflow in transfers for endovascular treatment evaluation. *International Journal of Stroke*. 2020 Dec;15(9):988-994. PMID: 31506026. Q1 IF4,88

Campo-Caballero D, de la Riva P, de Arce A, Martínez-Zabaleta M, Rodríguez-Antigüedad J, Ekiza J, Iruzubieta P, Purroy F, Fuentes B, de Lera Alfonso M, Krupinski J, Mengual Chirife JJ, Palomeras E, Guisado-Alonso D, Rodríguez-Yáñez M, Ustrell X, Tejada García J, de Felipe Mimblera A, Paré-Curell M, Tembl J, Cajaraville S, Garcés M, Serena J. Reperfusion treatment in acute ischaemic stroke due to cervical and cerebral artery dissection: results of a Spanish national multicentre study. *Neurologia*. 2020 Dec 21:S0213-4853(20)30430-8. PMID: 33358059. Q3 IF2,28



## 4.2. Evolutionary developmental neurobiology

The group's research focuses on the study of the amygdala, a very complex brain structure involved in the control of emotions, social behavior and cognition, which is altered in all psychiatric disorders. Currently it is not possible to explain the different outcomes of distinct mental conditions, posing a real challenge on their treatment. To solve this problem, the group is trying to decipher the amygdala at molecular, cellular and circuit levels using an evolutionary development biology approach.

Previous research of the group has shown that the high complexity of the amygdala can be largely explained by the different embryonic

origin of its neurons, which conditions their adult phenotype. With this vision in mind, the group is currently developing research to study the transcriptome and the connections of amygdalar neurons with different embryonic origin. Comparison of the results with public databases of genes involved in distinct mental disorders will help to understand the relation between different susceptibility genes to specific amygdalar neurons and networks regulating emotion and social behavior. This will be the first step to design more accurate therapeutic targets for distinct mental disorders and will open the venue for precision medicine in Psychiatry.



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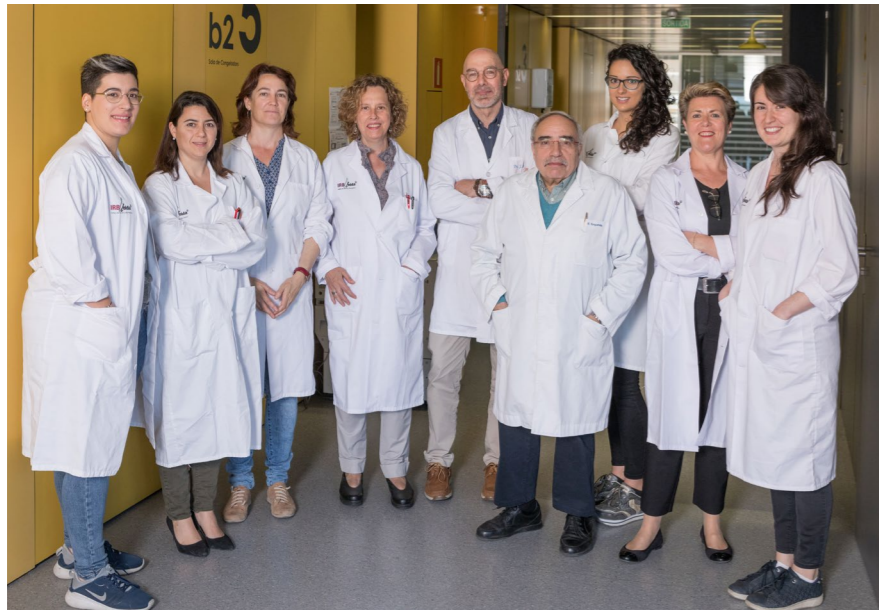
### Research team

Ester Desfilis Barcelo	Group leader
Loreta Medina Hernandez	Group leader
Alek Hanafi-Metwalli	PhD student
Alessandra Pross	PhD student
Lorena Morales Garcia	PhD student
Antonio Abellan Rodenas	Researcher

## 4.2. Evolutionary developmental neurobiology

### Projects

PI	Funding agency	Project	Budget (€)
Loreta Medina	Ministerio de Ciencia e Innovación	Molecular architecture of brain centers and networks regulating emotion and cognition: implications for psychiatry	131,769



### 4.3. Experimental neuromuscular pathology

The group studies the cellular and molecular bases of neuromuscular disorders, particularly, motoneuron diseases such as amyotrophic lateral sclerosis (ALS) and spinal muscular atrophy (SMA). For this, we use *in vitro* and *in vivo* models, mainly chick embryo and transgenic mice. Several lines of work are currently underway to examine the role of excitotoxicity, autoimmunity and neuroinflammation in the ALS and SMA pathogenesis, and to identify new targets for future therapies. Another important aspect of our research is the analysis of plastic changes in central and peripheral synapses in the context of normal development, aging and motoneuron diseases.



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Lidia Piedrafita Llorens	Research technician
Silvia Gras Artells	Research technician
Anna Maria Casanovas Llorens	Researcher
Olga Tarabal Mostazo	Researcher
Sara Hernández Estañol	Researcher

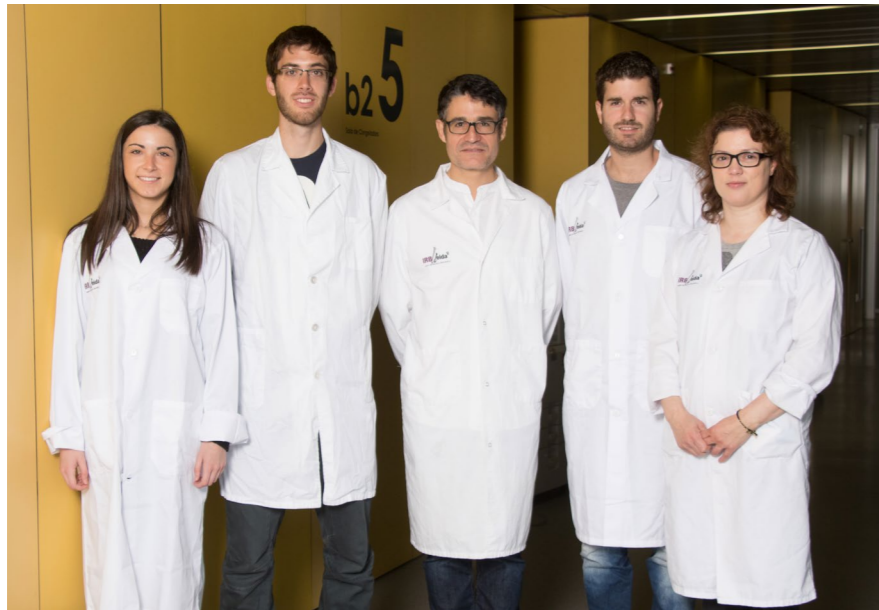
## 4.3. Experimental neuromuscular pathology

### Publications

Blasco A, Gras S, Mòdol-Caballero G, Tarabal O, Casanovas A, Piedrafita L, Barranco A, Das T, Pereira SL, Navarro X, Rueda R, Esquerda JE, Calderó J. Motoneuron deafferentation and gliosis occur in association with neuromuscular regressive changes during ageing in mice. *J Cachexia Sarcopenia Muscle*. 2020 Dec;11(6):1628-1660. PMID: 32691534. Q1 IF9,802

Berciano MT, Puente-Bedia A, Medina-Samamé A, Rodríguez-Rey JC, Calderó J, Lafarga M, Tapia O. Nusinersen ameliorates motor function and prevents motoneuron Cajal body disassembly and abnormal poly(A) RNA distribution in a SMA mouse model. *Sci Rep*. 2020 Jul 1;10(1):10738. PMID: 32612161. Q1 IF3,998

Gatius A, Tarabal O, Cayuela P, Casanovas A, Piedrafita L, Salvany S, Hernández S, Soler RM, Esquerda JE, Calderó J. The Y172 Monoclonal Antibody Against p-c-Jun (Ser63) Is a Marker of the Postsynaptic Compartment of C-Type Cholinergic Afferent Synapses on Motoneurons. *Front Cell Neurosci*. 2020 Jan 24;13:582. PMID: 32038174. Q2 IF3,921



## 4.4. Molecular and developmental neurobiology

Our goal is the characterization of new molecular mechanisms involved in the formation (development) and remodelling (adult neurogenesis) of the neuronal circuits in the vertebrate nervous system. Our models are genetically modified mice and we expect that our studies will help to shed some light on or understanding of the aetiology of neurological and psychiatric disorders such as schizophrenia and the autism as well as neurodegenerative diseases such as Alzheimer's disease, in humans. In our studies we use a wide spectrum of technical approaches, from *in vivo* (behaviour, mouse genetics, in utero electroporation and tissue processing and analysis), *in vitro* (primary tissue culture of explants or of dissociated neurons) to biochemistry and molecular biology.



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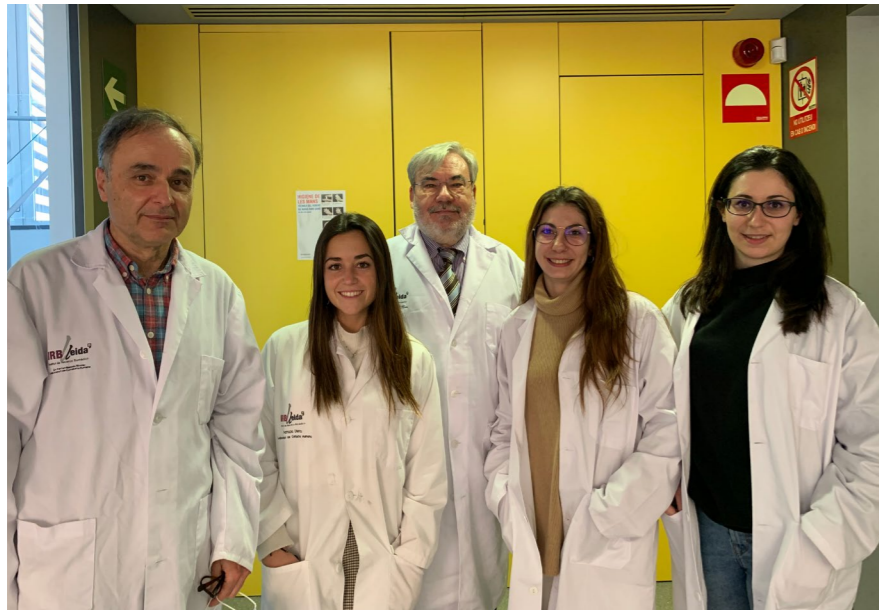
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### Research team

Joaquim Egea Navarro	Group leader
Bahira Zammou	PhD student
Carmen Espinet Mestre	Principal investigator
Sonia Rius Balcells	Research technician



## 4.5. Neurocognition, psychobiology of the personality and behavioral genetics

The researchers converge in the interest in the search for the biological bases of personality and their disorders. Based on biological-factorial personality research models, the relationship between personality with the endocrine system (gonadal hormones), central nervous system (neurotransmitters and genetic polymorphisms) and neurophysiology (electrophysiology) is investigated. The current research focuses on impulsive-uninhibited personality relationships and emotions with neural monoamphatic neurotransmission (norepinephrine, dopamine, serotonin and MAO),

both at a biochemical level (neurotransmitters and metabolites) and at the level of molecular genetics. The biological bases of personality are also investigated through the search of techniques of computerized electrophysiology and functional infrared spectroscopy (fNIR) applied to the study of emotions, cognitive functions and the frontal lobe (Laboratory of Human Behaviour). It also interests the study of human behavior through observation techniques of direct and digitalized behavior.



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Patricia Urieta Sabaté	PhD student
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Eduardo Blanco Calvo	Researcher
Ferran Balada Nicolau	Researcher
Neus Aymami Sanroma	Researcher
Salvador Gallart Masia	Researcher



## 4.5. Neurocognition, psychobiology of the personality and behavioral genetics

### Projects

PI	Funding agency	Project	Budget (€)
Antón Aluja	Ministerio de Ciencia e Innovación	Efecto de la personalidad en le toma de decisiones y actividad del lóbulo prefrontal del córtex mediante espectroscopia funcional por infrarrojo cercano (fNIR)	95,590

### Publications

Aluja A, Malas O, Urieta P, Worner F, Balada F. Biological correlates of the Toronto Alexithymia Scale (TAS-20) in cardiovascular disease and healthy community subjects. *Physiol Behav.* 2020 Dec 1;227:113151. PMID: 32841673. Q2 IF2,826

Aluja A, Sayans-Jiménez P, García LF, Gutierrez F. Location of International Classification of Diseases–11th Revision and Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, dimensional trait models in the alternative five-factor personality space. *Personal Disord.* 2021 Mar;12(2):127-139. PMID: 33630629. Q1 IF3,421

Lucas I, Urieta P, Balada F, Blanco E, Aluja A. Differences in prefrontal cortex activity based on difficulty in a working memory task using near-infrared spectroscopy. *Behav Brain Res.* 2020 Aug 17;392:112722. PMID: 32479853. Q2 IF2,977

Valero-Valenzuela A, Camerino O, Manzano-Sánchez D, Prat Q, Castañer M. Enhancing Learner Motivation and Classroom Social Climate: A Mixed Methods Approach. *Int J Environ Res Public Health.* 2020 Jul 22;17(15):5272. PMID: 32707814. Q1 IF2,849

Aluja A, Rossier J, Oumar B, García LF, Bellaj T, Ostendorf F, Ruch W, Wang W, Kövi Z, cigata D, ekrlija Đ, Stivers AW, Di Blas

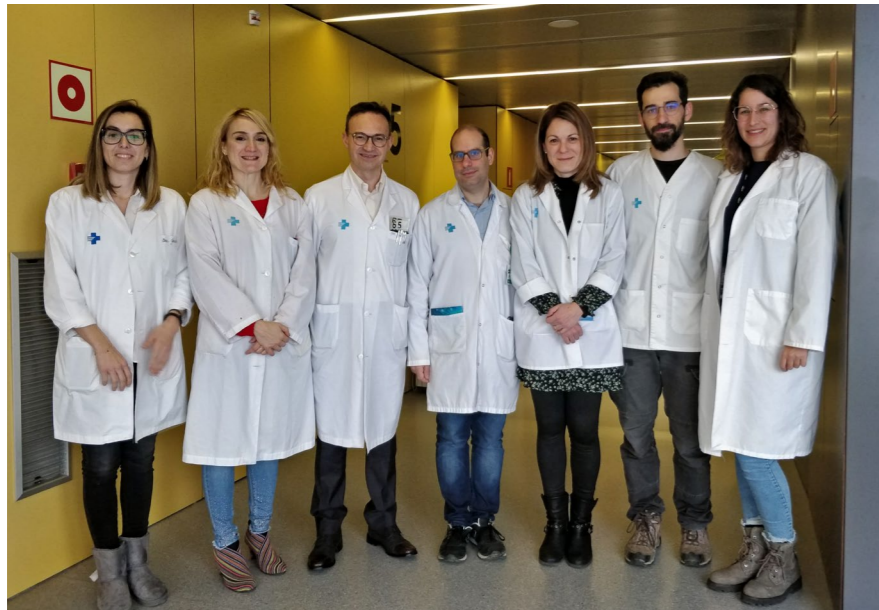
L, Valdivia M, Ben Jemaa S, Atitsogbe KA, Hansenne M, Glicksohn J. Multicultural Validation of the Zuckerman-Kuhlman-Aluja Personality Questionnaire Shortened Form (ZKA-PQ/SF) Across 18 Countries. *Assessment.* 2020 Jun;27(4):728-748. PMID: 30880424. Q1 IF3,706

Camerino L, Camerino O, Prat Q, Jonsson GK, Castañer M. Has the use of body image in advertising changed in the first two decades of the new century? *Physiol Behav.* 2020 Jun 1;220:112869. PMID: 32173341. Q2 IF2,826

Castañer M, Aiello S, Prat Q, Andueza J, Crescimanno G, Camerino O. Impulsivity and physical activity: A T-Pattern detection of motor behavior profiles. *Physiol Behav.* 2020 May 15;219:112849. PMID: 32088173. Q2 IF2,826

Bach B, Kerber A, Aluja A, Bastiaens T, Keeley JW, Claes L, Fossati A, Gutierrez F, Oliveira SES, Pires R, Riegel KD, Rolland JP, Roskam I, Sellbom M, Somma A, Spanemberg L, Strus W, Thimm JC, Wright AGC, Zimmermann J. International Assessment of DSM-5 and ICD-11 Personality Disorder Traits: Toward a Common Nosology in DSM-5.1. *Psychopathology.* 2020;53(3-4):179-188. PMID: 32369820. Q3 IF1,659

Aluja A, Balada F, Blanco E, Lucas I, Blanch A. Startle reflex modulation by affective face “Emoji” pictographs. *Psychol Res.* 2020 Feb;84(1):15-22. PMID: 29455232. Q1 IF2,419



## 4.6. Neuroimmunology

### The objectives of our research team are:

- To uncover knowledge of the as yet undiscovered etiopatological processes, of Multiple Sclerosis.
- To identify biomarkers of clinical evolution and / or response to treatment that help the physician to be able to make a treatment personalization with the ultimate goal of improving the patient's quality of life.

Our primary our focus is the study of environmental factors triggering the disease with a special interest in oxidative processes and mitochondrial function. We investigate the free radical generation and regulation by mitochondria, the detection and quantification of specific biomarkers of oxidative injury to carbohydrates, lipids, proteins and nucleic acids; targeting proteins of oxidation, the level of unsaturation of the cellular membranes, their sensitivity to lipooxidation injury, metabolic changes and cellular adaptations to oxidative stress.



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### Research team

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Ana Rita Gil Sanchez	Researcher
Cristina Gonzalez Mingot	Researcher
José Vicente Hervás Garcia	Researcher
M <sup>a</sup> Jose Solana Moga	Researcher
Maria Pilar Gil Villar	Researcher

## 4.6. Neuroimmunology

### Projects

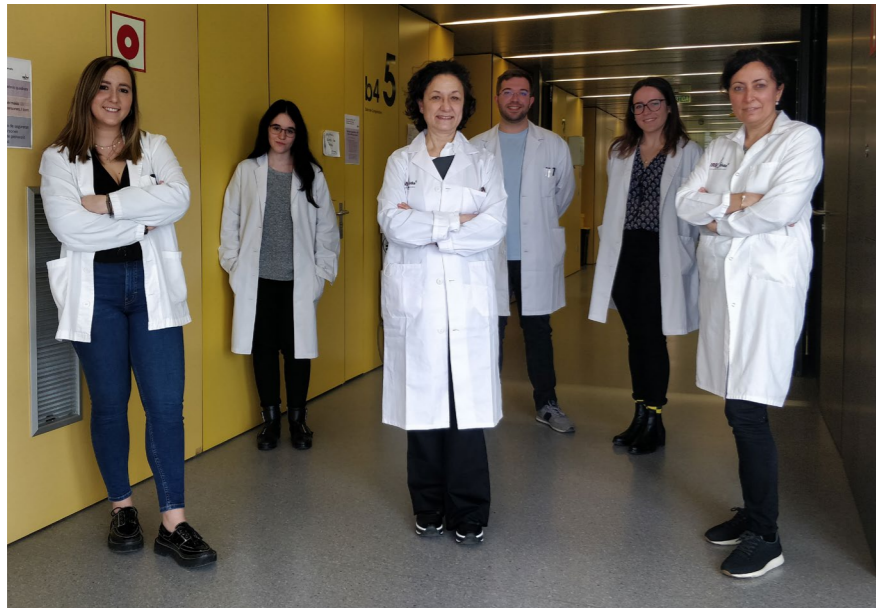
PI	Funding agency	Project	Budget (€)
Luis Brieva	Instituto de Salud Carlos III	EMCOVID-19: Esclerosis Múltiple y COVID-19	40,640

### Publications

Vázquez-Justes D, Peñalva-García J, López R, Mitjana R, Begue R, González-Mingot C. Parkinsonism phenotype in a family with adult onset Alexander disease and a novel mutation of GFAP. Clin Neurol Neurosurg. 2020 Aug;195:105893. PMID: 32417628 . Q3 IF1,53

Meca-Lallana JE, Fernández-Prada M, García Vázquez E, Moreno Guillén S, Otero Romero S, Rus Hidalgo M, Villar Guimerans LM, Eichau Madueño S, Fernández Fernández Ó, Izquierdo Ayuso G, Álvarez Cermeño JC, Arnal García C, Arroyo González R, Brieva Ruiz L, Calles Hernández C, García Merino A, González Platas M, Hernández Pérez MÁ, Moral Torres E, Olascoaga Urtaza J, Oliva-Nacarino P, Oreja-Guevara C, Ortiz Castillo R, Oterino A, Prieto González JM, Ramió-Torrentá L, Rodríguez-Antigüedad A, Saiz A, Tintoré M, Montalbán Gairin X. Consensus statement on the use of alemtuzumab in daily clinical practice in Spain. Neurologia. 2020 Jan 25:S0213-4853(19)30146-X. PMID: 31987648

Meca-Lallana J, Maurino J, Hernández-Pérez MÁ, Sempere ÁP, Brieva L, García-Arcelay E, Terzaghi M, Saposnik G, Ballesteros J. Psychometric Properties of the SymptoMScreen Questionnaire in a Mild Disability Population of Patients with Relapsing-Remitting Multiple Sclerosis: Quantifying the Patient's Perspective. Neurol Ther. 2020 Jun; 9(1): 173-179.



## 4.7. Neuronal signalling unit

The Neuronal Signaling Unit is a research group focused on the study of the mechanisms of degeneration of neurons in the framework of Spinal Muscular Atrophy (SMA). SMA is a childhood neurodegenerative disease characterized by the loss of spinal motoneurons due to the mutation of the SMN1 gene (Survival Motor Neuron). The decrease of the SMN protein causes the degeneration of axons and the death of these neurons by mechanisms still under study.



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Alba Sansa Zaragoza

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Researcher

## 4.7. Neuronal signalling unit

### Projects

PI	Funding agency	Project	Budget (€)
Rosa Soler	Instituto de Salud Carlos III	Analysis of the beneficial effects of calpain inhibitors treatment and combined therapies on spinal muscular atrophy	82,280

### Publications

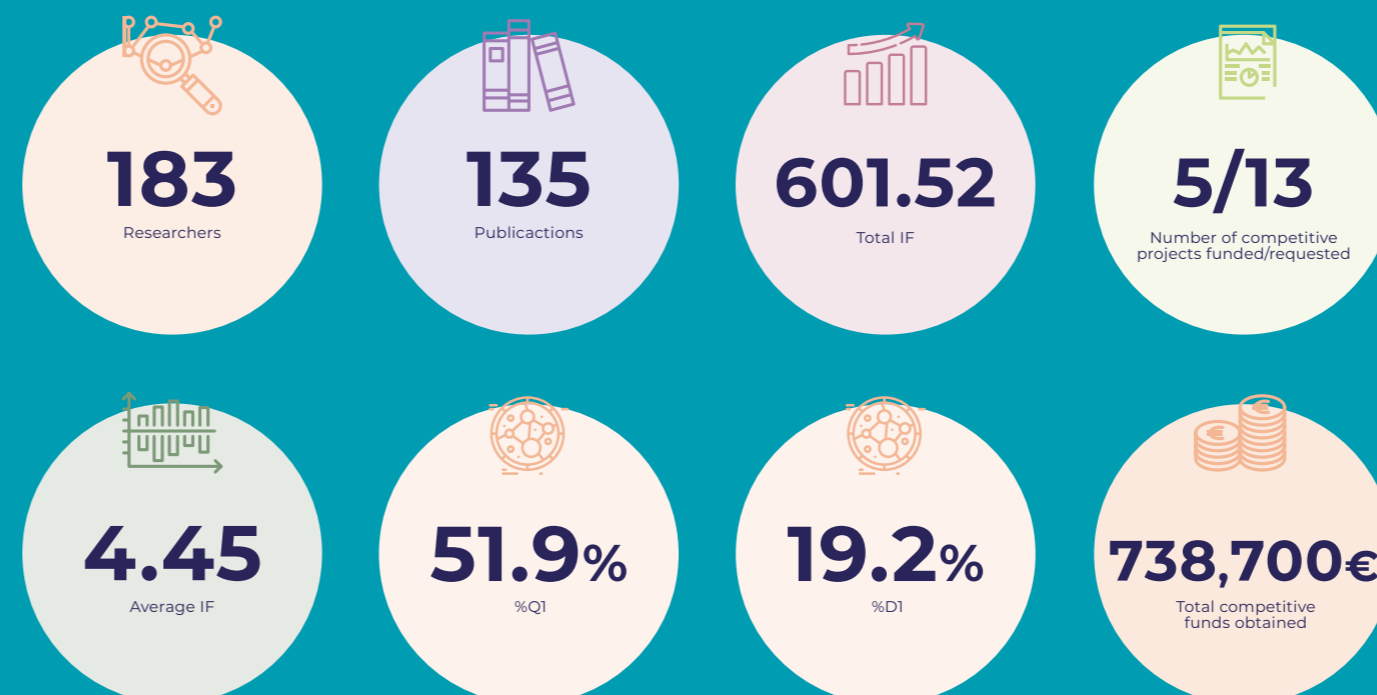
de la Fuente S, Sansa A, Hidalgo I, Vivancos N, Romero-Guevara R, Garcera A, Soler RM. Calpain system is altered in survival motor neuron-reduced cells from *in vitro* and *in vivo* spinal muscular atrophy models. *Cell Death Dis.* 2020 Jun 25;11(6):487. PMID: 32587237. Q1 IF6,304

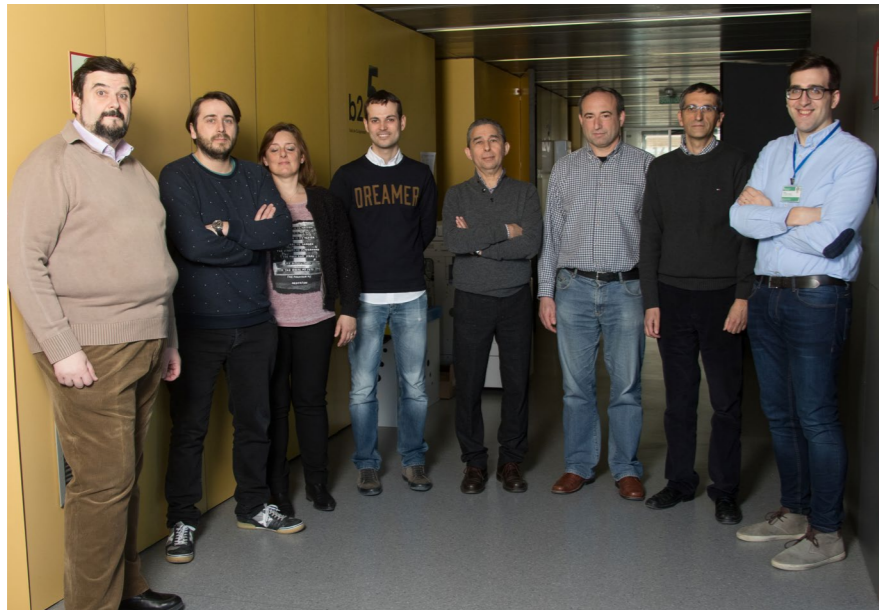
Gatius A, Tarabal O, Cayuela P, Casanovas A, Piedrafita L, Salvany S, Hernández S, Soler RM, Esquerda JE, Calderó J. The Y172 Monoclonal Antibody Against p-c-Jun (Ser63) Is a Marker of the Postsynaptic Compartment of C-Type Cholinergic Afferent Synapses on Motoneurons. *Front Cell Neurosci.* 2020 Jan 24;13:582. PMID: 32038174. Q2 IF3,921

## Area 5. Clinical Medicine

This area includes groups that basically carry out research in the clinical area, although some projects overlap with translational research. It also includes most of the groups that carry out clinical trials. The composition of this area is changing, as it includes most of the prestigious physicians who have recently joined the Arnau de Vilanova University Hospital (HUAV). It is foreseeable that in the coming years this area will be expanded with new groups generated from the incorporation of new doctors in response to the generational renewal of the HUAV.

### Groups





## 5.1. Applied epidemiology

This is a multidisciplinary group set up by doctors specializing in Preventive Medicine and Public Health and specialists in Family and Community Medicine that research the applications of epidemiology in the study of epidemic outbreaks, the investigation of risk factors for transmissible diseases, the estimation of coverage of periodic preventive activities in primary health care and pharmacoepidemiology. The main lines of research are the investigation of epidemic outbreaks for Norovirus, factors for HIV infection in immigrants, risk factors for tuberculous infection in contacts with patients and vaccines and international travel.



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### Research team

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Leonardo Galvan Santiago	External collaborator
Cristina Garcia Serrano	PhD student
Cristina Garcia Serrano	PhD student
Jesus Pujol Salud	Researcher
Josep Montserrat Capdevila	Researcher
Maria Catalina Serna Arnaiz	Researcher
Marta Ortega Bravo	Researcher
Miquel Alseda Graells	Researcher
Placido Santafe Soler	Researcher

## 5.1. Applied epidemiology

### Publications

Torres-Bondia F, de Batlle J, Galván L, Buti M, Barbé F, Piñol-Ripoll G. Trends in the consumption rates of benzodiazepines and benzodiazepine-related drugs in the health region of Lleida from 2002 to 2015. *BMC Public Health*. 2020 Jun 1;20(1):818. PMID: 32487058. Q2 IF2,521

Sánchez E, Sánchez M, Betriu À, Rius F, Torres G, Purroy F, Pamplona R, Ortega M, López-Cano C, Hernández M, Bueno M, Fernández E, Salvador J, Lecube A; ILERVAS project collaborators. Are Obesity Indices Useful for Detecting Subclinical Atheromatosis in a Middle-Aged Population? *Obesity Facts*. 2020;13(1):29-39. PMID: 31968341. Q2 IF3,514

García-Serrano C, Mirada G, Marsal JR, Ortega M, Sol J, Solano R, Artigues EM, Estany P. Compliance with the guidelines on recommended immunization schedule in patients with inflammatory bowel disease: implications on public health policies. *BMC Public Health*. 2020 May 19;20(1):713. PMID: 32429900. Q2 IF2,521

Domínguez À, Soldevila N, Torner N, Martínez A, Godoy P, Rius C, Jané M, The Pidirac Sentinel Surveillance Program Of Catalonia. Usefulness of Clinical Definitions of Influenza for Public Health Surveillance Purposes. *Viruses*. 2020 Jan 14;12(1):95. PMID: 31947696. Q2 IF3,816

Godoy P, Torner N, Soldevila N, Rius C, Jane M, Martínez A, Caylà JA, Domínguez A; Working Group on the Surveillance of Severe Influenza Hospitalized Cases in Catalonia. Hospital-acquired influenza infections detected by a surveillance system over six seasons, from 2010/2011 to 2015/2016. *BMC Infect Dis*. 2020 Jan 28;20(1):80. PMID: 31992207. Q3 IF2,688

Godoy P, Castilla J, Astray J, Tuells J, Barrabeig I, Domínguez À. La enfermedad meningocócica y las vacunas: algunas respuestas y todavía muchas preguntas. *Gac Sanit*. 2020 Jan-Feb;34(1):1-3. PMID: 31767200. Q3 IF1,564

Tuells J, Godoy P, Castilla J, Astray J, Barrabeig I, Domínguez À. Sobre falsas creencias y tiomersal en las vacunas. Réplica de los autores. *Aten Primaria*. 2020 Jun-Jul;52(6):439-440. PMID: 31590946. Q3 IF1,087

Torres-Bondia F, Dakterzada F, Galván L, Buti M, Besanson G, Gill E, Buil R, de Batlle J, Piñol-Ripoll G. Proton pump inhibitors and the risk of Alzheimer's disease and non-Alzheimer's dementias. *Sci Rep*. 2020 Dec 3;10(1):21046. PMID: 33273636. Q1 IF3,998

de Batlle J, Massip M, Vargiu E, Nadal N, Fuentes A, Ortega Bravo M, Colomina J, Drudis R, Torra M, Pallisó F, Miralles F, Barbé F, Torres G; CONNECARE-Lleida Group. Implementing Mobile Health-Enabled Integrated Care for Complex Chronic Patients: Patients and Professionals' Acceptability Study. *JMIR Mhealth Uhealth*. 2020 Nov 20;8(11):e22136. PMID: 33216004. Q1 IF4,313

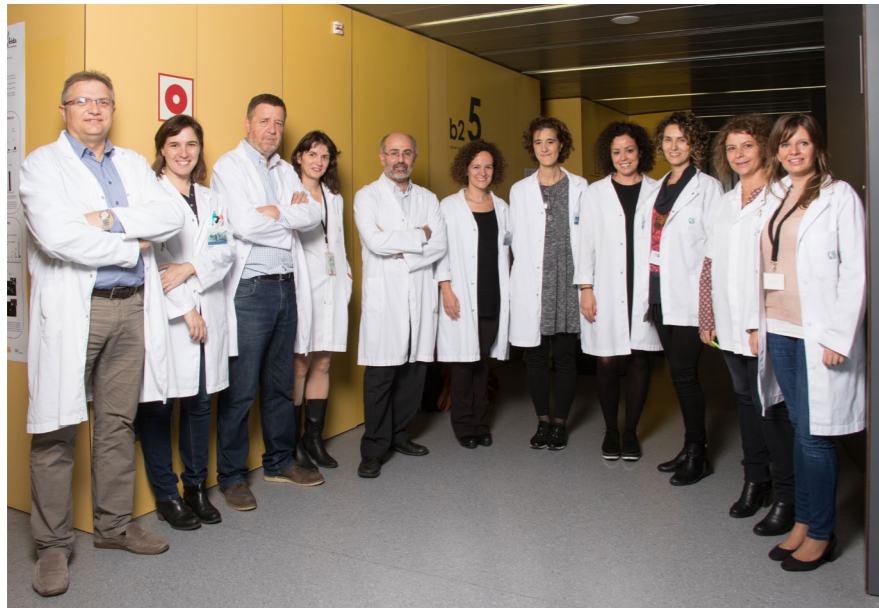
Rodrigo-Claverol M, Malla-Clua B, Marquilles-Bonet C, Sol J, Jové-Naval J, Sole-Pujol M, Ortega-Bravo M. Animal-Assisted Therapy Improves Communication and Mobility among Institutionalized People with Cognitive Impairment. *Int J Environ Res Public Health*. 2020 Aug 14;17(16):5899. PMID: 32823839. Q1 IF2,849

Castañ-Abad MT, Montserrat-Capdevila J, Godoy P, Marsal JR, Ortega M, Alsedà M, Barbé F. Diabetes as a risk factor for severe exacerbation and death in patients with COPD: a prospective

cohort study. *Eur J Public Health*. 2020 Aug 1;30(4):822-827. PMID: 31951259. Q2 IF2,391

Montserrat-Capdevila J, Godoy P, Marsal JR, Ortega M, Pifarré J, Barbé F. La comorbilidad en salud mental en los pacientes diagnosticados de enfermedad pulmonar obstructiva crónica. *Semergen*. 2020 Jan-Feb;46(1):53-59. PMID: 31481312





## 5.2. Biological foundations of mental disorders

The Group comprises mainly members of the Psychiatry service of the Santa Maria University Hospital, Lleida and biomedical research is conducted by sub-teams that share a common interest in the study of the biological bases of various mental disorders, mainly bipolar disorder, psychotic disorder and personality disorder.



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Salvador Miret Fallada	Researcher
Teresa Guilera Lladós	Researcher

## 5.2. Biological foundations of mental disorders

### Publications

Juan Gil, Francesc Abella, Gerard Pedra. Valor Social de los medicamentos para dejar de fumar. Opiniones respecto a su financiación. Revista Española de Drogodependencias.. 45 (2) 2020

Pérez V, Elices M, Prat B, Vieta E, Blanch J, Alonso J, Pifarré J, Mortier P, Cebrià AI, Campillo MT, Vila-Abad M, Colom F, Dolz M, Molina C, Palao DJ. The Catalonia Suicide Risk Code: A secondary prevention program for individuals at risk of suicide. J Affect Disord. 2020 May 1;268:201-205. PMID: 32174478. Q1 IF3,892

Montserrat-Capdevila J, Godoy P, Marsal JR, Ortega M, Pifarré J, Barbé F. La comorbilidad en salud mental en los pacientes diagnosticados de enfermedad pulmonar obstructiva crónica. Semergen. 2020 Jan-Feb;46(1):53-59. PMID: 31481312



## 5.3. Indicators and specifications of the quality in the clinical laboratory

Interdisciplinary group with medical specialists belonging to the Clinical Laboratories of the Catalan Institute of Health. The group's work is based on consensus and shared experience as guarantors of effectiveness and efficiency. The main objective is to establish quality indicators and specifications for the design and evaluation of strategies for the continuous improvement of processes, in order to increase patient safety. One of the lines of work of the group is the variability, adequacy and efficiency of the actions undertaken in demand.



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Margarita Simon Palmada	External collaborator
Maria Antonia Llopis Diaz	External collaborator
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Nuria Serrat Orus	External collaborator
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Maria Bernal Morillo	Researcher
Silvia Pico Fornies	Researcher
Sonia Carrasco Ighes	Researcher

## 5.3. Indicators and specifications of the quality in the clinical laboratory

### Publications

Cambray S, Ibarz M, Bermudez-Lopez M, Marti-Antonio M, Bozic M, Fernandez E, Valdivielso JM. Magnesium Levels Modify the Effect of Lipid Parameters on Carotid Intima Media Thickness. *Nutrients*. 2020 Aug 28;12(9):2631. PMID: 32872319. Q1 IF4,546

García-Del-Pino I, Bauça JM, Gómez C, Caballero A, Llopis MA, Ibarz M, Martínez D, Ventura M, Marzana I, Puente JJ, Segovia M, Salas P, Gómez-Rioja R. Corrigendum to: Preanalytical issues related to routine and diagnostic glucose tests: Results from a survey in Spain. *Biochem Med (Zagreb)*. 2020 Jun 15;30(2):021201. PMID: 32292286. Q2 IF2,114

García-Del-Pino I, Bauça JM, Gómez C, Caballero A, Llopis MA, Ibarz M, Martínez D, Ventura M, Marzana I, Puente JJ, Segovia M, Salas P, Gómez-Rioja R. Corrigendum to: Preanalytical issues related to routine and diagnostic glucose tests: Results from a survey in Spain.. *Biochem Med (Zagreb)*. 2020 Jun 15;30(2):021201. PMID: 32292286. Q2 IF2,114

“Influence of study model, baseline catalytic concentrations and analytical system on the stability of serum alanine aminotransferase”. Josep Miquel Bauça, Andrea Caballero, Carolina Gómez, Débora Martínez-Espartosa, Isabel García del Pino, Juan José Puente, Maria Antonia Llopis, Itziar Marzana, Marta Segovia, Mercedes Ibarz, Monserrat Ventura, Rubén Gómez-Rioja. *Adv Lab Med* 2020; 20200021.



## 5.4. Intensive medicine

The group's research is focused on improving safety in relation to the follow-up of patients with nosocomial infection, pulmonary disorders and/or artificial nutrition, as well as monitoring the quality of life of post-ICU patients, the assessment of the severity of the patients' conditions and the construction of models to predict outcome.

### Research team

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Jose Javier Trujillano Cabello	Group leader
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Dulce Angelica Morales Hernandez	Researcher
Estela Val Jordan	Researcher
Gabriel Jimenez Jimenez	Researcher
Jordi Codina Calero	Researcher
Jorge Rubio Ruiz	Researcher
Jose Javier Prados Chica	Researcher
Josman Monclou Palomino	Researcher
Judit Vilanova Corsellas	Researcher
M Begoña Balsera Garrido	Researcher
Mar Miralbes Torner	Researcher
Mariona Badia Castello	Researcher
Mercedes Palomar Martínez	Researcher
Miguel Leon Valles	Researcher
Montserrat Marta Vallverdu Vidal	Researcher
Neus Montserrat Ortiz	Researcher
Silvia Iglesias Moles	Researcher
Silvia Rodriguez Ruiz	Researcher
Sulamita Carvalho Brugger	Researcher



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## 5.4. Intensive medicine

### Publications

Serviá L, Montserrat N, Badia M, Llompart-Pou JA, Barea-Mendoza JA, Chico-Fernández M, Sánchez-Casado M, Jiménez JM, Mayor DM, Trujillano J. Machine learning techniques for mortality prediction in critical traumatic patients: anatomic and physiologic variables from the RETRAUCI study. *BMC Med Res Methodol*. 2020 Oct 20;20(1):262. PMID: 33081694. Q1 IF3,031

Andersen-Ranberg N, Poulsen LM, Perner A, Wetterslev J, Mathiesen O, Mortensen CB, Estrup S, Ebdrup BH, Hästbacka J, Citerio G, Caballero J, Morgan MPG, Oxenbøll-Collet M, Weber SO, Sofie Andreasen A, Bestle MH, Pedersen HBS, Nielsen LG, Uslu B, Jensen TB, Thee C, Dey N, Lange T. The Agents Intervening against Delirium in the Intensive Care Unit Trial (AID-ICU trial): A detailed statistical analysis plan. *Acta Anaesthesiol Scand*. 2020 Oct;64(9):1357-1364. PMID: 32592589. Q3 IF2,05

Mortensen CB, Poulsen LM, Andersen-Ranberg NC, Perner A, Lange T, Estrup S S, Ebdrup BH, Egerod I, Rasmussen BS, Hästbacka J, Caballero J, Citerio G, Morgan MPG, Samuelson K, Mathiesen O. Mortality and HRQoL in ICU patients with delirium: Protocol for 1-year follow-up of AID-ICU trial. *Acta Anaesthesiol Scand*. 2020 Nov;64(10):1519-1525. PMID: 33460045. Q3 IF2,05

Caballero J, García-Sánchez M, Palencia-Herrejón E, Muñoz-Martínez T, Gómez-García JM, Cenicerós-Rozalén I; miembros del GTSAD SEMICYUC; Anexo. Miembros de GTSAD. Oversedation Zero as a tool for comfort, safety and intensive care unit management. *Med Intensiva (Engl Ed)*. 2020 May;44(4):239-247. PMID: 31733988. Q3 IF2,363

Celis-Rodríguez E, Díaz Cortés JC, Cárdenas Bolívar YR, Carrizosa

González JA, Pinilla DI, Ferrer Zaccaro LE, Birchenall C, Caballero López J, Argüello BM, Castillo Abrego G, Castorena Arellano G, Dueñas Castell C, Jáuregui Solórzano JM, Leal R, Pardo Oviedo JM, Arroyo M, Raffán-Sanabria F, Raimondi N, Reina R, Rodríguez Lima DR, Silesky Jiménez JI, Ugarte Ubierno S, Gómez Escobar LG, Díaz Aya DP, Fowler C, Nates JL. Evidence-based clinical practice guidelines for the management of sedoanalgesia and delirium in critically ill adult patients. *Med Intensiva (Engl Ed)*. 2020 Apr;44(3):171-184. PMID: 31492476. Q3 IF2,363

Schoenenberger-Arnaiz JA, Ahmad-Diaz F, Miralbes-Torner M, Aragonés-Eroles A, Cano-Marrón M, Palomar-Martínez M. Usefulness of therapeutic drug monitoring of piperacillin and meropenem in routine clinical practice: a prospective cohort study in critically ill patients. *Eur J Hosp Pharm*. 2020 Mar;27(e1):e30-e35. PMID: 32296502. Q4 IF0,892

Alfredo Jover-Sáenz, María FernandaRamírez-Hidalgo, Montserrat VallverdúVidal, Merce GarcíaGonzález, Santiago ManuelCano Marrón, Alfredo EscartínArias, Miquel FalgueraSacrest, DolorsCastellana-Perelló, FernandoBarcenilla-Gaite, Translational Research Group on Infectious Diseases of Lleida (Head Group, TRIDLE- IRBLleida). Antimicrobial stewardship program at a tertiary care academic medical hospital: Clinical, microbiological and economic impact. A 5-year temporary descriptive study. *Infection Prevention in Practice*. Volume 2, Issue 2, June 2020

Carvalho Brugger Sulamita, Caballero Jesús, Curià Davinia, García Eva, Sabaté Ivan, Sancho Marisa and Ariza Gemma. Dynamic physiotherapy for all patients admitted to the ICU according to their clinical status-describing a quality improvement program. *Journal of*

Novel Physiotherapy and Physical Rehabilitation. 31 January 2020  
Bernet Sánchez A, Bellés Bellés A, Aramburu Arnuelos J, Jover Sanz A, Sesé Abizanda E, Vallverdú Vidal M, García González M. Entamoeba histolytica liver abscess case: could stool PCR avoid it? *Diagnosis (Berl)*. 2020 Jan 28;7(1):69-73. doi: 10.1515/dx-2019-0006. PMID: 31256063

Llompart-Pou JA, Barea-Mendoza JA, Sánchez-Casado M, González-Robledo J, Mayor-García DM, Montserrat-Ortiz N, Enríquez-Giraudó P, Cordero-Lorenzana ML, Chico-Fernández M; en representación del Grupo de Trabajo de Neurointensivismo y Trauma de la SEMICYUC. Neuromonitorización en el traumatismo craneoencefálico grave. Datos del Registro español de Trauma en UCI (RETRAUCI). *Neurocirugía (Astur : Engl Ed)*. 2020 Jan-Feb;31(1):1-6. PMID: 31466814. Q4 IF0,597

Badia M, Casanova JM, Serviá L, Montserrat N, Codina J, Trujillano J. Dermatological Manifestations in the Intensive Care Unit: A Practical Approach. *Crit Care Res Pract*. 2020 Sep 26;2020:9729814. PMID: 33062328



## 5.5. Nutrition, metabolism and microbiota in patients with heart failure (NUTRIMMIC)

The group is composed of **basic and clinical researchers**, our research focuses on the field of Heart Failure (HF), a disease with growing prevalence in developed countries. Our research aims to know how the nutritional factors and intestinal microbiota affect the development and prognosis of heart failure. Patients with heart failure show an inflammatory status associated with iron deficit. It is hypothesized that malnutrition and alteration of the gut microbiota are responsible for perpetuating inflammation.

The objective of the **clinical line** is to determine the nutritional status, adherence to the Mediterranean diet and composition of the gut microbiota of patients with heart failure. The basic line aims to generate a murine experimental model of heart failure and analyze the relationships between microbiota and inflammation.

The observations obtained in the **basic line** about the relationships between microbiota and inflammation, will allow us to **transfer knowledge** from basic to the clinical line to design specific nutritional and supplementation strategies in order to modify the composition of the intestinal flora and reduce inflammation.



### Group leader

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Joan Gimeno Guasch	Researcher
Jordi Cortada Echaz	Researcher
Natalia Mateu Cantarell	Researcher
Pilar Vaqué Castilla	Researcher



## 5.6. Pharmacoepidemiology

This is a multidisciplinary group consisting of doctors of different specialties, pharmacists of different specialties and nursing graduates. The group aims to evaluate the efficacy, safety and efficiency of medical technology linked to the use of medicines, either for the prevention or treatment of diseases. It also focuses on the analysis of the patterns of drug use as a starting point to achieve their rational application.

Its objectives focus on the following basic areas:

- Medical oncology.

- Infectious diseases.
- Artificial nutrition.
- Neuropharmacology.
- The safety and effectiveness of medications.
- Pharmacoeconomics.

The fundamental instrument of pharmacoepidemiology is the clinical trial. For this reason, the group's primary objective is to participate in multicentre clinical trials, at home or abroad, for the development of new drugs in the different areas of interest.

### Research team

Juan Antonio Schoenenberger Arnaiz	Group leader
Fernando Worner Diz	Principal investigator
Irene Mangues Bafalluy	Principal investigator
Laura Barta Sancho	Research technician
Ana M Aragones Eroles	Researcher
Beatriz Martinez Castro	Researcher
Eduardo Pereyra Acha	Researcher
Esther Querol Zamora	Researcher
Jaume Canal Sotelo	Researcher
Jordi Bosch Muñoz	Researcher
Manel Pique Gilart	Researcher
Maria Dolors Castellana Perello	Researcher
Maria Nabal Vicuña	Researcher
Mireia Martinez Sogues	Researcher
Pilar Taberner Bonastre	Researcher
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## 5.6. Pharmacoepidemiology

### Publications

Schoenenberger-Arnaiz JA, Ahmad-Diaz F, Miralbes-Torner M, Aragones-Eroles A, Cano-Marron M, Palomar-Martinez M. Usefulness of therapeutic drug monitoring of piperacillin and meropenem in routine clinical practice: a prospective cohort study in critically ill patients. *Eur J Hosp Pharm.* 2020 Mar;27(e1):e30-e35. PMID: 32296502. Q4 IF0,892

Porcel JM, Ferreiro L, Rumi L, Espino-Paisán E, Civit C, Pardina M, Schoenenberger-Arnaiz JA, Valdés L, Bielsa S. Two vs. three weeks of treatment with amoxicillin-clavulanate for stabilized community-acquired complicated parapneumonic effusions. A preliminary non-inferiority, double-blind, randomized, controlled trial. *Pleura Peritoneum.* 2020 Feb 26;5(1):20190027. PMID: 32934974

Jáuregui-Abularach M, Merchán-Ortega G, Menéndez-Ramírez D, Martín-Sánchez G, Sánchez-Millán P, Worner-Diz F, Campos-García B. Radiofrequency ablation of superoparaseptal-parahisian accessory pathways from the sinuses of Valsalva region: a three case report. *J Interv Card Electrophysiol.* 2020 Jun;58(1):119-121. PMID: 32147800. Q4 IF1,277

Aluja A, Malas O, Urieta P, Worner F, Balada F. Biological correlates of the Toronto Alexithymia Scale (TAS-20) in cardiovascular disease and healthy community subjects. *Physiol Behav.* 2020 Dec 1;227:113151. PMID: 32841673. Q2 IF2,826

Romero I, Rubio MJ, Medina M, Matias-Guiu X, Santacana M, Schoenenberger JA, Guerra EM, Cortés A, Minig L, Coronado P, Cueva JF, Gómez L, Malfettone A, Sampayo M, Llombart-Cussac A, Poveda A. An olaparib window-of-opportunity trial in patients with early-stage endometrial carcinoma: POLEN study. *Gynecol Oncol.* 2020 Dec;159(3):721-731. PMID: 32988624. Q1 IF4,623

Pont C, Ascaso FJ, Grzybowski A, Huerva V. Corneal endothelial cell density during diabetes mellitus and ocular diabetes complications treatment. *J Fr Ophtalmol.* 2020 Oct;43(8):794-798. PMID: 32616318. Q4 IF0,636

Librada-Flores S, Nabal-Vicuña M, Forero-Vega D, Muñoz-Mayorga I, Guerra-Martín MD. Implementation Models of Compassionate Communities and Compassionate Cities at the End of Life: A Systematic Review. *Int J Environ Res Public Health.* 2020 Aug 28;17(17):6271. PMID: 32872244. Q1 IF2,849

González-Haba-Peña E, Garrido-Siles M, Martínez-Bautista MJ, Burgos-San José A, Aldaz-Pastor A, Manges-Bafalluy I. Observational study of clinical toxicity with different formulations of docetaxel in breast cancer patients. *Farm Hosp.* 2020 Aug 24;44(5):192-197. PMID: 32853124. Q3

Fernández-Vázquez D, Ferrero-Gregori A, Álvarez-García J, Gómez-Otero I, Vázquez R, Delgado Jiménez J, Worner Diz F, Bardají A, García-Pavía P, Bayés-Genís A, González-Juanatey JR, Cinca J, Pascual Figal DA. Changes in causes of death and influence of therapeutic improvement over time in patients with heart failure and reduced ejection fraction. *Rev Esp Cardiol (Engl Ed).* 2020 Jul;73(7):561-568. PMID: 31974070. Q1 IF4,596

Sánchez-Salado JC, Burgos V, Ariza-Solé A, Sionis A, Canteli A, Bernal JL, Fernández C, Castrillo C, Ruiz-Lera M, López-de-Sá E, Lidón RM, Worner F, Martínez-Sellés M, Segovia J, Viana-Tejedor A, Lorente V, Alegre O, Llaó I, González-Costello J, Manito N, Cequier Á, Bueno H, Elola J. Trends in cardiogenic shock management and prognostic impact of type of treating center. *Rev Esp Cardiol (Engl Ed).* 2020 Jul;73(7):546-553. PMID: 31780424. Q1 IF4,596

Alfredo Jover-Sáenz, María FernandaRamírez-Hidalgo, Montserrat VallverdúVidal, Merce GarcíaGonzález, Santiago ManuelCano Marrón, Alfredo EscartínArias, Miquel FalgueraSacrest, DolorsCastellana-Perelló, FernandoBarcenilla-Gaite, Translational Research Group on Infectious Diseases of Lleida (Head Group, TRIDLE- IRBLleida). Antimicrobial stewardship program at a tertiary care academic medical hospital: Clinical, microbiological and economic impact. A 5-year temporary descriptive study. *Infection Prevention in Practice.* Volume 2, Issue 2, June 2020

Pergolizzi D, Crespo I, Balaguer A, Monforte-Royo C, Alonso-Babarro A, Arantzamendi M, Belar A, Centeno C, Goni-Fuste B, Julià-Torras J, Martinez M, Mateo-Ortega D, May L, Moreno-Alonso D, Nabal Vicuña M, Noguera A, Pascual A, Perez-Bret E, Rocafort J, Rodríguez-Prat A, Rodriguez D, Sala C, Serna J, Porta-Sales J. Proactive and systematic multidimensional needs assessment in patients with advanced cancer approaching palliative care: a study protocol. *BMJ Open.* 2020 Feb 4;10(2):e034413. PMID: 32024792. Q2 IF2,496



## 5.7. Precision medicine in chronic diseases group

The Group of Precision Medicine in Chronic Diseases is a multidisciplinary group that integrates different professional profiles for development of translational research. Our main research lines are focused on the personalized management of patients with chronic diseases. The aim of the group is to understand the physiopathological components of the chronic diseases, in order to; i) achieve an accurate classification of the patients, ii) to develop non-pharmacological strategies and precision medicine tools to promote disease prevention, treatment and management, iii) contribute of sustainability of health and care systems in chronic diseases, iv) to create mHealth platforms for clinical monitoring, telemedicine and personalized follow-up.

The main line of investigation combines basic, clinical and traslational research:

- Animal models of intermittent hypoxia.
- Molecular profile of cardiovascular risk in patients with Obstructive Sleep Apnea.
- Precision Medicine in Obstructive Sleep Apnea.



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Mireia Dalmases Cleries	Principal investigator
Alicia Sánchez de la Torre	Researcher
Ivan Benitez Iglesias	Researcher

## 5.7. Precision medicine in chronic diseases group

### Publications

Zapater A, Sánchez-de-la-Torre M, Benítez ID, Targa A, Bertran S, Torres G, Aldomà A, De Batlle J, Abad J, Duran-Cantolla J, Cabriada-Nuño V, Mediano O, Masdeu MJ, Muñoz C, Masa JF, De la Peña M, Mayos M, Coloma R, Montserrat JM, Chiner E, Mínguez O, Pascual L, Cortijo A, Martínez D, Dalmasas M, McEvoy RD, Barbé F, Sánchez-de-la-Torre A; Spanish Sleep Network. The Effect of Sleep Apnea on Cardiovascular Events in Different Acute Coronary Syndrome Phenotypes. *Am J Respir Crit Care Med*. 2020 Dec 15;202(12):1698-1706. PMID: 32648771. Q1 IF17,452

Dakterzada F, Targa A, Benítez ID, Romero-ElKhayat L, de Gonzalo-Calvo D, Torres G, Moncusí-Moix A, Huerto R, Sánchez-de-la-Torre M, Barbé F, Piñol-Ripoll G. Identification and validation of endogenous control miRNAs in plasma samples for normalization of qPCR data for Alzheimer's disease. *Alzheimers Res Ther*. 2020 Dec 5;12(1):163. PMID: 33278902. Q1 IF6,116

Cubillos-Zapata C, Martínez-García MÁ, Díaz-García E, Toledano V, Campos-Rodríguez F, Sánchez-de-la-Torre M, Nagore E, Martorell-Calatayud A, Hernández Blasco L, Pastor E, Abad-Capa J, Montserrat JM, Cabriada-Nuño V, Cano-Pumarega I, Corral-Peñafiel J, Arias E, Mediano O, Somoza-González M, Dalmau-Arias J, Almendros I, Farré R, López-Collazo E, Gozal D, García-Río F; Spanish Sleep Network. Proangiogenic factor midkine is increased in melanoma patients with sleep apnea and induces tumor cell proliferation. *FASEB J*. 2020 Dec;34(12):16179-16190. PMID: 33058223. Q1 IF4,966

de Batlle J, Massip M, Vargiu E, Nadal N, Fuentes A, Ortega Bravo M, Colomina J, Drudis R, Torra M, Pallisó F, Miralles F, Barbé F, Torres G; CONNECARE-Lleida Group. Implementing Mobile Health-Enabled Integrated Care for Complex Chronic Patients: Patients and

Professionals' Acceptability Study. *JMIR Mhealth Uhealth*. 2020 Nov 20;8(11):e22136. PMID: 33216004. Q1 IF4,313

Jorge C, Targa A, Benítez ID, Dakterzada F, Torres G, Mínguez O, Carnes A, Pujol M, Gibert A, López R, Gaeta AM, Dalmasas M, Farré R, Sánchez-de-la-Torre M, Barbé F, Piñol-Ripoll G. Obstructive sleep apnoea and cognitive decline in mild-to-moderate Alzheimer's disease. *Eur Respir J*. 2020 Nov 19;56(5):2000523. PMID: 32554539. Q1 IF12,339

Targa A, Dakterzada F, Benítez ID, de Gonzalo-Calvo D, Moncusí-Moix A, López R, Pujol M, Arias A, de Batlle J, Sánchez-de-la-Torre M, Barbé F, Piñol-Ripoll G. Circulating MicroRNA Profile Associated with Obstructive Sleep Apnea in Alzheimer's Disease. *Mol Neurobiol*. 2020 Nov;57(11):4363-4372. PMID: 32720075. Q1 IF4,5

González J, Gracia-Lavedan E, Pamplona R, Fernández E, Lecube A, de-Torres JP, Barbé F, Torres G; ILERVAS Study Group. Protein succination as a potential surrogate biomarker of airway obstruction. The ilervas project. *Respir Med*. 2020 Oct;172:106124. PMID: 32919375. Q2 IF3,095

Cubillos-Zapata C, Martínez-García MÁ, Díaz-García E, Jaureguizar A, Campos-Rodríguez F, Sánchez-de-la-Torre M, Nagore E, Martorell-Calatayud A, Blasco LH, Pastor E, Abad-Capa J, Montserrat JM, Cabriada-Nuño V, Cano-Pumarega I, Corral-Peñafiel J, Arias E, Mediano O, Somoza-González M, Dalmau-Arias J, Almendros I, Farré R, López-Collazo E, Gozal D, García-Río F. Obesity attenuates the effect of sleep apnea on active TGF- $\beta$ 1 levels and tumor aggressiveness in patients with melanoma. *Sci Rep*. 2020 Sep 23;10(1):15528 PMID: 32968152. Q1 IF3,998

Masa JF, Benítez I, Sánchez-Quiroga MÁ, Gomez de Terreros FJ, Corral J, Romero A, Caballero-Eraso C, Alonso-Álvarez ML, Ordax-Carbajo E, Gomez-García T, González M, López-Martín S, Marin JM, Martí S, Díaz-Cambriales T, Chiner E, Egea C, Barca J, Vázquez-Polo FJ, Negrín MA, Martel-Escobar M, Barbé F, Mokhlesi B; Spanish Sleep Network. Long-term Noninvasive Ventilation in Obesity Hypoventilation Syndrome without Severe Obstructive Sleep Apnea. *Chest*. 2020 Sep;158(3):1176-1186. PMID: 32343963. Q1 IF8,308

Lara B, Carnes A, Dakterzada F, Benitez I, Piñol-Ripoll G. Neuropsychiatric symptoms and quality of life in Spanish patients with Alzheimer's disease during the COVID-19 lockdown. *Eur J Neurol*. 2020 Sep;27(9):1744-1747. PMID: 32449791. Q1 IF4,516

López-Cano C, Gutiérrez-Carrasquilla L, Barbé F, Sánchez E, Hernández M, Martí R, Ceperuelo-Mallafre V, Dalmasas M, Fernández-Veledo S, Vendrell J, Hernández C, Simó R, Lecube A. Effect of Type 2 Diabetes Mellitus on the Hypoxia-Inducible Factor 1-Alpha Expression. Is There a Relationship with the Clock Genes? *J Clin Med*. 2020 Aug 13;9(8):2632. PMID: 32823749. Q1 IF3,303

Ryan S, Cummins EP, Farre R, Gileles-Hillel A, Jun JC, Oster H, Pepin JL, Ray DW, Reutrakul S, Sanchez-de-la-Torre M, Tamisier R, Almendros I. Understanding the Pathophysiological Mechanisms of Cardiometabolic Complications in Obstructive Sleep Apnoea - Towards Personalised Treatment Approaches. *Eur Respir J*. 2020 Aug 6;56(2):1902295. PMID: 32265303. Q1 IF12,339

Masa JF, Mokhlesi B, Benítez I, Gómez de Terreros Caro FJ, Sánchez-Quiroga MÁ, Romero A, Caballero C, Alonso-Álvarez ML, Ordax-Carbajo E, Gómez-García T, González M, López-Martín S, Marin

## 5.7. Precision medicine in chronic diseases group

JM, Martí S, Díaz-Cambriales T, Chiner E, Egea C, Barca J, Vázquez-Polo FJ, Negrín MA, Martel-Escobar M, Barbé F, Corral-Peñafiel J; Spanish Sleep Network. Cost-effectiveness of positive airway pressure modalities in obesity hypoventilation syndrome with severe obstructive sleep apnoea. *Thorax*. 2020 Jun;75(6):459-467. PMID: 32217780. Q1 IF8,834

Sánchez E, Mizab C, Sauret A, Barbé F, Martí R, López-Cano C, Hernández M, Gutiérrez-Carrasquilla L, Carmona P, González J, Dalmasas M, Hernández C, Simó R, Lecube A. Effect of Subcutaneous Insulin on Spirometric Maneuvers in Patients with Type 1 Diabetes: A Case-Control Study. *J Clin Med*. 2020 Apr 25;9(5):1249. PMID: 32344939. Q1 IF3,303

Gutiérrez-Carrasquilla L, López-Cano C, Sánchez E, Barbé F, Dalmasas M, Hernández M, Campos A, Gaeta AM, Carmona P, Hernández C, Simó R, Lecube A. Effect of Glucose Improvement on Nocturnal Sleep Breathing Parameters in Patients with Type 2 Diabetes: The Candy Dreams Study. *J Clin Med*. 2020 Apr 4;9(4):1022. PMID: 32260419. Q1 IF3,303

Santamaria-Martos F, Benitez ID, Latorre J, Lluch A, Moreno-Navarrete JM, Sabater M, Ricart W, Sanchez de la Torre M, Mora S, Fernández-Real JM, Ortega FJ. Comparative and functional analysis of plasma membrane-derived extracellular vesicles from obese vs. nonobese women. *Clin Nutr*. 2020 Apr;39(4):1067-1076. PMID: 31036413. Q1 IF6,36

Gaeta AM, Benítez ID, Jorge C, Torres G, Dakterzada F, Minguez O, Huerto R, Pujol M, Carnes A, Dalmasas M, Gibert A, Farré R, de la Torres MS, Barbé F, Piñol-Ripoll G. Prevalence of obstructive sleep apnea in Alzheimer's disease patients. *J Neurol*. 2020

Apr;267(4):1012-1022. PMID: 31832828. Q1 IF3,956

Sánchez-de-la-Torre M, Sánchez-de-la-Torre A, Bertran S, Abad J, Duran-Cantolla J, Cabriada V, Mediano O, Masdeu MJ, Alonso ML, Masa JF, Barceló A, de la Peña M, Mayos M, Coloma R, Montserrat JM, Chiner E, Perelló S, Rubinós G, Mínguez O, Pascual L, Cortijo A, Martínez D, Aldomà A, Dalmasas M, McEvoy RD, Barbé F; Spanish Sleep Network. Effect of obstructive sleep apnoea and its treatment with continuous positive airway pressure on the prevalence of cardiovascular events in patients with acute coronary syndrome (ISAACC study): a randomised controlled trial. *Lancet Respir Med*. 2020 Apr;8(4):359-367. PMID: 31839558. Q1 IF25,094

Sánchez-de-la-Torre M, Sánchez-de-la-Torre A, Barbé F. Obstructive sleep apnoea in acute coronary syndrome - Authors' reply. *Lancet Respir Med*. 2020 Apr;8(4):e16. PMID: 32035023. Q1 IF25,094

Masa JF, Mokhlesi B, Benítez I, Mogollon MV, Gomez de Terreros FJ, Sánchez-Quiroga MÁ, Romero A, Caballero-Eraso C, Alonso-Álvarez ML, Ordax-Carbajo E, Gomez-Garcia T, González M, López-Martín S, Marin JM, Martí S, Díaz-Cambriales T, Chiner E, Egea C, Barca J, Vázquez-Polo FJ, Negrín MA, Martel-Escobar M, Barbe F, Corral J; Spanish Sleep Network. Echocardiographic Changes with Positive Airway Pressure Therapy in Obesity Hypoventilation Syndrome: Long-term Pickwick Randomized Controlled Trial. *Am J Respir Crit Care Med*. 2020 Mar 1;201(5):586-597. PMID: 31682462. Q1 IF17,452

Benítez I, Roure N, Pinilla L, Sapiña-Beltran E, Buysse DJ, Barbé F, de Batlle J. Validation of the Satisfaction Alertness Timing Efficiency and Duration (SAT-ED) Questionnaire for Sleep Health Measurement. *Ann Am Thorac Soc*. 2020 Mar;17(3):338-343. PMID: 31899656. Q1 IF4,836

Castro-Grattoni AL, Suarez-Giron M, Benitez I, Torres M, Almendros I, Farre R, Montserrat JM, Dalmasas M, Gozal D, Sánchez-de-la-Torre M; Spanish Sleep Network. Effect of age on the cardiovascular remodelling induced by chronic intermittent hypoxia as a murine model of sleep apnoea. *Respirology*. 2020 Mar;25(3):312-320. PMID: 31215129. Q1 IF4,88

Schiza SE, Randerath W, Sánchez-de-la-Torre M, Aliverti A, Bonsignore M, Simonds AK, Laveneziana P. Continuous professional development: elevating sleep and breathing disorder education in Europe. *Breathe (Sheff)*. 2020 Mar;16(1):190336. PMID: 32194769

Lugo VM, Torres M, Garmendia O, Suarez-Giron M, Ruiz C, Carmona C, Chiner E, Tarraubella N, Dalmasas M, Pedro AM, Egea CJ, Abellana M, Mayos M, Monasterio C, Masa JF, Farré R, Montserrat JM. Intra- and Inter-Physician Agreement in Therapeutic Decision for Sleep Apnea Syndrome. *Arch Bronconeumol (Engl Ed)*. 2020 Jan;56(1):18-22. PMID: 30955937. Q1 IF4,957

Mediano O, Cano-Pumarega I, Sánchez-de-la-Torre M, Alonso-Álvarez ML, Troncoso MF, García-Río F, Egea C; Spanish Sleep Network; Spanish Sleep Network. Upcoming Scenarios for the Comprehensive Management of Obstructive Sleep Apnea: An Overview of the Spanish Sleep Network. *Arch Bronconeumol (Engl Ed)*. 2020 Jan;56(1):35-41. PMID: 31395388. Q1 IF4,957

Sánchez E, Sánchez M, Betriu À, Rius F, Torres G, Purroy F, Pamplona R, Ortega M, López-Cano C, Hernández M, Bueno M, Fernández E, Salvador J, Lecube A; ILERVAS project collaborators. Are Obesity Indices Useful for Detecting Subclinical Atheromatosis in a Middle-Aged Population? *Obes Facts*. 2020;13(1):29-39. PMID: 31968341. Q2 IF3,514

Navarro-Soriano C, Martínez-García MA, Torres G, Barbé F,

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Sánchez-de-la-Torre M, Caballero-Eraso C, Lloberes P, Cambries TD, Somoza M, Masa JF, González M, Mañas E, de la Peña M, García-Río F, Montserrat JM, Muriel A, Oscullo G, García-Ortega A, Posadas T, Campos-Rodríguez F; on behalf the Spanish Sleep Network. Long-term Effect of CPAP Treatment on Cardiovascular Events in Patients With Resistant Hypertension and Sleep Apnea. Data From the HIPARCO-2 Study. Arch Bronconeumol (Engl Ed). 2021 Mar;57(3):165-171. PMID: 32029279. Q1 IF4,957

Posadas T, Campos-Rodríguez F, Sapiña-Beltrán E, Oscullo G, Torres G, Martínez-García MA. Obstructive Sleep Apnea and Arterial Hypertension: Implications of Treatment Adherence. Curr Hypertens Rep. 2020 Feb 3;22(2):12. PMID: 32016549. Q2 IF3,856

Prasad B, Sánchez-de-la-Torre M. The association of sleep disturbances measures with blood pressure: is the time to explore novel measurements? Thorax. 2020 Jan;75(1):4-5. PMID: 31678971. Q1 IF8,834



## 5.8. Research group of cancer biomarkers (GReBiC)

Our group work focuses on three main lines of research lines related to cancer:

- Digestive tumors: colorectal cancer and gastric cancer
- Breast cancer
- Malignant pleural effusion

The three lines tackle diseases of high prevalence in our society which are associated with a high mortality rate.

Through translational and basic research approaches, we aim to find biomarkers of therapy response, of diagnosis for therapeutic intervention and of prognosis for risk stratification.

### Research team

Anna Novell Alvarez	Group leader
Antonia Salud Salvia	Group leader
Jose Manuel Porcel Pérez	Group leader
Maria Alba Sorolla Bardaji	Group leader
Silvia Bielsa Martin	Principal investigator
David Martinez Ortin	Research technician
Joel Salla Fortuny	Research technician
Marta Garcia Cortes	Research technician
Ruben Tejero Narbona	Research technician
Anabel Sorolla Bardaji	Researcher
Aureli Esquerda Serrano	Researcher
Eleonor Paola Murata Yonamine	Researcher
Eva Parisi Capdevila	Researcher
Joel Veas Rodriguez	Researcher
Magdalena Torres Pifarre	Researcher
Maria Alba Sorolla Bardaji	Researcher
Maria Del Carmen Civit Oro	Researcher
Marina Asuncion Pardina Solano	Researcher
Moises Jose Mira Flores	Researcher
Ona Pallissé Subirats	Researcher
Robert Montal Roura	Researcher
Serafin Morales Murillo	Researcher



#### Group leader

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#### Location

Biomedicine I | ground floor

## 5.8. Research group of cancer biomarkers (GReBiC)

### Projects

PI	Funding agency	Project	Budget (€)
Anabel Sorolla	Instituto de Salud Carlos III	Contratos Miguel Servet	242,500
Jose Manuel Porcel	Instituto de Salud Carlos III	Biopsia líquida utilizando el sobrenadante del líquido pleural y el plasma para el estudio del perfil	96,8000

### Publications

Ciruelos E, Villagrasa P, Pascual T, Oliveira M, Pernas S, Paré L, Escrivá-de-Romaní S, Manso L, Adamo B, Martínez E, Cortés J, Vazquez S, Perelló A, Garau I, Melé M, Martínez N, Montaña A, Bermejo B, Morales S, Echarri MJ, Vega E, González-Farré B, Martínez D, Galván P, Canes J, Nuciforo P, Gonzalez X, Prat A. Palbociclib and Trastuzumab in HER2-Positive Advanced Breast Cancer: Results from the Phase II SOLTI-1303 PATRICIA Trial. *Clin Cancer Res.* 2020 Nov 15;26(22):5820-5829. PMID: 32938620. Q1 IF10,107

Parisi E, Sorolla A, Montal R, González-Resina R, Novell A, Salud A, Sorolla MA. Prognostic Factors Involved in the Epithelial-Mesenchymal Transition Process in Colorectal Cancer Have a Preponderant Role in Oxidative Stress: A Systematic Review and Meta-Analysis. *Cancers (Basel).* 2020 Nov 11;12(11):3330. PMID: 33187205. Q1 IF6,126

Quintela-Fandino M, Holgado E, Manso L, Morales S, Bermejo B, Colomer R, Apala JV, Blanco R, Muñoz M, Caleiras E, Iranzo V, Martinez M, Dominguez O, Hornedo J, Gonzalez-Cortijo L, Cortes J, Gasol Cudos A, Malon D, Lopez-Alonso A, Moreno-Ortiz MC, Mouron S, Mañes S. Immuno-priming durvalumab with bevacizumab in HER2-negative advanced breast cancer: a pilot clinical trial. *Breast Cancer Res.* 2020 Nov 11;22(1):124. PMID: 33176887. Q2 IF4,988

Porcel JM. Pleural diseases and COVID-19: ubi fumus, ibi ignis. *Eur Respir J.* 2020 Nov 19;56(5):2003308. PMID: 32943411. Q1 IF12,339

Sorolla A, Sorolla MA, Wang E, Ceña V. Peptides, proteins and nanotechnology: a promising synergy for breast cancer targeting and treatment. *Expert Opin Drug Deliv.* 2020 Nov;17(11):1597-1613. PMID: 32835538. Q1 IF4,838

Porcel JM. PILOTing towards a RAPID predictor of mortality for infectious pleural effusions. *Eur Respir J.* 2020 Nov 26;56(5):2002425. PMID: 33243775. Q1 IF12,339

Aranda E, Viéitez JM, Gómez-España A, Gil Calle S, Salud-Salvia A, Graña B, Garcia-Alfonso P, Rivera F, Quintero-Aldana GA, Reina-Zoilo JJ, González-Flores E, Salgado Fernández M, Guillén-Ponce C, Garcia-Carbonero R, Safont MJ, La Casta Munoa A, García-Paredes B, López López R, Sastre J, Díaz-Rubio E; Spanish Cooperative Group for the Treatment of Digestive Tumors (TTD). FOLFOXIRI plus bevacizumab versus FOLFOX plus bevacizumab for patients with metastatic colorectal cancer and  $\geq 3$  circulating tumour cells: the randomised phase III VISNÚ-1 trial. *ESMO Open.* 2020 Nov;5(6):e000944. PMID: 33148620. Q1 IF5,329

Mulet M, Zamora C, Porcel JM, Nieto JC, Pajares V, Muñoz-Fernandez

AM, Calvo N, Esquerda A, Vidal S. Platelet factor 4 regulates T cell effector functions in malignant pleural effusions. *Cancer Lett.* 2020 Oct 28;491:78-86. PMID: 32726613. Q1 IF7,36

Mulet M, Zamora C, Porcel JM, Nieto JC, Pajares V, Muñoz-Fernandez AM, Calvo N, Esquerda A, Vidal S. Experimental supporting data on the influence of platelet-derived factors of malignant pleural effusions on T cell effector functions and their relevance in predicting prognosis of lung adenocarcinoma patients with pleural metastasis. *Data Brief.* 2020 Sep 3;32:106266. PMID: 32984462

Borras JM, Font R, Solà J, Macia M, Tuset V, Arenas M, Eraso A, Verges R, Farré N, Pedro A, Mollà M, Algara M, Solé JM, Mira M, Espinàs JA. Impact of non-adherence to radiotherapy on 1-year survival in cancer patients in Catalonia, Spain. *Radiother Oncol.* 2020 Oct;151:200-205. PMID: 32771615. Q1 IF4,856

Bonet M, Rodrigo A, Vázquez S, Carrizo V, Vilardell F, Mira M. Adjuvant therapy for true ampullary cancer: a systematic review. *Clin Transl Oncol.* 2020 Aug;22(8):1407-1413. PMID: 31927720. Q3 IF2,737

Camps Herrero C, Batista N, Díaz Fernández N, Escobar Álvarez Y, Gonzalo Gómez A, Isla Casado D, Salud A, Terrasa Pons J, Guillem Porta V. Breakthrough cancer pain: review and calls to action to

## 5.8. Research group of cancer biomarkers (GReBiC)

improve its management. *Clin Transl Oncol*. 2020 Aug;22(8):1216-1226. PMID: 32002739. Q3 IF2,737

Valero J, Peleteiro P, Henríquez I, Conde A, Piquer T, Lozano A, Soler CC, Muñoz J, Illescas A, Jove J, Flores MM, Baquedano J, Diezhandino P, de Celis RP, Pardo EH, Samper P, Villoslada I, Eguiguren M, Millan V. Age, Gleason Score, and PSA are important prognostic factors for survival in metastatic castration-resistant prostate cancer. Results of The Uroncor Group (Uro-Oncological Tumors) of the Spanish Society of Radiation Oncology (SEOR). *Clin Transl Oncol*. 2020 Aug;22(8):1378-1389. PMID: 31989474. Q3 IF2,737

Sorolla MA, Parisi E, Sorolla A. Determinants of Sensitivity to Radiotherapy in Endometrial Cancer. *Cancers (Basel)*. 2020 Jul 15;12(7):1906. PMID: 32679719. Q1 IF6,126

Porcel JM, Liesa L, Bagüeste G, Bielsa S. Publication of abstracts and oral communications presented at the XXXVI Congress of the Spanish Society of Internal Medicine. *Rev Clin Esp (Barc)*. 2020 Jun-Jul;220(5):321-322. PMID: 32107014. 3 IF1,304

Porcel JM. Time to embrace POCUS as part of the bedside diagnosis of respiratory diseases. *Respirology*. 2020 May;25(5):466-467. PMID: 31454141. Q1 IF4,88

Porcel JM. Please, take a deep breath. *Eur Respir J*. 2020 May 14;55(5):2000501. PMID: 32409425. Q1 IF12,339

Porcel JM, Torres M, Pardina M, Civit C, Salud A, Bielsa S. Predictors of Indwelling Pleural Catheter Removal and Infection A Single-center Experience With 336 Procedures. *J Bronchology Interv Pulmonol*. 2020 Apr;27(2):86-94. PMID: 31725499

Porcel JM, Ferreiro L, Rumi L, Espino-Paisán E, Civit C, Pardina M, Schoenenberger-Arnaiz JA, Valdés L, Bielsa S. Two vs. three weeks of treatment with amoxicillin-clavulanate for stabilized community-acquired complicated parapneumonic effusions. A preliminary non-inferiority, double-blind, randomized, controlled trial. *Pleura Peritoneum*. 2020 Feb 26;5(1):20190027. PMID: 32934974

Wang E, Sorolla MA, Krishnan PDG, Sorolla A. From Seabed to Bedside: A Review on Promising Marine Anticancer Compounds. *Biomolecules* 2020 Feb 6;10(2):248. PMID: 32041255. Q2 IF4,082

Brasó-Maristany F, Griguolo G, Pascual T, Paré L, Nuciforo P, Llombart-Cussac A, Bermejo B, Oliveira M, Morales S, Martínez N, Vidal M, Adamo B, Martínez O, Pernas S, López R, Muñoz M, Chic N, Galván P, Garau I, Manso L, Alarcón J, Martínez E, Gregorio S, Gomis RR, Villagrasa P, Cortés J, Ciruelos E, Prat A. Phenotypic changes of HER2-positive breast cancer during and after dual HER2 blockade. *Nat Commun*. 2020 Jan 20;11(1):385. PMID: 31959756. Q1 IF12,121

Tur Martínez J, Escartín A, Pardina M, Olsina JJ. Celiacomesenteric trunk: A rare vascular variant. *Cir Esp (Engl Ed)*. 2020 Jan;98(1):46. PMID: 31208726. Q3 IF1,323

Quintela-Fandino M, Morales S, Cortés-Salgado A, Manso L, Apala JV, Muñoz M, Gasol Cudos A, Salla Fortuny J, Gion M, Lopez-Alonso A, Cortés J, Guerra J, Malón D, Caleiras E, Mulero F, Mouron S. Randomized Phase 0/I Trial of the Mitochondrial Inhibitor ME-344 or Placebo Added to Bevacizumab in Early HER2-Negative Breast Cancer. *Clin Cancer Res*. 2020 Jan 1;26(1):35-45. PMID: 31597662. Q1 IF10,107

Prat A, Pascual T, De Angelis C, Gutierrez C, Llombart-Cussac A, Wang T, Cortés J, Rexer B, Paré L, Forero A, Wolff AC, Morales S,

Adamo B, Brasó-Maristany F, Vidal M, Veeraraghavan J, Krop I, Galván P, Pavlick AC, Bermejo B, Izquierdo M, Rodrik-Outmezguine V, Reis-Filho JS, Hilsenbeck SG, Oliveira M, Dieci MV, Griguolo G, Fasani R, Nuciforo P, Parker JS, Conte P, Schiff R, Guarneri V, Osborne CK, Rimawi MF. HER2-Enriched Subtype and ERBB2 Expression in HER2-Positive Breast Cancer Treated with Dual HER2 Blockade. *J Natl Cancer Inst*. 2020 Jan 1;112(1):46-54. PMID: 31037288. Q1 IF11,577





## 5.9. Translational research group on infectious diseases of Lleida

The group consists of basic, clinical and epidemiological researchers, who work at the Lleida Biomedical Research Institute (IRBLleida), a collaborating center of the University of Lleida. The principal investigator is Ferran Barbé Illa.

Since 2008, the TRRM group has belonged to the Diseases Network Research Centre (CIBERes) platform, as Group 35. Group 35 is

currently one of the leading exponents of the Spanish Sleep Network of the Spanish Pneumology and Thoracic Surgery Society (SEPAR). We work alongside researchers from many specialties in order to approach the study of the pathophysiology of obstructive sleep apnea syndrome (OSA) and its consequences. The research excellence of the TRRM group has been recognized internationally.

### Research team

Eva González De La Fuente	Group leader
Alfredo Jover Saenz	Principal investigator
Fernando Barcenilla Gaité	Principal investigator
Alba Belles Belles	Researcher
Albert Bernet Sanchez	Researcher
Antón Manonelles Fernández	Researcher
Elena Simó Martínez De Guereño	Researcher
Esther Ribes Murillo	Researcher
Francesc Pujol Aymerich	Researcher
Jaume Garriga Masana	Researcher
Lluis Marques Amat	Researcher
Marcos Serrano Godoy	Researcher
Maria Fernanda Ramirez Hidalgo	Researcher
Maria Jose Estadella Servalls	Researcher
Marina Vidal Castello	Researcher
Mariola Espejo Suros	Researcher
Merce Almirall Egerique	Researcher
Mercedes Garcia Gonzalez	Researcher
Nadia Abdulghani Martinez	Researcher
Nuria Tarraubella Balanya	Researcher
Teresa Puig Ganau	Researcher
Thais Comella Fiestras	Researcher



#### Group leader

Dr. Eva González De La Fuente



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#### Location

HUAV | HUSM

## 5.9. Translational research group on infectious diseases of Lleida

### Projects

PI	Funding agency	Project	Budget (€)
Alfredo Jover	Instituto de Salud Carlos III	Multi-center, randomized, clinical trial of convalescent plasma therapy versus standard of care for the treatment of Covid-19 in hospitalized patients	9,280

### Publications

Jenks JD, Seidel D, Cornely OA, Chen S, van Hal S, Kauffman C, Miceli MH, Heinemann M, Christner M, Jover Sáenz A, Burchardt A, Kemmerling B, Herbrecht R, Steinmann J, Shoham S, Gräber S, Pagano L, Deeren D, Aslam S, Taplitz R, Revankar SG, Baddley J, Mehta SR, Reed S, Slavin MA, Hoenigl M. Voriconazole plus terbinafine combination antifungal therapy for invasive *Lomentospora prolificans* infections: analysis of 41 patients from the FungiScope® registry 2008-2019. *Clin Microbiol Infect.* 2020 Jun;26(6):784.e1-784.e5. PMID: 31972317. Q1 IF7,117

Jenks JD, Seidel D, Cornely OA, Chen S, van Hal S, Kauffman C, Miceli MH, Heinemann M, Christner M, Jover Sáenz A, Burchardt A, Kemmerling B, Herbrecht R, Steinmann J, Shoham S, Gräber S, Pagano L, Deeren D, Slavin MA, Hoenigl M. Clinical characteristics and outcomes of invasive *Lomentospora prolificans* infections: Analysis of patients in the FungiScope® registry. *Mycoses.* 2020 May;63(5):437-442. PMID: 32080902. Q1 IF3,575

Schoenenberger-Arnaiz JA, Ahmad-Diaz F, Miralbes-Torner M, Aragones-Eroles A, Cano-Marron M, Palomar-Martinez M. Usefulness of therapeutic drug monitoring of piperacillin and meropenem in routine clinical practice: a prospective cohort study in critically ill patients. *Eur J Hosp Pharm.* 2020 Mar;27(e1):e30-e35. PMID: 32296502. Q4 IF0,892

Seidel D, Hassler A, Salmanton-García J, Koehler P, Mellinghoff SC, Carlesse F, Cheng MP, Falces-Romero I, Herbrecht R, Jover Sáenz A, Klimko N, Mare M, Lass-Flörl C, Soler-Palacín P, Wisplinghoff H, Cornely OA, Pana Z, Lehrnbecher T. Invasive *Scedosporium* spp. and *Lomentospora prolificans* infections in pediatric patients: Analysis of 55 cases from FungiScope® and the literature. *Int J Infect Dis.* 2020 Mar;92:114-122. PMID: 31863876. Q2 IF3,202

Alfredo Jover-Sáenz, María FernandaRamírez-Hidalgo, Montserrat VallverdúVidal, Merce GarcíaGonzález, Santiago ManuelCano Marrón, Alfredo EscartínArias, Miquel FalgueraSacrest, DolorsCastellana-Perelló, FernandoBarcenilla-Gaite, Translational Research Group on Infectious Diseases of Lleida (Head Group, TRIDLE- IRBLleida). Antimicrobial stewardship program at a tertiary care academic medical hospital: Clinical, microbiological and economic impact. A 5-year temporary descriptive study. *Infection Prevention in Practice.* Volume 2, Issue 2, June 2020

Bernet Sánchez A, Bellés Bellés A, Aramburu Arnuelos J, Jover Sanz A, Sesé Abizanda E, Vallverdú Vidal M, García González M. Entamoeba histolytica liver abscess case: could stool PCR avoid it? *Diagnosis (Berl).* 2020 Jan 28;7(1):69-73. PMID: 31256063

Lugo VM, Torres M, Garmendia O, Suarez-Giron M, Ruiz C, Carmona C, Chiner E, Tarraubella N, Dalmases M, Pedro AM, Egea CJ, Abellana M, Mayos M, Monasterio C, Masa JF, Farré R, Montserrat JM. Intra- and Inter-Physician Agreement in Therapeutic Decision for Sleep Apnea Syndrome. *Arch Bronconeumol (Engl Ed).* 2020 Jan;56(1):18-22. PMID: 30955937. Q1 IF4,957

Lazarus JV, Ekstedt M, Marchesini G, Mullen J, Novak K, Pericàs JM, Roel E, Romero-Gómez M, Ratziu V, Tacke F, Cortez-Pinto H, Anstee QM; EASL International Liver Foundation NAFLD Policy Review Collaborators. A cross-sectional study of the public health response to non-alcoholic fatty liver disease in Europe. *J Hepatol.* 2020 Jan;72(1):14-24. PMID: 31518646. Q1 IF20,582



## 5.10. Translational research in respiratory medicine group

The group consists of basic, clinical and epidemiological researchers, who work at the Lleida Biomedical Research Institute (IRBLleida), a collaborating center of the University of Lleida. The principal investigator is Ferran Barbé Illa.

Since 2008, the TRRM group has belonged to the Diseases Network Research Centre (CIBERes) platform, as Group 35. Group 35 is currently one of the leading exponents of the Spanish Sleep Network of the Spanish Pneumology and Thoracic Surgery Society (SEPAR). We work alongside researchers from many specialties in order to approach the study of the pathophysiology of obstructive sleep apnea syndrome (OSA) and its consequences. The research excellence of the TRRM group has been recognized internationally.



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**Research team**

## 5.10. Translational research in respiratory medicine group

### Research team

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Silvia Ortega Alcántara	Management technician
Lucía Pinilla Latorre	PhD student
Jordi De Batlle Garcia	Principal investigator
Anna Moncusi Moix	Research technician
Clara Gort Paniello	Research technician
Esther Gracia Lavedan	Research technician
Maria Arguimbau Angalda	Research technician
Olga Minguez Roure	Research technician
Rafaela Vaca Molina	Research technician
Adriano Targa Dias Santos	Researcher
Albina Aldoma Balasch	Researcher
Anunciació Cortijo Fernández	Researcher
David De Gonzalo Calvo	Researcher
Dinora Polanco Alonso	Researcher
Jessica Gonzalez Gutierrez	Researcher
Joan Ramon Rozadilla Sacanell	Researcher
José Javier Vengoechea Aragoncillo	Researcher
Lidia Pascual Arnó	Researcher
M <sup>a</sup> Dolores Martinez Gonzalez	Researcher
Mireia Masip Jiménez-Ortiz	Researcher
Paola Carmona Arias	Researcher
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## 5.10. Translational research in respiratory medicine group

### Projects

PI	Funding agency	Project	Budget (€)
David de Gonzalo	Instituto de Salud Carlos III	Transcriptómica y machine learning para asistir en la toma de decisiones clínicas en pacientes con sospecha de apnea obstructiva del sueño	147,620
David de Gonzalo	Instituto de Salud Carlos III	Contratos Miguel Servet	242,500

### Publications

Bermúdez-López M, Martínez-Alonso M, Castro-Boqué E, Betriu À, Cambray S, Farràs C, Barbé F, Pamplona R, Lecube A, Mauricio D, Purroy F, Valdivielso JM, Fernández E; ILERVAS project collaborators. Localización y carga de ateromatosis subclínica en población con un riesgo cardiovascular bajo-moderado: estudio ILERVAS. Rev Esp Cardiol (Engl Ed). 2020 Nov 5:S1885-5857(20)30424-2. PMID: 33162389 . Q1 IF4,642

Zapater A, Sánchez-de-la-Torre M, Benítez ID, Targa A, Bertran S, Torres G, Aldomà A, De Batlle J, Abad J, Duran-Cantolla J, Cabriada-Nuño V, Mediano O, Masdeu MJ, Muñoz C, Masa JF, De la Peña M, Mayos M, Coloma R, Montserrat JM, Chiner E, Mínguez O, Pascual L, Cortijo A, Martínez D, Dalmasas M, McEvoy RD, Barbé F, Sánchez-de-la-Torre A; Spanish Sleep Network. The Effect of Sleep Apnea on Cardiovascular Events in Different Acute Coronary Syndrome Phenotypes. Am J Respir Crit Care Med. 2020 Dec 15;202(12):1698-1706. PMID: 32648771. Q1 IF17,452

Bermejo-Martin JF, González-Rivera M, Almansa R, Micheloud D, Tedim AP, Domínguez-Gil M, Resino S, Martín-Fernández M, Ryan Murua P, Pérez-García F, Tamayo L, Lopez-Izquierdo R, Bustamante E, Aldecoa C, Gómez JM, Rico-Feijoo J, Orduña A, Méndez R, Fernández Natal I, Megías G, González-Estecha M, Carriedo D, Doncel

C, Jorge N, Ortega A, de la Fuente A, Del Campo F, Fernández-Ratero JA, Trapiello W, González-Jiménez P, Ruiz G, Kelvin AA, Ostadgavahi AT, Oneizat R, Ruiz LM, Miguéns I, Gargallo E, Muñoz I, Pelegrin S, Martín S, García Olivares P, Cedeño JA, Ruiz Albi T, Puertas C, Berezo JÁ, Renedo G, Herrán R, Bustamante-Munguira J, Enríquez P, Cicuendez R, Blanco J, Abadia J, Gómez Barquero J, Mamolar N, Blanca-López N, Valdivia LJ, Fernández Caso B, Mantecón MÁ, Motos A, Fernandez-Barat L, Ferrer R, Barbé F, Torres A, Menéndez R, Eiros JM, Kelvin DJ. Viral RNA load in plasma is associated with critical illness and a dysregulated host response in COVID-19. Crit Care. 2020 Dec 14;24(1):691PMID: 33317616. Q1 IF6,407

Dakterzada F, Targa A, Benítez ID, Romero-ElKhayat L, de Gonzalo-Calvo D, Torres G, Moncusí-Moix A, Huerto R, Sánchez-de-la-Torre M, Barbé F, Piñol-Ripoll G. Identification and validation of endogenous control miRNAs in plasma samples for normalization of qPCR data for Alzheimer's disease. Alzheimers Res Ther. 2020 Dec 5;12(1):163. PMID: 33278902. Q1 IF6,116

Torres-Bondia F, Dakterzada F, Galván L, Buti M, Besanson G, Gill E, Buil R, de Batlle J, Piñol-Ripoll G. Proton pump inhibitors and the risk of Alzheimer's disease and non-Alzheimer's dementias. Sci Rep. 2020 Dec 3;10(1):21046. PMID: 33273636. Q1 IF3,998

de Batlle J, Massip M, Vargiu E, Nadal N, Fuentes A, Ortega Bravo M, Colomina J, Drudis R, Torra M, Pallisó F, Miralles F, Barbé F, Torres G; CONNECARE-Lleida Group. Implementing Mobile Health-Enabled Integrated Care for Complex Chronic Patients: Patients and Professionals' Acceptability Study. JMIR Mhealth Uhealth. 2020 Nov 20;8(11):e22136. PMID: 33216004. Q1 IF4,313

Jorge C, Targa A, Benítez ID, Dakterzada F, Torres G, Mínguez O, Carnes A, Pujol M, Gibert A, López R, Gaeta AM, Dalmasas M, Farré R, Sánchez-de-la-Torre M, Barbé F, Piñol-Ripoll G. Obstructive sleep apnoea and cognitive decline in mild-to-moderate Alzheimer's disease. Eur Respir J. 2020 Nov 19;56(5):2000523. PMID: 32554539. Q1 IF12,339

Targa A, Dakterzada F, Benítez ID, de Gonzalo-Calvo D, Moncusí-Moix A, López R, Pujol M, Arias A, de Batlle J, Sánchez-de-la-Torre M, Barbé F, Piñol-Ripoll G. Circulating MicroRNA Profile Associated with Obstructive Sleep Apnea in Alzheimer's Disease. Mol Neurobiol. 2020 Nov;57(11):4363-4372. PMID: 32720075. Q1 IF4,5

González J, Gracia-Lavedan E, Pamplona R, Fernández E, Lecube A, de-Torres JP, Barbé F, Torres G; ILERVAS Study Group. Protein succination as a potential surrogate biomarker of airway obstruction.

## 5.10. Translational research in respiratory medicine group

The ilervas project.. *Respir Med.* 2020 Oct;172:106124. PMID: 32919375. Q2 IF3,095

Masa JF, Benítez I, Sánchez-Quiroga MÁ, Gomez de Terreros FJ, Corral J, Romero A, Caballero-Eraso C, Alonso-Álvarez ML, Ordax-Carbajo E, Gomez-Garcia T, González M, López-Martín S, Marin JM, Martí S, Díaz-Cambriles T, Chiner E, Egea C, Barca J, Vázquez-Polo FJ, Negrín MA, Martel-Escobar M, Barbé F, Mokhlesi B; Spanish Sleep Network. Long-term Noninvasive Ventilation in Obesity Hypoventilation Syndrome without Severe Obstructive Sleep Apnea. *Chest.* 2020 Sep;158(3):1176-1186. PMID: 32343963. Q1 IF8,308

Labarca G, Dreyse J, Salas C, Schmidt A, Rivera F, Letelier F, Jorquera J, Barbe F. A clinic-based cluster analysis in patients with moderate-severe obstructive sleep apnea (OSA) in Chile. *Sleep Med.* 2020 Sep;73:16-22. PMID: 32771926. Q2 IF3,038

López-Cano C, Gutiérrez-Carrasquilla L, Barbé F, Sánchez E, Hernández M, Martí R, Ceperuelo-Mallafre V, Dalmasas M, Fernández-Veledo S, Vendrell J, Hernández C, Simó R, Lecube A. Effect of Type 2 Diabetes Mellitus on the Hypoxia-Inducible Factor 1-Alpha Expression. Is There a Relationship with the Clock Genes? *J Clin Med.* 2020 Aug 13;9(8):2632. doi: 10.3390/jcm9082632. PMID: 32823749. Q1 IF3,303

Castañ-Abad MT, Montserrat-Capdevila J, Godoy P, Marsal JR, Ortega M, Alsedà M, Barbé F. Diabetes as a risk factor for severe exacerbation and death in patients with COPD: a prospective cohort study. *Eur J Public Health.* 2020 Aug 1;30(4):822-827. PMID: 31951259. Q2 IF2,391

Labarca G, Dreyse J, Drake L, Jorquera J, Barbe F. Efficacy of

continuous positive airway pressure (CPAP) in the prevention of cardiovascular events in patients with obstructive sleep apnea: Systematic review and meta-analysis. *Sleep Med Rev.* 2020 Aug; 52:101312. PMID: 32248026. Q1 IF9,613

Labarca G, Saavedra D, Dreyse J, Jorquera J, Barbe F. Efficacy of continuous positive airway pressure (CPAP) for improvements in sleepiness, cognition, mood and quality of life in elderly patients with obstructive sleep apnea: Systematic review and meta-analysis of randomized controlled trials. *Chest.* 2020 Aug;158(2):751-764. PMID: 32289311. Q1 IF8,308

Masa JF, Mokhlesi B, Benítez I, Gómez de Terreros Caro FJ, Sánchez-Quiroga MÁ, Romero A, Caballero C, Alonso-Álvarez ML, Ordax-Carbajo E, Gómez-García T, González M, López-Martín S, Marin JM, Martí S, Díaz-Cambriles T, Chiner E, Egea C, Barca J, Vázquez-Polo FJ, Negrín MA, Martel-Escobar M, Barbé F, Corral-Peñafiel J; Spanish Sleep Network.. Cost-effectiveness of positive airway pressure modalities in obesity hypoventilation syndrome with severe obstructive sleep apnoea. *Thorax.* 2020 Jun;75(6):459-467. PMID: 32217780. Q1 IF8,834

Torres-Bondia F, de Batlle J, Galván L, Buti M, Barbé F, Piñol-Ripoll G. Trends in the consumption rates of benzodiazepines and benzodiazepine-related drugs in the health region of Lleida from 2002 to 2015. *BMC Public Health.* 2020 Jun 1;20(1):818. PMID: 32487058. Q2 IF2,521

Sánchez E, Mizab C, Sauret A, Barbé F, Martí R, López-Cano C, Hernández M, Gutiérrez-Carrasquilla L, Carmona P, González J, Dalmasas M, Hernández C, Simó R, Lecube A. Effect of Subcutaneous Insulin on Spirometric Maneuvers in Patients with Type 1 Diabetes:

A Case-Control Study. *J Clin Med.* 2020 Apr 25;9(5):1249. PMID: 32344939. Q1 IF3,303

Gutiérrez-Carrasquilla L, López-Cano C, Sánchez E, Barbé F, Dalmasas M, Hernández M, Campos A, Gaeta AM, Carmona P, Hernández C, Simó R, Lecube A. Effect of Glucose Improvement on Nocturnal Sleep Breathing Parameters in Patients with Type 2 Diabetes: The Candy Dreams Study. *J Clin Med.* 2020 Apr 4;9(4):1022. PMID: 32260419. Q1 IF3,303

Sánchez E, Betriu À, Salas-Salvadó J, Pamplona R, Barbé F, Purroy F, Farràs C, Fernández E, López-Cano C, Mizab C, Lecube A; ILERVAS project investigators. Mediterranean diet, physical activity and subcutaneous advanced glycation end-products' accumulation: a cross-sectional analysis in the ILERVAS project. *Eur J Nutr.* 2020 Apr;59(3):1233-1242. PMID: 31065845. Q1 IF4,664

Donovan LM, Shah A, Chai-Coetzer CL, Barbé F, Ayas NT, Kapur VK. Redesigning Care for OSA. *Chest.* 2020 Apr;157(4):966-976. PMID: 31639334. Q1 IF8,308

Gaeta AM, Benítez ID, Jorge C, Torres G, Dakterzada F, Minguez O, Huerto R, Pujol M, Carnes A, Dalmasas M, Gibert A, Farré R, de la Torres MS, Barbé F, Piñol-Ripoll G. Prevalence of obstructive sleep apnea in Alzheimer's disease patients. *J Neurol.* 2020 Apr;267(4):1012-1022. doi: 10.1007/s00415-019-09668-4. Epub 2019 Dec 12. PMID: 31832828. Q1 IF3,956

Sánchez-de-la-Torre M, Sánchez-de-la-Torre A, Bertran S, Abad J, Duran-Cantolla J, Cabriada V, Mediano O, Masdeu MJ, Alonso ML, Masa JF, Barceló A, de la Peña M, Mayos M, Coloma R, Montserrat JM, Chiner E, Perelló S, Rubinós G, Mínguez O, Pascual L, Cortijo A,

## 5.10. Translational research in respiratory medicine group

Martínez D, Aldomà A, Dalmases M, McEvoy RD, Barbé F; Spanish Sleep Network. Effect of obstructive sleep apnoea and its treatment with continuous positive airway pressure on the prevalence of cardiovascular events in patients with acute coronary syndrome (ISAACC study): a randomised controlled trial. *Lancet Respir Med*. 2020 Apr;8(4):359-367. PMID: 31839558. Q1 IF25,094

Sánchez-de-la-Torre M, Sánchez-de-la-Torre A, Barbé F. Obstructive sleep apnoea in acute coronary syndrome - Authors' reply. *Lancet Respir Med*. 2020 Apr;8(4):e16. PMID: 32035023. Q1 IF25,094

Masa JF, Mokhlesi B, Benítez I, Mogollon MV, Gomez de Terreros FJ, Sánchez-Quiroga MÁ, Romero A, Caballero-Eraso C, Alonso-Álvarez ML, Ordax-Carbajo E, Gomez-Garcia T, González M, López-Martín S, Marin JM, Martí S, Díaz-Cambres R, Chiner E, Egea C, Barca J, Vázquez-Polo FJ, Negrín MA, Martel-Escobar M, Barbe F, Corral J; Spanish Sleep Network. Echocardiographic Changes with Positive Airway Pressure Therapy in Obesity Hypoventilation Syndrome: Long-term Pickwick Randomized Controlled Trial. *Am J Respir Crit Care Med*. 2020 Mar 1;201(5):586-597. PMID: 31682462. Q1 IF17,452

Benítez I, Roure N, Pinilla L, Sapiña-Beltran E, Buysse DJ, Barbé F, de Batlle J. Validation of the Satisfaction Alertness Timing Efficiency and Duration (SATED) Questionnaire for Sleep Health Measurement. *Ann Am Thorac Soc*. 2020 Mar;17(3):338-343. PMID: 31899656. Q1 IF4,836

Bouza E, Alvar A, Almagro P, Alonso T, Ancochea J, Barbé F, Corbella J, Gracia D, Mascarós E, Melis J, Miravittles M, Pastor M, Pérez P, Rudilla D, Torres A, Soriano JB, Vallano A, Vargas F, Palomo E. Chronic obstructive pulmonary disease (COPD) in Spain and the different aspects of its social impact: a multidisciplinary

opinion document. *Rev Esp Quimioter*. 2020 Feb;33(1):49-67. PMID: 31933347. Q4 IF1,132

Montserrat-Capdevila J, Godoy P, Marsal JR, Ortega M, Pifarré J, Barbé F. La comorbilidad en salud mental en los pacientes diagnosticados de enfermedad pulmonar obstructiva crónica. *Semergen*. 2020 Jan-Feb;46(1):53-59. PMID: 31481312

Navarro-Soriano C, Martínez-García MA, Torres G, Barbé F, Sánchez-de-la-Torre M, Caballero-Eraso C, Lloberes P, Cambres R, Somoza M, Masa JF, González M, Mañas E, de la Peña M, García-Río F, Montserrat JM, Muriel A, Oscullo G, García-Ortega A, Posadas T, Campos-Rodríguez F; on behalf the Spanish Sleep Network. Long-term Effect of CPAP Treatment on Cardiovascular Events in Patients With Resistant Hypertension and Sleep Apnea. Data From the HIPARCO-2 Study. *Arch Bronconeumol (Engl Ed)*. 2021 Mar;57(3):165-171. PMID: 32029279. Q1 IF4,957



## 5.11. Urgency and emergency multi-disciplinary research group

The main challenge of our group is to improve the urgent assistance we provide to the citizens of our healthcare region in the field of urgency. We want to transfer the results obtained through our investigations and projects in the clinical field in our guides of action and welfare procedures that we use to the Emergency services. We will promote the research and study of the impact of health education on practicing healthcare professionals. We intend to conduct research

in a fundamental social area from urgency, domestic violence, patient safety and mortality.

We believe that by carrying out this approach from the three aforementioned aspects we intend to increase the quest for excellence in the field of urgency. Providing a new vision, mainly in the objectives of education and the more legal blindness.

### Research team

Oriol Yuguero Torres	Group leader
Rita Maria Maciel Soares Pereira	External collaborator
Elena Justribo Sanchez	PhD student
Iris Nathalie San Roman Arispe	PhD student
Noemí Espies Diaz	PhD student
Maria Viladrosa Montoy	Principal investigator
Rosa Maria Perez Perez	Principal investigator
Anna Moreno Pena	Researcher
Carmel Vidal Sans	Researcher
Cecilia Llobet Pina	Researcher
Jesus Perez Mur	Researcher
Jose Daniel Lacasta Garcia	Researcher
Laia Molina Castellà	Researcher
Mireia Saura Codina	Researcher
Nuria Garcia Garcia	Researcher
Raquel Lain Gari	Researcher
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## 5.11. Urgency and emergency multi-disciplinary research group

### Publications

Laplana M, Yuguero O, Fibla J. Lack of protective effect of chloroquine derivatives on COVID-19 disease in a Spanish sample of chronically treated patients. PLoS One. 2020 Dec 14;15(12):e0243598. PMID: 33315903. Q2 IF2,74

Cabello I, Jacob J, Arranz M, Yuguero O, Guzman J, Moreno-Pena A, Frances P, Santos J, Esquerrà A, Mòdol JM; URGFAICS Research Group. Impact of emergency department management of atrial fibrillation with amiodarone on length of stay. A propensity score analysis based on the URGFAICS registry. Eur J Emerg Med. 2020 Dec;27(6):429-435. PMID: 32282468. Q2 IF2,17

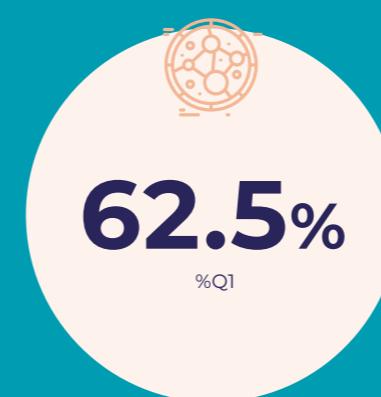
Yuguero O, Espies N, Bosch S, Queralt M, Tormo S, Monserrate B, Garcia N. Evaluation of the Relationship Between Socio-Economic Level and Severity of Emergency. International Journal of Healthcare and Medical Sciences. Vol. 6, Issue. 5, pp: 100-105, 2020

Yuguero O, Lopez MJ, Cortes E, Boqué C, Navarra M, Jimenez S. Palliative sedation and mortality in emergency departments: descriptive study of cases in the MORCAT registry. Emergencias. 2020 Abr;32(2):118-121. PMID: 32125111. Q1 IF3,173

## Area 6. Other research areas

This section includes publications by researchers who are not part of a research group of the five main research areas. It is a heterogeneous group of publications in different areas such as Internal Medicine, Otorhinolaryngology, Ophthalmology, Cardiology, Nursing and Physiotherapy. Recently, the IRBLleida has incorporated an active research group in the area of Nursing called the Health Care Research Group.

### Groups





## 6.1. Research group of health care (GRECS)

The group comprises nurses and physiotherapists from both clinical practice (Santa Maria University Hospital-GSS Hospital, Arnau de Vilanova University Hospital and Primary Care) and faculty members (University of Lleida). The main research areas are Healthy and Active Aging and Healthcare Services. The Nursing and Healthcare Research Group is involved in several projects in Spain, Europe and world-wide. At the European level researchers are partners of TOY (Together Old and Young project): Inter-generational Learning Involving Young Children and Older People (Grundtvig- Lifelonglearning Programme). In this country and worldwide, the Group has established collaboration with the Nursing and Healthcare Research Unit (Investén-isciii), which is focused on the Best Practice Guidelines Programme funded

by the Ontario government's Ministry of Health and Long-Term Care and the Carlos III Institute of Health, as part of the Spanish Ministry of Economy and Finance. Some of the guidelines developed and implemented include Evidence based Practice in reducing falls in older persons, the treatment of pressure ulcers, incontinence management, palliative care and pain management. As part of the Spanish Collaboration Centre of the Joanna Briggs Institute, the group is involved in implementing Nursing Evidence Best Practice in a range of clinical settings, through a signed agreement between the Carlos III Institute of Health (Nursing and Healthcare Research Unit: Investén-isciii) and the Spanish Regional Health Systems.



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Filip Bellon	PhD student
Oriol Martínez Navarro	PhD student
Carmen Nuin Orrio	Principal investigator
Erica Tula Briones Vozmediano	Principal investigator
Helena Fernandez Lago	Principal investigator
Joan Blanco Blanco	Principal investigator
Roland Pastells Peiro	Research technician
Alexandra Pascual Garcia	Researcher
Ana Lavedan Santamaria	Researcher
Anna Espart Herrero	Researcher
Carlos Casanova Gonzalvo	Researcher
Cristina Bravo Navarro	Researcher

## 6.1. Research group of health care (GRECS)

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Elena Paraiso Pueyo	Researcher
Esther Rubinat Arnaldo	Researcher
Eva Barallat Gimeno	Researcher
Francesc Josep Rubí Carnacea	Researcher
Francesc Valenzuela Pascual	Researcher
Jessica Miranda Iglesias	Researcher
Joan Enric Torra Bou	Researcher
Jordi Balleste Torralba	Researcher
Jordi Martinez Soldevila	Researcher
Jose Maria Martinez Barriuso	Researcher
Jose Tomas Mateos Garcia	Researcher
Josep M Gutierrez Vilaplana	Researcher
Judith Roca Llobet	Researcher
Laura Martinez Rodriguez	Researcher
Luis Hernandez Santamaria	Researcher
Luis Mambroa Giron	Researcher
M Jose Sanmartin Bardaji	Researcher
M <sup>a</sup> Angels Costa Menen	Researcher
M <sup>a</sup> Jesus Torrelles I Pijuan	Researcher
M <sup>a</sup> Luisa Guitard Sein-Echaluze	Researcher
Maravillas Torrecilla Hernández	Researcher
María Ángeles Elez Martinez	Researcher
Maria Dolores Gomez Garcia	Researcher
Maria Ferrer Gil	Researcher
Mariana Loezar Hernández	Researcher
Mariona Rocaspana Garcia	Researcher
Merce Serra Miralles	Researcher
Miguel Angel Escobar Bravo	Researcher
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Olga Masot Ariño	Researcher
Sandra Hervás Marco	Researcher
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## 6.1. Research group of health care (GRECS)

### Projects

PI	Funding agency	Project	Budget (€)
Helena Fernández	Instituto de Salud Carlos III	Efectos de a combinación del tapiz rodante en un entorno virtual gami cado con la estimulación cerebral no invasiva en la enfermedad de Parkinson: ensayo clínico aleatorizado	62,920
Erica Briones	Instituto de Salud Carlos III	Trabajo agrícola y migración en España: Precariedad Sociolaboral y Salud (PSLyS)	51,425

### Publications

Tersa-Miralles C, Pastells-Peiró R, Rubí-Carnacea F, Bellon F, Rubinat Arnaldo E. Effectiveness of workplace exercise interventions in the treatment of musculoskeletal disorders in office workers: a protocol of a systematic review. *BMJ Open*. 2020 Dec 22;10(12):e038854. PMID: 33371019. Q2 IF2,496

Climent-Sanz C, Morera-Amenós G, Bellon F, Pastells-Peiró R, Blanco-Blanco J, Valenzuela-Pascual F, Gea-Sánchez M. Poor Sleep Quality Experience and Self-Management Strategies in Fibromyalgia: A Qualitative Metasynthesis. *J Clin Med*. 2020 Dec 10;9(12):4000. PMID: 33321937. Q1 IF3,303

Serrano-Ripoll MJ, Ripoll J, Briones-Vozmediano E, Llobera J, Fiol-deRoque MA, Ricci-Cabello I. Exploring primary health care professionals' perceptions about a patient feedback intervention to improve patient safety in Spanish primary health care centres: a qualitative study. *Fam Pract*. 2020 Nov 28;37(6):821-827. PMID: 32424409. Q2 IF2,038

Briones-Vozmediano E, Rivas-Quarneti N, Gea-Sánchez M, Bover-Bover A, Carbonero MA, Gastaldo D. The Health Consequences of Neocolonialism for Latin American Immigrant Women Working as Caregivers in Spain: A Multisite Qualitative Analysis. *Int J Environ Res*

*Public Health*. 2020 Nov 9;17(21):8278. PMID: 33182437. Q1 IF2,849

Masot O, Miranda J, Santamaría AL, Paraiso Pueyo E, Pascual A, Botigué T. Fluid Intake Recommendation Considering the Physiological Adaptations of Adults Over 65 Years: A Critical Review. *Nutrients*. 2020 Nov 4;12(11):3383. PMID: 33158071. Q1 IF4,546

Vázquez-Justes D, Sanahuja J, Diez J, Rubinat E, Begué R, Salas C, Vicandi C, Gil MI, Purroy F, Mauricio D. Incidental findings on brain MRI in a cohort of diabetic patients. *J Neuroradiol*. 2020 Sep;47(5):343-348. PMID: 30098369. Q2 IF2,423

COVID-19 en clave de género. COVID-19 en clave de género. *Gac Sanit*. 2020 Sep-Oct;34(5):419-421. PMID: 32423661. Q3 IF1,564

Amor AJ, Castelblanco E, Hernández M, Gimenez M, Granado-Casas M, Blanco J, Soldevila B, Esmatjes E, Conget I, Alonso N, Ortega E, Mauricio D. Advanced lipoprotein profile disturbances in type 1 diabetes mellitus: a focus on LDL particles. *Cardiovasc Diabetol*. 2020 Aug 9;19(1):126. PMID: 32772924. Q1 IF7,332

Bravo C PhD, PT, Skjaerven LH MSc, PT, Guitard Sein-Echaluce L PhD, NR, Catalan-Matamoros D PT, MPH, MBA, PhD. Experiences from group basic body awareness therapy by patients suffering from

fibromyalgia: A qualitative study. *Physiother Theory Pract*. 2020 Aug;36(8):933-945. PMID: 30247934. Q3 IF1,624

Vilanova MB, Franch-Nadal J, Falguera M, Marsal JR, Canivell S, Rubinat E, Miró N, Molló À, Mata-Cases M, Gratacòs M, Castelblanco E, Mauricio D. Prediabetes Is Independently Associated with Subclinical Carotid Atherosclerosis: An Observational Study in a Non-Urban Mediterranean Population. *Journal of Clinical Medicine*. Jul 7;9(7):2139. PMID: 32645918. Q1 IF3,303

Segovia-Saiz C, Briones-Vozmediano E, Pastells-Peiró R, González-María E, Gea-Sánchez M. Glass ceiling and gender inequalities in the careers of women academics in biomedical sciences. *Gaceta Sanitaria*. Jul-Aug;34(4):403-410. PMID: 31708124 Q3 IF1,564

Climent-Sanz C, Gea-Sánchez M, Moreno-Casbas MT, Blanco-Blanco J, García-Martínez E, Valenzuela-Pascual F. A web-based therapeutic patient education intervention for pain and sleep for women with fibromyalgia: A sequential exploratory mixed-methods research protocol. *Journal of Advanced Nursing*. Jun;76(6):1425-1435. PMID: 32068285 Q1 IF2,561

Legido-Quigley H, Mateos-García JT, Campos VR, Gea-Sánchez

## 6.1. Research group of health care (GRECS)

M, Muntaner C, McKee M. The resilience of the Spanish health system against the COVID-19 pandemic. *Lancet Public Health*. May;5(5):e251-e252. PMID: 32199083 Q1 IF16,292

Climent-Sanz C, Marco-Mitjavila A, Pastells-Peiró R, Valenzuela-Pascual F, Blanco-Blanco J, Gea-Sánchez M. Patient Reported Outcome Measures of Sleep Quality in Fibromyalgia: A COSMIN Systematic Review. *International Journal of Environmental Research and Public Health*. Apr 26;17(9):2992 PMID: 32357398 Q1 IF2,849

Íscar-González V, Gea-Sánchez M, Blanco-Blanco J, Moreno-Casbas MT, Peter E.. The advocacy role of nurses in cardiopulmonary resuscitation. *Nursing Ethics*. Mar;27(2):333-347. PMID: 31113269 Q1 IF2,597

Alcubierre N, Granado-Casas M, Real J, Perpiñán H, Rubinat E, Falguera M, Castelblanco E, Franch-Nadal J, Mauricio D. Spanish People with Type 2 Diabetes Show an Improved Adherence to the Mediterranean Diet. *Nutrients*. Feb 20;12(2):560. PMID: 32093385 Q1 IF4,546

Tan SM, Han E, Quek RYC, Singh SR, Gea-Sánchez M, Legido-Quigley H. A systematic review of community nursing interventions focusing on improving outcomes for individuals exhibiting risk factors of cardiovascular disease. *Journal of Advanced Nursing*. Jan;76(1):47-61. PMID: 31588578 Q1 IF2,561



## 6.2. Other research lines

### Research team

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## 6.2. Other research lines

### Publications

Vilanova MB, Franch-Nadal J, Falguera M, Marsal JR, Canivell S, Rubinat E, Miró N, Molló À, Mata-Cases M, Gratacòs M, Castelblanco E, Mauricio D.. Prediabetes Is Independently Associated with Subclinical Carotid Atherosclerosis: An Observational Study in a Non-Urban Mediterranean Population. *Journal of Clinical Medicine*. Jul 7;9(7):2139. PMID: 32645918. Q1 IF 3,303

Mayo-de-Las-Casas C, Velasco A, Sanchez D, Martínez-Bueno A, Garzón-Ibáñez M, Gatiús S, Ruiz-Miró M, Gonzalez-Tallada X, Llordella I, Tresserra F, Rodríguez S, Aldeguer E, Roman-Canal B, Bertran-Alamillo J, García-Peláez B, Rosell R, Molina-Vila MA, Matias-Guiu X. Detection of somatic mutations in peritoneal lavages and plasma of endometrial cancer patients: A proof-of-concept study. *Int J Cancer*. 2020 Jul 1;147(1):277-284. PMID: 31953839. Q1 IF 5,145

Castelblanco E, Sanjurjo L, Barranco-Altirriba M, Falguera M, Hernández M, Soldevila B, Sarrias MR, Franch-Nadal J, Arroyo JA, Fernandez-Real JM, Alonso N, Mauricio D. The Circulating Fatty Acid Transporter Soluble CD36 Is Not Associated with Carotid Atherosclerosis in Subjects with Type 1 and Type 2 Diabetes Mellitus. *J Clin Med*. 2020 Jun 2;9(6):1700. PMID: 32498389. Q1 IF 3,303,

Merichal M, Tur J, Melé J, Olsina JJ. Acute abdomen with hemoperitoneum: A rare manifestation of gastric volvulus. PMID: 31079839. *Cir Esp (Engl Ed)*. 2020 Mar;98(3):160. Q3 1,323

Falguera M, Vilanova MB, Alcubierre N, Granado-Casas M, Marsal JR, Miró N, Cebrian C, Molló À, Franch-Nadal J, Mata-Cases M, Castelblanco E, Mauricio D. Prevalence of pre-diabetes and undiagnosed diabetes in the Mollerussa prospective observational

cohort study in a semi-rural area of Catalonia. PMID: 31964673. *BMJ Open*. 2020 Jan 20;10(1):e033332. Q2 IF 2,496








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