



2024

Annual report

*Biomedical Research
Institute of Lleida*





Presentation

I am pleased to present the 2024 Annual Report of the Institute of Biomedical Research of Lleida (IRBLleida), a reflection of a year marked by outstanding scientific achievements and high-impact research. This report highlights the remarkable contributions of our 36 research groups, whose pioneering work is supported by state-of-the-art facilities and a committed team of technical and administrative professionals.

As we look back on another year of progress, we extend our sincere gratitude to the various committees that provide essential guidance, especially the internal and external Scientific Committees, whose insights have been instrumental in our continued growth.

IRBLleida's scientific output remains on an upward trajectory, with 66% of our 2024 publications appearing in first-quartile journals, an impressive rise from 60% in 2023. Our research groups also secured 46 grants this year, up from 41 in 2023, underscoring our steadfast dedication to advancing biomedical research.

We are also proud to share that IRBLleida has made significant strides in 2024, including a major update and expansion of our intramural research program, the successful hosting of the ISCIII platforms' annual event at La Llotja, and the achievement of ISO 9001 certification. Additionally, we have begun developing the foundational structure for cross-disciplinary programs that will shape the future of scientific research at IRBLleida and across the region.

In 2024, we celebrated IRBLleida's 20th anniversary with a series of events that engaged the community and highlighted our achievements over the past two decades. These celebrations included public lectures, scientific exhibitions, and community outreach programs, all aimed at showcasing the impact of our research on society. As we look forward to the future, we look forward to continuing our journey of excellence in biomedical research for another 20 years and beyond. Our commitment to scientific progress and improved health outcomes remains as strong as ever, and we invite everyone to join us in this endeavor.





Main achievements



632

Total staff



540

Researchers



36

Research groups



110

Principal investigators



46

New competitive projects



325

Scientific publications



1.937

Total IF



5,96

Medium IF



68%

Scientific production Q1



71

New clinical studies



348K

Fundraising (€)



10,8M

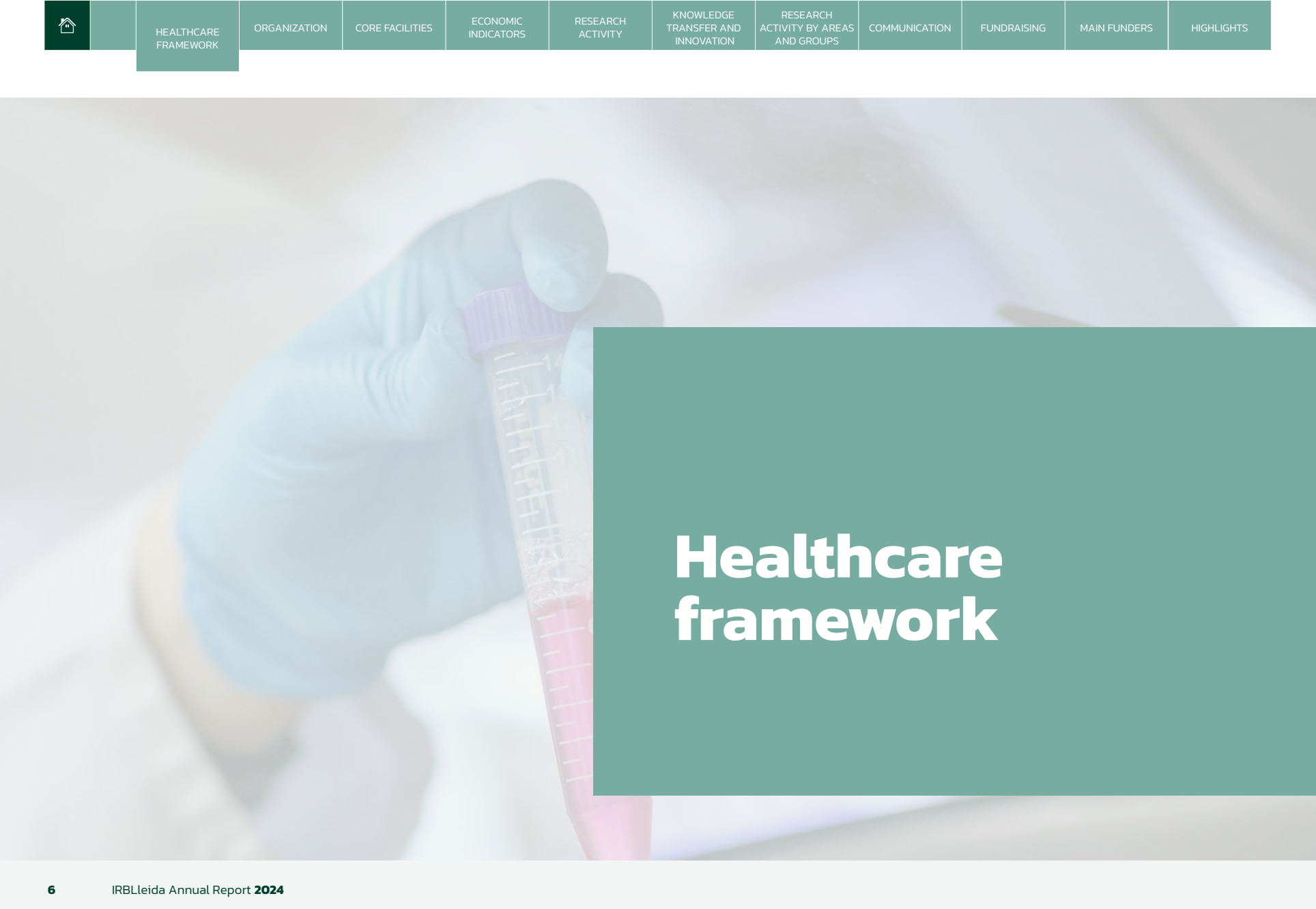
Budget (€)

Main figures are for 2024.



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Healthcare framework



Lleida Health Campus: UdL, HUAV and HUSM

The Institute for Research in Biomedicine of Lleida (IRBLleida) has been a pioneering institution in biomedical research and innovation since 2004. With a multidisciplinary team of over 600 professionals, we work in key areas such as oncology, neuroscience, cardiology and endocrinology, among others. We foster collaboration with national and international institutions to share knowledge and state-of-the-art technologies. In addition, we are committed to the training of early-career researchers and constant innovation in biomedicine. Our goal is to understand the fundamental mechanisms of human pathologies and to generate discoveries that advance health and improve quality of life.

IRBLleida serves as the hub for all biomedical research carried out in Lleida and incorporates two key stakeholders that conduct health research and implement innovation policies:

- The **University of Lleida (UdL)** includes researchers from the Faculties of Medicine, Nursing, and Physiotherapy.
- The **Department of Health**, which includes research professionals from its health care providers:
 - » Catalan Health Institute (ICS): Arnau de Vilanova University Hospital (HUAV), the Lleida Primary Health Care and Community and the Alt Pirineu-Aran Primary Health 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 **AgriFood Science and Technology Park and Agrotecnio**, the research centre for agriculture, animal production and food technology at the **ETSEA campus of the University of Lleida**.



IRBLleida, Institute for Research in Biomedicine of Lleida

In collaboration with:



UdL, University of Lleida



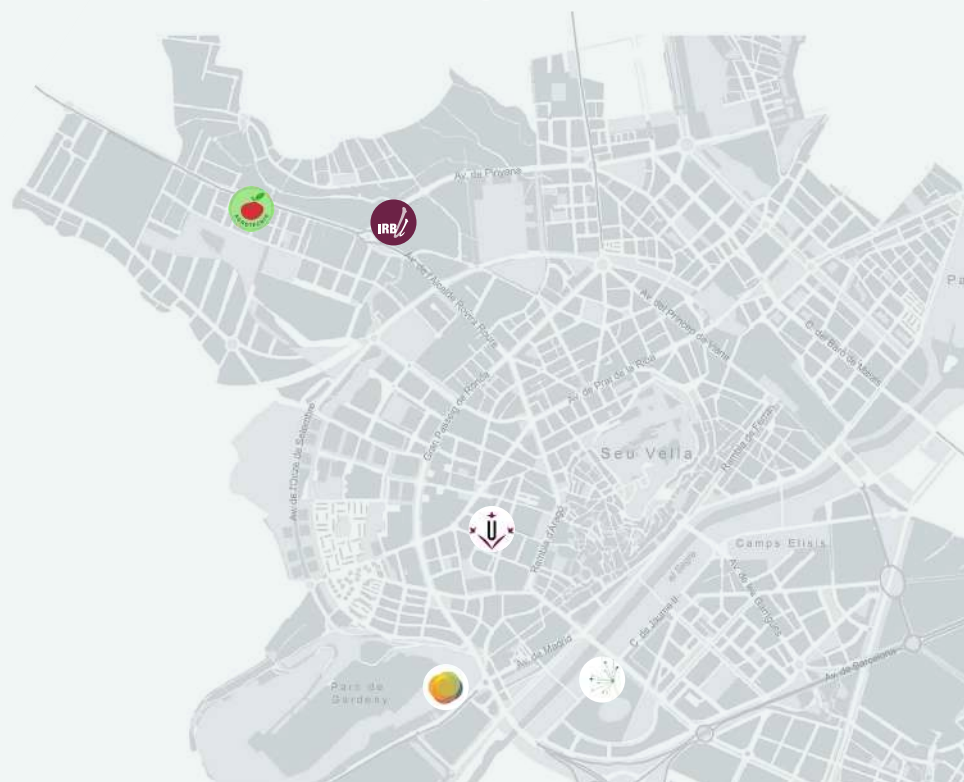
Agrotecnio, Research Centre in Agrotechnology



Inspires, Polytechnic Institute for Innovation and Sustainability Research



Agrobitech Lleida Park



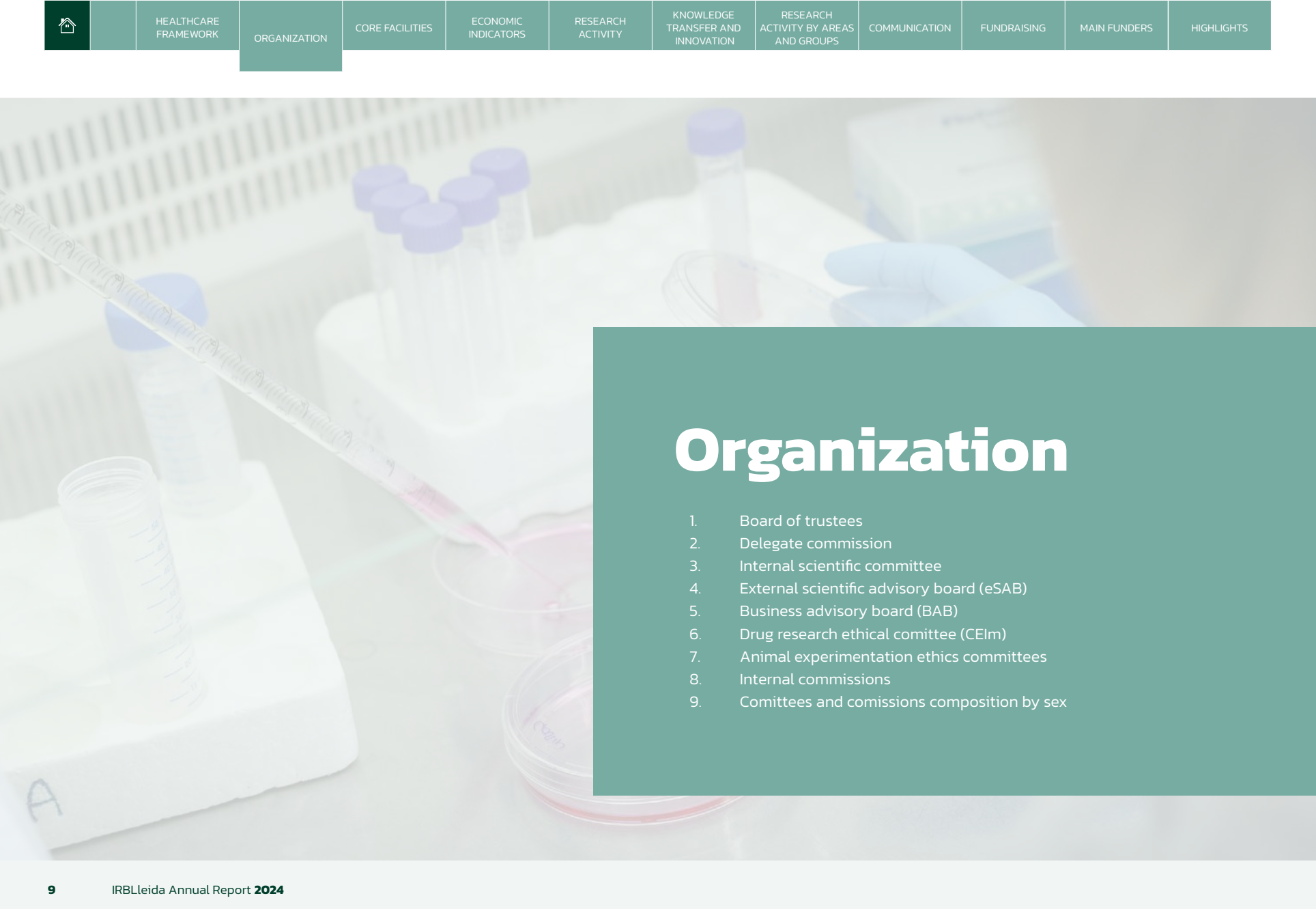
Lleida Health Region

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 ‘La Franja’, the Pyrenees and even the Terres de l’Ebre, position Lleida as a regional hub that extends beyond its administrative boundaries (home to approximately 370,000 people), addressing a broad spectrum of regional needs. In terms of teaching, IRBLleida receives support from the Health Sciences area of the University of Lleida offering degrees in Medicine, Nursing, Physiotherapy, and Human Nutrition and Dietetics. UdL lecturers and IRBLleida researchers also contribute to the Biotechnology degree programme. Since September 2009, the bachelor’s degree in Biomedicine has been taught in coordination with the University of Marburg, an international pioneer in this academic field. 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 for conducting research using porcine models.

Healthcare activity in data

2024	HUAV	HUSM
Outpatient consultations	433.958	157.895
– Face-to-face visits	331.609	128.360
– Telemedicine	102.349	29.535
Day hospital sessions	43.749	9.826
Discharges	27.993	8.068 + 5.776 socio-health care + 1.356 mental-health care
Total beds	451	98 + 30 socio-health care + 64 mental-health care



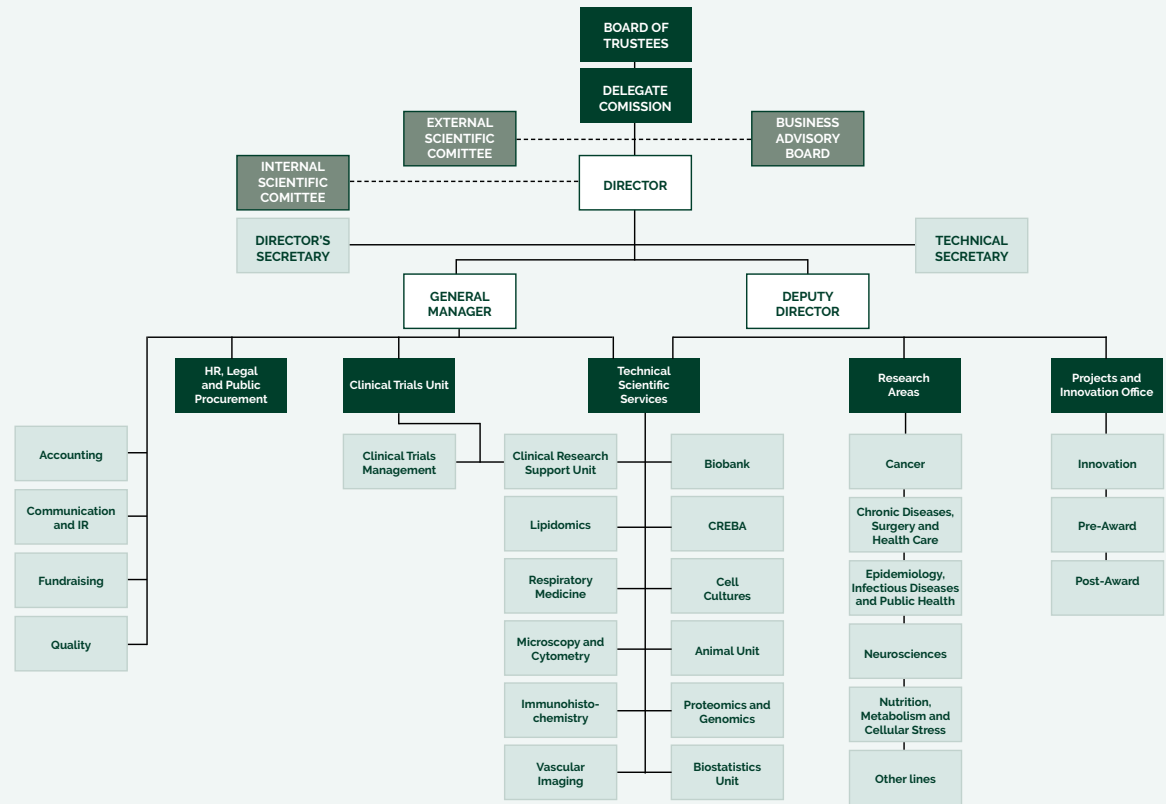


Organization

1. Board of trustees
2. Delegate commission
3. Internal scientific committee
4. External scientific advisory board (eSAB)
5. Business advisory board (BAB)
6. Drug research ethical committee (CEIm)
7. Animal experimentation ethics committees
8. Internal commissions
9. Committees and commissions composition by sex

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

- Governing: board of trustees and its delegate commission.
- Advisory: the internal scientific committee (ISC), External Scientific Advisory Board (eSAB) and Business Advisory Board (BAB).
- Executive and Management Bodies.



SCIENTIFIC DIRECTION

Director

Dr. Diego Arango del Corro

Deputy Director

Dr. Joan Sayós Ortega

General Manager

Ms. Eva López Truco

Executive assistant

Ms. Naiara Vilagínés Joven

Technical secretary

Mr. Oriol Gasa Falcon

IRBLLEIDA MANAGEMENT OFFICE

Human resources, financial and clinical trials

Ms. Silvia Aresté Grau

Ms. Anna Fernández Ruiz

Ms. Elena Moscatel Mendelsohn

Ms. Núria Minguell Queralt

Ms. Noelia Pérez Marsol

Ms. Sara Palau Camarero

Ms. Anna Sahuquillo Bergua / Ms. Melani Gramún Perera

Dr. Alicia Sánchez de la Torre

Ms. Silvia Sisó Ibarz / Mr. Albert Dalmases París

Ms. Georgina Tortras Guivernau / Mr. Manel Gabernet Sagra

Reception and concierge

Mr. Fernando Tortras Pastor

Projects and Innovation Department (project promotion and management, scientific production, valorisation and transfer)

Ms. Mònica Arango Usuga

Dr. Núria Bahi Pla

Ms. Júlia Barbagli Díaz / Ms. Paloma Buj Dourin

Dr. Joaquín Bonelli Blasco

Ms. Anna Castelló Pérez

Ms. Maite Falcó Mascaró

Ms. Irene Rosell Mena

Ms. Anna Verdugo Oliver

Fundraising

Mr. Josep M. Bosch Pons

Communication and public engagement

Ms. Meritxell Soria Yenez

Core facilities coordination

Dr. Maria Ruiz Miró

1. Board of trustees

Governance, representation, and executive management at IRBLleida is entrusted to the board of trustees, which holds all necessary powers to fulfill its foundational mission. Its composition in 2024 was as follows:

PRESIDENT

Dr. Manel Balcells i Díaz / Dr. Olga Pané Mena
Counselor of the Department of Health of the Generalitat of Catalonia

FIRST VICE-PRESIDENT

Dr. Joaquim Nadal i Farreras / Dr. Núria Montserrat Pulido
Counselor of the Department of Research and Universities of the Generalitat of Catalonia

SECOND VICE-PRESIDENT

Dr. Jaume Puy Llorens
Rector of the University of Lleida

MEMBERS

Ms. Laia Arnal Arasa / Dr. Javier Selva Sánchez
Director general of Knowledge Transfer and Society in the Research and Universities Department of the Generalitat of Catalonia

Dr. Ferran Barbé Illa
Professor of medicine at the University of Lleida/Chief of the pneumology department at Hospital Universitari Arnau de Vilanova

Dr. Joan Gómez Pallarès
Director general of research of the Department of Business and Knowledge of the Generalitat of Catalonia

Ms. Montserrat Llavayol Giralte
General deputy director of health research of the Health Department of the Generalitat of Catalonia

Dr. Olga Martín Belloso
Vice-chancellor of research at the University of Lleida

Mr. Raul Llevot Pérez / Dr. Rosa Maria Perez Perez
General manager of the Lleida Health Region

Mr. Francisco Javier Massó Pérez
Deputy Director General for Research in the Research and Universities Department of the Generalitat of Catalonia

Ms. Ana Maria Plaza Tesías
Director general for health planning of the Generalitat of Catalonia

Dr. Joaquim Ros Salvador
Professor of Biochemistry and Molecular Biology, University of Lleida

Dr. Lluís Rovira Pato / Dr. Laia Pellejà i Puxeu
Director CERCA

Mr. Ramon Saladrígues Solé
General manager of the University of Lleida

Dr. Alfons Segarra Medrano
Territorial general manager of the Catalan Institute of Health in Lleida

Mr. Joan Talarn i Gilabert
President of the Diputació de Lleida

Dr. Pilar Vaqué Castilla
Director of primary health care of the Catalan Health Institute in Lleida

Last meeting: 04/12/2024

2. Delegated commission

The board of trustees appoints a delegated commission from among its members. Its functions include implementing the resolutions adopted by the board of trustees, the periodic monitoring of the management activities and of the agreements and conventions signed by the foundation, and proposing to the board of trustees the adoption of relevant resolutions within its remit, among other responsibilities.

Mrs. Montserrat Llavayol i Giralt

Deputy Director General for Health Research, Department of Health, Generalitat of Catalonia

Dr. Joan Gómez Pallarès

General director of research of the Department of Business and Knowledge of the Generalitat of Catalonia

Dr. Laia Pellejà i Puxeu

Director CERCA

Mr. Ramon Saladrígues Solé

Managing Director, University of Lleida

Dr. Olga Martín Belloso

Vice-Rector for Research, University of Lleida

Dr. Alfons Segarra Medrano

Territorial Director of the Catalan Health Institute of Health in Lleida

Last meeting: 26/11/2024

3. Internal scientific committee

The internal scientific committee serves as IRBLleida’s advisory body for its strategic and operational lines, which serves to promote and coordinate its scientific activity. The members of the internal scientific committee in 2024 were:

PRESIDENT

Dr. Diego Arango del Corro

Scientific director

MEMBERS

Dr. Marcelino Bermúdez López

Principal investigator, Vascular and renal translational research group

Dr. Ana Garcerá Teruel

Principal investigator, Neuronal Signalling Unit

Dr. Eloi Garí Marsol

Coordinator of the Cancer research area

Dr. Mariona Jové Font

Principal investigator, Physiopathology group

Ms. Eva López Truco

General manager

Dr. Anna Macià Armengol

Principal investigator, Oncological Pathology group

Dr. Rosa Maria Martí Laborda

Principal investigator, Oncological Pathology group

Dr. Manel Portero Otín

Principal investigator, Physiopathology group

Dr. Francesc Purroy García

Chair of the Training Committee

Dr. Joaquim Ros Salvador

Coordinator of the Nutrition, metabolism and cellular stress research area

Dr. Esther Rubinat Arnaldo

Principal investigator, Health care research group (GReCS)

Dr. Antonieta Salud Salvia

Principal investigator, Cancer biomarker research group (GReBiC)

Dr. Joan Sayós Ortega

Deputy director

Dr. Juan Antonio Schoenenberger Arnaiz

Principal investigator, Pharmacoepidemiology and Pharmacodynamics group

Dr. Anabel Sorolla Bardají

Principal Investigator, Biomarkers in cancer research group (GReBiC)

Dr. Albert Sorribas Tello

Principal Investigator, Systems Biology and Statistical Methods for Research Group

Dr. José Manuel Valdivielso Revilla

Chair of the Training Committee and coordinator of the research area Chronic diseases, surgery and cures in health and training

Dr. Oriol Yuguero Torres

Coordinator of the Epidemiology, Infectious Diseases and Public Health research area

Last meeting: 18/11/2024

4. External Scientific Advisory Board (eSAB)

The External Scientific Advisory Board (eSAB) is made up of several members of recognized scientific expertise and acts as an advisory body to the board of trustees in the tasks entrusted to it in order to ensure the scientific quality of IRBLleida and to advise the Scientific Director in carrying out their duties.

The members of the External Scientific Advisory Board in 2024 were:

PRESIDENT

Dr. Mariano Rodríguez Portillo

Nephrologist, Professor of Nephrology, Queen Sofia Hospital (Córdoba), Coordinator of Teaching and Research, Group Leader, IP Maimonides Cordoba Biomedical Research Institute (until September 2024)

MEMBERS

Dr. Ángeles Almeida Parra

PharmD. Deputy Scientific 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. Antonio Andreu Periz

Scientific Director, EATRIS-ERIC

Dr. Ernest Arenas

PhD in Neuroscience, Karolinska Institutet (KI), Department of Medical, Biochemistry and Biophysics (MBB). Research focused on stem cells in the treatment of Parkinson's disease (until September 2024)

Dr. John Mariadason

Professor of the School of Cancer Medicine, La Trobe University (Honorary); Professor in the Department of Medicine, University of Melbourne, Austin Health (Honorary); head of the Division of Cancer Biology and Therapy, Olivia Newton-John Cancer Research Institute; head of the Oncogenic Transcription Laboratory, Olivia Newton-John Cancer Research Institute; director of Graduate Research, School of Cancer Medicine (ONJCRI), La Trobe University

Dr. Teresa Moreno-Casbas

Senior Nurse Researcher. Nursing and Healthcare Research Unit (Investén-ISCIII), Instituto de Salud Carlos III

Last meeting: 08/11/2024

5. Business Advisory Board (BAB)

The Business Advisory Board (BAB) is a direct advisory body that collaborates closely with the institute’s Board of Trustees and Director team. The BAB is composed of CEOs and general managers of health sector companies dedicated to health data, diagnostics or treatments and institutions related to innovation and economic promotion. Its primary mission is to actively contribute to achieving the Institute’s objectives in the field of Innovation.

The members of the Business Advisory Board in 2024 were:

Dr. Lluís Blanch

President of Btcare and ITEMAS

Mr. Ramon Boixadera

Director of the Economic Promotion Council of the Diputació de Lleida

Ms. Raquel Egea

CEO of Alma Medical

Mr. Antoni Gelonch

Member of the Social Council of the University of Lleida

Mr. Menno Marien

CEO of Bsure Medical

Ms. Marina Rigau

CEO and Co-founder of MiMARK

Ms. Laura Rodríguez

Director of Invivo Capital (Venture capital fund of the Barcelona Medical Association)

Mr. Jaume Saltó

President of the Chamber of Commerce of Lleida and of the company Saltó

Ms. Jessica Vitos Faleato

Senior Manager of Innovation, Grifols

Mr. Sun Yipeng

Director of Europa Infervision

Last meeting: 03/10/2024

6. Drug Research Ethical Committee (CEIm)

The Drug Research Ethical Committee (CEIm) evaluates clinical drug trials in accordance with the provisions of RD1090/2015. The mission of this committee is to contribute to improving the quality and relevance of research projects, clinical trials and observational studies conducted at our institution, with reference to major international bioethical standards.

The members of the CEIm in 2024 were:

PRESIDENT

Dr. Eduard Solé Mir
Paediatrician

VICE-PRESIDENT

Dr. Xavier Gómez Arbonés
Physician

SECRETARY

Ms. Cristina Casas Pi
Biologist

MEMBERS

Ms. Núria Badia Sanmartín
Biologist

Ms. Rocío González Gutierrez
Patients representative

Dr. Juan Antoni Schonenberger (until september 2024)
Primary health care pharmacist

Ms. Maria Teresa Grau Armengol
Nurse

Mr. Josep Maria Gutiérrez Vilaplana
Nurse

Mr. Raül Llevot Pérez
Lawyer

Dr. Robert Montal Roure
Physician

Dr. Marta Ortega Bravo
Primary health care physician

Dr. Gerard Piñol Ripoll
Professor

Dr. Manel Portero Otín
Physician

Dr. Francesc Purroy García
Physician

Dr. Alexis Rodríguez Gallego
Clinical pharmacist

Dr. Ana Scott-Tennent de Rivas (until September 2024)
Physician

Dr. Francisco Ignacio Torres Bondia
Hospital pharmacist

Ms. Marta Vilapriñó Merino
Lawyer

Dr. Oriol Yuguero Torres
Representative of the healthcare ethics committee

Ms. Laura Rumi Carrera (from September 2024)
Primary health care pharmacist

Last meeting: 16/12/2024

7. Animal experimentation ethics committees

The animal experimentation ethics committee (CEEA) of the UdL was created to support researchers and educators in their scientific and teaching activities involving laboratory animal experimentation. Its function is to provide information on the implementation of procedures, prior evaluation of the suitability of procedures in relation to the objectives of the study, the possibility of obtaining valid results using the minimum number of animals and consideration of alternative methodologies.

The members of the UdL CEEA in 2024 were:

PRESIDENT

Dr. Natàlia Alonso Martínez

Vice-rector for Research

SECRETARY

Dr. Carme Piñol Felis

SCT animal welfare advisor – rodent/reptile animal facility – Department of Medicine and Surgery of the UdL

MEMBERS

Dr. Daniel Babot Gaspà

Researcher at ETSEA, Department of Animal Science of the UdL

Dr. Frederic Casals Martí

Researcher at ETSEA, Department of Animal Science of the UdL

Dr. Xavier Gómez Arbonés

Researcher in Medicine at the Department of Medicine and Surgery of the UdL

Dr. José A. Moreno Martínez

Animal welfare advisor ETSEA center – Department of Animal Science of the UdL

Last meeting: 04/12/2024

The CEEA of the Center for Applied Biomedical Experimental Research (CREBA) is the body responsible for overseeing the welfare of animals used in teaching and scientific procedures that involve experimentation using porcine models.

The members of the CREBA CEEA in the year 2024 were:

PRESIDENT

Dr. Dolores C. García Olmo

Veterinarian responsible for animal welfare and health at CREBA

VICE-PRESIDENT

Dr. Serafi Cambray Carner

Associate professor at the University of Lleida

SECRETARY

Dr. Sara Puy López

Veterinarian responsible for animal health at CREBA

MEMBERS

Dr. Marcelino Bermúdez López

Principal investigator at the IRBLleida and associate professor at the University of Lleida

Dr. Ester Desfilis Barceló

Group leader at the IRBLleida and professor at the University of Lleida

Dr. Carme Mias Carballal

General surgeon at the Hospital Universitari Arnau de Vilanova and associate professor at the University of Lleida

Dr. Carlos Alberto Rombola

Chief of Thoracic Surgery Section at the Arnau de Vilanova Hospital of Lleida and associate professor at the University of Lleida

Dr. José Manuel Valdivielso Revilla

Group leader at IRBLleida and associate professor at the University of Lleida

Last meeting: July 2024

8. Internal committees

IRBLleida is structured into different committees to organize its activity.

8.1. Internal scientific evaluation committee

The IRBLleida Internal Scientific Evaluation Commission (hereinafter CIAC), is the permanent evaluation body responsible for supervising the processes of evaluation and prioritization of proposals that are submitted to different calls coordinated both by IRBLleida and by external funding sources.

Functions

- To establish the appropriate evaluation criteria for applications to calls requiring prioritisation and/or selection of internal candidates.
- To evaluate and prioritise received proposals in accordance with the established criteria.
- To establish the terms and conditions for internal calls, which will subsequently be reviewed and, if necessary approved by the Internal Scientific Committee.
- To communicate the results of the assessment to the IRBLleida management.
- To respond to possible complaints and/or allegations related to calls evaluated or prioritised by the CIAC.
- To review and approve proposals submitted to calls from the Carlos III Health Institute (ISCIII).
- To monitor periodically the internal grants that may be required.
- To produce evaluation reports and provide feedback.

Last meeting: 19/12/2024

MEMBERS

President

Dr. Manel Portero Otín

Secretary

Dr. Núria Bahi Pla

Members

Dr. Milica Bozic
 Dr. Núria Eritja Sánchez
 Dr. Helena Fernández Lago
 Dr. Xavier Gallart Palau
 Dr. Montserrat Gea Sánchez
 Dr. David de Gonzalo Calvo
 Dr. Robert Montal Roura
 Dr. José Manuel Valdivielso Revilla
 Dr. Ester Vilaprinyó Terre

 Contact
ciac@irblleida.cat

8.2. Innovation Committee

The Innovation Committee (CI) is a permanent IRBLleida Committee with the mission of advising the institute’s management team and collaborate with the Innovation Unit with the idea to promote an innovative culture on campus.

Main functions of CI are:

- Advise the Management Team on matters such as technology transfer agreements, spin-offs, results protection, etc.
- Collaborate with the Innovation Unit on idea prioritisation, indicator development, project evaluation and monitoring, etc.

Last meeting: 16/10/2024

MEMBERS

President

Dr. Esther Rubinat Arnaldo

Secretary

Ms. Anna Castilló Pérez

Members

Dr. Joaquín Bonelli Blasco
 Dr. Fabien Delaspre
 Dr. David de Gonzalo Calvo
 Dr. Albert Lecube Torelló
 Dr. Manel Portero Otín
 Dr. Joan Sayós Ortega
 Dr. Aida Serra Maqueda
 Dr. José Manuel Valdivielso Revilla
 Dr. Ester Vilaprinýó Terre

 Contact
innovacio@irblleida.cat

8.3. Biosafety commission

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

IRBLleida’s Biosafety Commission is responsible for assessing the biosafety risk of projects initiated at the institution, providing support for training activities for users of tissue culture facilities operating at biosafety level 2 or higher, proposing improvements to procedures or protocols and advising the center’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.
- To carry out a prior assessment of the facilities and activities that require authorisation, before notifying the competent authority, as well as to establish a registry and custody of the legally required documentation.
- To control and ensure that the IRBLleida’s activities and facilities comply with current legal and internal regulations.
- To establish the biosafety procedures to be applied by the IRBLleida Biosafety Commission.
- To issue the certificates that are required in accordance with its competences.
- To propose, when necessary, improvements of facilities and equipment in terms of biosafety.
- To register the reception and packaging of biological agents, GMOs and/or their derivatives classified as Risk Group 2 or higher.
- To review information on biological incidents or accidents and notify the competent authorities of any incident, contamination or any serious accident involving biohazardous materials.
- 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 Commission’s remit.
- To advise and train research teams working in laboratories on aspects related to biosafety.
- To ensure the confidentiality of data and information and information provided to the Commission is guaranteed.
- To guarantee the necessary coordination with the scientific and technical services of the IRBLleida, the Ethics and Animal Experimentation Committee (CEEa) and the Drug Research Ethical Committee (CEIm).
- Any other function attributed to it by law or by the governing bodies of the IRBLleida.

In 2024, the biosafety committee assessed compliance with biosafety regulations of 14 project applications, issuing the corresponding certificates. It also assessed, modified if necessary, and approved 17 application forms to work in the containment room BSL2+ (3.16) during 2024.

Last meeting: 11/12/2024

MEMBERS

President

Dr. Maria Ruiz Miró

Secretary

Dr. Núria Bahi Pla

Biosafety Technician

Dr. Petya Vladeva Vlicheva

Members

Dr. Marcelino Bermúdez López

Dr. Eloi Garí Marsol

Ms. Eva López Truco

Dr. Eva Parisi Capdevila

Dr. Neus Pedraza González

Dr. Carme Piñol Felis

Dr. Alícia Sánchez de la Torre



Contact

comitebioseguretat@irblleida.cat

8.4. Equality commission

The aim of IRBLleida’s Equality commission is to support compliance with current legislation on equality and diversity. All the members of the commission are bound by a confidentiality agreement, as the commission serves as a facilitator in the management of issues related to sex, gender, race, religious beliefs or geographical origin.

Functions

- To guarantee fair selection processes, promoting equal opportunities in staff recruitment, selection and retention.
- To guarantee wage equality.
- To promote staff participation in the development of equal opportunity initiatives.
- To identify and eliminate unconscious biases and stereotypes.
- To raise awareness and provide training on equality and diversity-related issues.
- To promote the non-sexist and non-discriminatory use of language and images.
- To promote work-life balance.
- To implement measures for the prevention, detection and intervention in cases of sexual harassment and harassment based on sex or gender identity.
- To promote the integration of sex and gender perspectives in research contents.
- To provide guidance and support to researchers on integrating a gender perspective into grant applications.
- To monitor and evaluate institutional equality indicators and propose improvement actions.
- To collaborate with national equality networks and initiatives.
- To incorporate the gender perspective into the organisation’s mission, vision and values.

Last meeting: 17/12/2024

MEMBERS

President

Dr. Àgueda Martínez Barriocanal

Secretary

Ms. Elena Moscatel Mendelsohn

Members

Mr. Iván Hidalgo Muñoz
 Mr. Marc Collado Catalán
 Mr. Luís Alejandro Rodríguez Guerrero
 Ms. Anna Castelló Pérez
 Ms. Júlia Barbagli Díaz
 Ms. Anna Fernández Bernal
 Ms. Marta Molinero García
 Mr. Bruno Brotons Morales

 Contact
igualtat@irbllleida.cat

8.5. Quality commission

The Quality commission is the central body for IRBLleida’s quality policy and assumes responsibility for the design, implementation and monitoring of the Quality Plan. It is also the assessment body and advises government bodies on quality policy issues.

Functions

- In relation to the Quality Plan:
 - a) To write the Quality Plan.
 - b) Review and verify annual compliance with the Quality Plan.
 - c) To draft an annual report on the Quality Plan.
- Other functions related to the quality management system:
 - a) To analyse non-conformities and formulate the corresponding corrective and/or preventive actions.
 - b) To propose quality improvement initiatives and objectives.
 - 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.

Last meeting: 16/12/2024

MEMBERS

President

Ms. Eva López Truco

Secretary

Ms. Elena Moscatel Mendelshon

Members

Ms. Silvia Aresté Grau
 Dr. Joaquin Bonelli Blasco
 Mr. Josep M. Bosch Pons
 Mr. Albert Dalmases París
 M. Oriol Gasa Falcon
 Dr. Maria Ruiz Miró
 Dr. Alicia Sánchez de la Torre
 Ms. Meritxell Soria Yenez

 Contact
qualitat@irblleida.cat

8.6. Teaching committee

IRBLleida teaching committee supports the implementation of the Institute’s Training Plan and advises the Directorate on training-related matters.

Functions

- Draft the annual Training Plan for IRBLleida staff linked to the general objectives of the Institute, adapting it to the different job profiles.
- To monitor training activities (attendance register), evaluate quality (surveys) and the system of access to training activities.
- Monitor the expenditure related to training activities.
- To receive and prioritise training proposals in line with the objectives of IRBLleida and its staff.
- To advise and inform the Internal Scientific Committee about training needs and any issues that may arise.
- To prepare an annual report on compliance with the Training Plan.

Last meeting: 03/10/2024

MEMBERS

Presidents

Dr. Francesc Purroy Garcia
Dr. José Manuel Valdivielso Revilla

Secretary

Mr. Oriol Gasa Falcon / Ms. Meritxell Soria Yenez

Members

Dr. Marcelino Bermúdez López
Dr. Silvia Bielsa Martín
Dr. Fabien Delasprie
Dr. Ester Desfilis Barceló
Dr. Ana Garcerà Teruel
Dr. Dolores García Olmo
Dr. David de Gonzalo Calvo
Dr. Alberto Marín Sanguino
Ms. Meritxell Martín Garí
Ms. Elena Moscatel Mendelsohn
Dr. Èlia Obis Monné
Dr. Eva Parisi Capdevila
Ms. Arabela Sanz Alcázar
Dr. Joan Sayós Ortega
Dr. Anabel Sorolla Bardaji
Dr. Oriol Yuguero Torres

 **Contact**
formacio@irbllleida.cat

8.7. Works council

IRBLleida Works council is the representative body of the Institute’s employees. The members of the council are elected through democratic procedures for four-year terms and the number of representatives to be appointed is related to the number of employees contracted by the Institute.

Functions

- Advise and defend of workers’ rights.
- Hold regular meetings with Institute management.
- Negotiate collective or other labor agreements with IRBLleida management.
- Oversee management decisions, actions, and omissions related to labor matters.

Last meeting: 17/12/2024

MEMBERS

President

Ms. Meritxell Martín Garí

Members

Ms. Rosana Abadia Ribeiro
 Dr. Montse Martínez Alonso
 Dr. Eva Parisi Capdevila
 Ms. Sara Puy López
 Ms. Laura Rumi Carrera / Dr. Enric Sánchez Peña
 Ms. Meritxell Soria Yenez
 Dr. M. Alba Sorolla Bardaji
 Dr. Izaskun Urdanibia Ascanio

8.8. Joint commission

The joint commission is composed of the general manager and the executive director of IRBLleida as well as the heads of the departments of Basic Medical Sciences, Medicine and Surgery, and Experimental Medicine of the University of Lleida (UdL).

Functions

- Advise IRBLleida management on departmental matters that may lead to jurisdictional conflicts.
- Manage the allocation and distribution of spaces in the biomedicine buildings.
- Advise on the maintenance and improvement of biomedicine building facilities.
- Advise on the organisation and operation of the biomedicine buildings.
- Manage the repair, maintenance or new acquisition, if necessary, of common equipment of the biomedicine buildings.
- Carry out any additional functions mutually agreed upon that stem from the above.

Last meeting: 12/12/2024

MEMBERS

President

Dr. Diego Arango del Corro

Secretary

Ms. Eva López Truco

Members

Dr. Elisa Cabiscol Catalan
 Dr. Loreta Medina Hernández
 Dr. Carme Piñol Felis
 Dr. Maria Ruiz Miró
 Dr. Joan Sayós Ortega

8.9. Anti-fraud commission

IRBLleida is committed to upholding the highest standards of legal and ethical compliance, adhering to the principles of integrity, objectivity, proportionality and honesty in the performance of its duties. To this end, it promotes a culture that deters fraudulent activity and facilitates its prevention and detection. For this reason, it will adopt all the necessary training and information measures to ensure that all IRBLleida staff also assume this commitment.

Functions

- Conduct periodic assessments of fraud risk, ensuring that there is effective internal control to prevent and detect possible fraud.
- Define and implement measures to prevent, detect, correct and pursue fraud attempts.
- Manage communications and reports of fraud, conflicts of interest or other regulatory breaches.
- Issue recommendations and propose improvements and additional preventive measures in ethical management and the application of the principles of good governance or good administration, based on the verification of the reported facts.

Last meeting: 14/10/2024

MEMBERS

Dr. Joaquin Bonelli Blasco
 Mr. Albert Dalmases París
 Ms. Eva Lopez Truco
 Ms. Elena Moscatel Mendelsohn
 Ms. Sara Palau Camarero
 Ms. Meritxell Soria Yenez
 Dr. Jose Manuel Valdivielso Revilla

8.10. Health and Safety Committee

The Health and Safety Committee is the joint and collegiate participatory body for regular and periodic consultation on the institute’s actions on matters related to occupational risk prevention.

Functions

The responsibilities of the Health and Safety Committees are related to participation in the development, implementation and evaluation of prevention plans and programmes and the promotion of initiatives on methods and procedures to make prevention effective in the organisation.

- The committee shall therefore have the authority to:
- Access direct information on the situation regarding risk prevention in the workplace.
- Review documents and reports and reports relating to working conditions.
- Analyse and assess incidents affecting workers’ health.
- Review and report on the annual prevention programme submitted by the prevention service.

The Health and Safety Committee shall meet at least quarterly, although it may meet more frequently.

Last meeting: 17/12/2024

MEMBERS

3 prevention delegates (workers’ representatives in health and safety matters, elected by and from among the members of the Works Committee)

Dr. M. Alba Sorolla Bardaji
 Dr. Eva Parisi Capdevila
 Ms. Meritxell Soria Yenez

3 representatives of IRBLleida

Ms. Eva López Truco
 Dr. Joan Sayós Ortega
 Ms. Elena Moscatel Mendelsohn

8.11. Patients Commission

IRBLleida promotes the participation of different social actors through the creation of the patient commission with the aim of promoting participatory and co-created research.

Functions

- Familiarise themselves with IRBLleida’s mission, vision, and values, as well as other necessary characteristics (for example, research areas) to fulfil their role on the Patient Commission.
- Attend the training sessions deemed relevant by IRBLleida in the field of biomedical research to fulfil their role on the Patient Commission.
- Participate in the meetings of the IRBLleida Patient Committee, providing information about the real needs and challenges affecting the patients they represent.
- Provide their perspective in calls/meetings when requested by IRBLleida research staff in order to co-create in all phases of the research process.
- Respond to inquiries about citizen participation raised by research groups and the IRBLleida Management.
- Explore collaboration opportunities to develop research and innovation projects aimed at addressing these unmet needs or supporting related sponsorship initiatives.

Last Meeting: 27/11/2024

MEMBERS

Presidency

Ms. Marisa Pon

Members

Ms. Maria Bonjorn Joval
 Mr. Juan Carles Baiges
 Ms. Fabiola Pérez Gómez
 Mr. Antonio Clariana
 Ms. Dolors Falcó
 Ms. Mònica Ferrer Plana
 Ms. Rocío González
 Mr. Ignacio Gracia
 Ms. Montse Iglesias
 Mr. Sisco Maranges Granja
 Ms. M. Carme Oró
 Ms. Rosa Sol

IRBLleida members

Ms. Anna Castelló Pérez
 Ms. Meritxell Soria Yenez

9. Committees and commissions composition by sex

Total Number

Men
Women

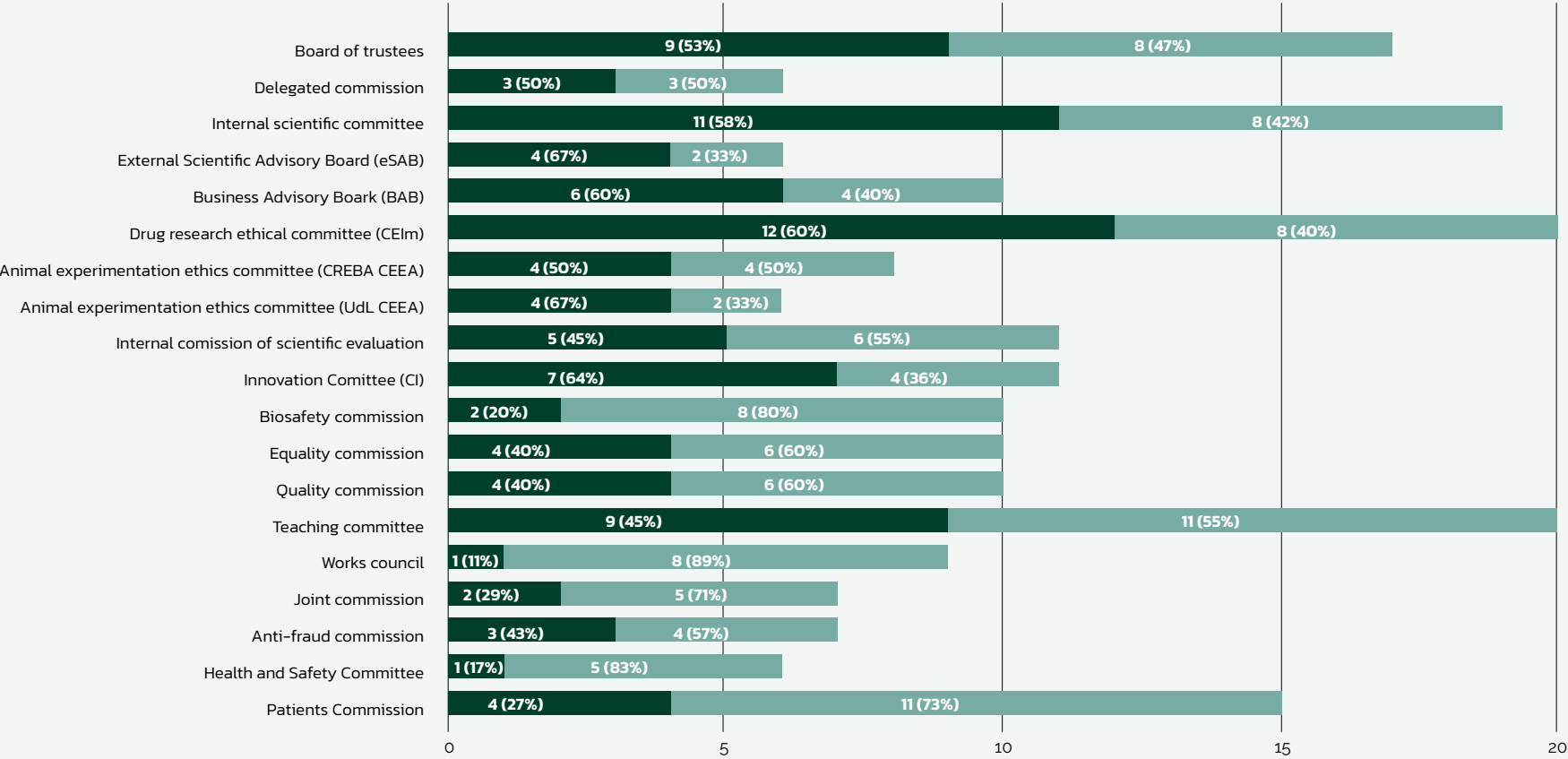


Figure 1. Total number 2024 of men and women in committees and commissions.



Core facilities

1. Biobank core
2. Biostatistics core
3. Clinical Research Support Unit (USIC)
4. Immunohistochemistry core
5. Lipidomics (PLICAT)
6. Microscopy and Cytometry core
7. Respiratory medicine and chronic pathologies core
8. Animal housing facility
9. Cell culture Core
10. Proteomics and genomics core
11. Vascular imaging core – UDETMA
12. Bioinformatics and Computational Biology (BIO2COMP)
13. Centre for Applied Biomedical Experimental Research (CREBA)

1. Biobank core

The IRBLleida Biobank is the unit responsible for managing research samples and associated data. This management includes all the processes of reception, processing, preservation, and distribution of biological samples to the scientific community, ensuring quality and traceability at all times, in compliance with current legislation. This scientific-technical service was established to support biomedical research in both the Lleida regional health system and the University of Lleida. The biological samples kept at the Biobank come mainly from the *Arnau de Vilanova University Hospital and the University Hospital of Santa Maria de Lleida*.

In 2013, the biobank was authorized by the Department of Health and is registered in the National Register of Biobanks of the Carlos III Health Institute under reference B.0000682. Since 2012, the Biobank has been certified by the ISO 9001 standard and the scope of application of the Biobank's quality management system covers all the following activities: reception, processing, storage and dispatch of biological samples from donors for biomedical research. It is also part of the *Xarxa Catalana de Bancs de Tumors (XBTC)* and the *Plataforma ISCIII Biobancos y Biomodelos*. This national platform is organized into four specific hubs: Biobanks, Animal Models, 3D Printing and Organoids; and aims to make the maximum number of biological samples and their associated data available to the scientific community.

A service catalogue has been developed within the Animal Models Hub. Any customer can find out, by registering in advance, the map of animal model services available. Among these are the animal models present at IRBLleida (they can be consulted in the list). The platform recently became an observer member of one of Europe's leading biobank infrastructures, the European Biobank Infrastructure. (BBMRI-ERIC).

The Biobank currently stores over 380.000 samples from some 29.000 patients. These are tissue samples frozen in OCT or liquid nitrogen, paraffin, blood samples, serum, plasma, urine, CSF, pleural fluid, among others.

Collections

- Oncological diseases (breast cancer, colon, rectum, endometrium, ovary, kidney, liver, pancreas, thyroid, lung, etc.).
- Neoplastic diseases of the pleura
- Neurological diseases (stroke, Alzheimer's disease)
- Respiratory diseases (obstructive sleep apnoea, SARS-CoV2)
- Metabolic diseases (diabetes and morbid obesity)
- Inflammatory bowel disease (celiac disease)
- Cardiovascular diseases ('Bus de la Salut').

The Biobank is also participating in a prospective, multicenter international project aimed at understanding the molecular and genetic bases of cancer.

The Biobank makes available to the scientific community a large number of samples (those corresponding to oncological diseases can be consulted in the search engine). There has been a consistent year-on-year increase in the number of samples provided to both internal IRBLleida researchers and national and international researchers.

It is also affiliated with the Clinical Research Ethics Committee of the *Hospital Universitari Arnau de Vilanova*.

Collaborators



Head of service

Dr. Xavier Matias-Guiu

Service coordinator

Dr. Maria Ruiz

Service Members

Ms. Sara Serrano

Dr. Irene Pociño

Mr. Enric Pouso-Vázquez

Ms. Nayhara Pérez

Ms. Ingrid Prats

KPI

- Users: **26**
- Services: **110**
- Processed samples: **3,091**
- Publications Acknowledgement: **15**
- Training activities: **25**
- Consultations: **97**

2. Biostatistics core

Statistical methods are essential for designing studies, analyzing data and interpreting results. The Biostatistics Core has the ultimate goal of generating knowledge that contributes to improving health by working with researchers to transform their data into actionable insights. To achieve this goal, the Biostatistics Unit offers methodological guidance on study design and data analysis of studies by the research groups at IRBLleida and external organizations. It participates in improving the processes of data collection, validation and integration for the research groups at IRBLleida, and actively participates in Biostatistics networks in Spain and abroad. It also organizes and participates in training courses in statistics and research methodology at IRBLleida and other institutions.

Mission

Our mission is to provide every biomedical researcher with outstanding statistical designs and methods, including the proper and efficient application and interpretation of standard and advanced statistical methods..

Vision

Our vision is to reach more biomedical researchers and maximize both service quality and user satisfaction as part of our commitment to continuous improvement.

Values

Our values are ethics, excellence, professional responsibility, transparency, innovation, rigour, integrity, knowledge sharing, social commitment and environmental responsibility.



Core facility coordinator

Dr. Montserrat Martínez

KPI

- Users: **56**
- Services: **79 (new: 65 of them: consultations: 20)**
- Training activities: **2**
- New users: **28**

3. Clinical Research Support Unit (USIC)

The Clinical Research Support Unit (*USIC*) at IRBLLeida is located on the ground floor of the Biomedicine II building at IRBLLeida.

The SCT USIC constitutes a research **support** infrastructure whose purpose is to provide researchers with the necessary **resources**, both material and human, for the execution of clinical trials and other research projects from their initial stage and start-up to their completion, guaranteeing the **quality** of the service at all times and the compliance with the principles of Good Clinical Practice guidelines.

For this purpose, it has a team of multidisciplinary professionals with experience in the comprehensive management of clinical studies and an infrastructure equipped with clinical research support facilities:

- Fully equipped medical offices.
- Reception and waiting room for participants and family members.
- Laboratory equipped with all the necessary equipment for processing biological samples.
- Pharmacy for clinical trials.
- Room for ambient medication storage with restricted access and controlled temperature.
- Refrigeration equipment room with monitored alarm systems and centralized temperature control.
- Stores for consumables and materials.
- Meeting area available for monitoring clinical trials and/or external audits.
- Archive of active clinical trials.
- External archive for the custody of documentation in accordance with current regulations.
- Offices for clinical trial coordination.

Since 2023, the Unit has been part of the **Clinical Research Support Platform** of the Instituto de Salud Carlos III (ISCIII), which has enabled it to become one of the member units of the **SCReN Platform** (*Spanish Clinical Research Network*), coordinated and promoted by the ISCIII.

Since November 2024, the SCT USIC has been certified under the ISO 9001:2015 standard, demonstrating its commitment to excellence, integrity, and scientific rigor, positioning itself as a benchmark in the management and development of high-quality clinical trials.

Services

The main objective of the SCT USIC is to support the clinical research groups of IRBLLeida, Arnau de Vilanova University Hospital and Santa Maria University Hospital, in the promotion and development of quality clinical research, providing either comprehensive or partial technical and methodological support for the project. To achieve this objective, the unit has a portfolio of services adapted to each study based on the needs of the researchers.

Methodological support

- Design and drafting of all the necessary/essential documentation for the study (Protocol, Case Report Form (CRF), Informed Consent Form, etc.)
- Design and management of electronic CRF (REDCap)

Monitoring

- Preparation of monitoring plan adapted to risk evaluation
- Monitoring in all centers participating in multicentric studies
- Preparation, development and elaboration of site visit reports
- Database revision and source documents verification
- Preparation and management of site files: investigator, promoter, pharmacy



Scientific coordinator

Dr. Albert Lecube Torello

Core facility coordinator

Dr. Alicia Sánchez de la Torre

Staff

Ms. Aida Moroba Estor – *Lab technician*

Ms. Alba García Ribas – *Clinical trial assistant and Clinical trial monitor*

Ms. Anna Sahuquillo Bergua – *Clinical trial assistant and Clinical trial monitor*

Ms. Mònica Baldrich Mora – *Study nurse*

Ms. Núria Figuera Segarra – *Study nurse*

Dr. Petya Vladeva Valcheva – *Study coordinator*

Ms. Sara Vidal Puig – *Study coordinator*

KPI

- Clinical areas: **13**
- Clinical studies: **35**
- Training activities:
 - Good Clinical Practice Certificate
 - Certificate IATA for Infectious Substances Transport
 - Clinical Trial Assistants Training
 - Defibrillator & CPR First Aid Training
 - Training clinical Trials Information System (CTIS)

Data management

- Data record in source documents and CRF
- Queries management
- Recording and updating of study information at different platforms

Administrative management / Regulation

- Management of participating sites contracts
- Management of requests, clarifications, amendments and notifications to CEIm and regulatory agencies
- Civil liability insurance policy request

Coordination and Nursery

- Participate in site and researchers team selection
- Participate in study feasibility evaluation
- Analysis of the circuits and technical needs, space and personnel of each clinical trial
- Conducting meetings with investigators
- Facilitate communication between medical services and external stakeholders involved in the study
- Maintenance of necessary site files: researcher, promoter, pharmacy
- Facilitate the process of recruitment and obtaining the informed consent
- Oversight and management of nursing procedures and complementary tests
- Coordination of visits and follow-up controls
- Comprehensive patient care support
- Pharmacovigilance: management of adverse events
- Management of possible audits
- Custody of clinical trial documentation
- Contact with monitors and preparation of documentation for external monitoring

Laboratory technician

- Processing of biological samples and management of their shipment to the central laboratory

4. Immunohistochemistry and Histology core

The Core Facility provides support for the processing of:

- Paraffin-embedded human and animal tissues
- Frozen tissues
- Cytological samples
- In vitro cell cultures

Services

- Preparation of paraffin and frozen blocks
- Microtomy
- Routine histological staining (Hematoxylin-Eosin)
- Special stains (Histochemistry)
- Immunohistochemistry for protein detection in human, pig, dog, cat, and mouse tissues using concentrated or pre-diluted antibodies.
- Construction of Tissue Micro Arrays (TMA Grand Master, 3D HISTECH).
- Double immunohistochemical staining for the simultaneous detection of two proteins in the same tissue section..
- Immunofluorescence techniques.
- Digital slide scanning (Pannoramic® 250 Flash III, 3D HISTECH) and analysis of immunohistochemical images using the Quant module software (3D HISTECH).
- In situ hybridization using FISH (Fluorescent In Situ Hybridization) or CISH (Chromogenic In Situ Hybridization).
- Optical microscopy.
- Quality control procedures.



Head of Service

Dr. Xavier Matias-Guiu

Service coordinator

Dr. Maria Santacana

Service Members

Ms. Maria Carrelé

Collaborating staff

Dr. Sònia Gatus

Dr. Judit Pallarés

KPI

- Users: **36**
- Services: **25**
- Collaboration in research projects:
 - Internal: **18**
 - External: **7**
- Number of blocks performed: **1,473**
- Number of IHQ Stainings performed: **3,215**
- Number of tissue sections performed (microtomy): **5,080**
- Number of TMAs performed: **2**
- Number of used blocks for research (human samples):
 - Internal: **694**
 - External: **1,592**
- Number of new tested antibodies: **50**
- Number of scanned slides: **1,728**

5. Lipidomics (PLICAT)

The Lipidomics Platform in Catalonia (PLICAT) is a reference center for the analysis of lipids in biological samples. The platform has been consolidated from the previous Metabolomics and Lipidomics service from IRBLleida.

Instrumentation for metabolomics and lipidomics applications.

- 1 mass spectrometer system with orbital ion trap Orbitrap Exploris 240® with UPLC Vanquish from Thermo Fisher Scientific coupled with TriVersa NanoMate® ion source platform from Advion;
- 2 mass spectrometers QTOF (models 6545 and 6420) from Agilent Technologies;
- 4 mass spectrometers QQQ (models 6420, 6465 Ultivo, and 6495); coupled with UPLC model 1290 from Agilent Technologies;
- 2 mass spectrometers single Q (5977B and 5973A models) coupled to gas chromatographs (Intuvo 9000 and HP6890 models);
- 1 gas chromatography system (model 7890A) with FID detector.

Bioinformatics software and high-capacity data storage server.

- MassHunter Data Acquisition, Qualitative Analysis, Quantitative Analysis, Mass Profiler, LipidAnnotator and Profinder from Agilent Technologies.
- Compound discoverer and Lipid Search from Thermo Fisher Scientific.
- QNAP NAS Server 16 bays.

It has databases with its own metabolite libraries and 500 commercial metabolite standards, as well as all types of accessory equipment for sample storage and processing: freezers, homogenizers, syndicators, incubators, agitators, centrifuges, vacuum dryers, and nitrogen evaporators. The services offered can be agreed with the researchers according to their needs. The most common services offered include:

Services

- Experimental design and advice for sampling
- Sample processing with standardized protocols and quality controls at every step
- Lipid profile analysis with GC-FID and GC-MS; Non-targeted and targeted lipidomic and metabolomic analysis with LC-MS type QTOF and QQQ; shotgun lipidomics by Nanomate-Orbitrap®
- Data processing, bioinformatics and statistical analysis
- Lipid identification, access to reference lipid databases and interpretation of results

Collaborators

IRBLleida has the support and co-financing of the European Regional Development Fund (FEDER) of the European Union, and Departament de Recerca i Universitats de la Generalitat de Catalunya, to develop and consolidate the Lipidomic Platform of Catalonia (PLICAT) – IU16-015805.



Core facility coordinator

Dr. Èlia Obis

Staff

Ms. Meritxell Martín

Mr. Arnau Oronich

KPI

- Users: **23**
- Services: **23**
- Processed samples: **2,140**
- Publications Acknowledgements: **11**
- Training activities: **5**
- New services: **4**



6. Microscopy and Cytometry core

Flow Cytometry Unit

Flow cytometry is a technology that enables the analysis of several parameters from a heterogeneous particle suspension, usually of cells. These cells can be stained either with fluorescent antibodies, which recognize a protein or antigen (on the cell membrane or intracellular), or fluorescent probes (for example, to detect reactive oxygen species) in order to detect them one by one. With this method we can gain information on the different cell populations depending on their fluorescence. The Flow Cytometry Service provides IRBLleida researchers with flow cytometry equipment and also offers technical expertise for experimental design, data analysis and training. We also participate in scientific dissemination and the promotion of IRBLleida's research.

Location

- The Flow Cytometry Unit is located in Lab. 4.14 in the 4th Floor of Biomedicine 2 Building

Equipment in the Flow Cytometry Unit

- Becton Dickinson FACS Canto-II digital analyzer cytometer with three lasers 4-2-2 configuration and to analyze up to eight different colours. The cytometer is equipped with a computer to control the operation and comes installed with FACS Diva v. 6.1.3 analysis software.
- Beckman Coulter Cytoflex SRT cell sorter in a class II biosafety cabinet with sample temperature control. It can detect up to 15 parameters and it is able to sort 4 different populations in tubes, well plates or slides.
- Automac Pro (Miltenyi Biotec) magnetic cell separator in a cabin class II biosafety.
- Analysis software: Modfit LT, FCAP Array (CBA experiments from BD), FlowLogic and Cytobank.

Services

- Consultancy (experimental design or data analysis)
- Sample acquisition with operator or autoservice.
- Training

Microscopy Unit

Managed by the University of Lleida, currently, has the following microscopes and other equipment:

Location

- The Microscopy Unit is located in the B -1.1 and B -1.5 Lab located in the Biomedicine I Building basement.

Equipment in the Microscopy Unit

- 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 in vivo and time-lapse experiments, as it has a cabin with CO2 and temperature control.
- Olympus FV10i confocal desktop microscope (10x and 60x objectives (oil))
- Leica SPE confocal microscope (10x, 20x, 40x oil, 63x 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.
- NIKON ECLIPSE Ti2 AX R MP with NSPARC confocal microscope with 7 laser lines: 405nm, 445nm, 488nm, 514nm, 561nm, 640nm and 730nm. It has 4x, 10x, 25x (silicone), 60x (oil) and 100x (oil) objectives. The AX R MP is equipped with a high-speed resonant scanner with 2K resolution and can capture in a single scan dynamics that span a wide area with superior spatial and temporal resolution. The NSPARC super-resolution detector utilizes a newly developed SPPC array detector to collect a



FLOW CYTOMETRY UNIT

Head of Service

Dr. Conchi Mora Giral

Service Coordinator

Dr. Anaïs Panosa Borràs

Service Members

Judith Gracia Bolívar

FLOW CYTOMETRY UNIT - KPI

- Users: **36**
- Publications Acknowledgements: **1**
- Training activities: **2**

MICROSCOPY UNIT

Head of Service

Dr. Jordi Calderó Pardo

Service Coordinator

Dr. Anaïs Panosa Borràs

Service Members

Lluna Gaba Moragues

MICROSCOPY UNIT - KPI

- Users: **55**
- Publications Acknowledgements: **1**
- Training activities: **4** different science divulgation activities to High School students and Researcher's Night

two-dimensional image at each scanned point, achieving a significant improvement in resolution.

- Leica CM1950 and Leica CM3050S cryostats with automatic cutting
- Leica RM2235 microtome
- Vibratome Leica VT 1000S
- Leica Ultramicrotome EM UC6
- Transmission electron microscope Jeol JEM1400 Flash (120kV)

Services

- Consultancy (experimental design or data analysis)
- Sample preparation for electron microscopy.
- Training

7. Respiratory medicine and chronic pathologies core

The Scientific and Technical Service of Respiratory Medicine and Chronic Pathologies Core provides specialized support for the performance of respiratory function tests and specialized monitoring and follow-up activities in the field of respiratory medicine and chronic pathologies.

The service has access to specific technical equipment such as respiratory polygraphs, actigraphy, ambulatory blood pressure monitoring (ABPM) devices and spirometry, among others, for the provision of the services offered.



Scientific coordinator

Dr. Ferran Barbé Illa

Core facility coordinator

Dr. David de Gonzalo

Staff

Ms. Esther Gràcia

Ms. Lola Martínez

Ms. Anna Moncusí

Dr. Adriano Targa

8. Animal housing facility

Animal models are essential for the advancement of biomedical research. The purpose of this facility is to produce and maintain the animals (rodents) required for the different research projects carried out by scientists in our center. The animal facilities occupy an area of 1,200 m2 distributed in two floors, and have the capacity to house approximately 40,000 rodents. The facility includes 3 experimental areas that allow animal housing and research in different biosafety and microbiological conditions: 1) a barrier area operating under Specific Pathogen Free (SPF) conditions; 2) a conventional area operating under clean conditions; and 3) a quarantine for animals with unsuitable or undefined microbiological profiles. These experimental areas contain 12 animal housing and husbandry rooms (5 in the SPF barrier, 6 in the conventional area and 1 in the quarantine area) and 9 fully-equipped laboratories/surgery rooms (4 in the SPF barrier and 5 in the conventional area). The facility also has 2 technical areas (sterilization/management of materials and a warehouse). Importantly, all the research projects carried out in this animal facility are supervised, evaluated and approved by the Ethics Committee for Animal Research and Welfare.

Some of the services provided by the Animal Housing Facility are:

- Breeding of different species and strains of rodents (mouse and rat) for teaching and research.
- Advice on the importation of special models from authorized external suppliers and other research centres.
- Facilities 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 the care, handling, and anesthesia of animals.
- 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.



Scientific coordinator

Dr. Carme Piñol

Appointed veterinarian

Dr. José Antonio Moreno

Staff

Mr. Albert Ardèvol

Mr. Marc Collado

Ms. Leticia Fabre

Ms. Núria Moix

Ms. Jéssica Pairada

9. Cell culture core

The Cell Culture Facility (SCT-CC) at the University of Lleida (UdL) supports research by providing the necessary infrastructure and personnel for researchers to conduct experiments with animal cell cultures under appropriate aseptic and biosafety conditions. This service is available to the scientific community of the UdL, the Biomedical Research Institute of Lleida (IRBLleida), and other public or private institutions.

The SCT-CC is located in the IRBLleida building and includes six Biosafety Level 2 (BSL-2) laboratories specifically designed for working with animal cell cultures. The facility also includes a dissection room and a cryopreservation area for cell storage. The laboratories are equipped with incubators, laminar flow hoods, Class IIA biosafety cabinets, centrifuges, phase-contrast microscopes, fluorescence microscopes, stereomicroscopes, a fluorescence stereomicroscope, thermostatic baths, and a hypoxia chamber, among other equipment.

The SCT-CC laboratories are certified by the Ministry of Agriculture, Fisheries and Food as an accredited facility for working with genetically modified organisms (GMOs) at Biosafety Level 2, including the use of lentiviral vectors.

The SCT-CC staff is responsible for maintaining the facility and its equipment, ensuring the preservation and custody of cell lines, training users, and enforcing safety protocols in the use of animal cell cultures.



Core facility coordinator

Dr. Neus Pedraza

Service Technician

Ms. Imma Montoliu

- Users: **155**
- Internal users: **32**
- External users: **1**
- Research groups: **34**

10. Proteomics and genomics core

This service offers technology for the study of genes, gene expression, and the 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 essential tools for current basic and clinical research in the field of cellular and molecular biology. This core facility is managed by the UdL.

The services provided include:

Genomic studies

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

Proteomic studies

- Quantification of proteins by Western Blot
- Protein expression studies using antibody microarrays
- Differential proteomics or expression proteomics based on two-dimensional gels
- Determination of the molecular mass of proteins / peptides by MALDI-TOF/TOF mass spectrometry
- Identification of proteins using mass spectrometry: MALDI-TOF peptide mass fingerprinting (PMF)



Scientific coordinators

Dr. Eloi Garí
Dr. Joaquim Ros

Core facility coordinator

Ms. Isabel Sánchez

11. Vascular imaging core – UDETMA

This core provides support for the diagnosis of subclinical or asymptomatic atheromatosis, specific, validated, and non-invasive techniques and instruments in populations with cardiovascular risk factors.

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: seeing individually the health of the arteries and the impact of risk on them.
3. Calculate the vascular age and whether 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 burden (total plaque area, number of affected territories).
6. Training on diagnostic techniques for atheromatous disease for health professionals (technicians, nurses, doctors...).
7. Provide expert advice in the field of atherothrombotic disease to IRBLleida researchers and external researchers.
8. Support research, innovation and transfer of knowledge.
9. Build clinical, analytical, image and biobank databases of all the populations studied, and make them available to different research groups (internal and external).

During 2023, the core participated in a clinical trial investigating the vascular benefits of black garlic: “Supplementation with nutraceuticals derived from black garlic for blood pressure control: a double-blind, randomized, placebo-controlled study. (Endogarlic)” (sponsor: Pharmactive, S.L.).



Scientific coordinator

Dr. Jose Manuel Valdivielso

Staff

Ms. Alicia Garcia

12. Bioinformatics and Computational Biology (BIO2COMP)

This core offers training, consultancy and analysis services in bioinformatics and computational biology.

Services

1. In Bioinformatics

Training and consultancy

- Consultancy services for researchers in planning bioinformatics activities in the application for project funding and in the planning of their experiments with a view to an adequate subsequent bioinformatics treatment.
- Personalised and group training in bioinformatics and mathematical modelling.
- Advice and support to users of bioinformatics tools and methods.

Standard analysis

- De novo assembly and annotation of prokaryotic genomes.
- Reference genome variant analysis in prokaryotes and eukaryotes.
- Gene expression analysis (Microarray & RNAseq) for identification of differentially expressed genes.
- Analysis and optimisation of expression of biological sequences (use of most frequent codons).
- Modelling and prediction of protein structures.
- Data visualization in biological network maps.

Specialised analysis

- Qualitative and quantitative analysis of results of omics experiments.
- Data analysis.
- Other non-standard projects.

2. In Computational Biology

Training and consultancy

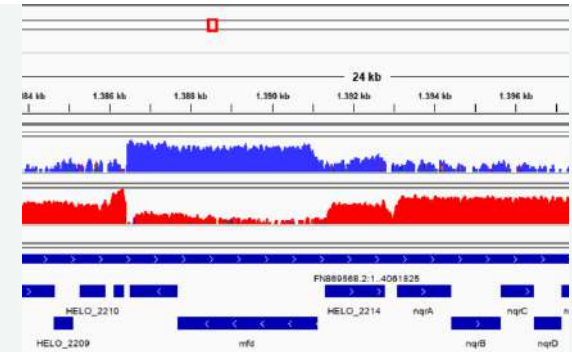
- Consultancy services to researchers for the approach of computational biology activities in the application for project funding and in the planning of their experiments with a view to an adequate subsequent bioinformatics treatment.
- Personalised and group training in computational biology methods.
- Advice and support to users in the use of mathematical modelling software in biology, biomedicine and biotechnology.

Specialised analyses

- Creation of “digital twins” of biological processes for analysis and optimisation.
- Compartmental modelling.
- Sensitivity analysis and evaluation of ‘what if...’ scenarios. (in silico experiments).

Equipment

- 2 Servers, each with 2 Intel Xeon processors (24 compute nodes) at 2.0 GHz, 124 GB RAM, for intensive calculations.
- 4 HP Z series workstations, with Intel Xeon processors and 8 computation nodes.
- 3 HP high-performance PCs.



Scientific coordinator

Dr. Rui Carlos Vaqueiro de Castro Alves

Staff

Dr. Alberto Marin Sanguino

Dr. Albert Sorribas Tello

Dr. Ester Vilaprinyó Terre

13. Centre for Applied Biomedical Experimental Research (CREBA)

CREBA (Centre for Applied and Experimental Biomedical Research) is a leading research and training centre focused on biomedicine. Promoted by the Diputació de Lleida and the IRBLleida, the CREBA project arose from the need for high-level facilities for translational research and continuous training for healthcare professionals.

Within its facilities, our centre offers conference and simulation rooms, experimental operating theatres with advanced technological equipment, specifically designed to maximise the learning experience of open and laparoscopic surgical techniques and other interventional skills, as well as the performance of high quality scientific-technical research, with the highest ethical standards. CREBA has a swine animal facility and a staff specialised in this species to provide support to teachers and researchers.

Facilities

- Facilities for housing and handling of pigs.
- Three operating rooms equipped with 3D laparoscopic technology, indocyanine green detection, and other surgical techniques
- Surgical training room with five fully equipped tables
- Full equipment for conventional surgery, endoscopic surgery and interventional radiology
- Simulation room with devices for learning laparoscopic surgery
- Laboratory for the preservation and handling of biological samples
- Teaching room connected to a videoconferencing system (capacity: 30 people)
- Meeting room (capacity: 10 people)

www.creballeida.org
 Twitter: @creballeida
 Instagram: @creba_lleida
 LinkedIn: Company/creba



Scientific coordinators

Dr. Jorge J. Olsina
 Dr. Rafael Villalobos Mori

Core facility coordinator

Dr. Dolores C. García Olmo

Staff

Ms. Sara Castañé
 Ms. Teresa Escoda
 Ms. Marta Farré
 Ms. Sílvia López Bellón
 Dr. Sara Puy
 Dr. Adrián Arruego Garijo
 Ms. Alba Aguilà
 Ms. Leire Soteras

KPI

- Research projects: **4**
- Training activities: **22**
- Trainees: **443**
- Activities with schools and social groups: **14**

CREBA activities

Continuing education courses for health professionals:

- Number: **22 (international: 5; Spain: 11; Catalonia: 6)**
- Specialities involved: general surgery, thoracic surgery, gynaecology, urology, radiology, traumatology, neurosurgery, digestive system, nephrology and veterinary medicine.
- Total professionals attending: **443**

Scientific outreach activities with schoolchildren:

- Visits and workshops: **14**
- Total number of schoolchildren participating: **276**
- Origin of schoolchildren: Lleida, Mollerussa, Borges Blanques, Tèrmes, Torrelameu, Vallfogona de Balaguer.

Collaboration with health and biomedical institutions:

- Companies: **45**
- Foundations: **3**
- Scientific Societies: **3**
- Universities: **2**



HEALTHCARE
FRAMEWORK

ORGANIZATION

CORE FACILITIES

ECONOMIC
INDICATORS

RESEARCH
ACTIVITY

KNOWLEDGE
TRANSFER AND
INNOVATION

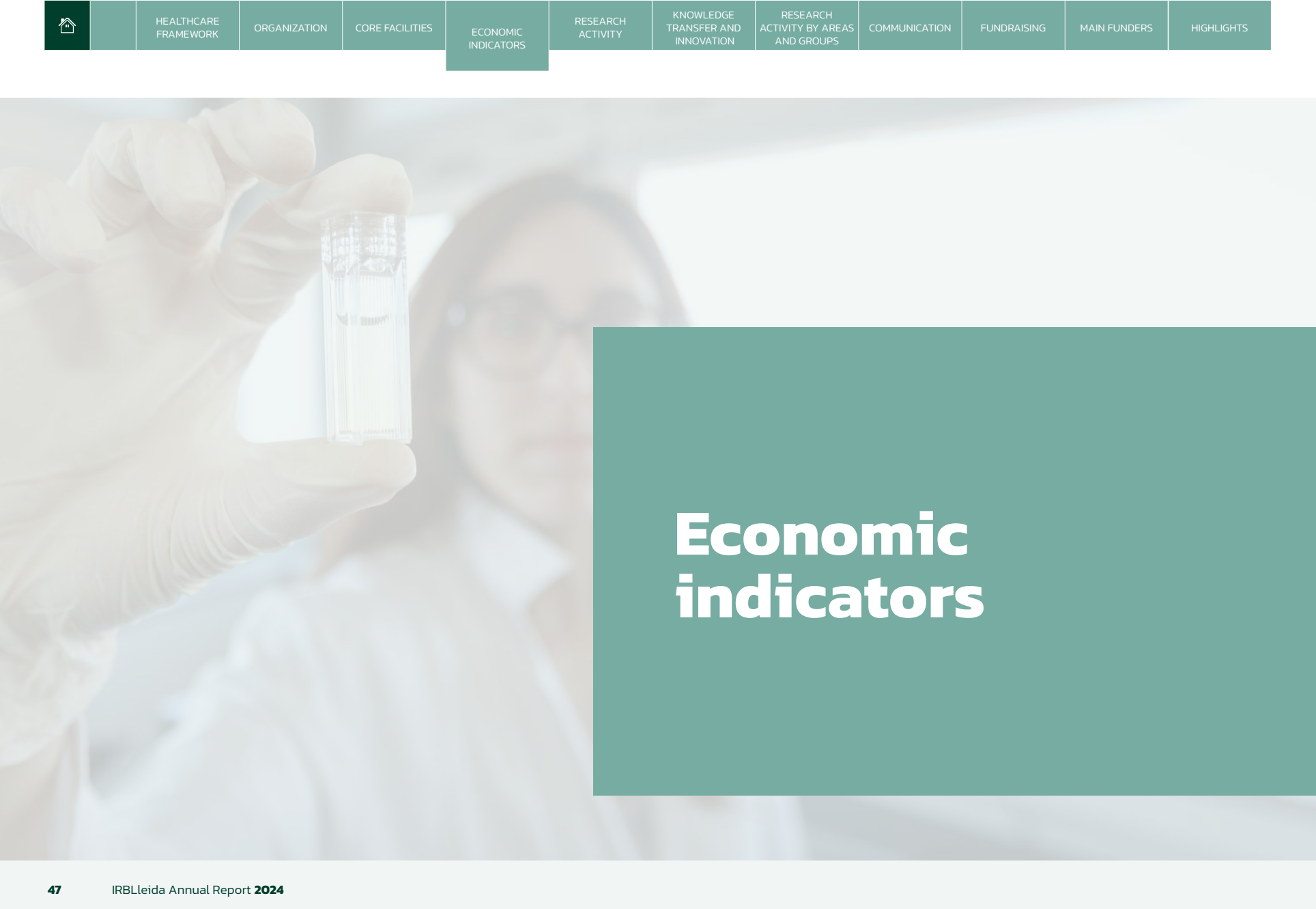
RESEARCH
ACTIVITY BY AREAS
AND GROUPS

COMMUNICATION

FUNDRAISING

MAIN FUNDERS

HIGHLIGHTS



Economic indicators

Revenues and Expenses

	2020	2021	2022	2023	2024
Revenues	5.865.169,73	6.496.569,20	7.373.773,92	8.745.571,29	10.507.937,11
Expenses	-5.887.399,67	-6.578.826,75	7.415.044,02	8.774.979,46	10.625.757,60
Total	-22.229,94	-82.257,55	-41.270,10	-29.408,17	-117.820,49

Table 1. The following table summarizes the institute’s expenses and income as reported in its income statement.

Detailed revenues

	Trustee Transfers	Clinical Trials and other Invoices	Other Invoices	Grants	Donations	Total
2020	700.262,18	1.465.576,34	863.231,26	2.351.665,32	484.434,63	5.865.169,73
2021	840.386,50	2.050.826,29	961.431,77	2.395.703,93	248.220,71	6.496.569,20
2022	1.006.321,93	2.094.155,39	965.835,13	2.999.034,20	308.427,27	7.373.773,92
2023	1.383.908,61	1.984.613,37	1.171.907,02	3.948.591,70	256.550,59	8.745.571,29
2024	869.670,16	3.158.767,77	1.511.980,87	4.565.612,58	401.905,73	10.507.937,11

Table 2. The following table shows information on the income obtained by the institute, with sources grouped by origin: trustee transfers, clinical trials and other invoices, grants, and donations.

Revenues from Indirect Costs

	Trustees Transfers	Clinical Trials and other Invoices	Other Invoices	Grants	Donations	Total
2020	0	231.402,62	97.827,13	210.969,51	44.956,46	585.155,72
2021	0	375.736,68	120.063,42	269.991,84	29.030,72	794.822,66
2022	0	387.603,94	113.170,91	254.944,17	32.176,79	787.895,81
2023	0	360.884,44	127.274,24	399.899,19	29.834,74	917.892,61
2024	0	572.220,14	141.370,70	619.350,13	37.559,40	1.370.500,37

Table 3. The following table shows information on the income obtained by the institute from indirect costs, with sources grouped by origin: trustee transfers, clinical trials and other invoices, grants, and donations.

Balance Sheet

	2020	2021	2022	2023	2024
A) NON-CURRENT ASSETS	886.042	799.525	1.814.060	2.473.134	2.918.421
I. Intangible assets	31.247	74.182	41.588	16.863	69.057
Tangible fixed assets	854.795	725.343	1.772.472	1.909.998	2.195.401
Long-term financial investments	NA	NA	NA	546.272	653.963
B) CURRENT ASSETS	15.203.742	17.726.290	20.558.073	21.839.124	22.347.350
II. Stocks	NA	11.183	14.534	NA	NA
III. Users, sponsors and debtors of the activities and other accounts receivable	7.518.681	8.276.136	7.068.929	7.668.983	8.256.629
IV. Short-term financial investments	1.900.000	1.900.000	1.900.000	6.500.000	7.500.000
VI. Cash and other equivalent liquid assets	5.785.060	7.538.971	11.574.610	7.670.141	6.590.720
TOTAL ASSETS	16.089.784	18.525.816	22.372.133	24.312.259	25.265.771
A) NET EQUITY	2.950.523	3.072.226	10.366.886	10.986.467	13.066.950
A-1) OWN FUNDS	1.404.395	1.322.138	1.280.868	1.251.460	1.133.639
I. Endowment funds or social funds	18.030	18.030	18.030	18.030	18.030
III. Surpluses from previous years	1.408.595	1.386.365	1.304.108	1.262.837	1.233.429
V. Surplus for the year (positive or negative)	-22.229	-82.257	-41.270	-29.408	-117.820
A-2) GRANTS, DONATIONS AND LEGACY RECEIVED	1.546.128	1.750.087	9.086.018	9.735.007	11.933.310
B) NON-CURRENT LIABILITIES	1.991.066	2.202.595	1.174.461	888.449	693.149
II. Long term debts	1.991.066	2.202.595	1.174.461	888.449	693.149
C) CURRENT LIABILITIES	11.148.194	13.250.995	10.830.786	12.437.342	11.505.672
I. Short-term provisions	5.129.432	5.840.468	0	0	0
II. Short term debts	5.725.499	6.901.766	10.501.974	11.941.130	11.102.769
IV. Creditors for activities and other accounts payable	293.262	508.759	328.812	496.211	402.903
TOTAL NET EQUITY AND LIABILITIES	16.089.784	18.525.816	22.372.133	24.312.259	25.265.771

Table 4. The following table provides information on the institute's assets and liabilities, which are included in its balance sheet.



Research activity

IRBLleida staff

IRBLleida comprises 632 professionals, of which 540 are personnel devoted to research. The re-search staff are distributed in the following profiles: RN Clinical Research –No PhD; Clinical Research (R1), Recognised Researcher (R2), Established Researcher (R3) and Leading Researcher (R4). The sup-port staff are distributed in: Support office, Reserach technician and core facilities support (SCT).

Distribution by researcher categories

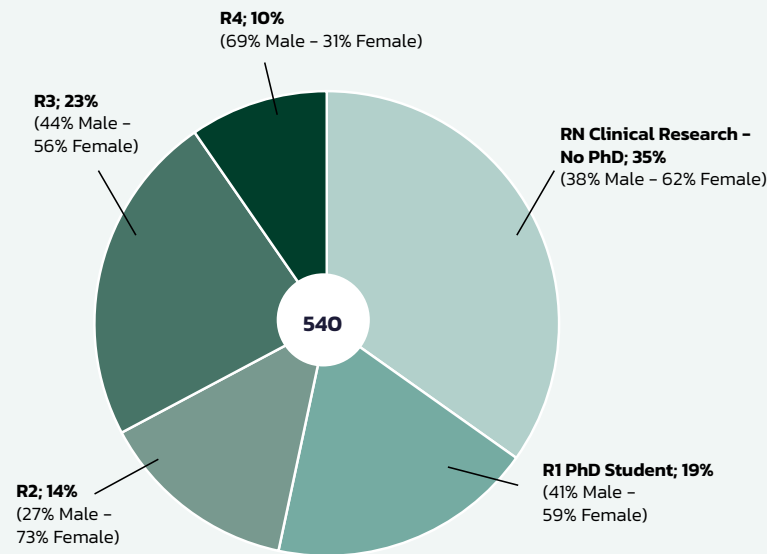


Figure 2. Classification of researchers by categories.

	Male	Female	Total
Support office	7	18	25
Research technician	10	25	35
SCTs	6	26	32
Grand Total	23	69	92

Table 5. Classification of support staff by categories.

Distribution by affiliation

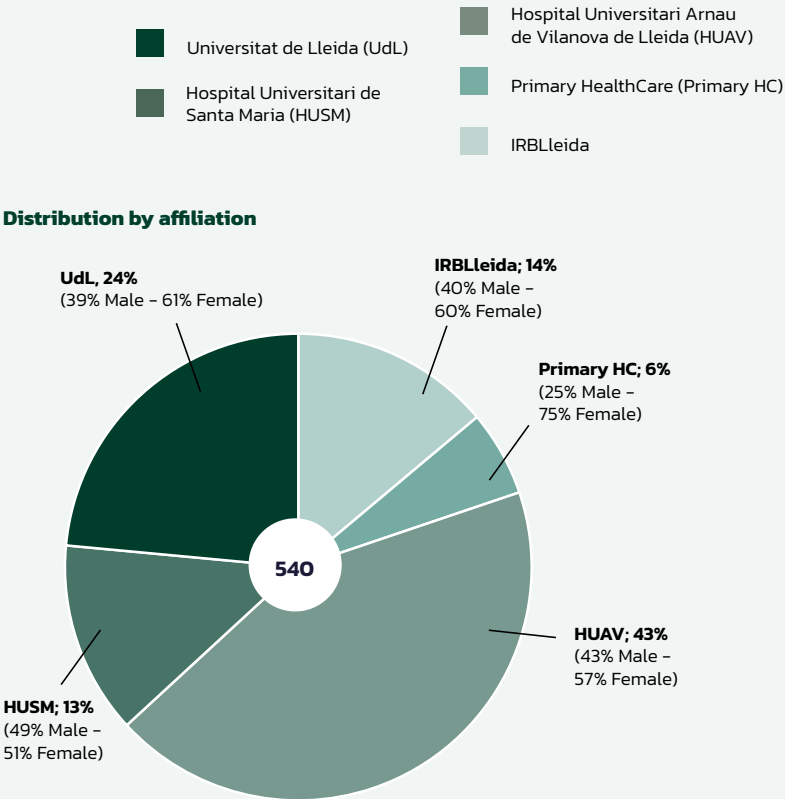


Figure 3. Classification of researchers by employers.

Global data on scientific production

In 2024, IRBLleida researchers produced a total of 325 scientific publications, of which 292 are original publications, 27 were review articles, and 6 were letters.

Publication by quartile

	Publications	Average IF	IF Cumulative
Articles	292	5,87	1.713
Reviews	27	7,33	198
Letters	6	4,32	26
Total	325	5,96	1.937

Table 6. Scientific production 2024. Number of publications and accumulated impact factor (IF), according to the 2023 Journal Citation Report.

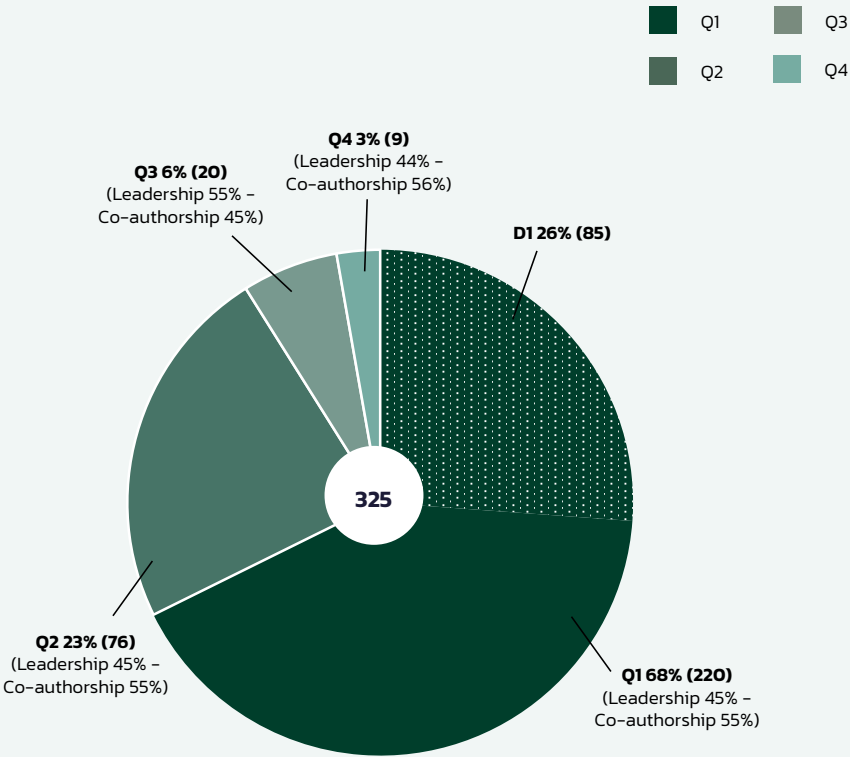


Figure 4. Scientific production for 2024 by specialty quartiles. Percentage of publications per quartile (Q), total number of publications are in brackets. For each quartil leadership and co-authorship is indicated in percentatge.

Historical data on quartile publications



Figure 5. Total number of publications as well as the number and percentage of publications by decile/quartile. The Q1 category shown in the graph represents only the non-D1 Q1 publications. Therefore, the total number of publications in the first quartile would correspond to the sum of the categories Q1+D1 that appear in the graph.

In 2024, the number of publications slightly increased compared to 2023, while the cumulative impact factor experienced a modest decline. Figures 10 and 11 illustrate the trends in scientific output over the past five years, showing the number of publications as well as the average and cumulative impact factors (JCR).

Publications and citations historical series

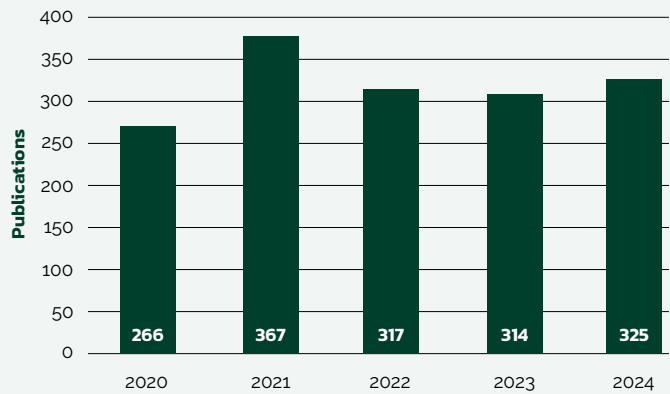


Figure 6. Total number of publications in the last 5 years.

Impact factor historical series

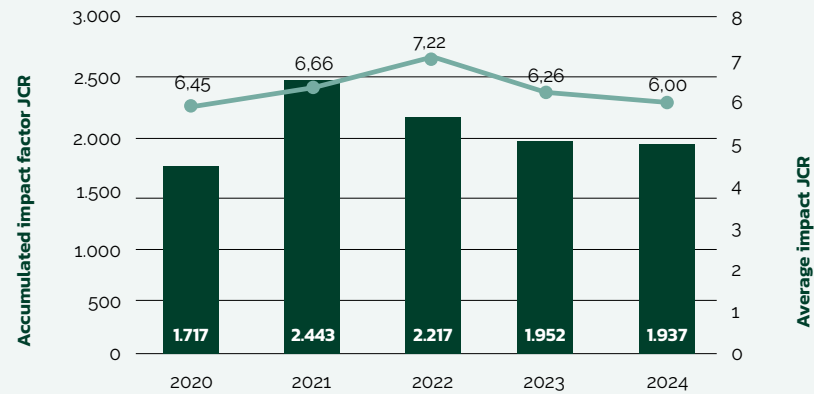


Figure 7. Evolution of the accumulated Impact Factor (IF) (bars) and average (blue line). The 2024 FI has been calculated according to the 2023 Journal Citation Report.

In 2024 45% of publications were led by IRBLleida researchers (Fig. 8), understanding leadership as the first and/or last author or corresponding. The remaining 55% correspond to publications in which IRBLleida researchers participate in the research team. 37% of publications involved in inter-national collaboration (Fig. 9).

Publication Leadership

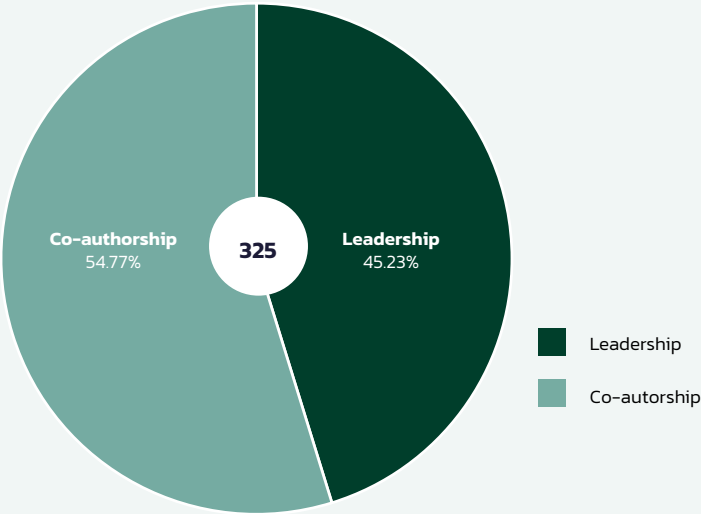


Figure 8. Distribution of 2024 publications according to IRBLleida research leadership.

Publication Collaborations

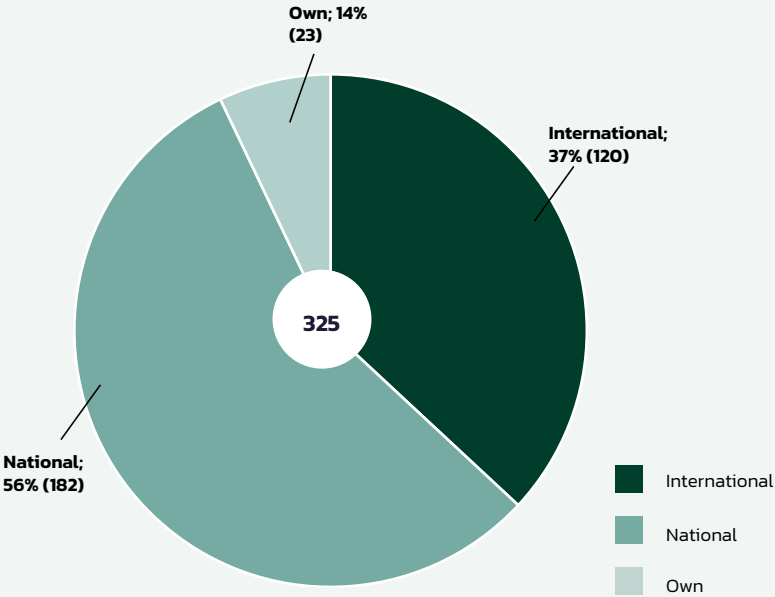


Figure 9. Distribution of 2024 publications by type of collaboration. Collaboration is classified as international, national, or internal (if all authors are affiliated with IRBLleida). For each group, leadership and co-authorship are indicated as percentages.

Scientific production by areas

Research areas	Number of publications	Total IF	Average IF	Q1 publications	D1 publications
Cancer	69	510,80	7,40	54 (78%)	19 (28%)
Chronic diseases, surgery and health care	134	932,98	6,96	117 (87%)	43 (32%)
Epidemiology, infectious diseases and public health	55	200,10	3,64	34 (62%)	10 (18%)
Neurosciences	55	378,71	6,89	33 (60%)	16 (29%)
Nutrition, metabolism and cellular stress	34	223,80	6,58	27 (79%)	12 (35%)
Other research lines	24	128,00	5,33	17 (71%)	7 (29%)

Table 7. Publications, IF, quartile and decile of IRBLleida areas in 2024.

Scientific production by group

Group	Total Publications	Total IF	Average IF	Q1 Publications	D1 Publications
Cancer					
Cell Cycle	7	43,00	6,14	6 (86%)	2 (29%)
Cellular Signaling by Calcium	2	15,00	7,50	2 (100%)	1 (50%)
Developmental And Oncogenic Signalling	5	37,30	7,46	5 (100%)	1 (20%)
Drosophila disease models and (epi) genetic analysis	6	28,00	4,67	4 (67%)	2 (33%)
Molecular Oncology	1	4,60	4,60	1 (100%)	0 (0%)
Oncological Pathology	24	234,60	9,78	17 (71%)	6 (25%)
Research Group of Cancer Biomarkers	29	148,30	5,11	19 (66%)	7 (24%)
Chronic diseases, surgery, and health care					
Cardiac Physiology and Pathology	23	138,10	6,00	17 (74%)	7 (30%)
Clinical & Experimental Surgery group (CESurG)	10	50,20	5,02	6 (60%)	3 (30%)
Digestive Diseases Research Group – DdRG	13	61,70	4,75	11 (85%)	2 (15%)
Immunology and Metabolism Research Group	17	77,10	4,54	11 (65%)	2 (12%)
Precision Medicine in Chronic Diseases group	13	88,30	6,79	10 (77%)	6 (46%)
Research group of health care (GRECS)	30	203,30	6,78	19 (63%)	6 (20%)
Translational Research in Respiratory Medicine	38	254,68	6,70	32 (84%)	17 (45%)
Vascular and Renal Translational Research Group	15	59,60	3,97	11 (73%)	0 (0%)
Epidemiology, infectious diseases and public health					
Applied Epidemiology	16	61,70	3,86	13 (81%)	1 (6%)
ERLab, research in emergency medicine	4	8,90	2,23	1 (25%)	0 (0%)

Scientific production by group

Group	Total Publications	Total IF	Average IF	Q1 Publications	D1 Publications
Health Education, Nursing, Sustainability and Innovation Research Group (GREISI)	7	21,50	3,07	6 (86%)	5 (71%)
Indicators and specifications of the quality in the clinical laboratory	2	6,20	3,10	1 (50%)	0 (0%)
Intensive Medicine	10	51,50	5,15	6 (60%)	3 (30%)
Multidisciplinary Group of clinical research in musculoskeletal diseases, frailty and pain management	4	8,20	2,05	1 (25%)	0 (0%)
Pharmacology & Molecular Microbiology	9	18,10	2,01	3 (33%)	0 (0%)
Research in clinical microbiology and antibiotic resistance	6	24,00	4,00	3 (50%)	1 (17%)
Neurosciences					
+Pec Proteomics	6	26,60	4,43	3 (50%)	1 (17%)
Biologic Basis of Mental Disorders	12	32,40	2,70	4 (33%)	0 (0%)
Clinical Neurosciences	12	152,60	12,72	7 (58%)	6 (50%)
Cognition and Behavior Study Group	13	67,70	5,21	7 (54%)	3 (23%)
Evolutionary and Developmental Neurobiology	2	4,60	2,30	2 (100%)	2 (100%)
Experimental Neuromuscular Pathology	2	8,70	4,35	2 (100%)	0 (0%)
Neurocognition, psychobiology of personality and behavioural genetics	8	40,11	5,01	3 (38%)	1 (13%)
Neuroimmunology	6	26,00	4,33	3 (50%)	1 (17%)
Neuronal Signaling Unit	2	20,00	10,00	2 (100%)	2 (100%)
Nutrition, metabolism and cellular stress					
Biochemistry of Oxidative Stress	2	18,10	9,05	2 (100%)	2 (100%)
Cell signalling and apoptosis group	1	14,70	14,70	1 (100%)	1 (100%)

Scientific production by group

Group	Total Publications	Total IF	Average IF	Q1 Publications	D1 Publications
Digestive Diseases Research Group – DdRG	2	4,60	2,30	0 (0%)	0 (0%)
Metabolic Physiopathology	17	119,70	7,04	16 (94%)	7 (41%)
Nutrition, Metabolism and Microbiota in patients with heart failure (NUTRIMMIC)	7	46,00	6,57	4 (57%)	2 (29%)
Systems Biology and Statistical Methods for Medical Research	5	20,70	4,14	4 (80%)	0 (0%)
Other lines					
Other lines	24	128,00	5,33	17 (71%)	7 (29%)

Table 8. Publications, IF, quartile and decile of IRBLleida groups in 2024.

Intramural research calls

Intramural Research Program – IREP 2024

IRBLleida is committed to promoting the research activity of its groups and dedicates a significant part of the annual budget to an Intramural Research Program (IREP), consisting of various competitive calls open to all groups within the institute. This 2024 Intramural Research Program included calls for research grants, human resources, and international research stay fellowships. The total budget for IREP calls in 2024 was €942,502, largely (80%) funded by the Diputació de Lleida.



External competitive calls

Competitive projects obtained

Center	Scope	Number of grants	Funds (€)
IRBLleida	REGIONAL	6	166.100 €
	NATIONAL	23	2.796.711 €
	INTERNATIONAL	3	272.813 €
UdL	LOCAL	4	26.245 €
	REGIONAL	4	285.990 €
	NATIONAL	6	1.108.723 €
Total general		46	4.656.582 €

Table 9. Competitive projectes obtained in IRBLleida and UdL.

Competitive human resources obtained

Center	Scope	Number of grants	Funds (€)
IRBLleida	NATIONAL	4	401.776 €
	REGIONAL	4	286.683 €
UdL	LOCAL	2	207.557 €
	REGIONAL	7	643.875 €
Total general		17	1.539.891 €

Table 10. Competitive human resources obtained in IRBLleida and UdL.

External competitive calls

Summary of competitive projects awarded by funder

Center	Scope	Call	Number of grants	Funds (€)
IRBLleida	REGIONAL	2023 – JOAN ORÓ D'AJUTS PER AL FOMENT DE LA CULTURA CIENTÍFICA A CATALUNYA	1	12.600 €
		2024: RECERCA SOBRE SALUT SEXUAL I REPRODUCTIVA	1	67.500 €
		2a CRIDA HISS: Alternatives Comunitàries a la Institucionalització	1	19.000 €
		AJUTS Indústria del Coneixement 2023 – MODALITAT A. LLAVOR	1	20.000 €
		CAIXAIMPULSE 2024	1	42.000 €
	NATIONAL	PMPer – CONVOCATORIA MISIONES CONJUNTAS PARA CONCESION DE SUBVENCIONES A PROYECTOS DE INVESTIGACIÓN EN ENFERMEDADES RARAS	2	405.935 €
		AES 2022: PROYECTOS DE INVESTIGACION EN SALUD	1	72.819 €
		AES 2024: PROYECTOS DE DESARROLLO TECNOLÓGICO EN SALUD (DTS24)	1	114.400 €
		AES 2024: PROYECTOS DE INVESTIGACION EN SALUD	10	1.636.871 €
		BECAS DE INVESTIGACIÓN DE LA FUNDACIÓN ESPAÑOLA DE CALIDAD ASISTENCIAL 2024	1	3.000 €
		Becas en Calidad Asistencial en Cáncer de Próstata	1	15.000 €
		CONVOCATORIA DE AYUDAS PARA EL FOMENTO DE LA CULTURA CIENTIFICA, TECNOLÓGICA Y DE LA INNOVACIÓN	1	25.000 €
		FMRR – AES 2021: PROYECTOS DE MEDICINA PERSONALIZADA DE PRECISION (PMP21)	1	8.500 €
		FMRR – AES 2022: PROYECTOS DE MEDICINA PERSONALIZADA DE PRECISION (PMP22)	1	38.000 €
		FMRR – AES2024: RICORS– REDES DE INVESTIGACIÓN COOPERATIVA ORIENTADAS AL RESULTADO EN SALUD	2	314.479 €
		II CONVOCATORIA DE AYUDAS A PROYECTOS DE INVESTIGACIÓN EN ELA UNZUÉ-LUZÓN	1	14.500 €
		Preparación y gestión de proyectos europeos y facilitar la atracción de talento internacional 2024	1	148.207 €
	INTERNATIONAL	EP PerMed: Joint Transnational Call for Proposals (2024) for Identification or Validation of Targets for Personalised Medicine Approaches (PMTargets)	1	219.625 €
		ERA Long–Term Research Fellowship	1	29.200 €
		EU4H–2023–PJ–05	1	23.988 €

External competitive calls

Summary of competitive projects awarded by funder

Center	Scope	Call	Number of grants	Funds (€)
UdL	LOCAL	AJUTS PONT PER PROJECTE DE RECERCA UDL	1	4.205 €
		Ayudas para la Movilidad de Doctorandos Iberus –PROGRAMA IBERUS + KA103	1	790 €
		CONVOCATÒRIA DE SUPORT A ESTUDIS SOBRE DESENVOLUPAMENT D'ORGANITZACIONS I TERRITORIS SALUDABLES I SOSTE-NIBLES	1	1.250 €
		INNOImpuls Ajuts a la valorització i transferència del coneixement – UdL	1	20.000 €
	REGIONAL	AJUTS Indústria del Coneixement 2023 – MODALITAT A. LLAVOR	1	20.000 €
		Ajuts per a projectes per a la promoció i la millora del benestar emocional i de la salut mental en el sistema universitari i de recerac de Catalunya (BENESTAR)	2	40.000 €
		Ajuts per finançar projectes de recerca per a la mitigació i l'adaptació al canvi climàtic	1	225.990 €
	NATIONAL	2023: PROYECTOS GENERACIÓN DE CONOCIMIENTO	5	1.006.250 €
		Proyectos en colaboración público–privada 2023	1	102.473 €

Table 11. Competitive projects awarded for funder in IRBLleida and UdL.

Historical data on funds obtained from competitive calls

In 2024 researchers obtained in IRBLleida 3.23M € and UdL 1,42M € from competitive projects.

Funded projects IRBLleida

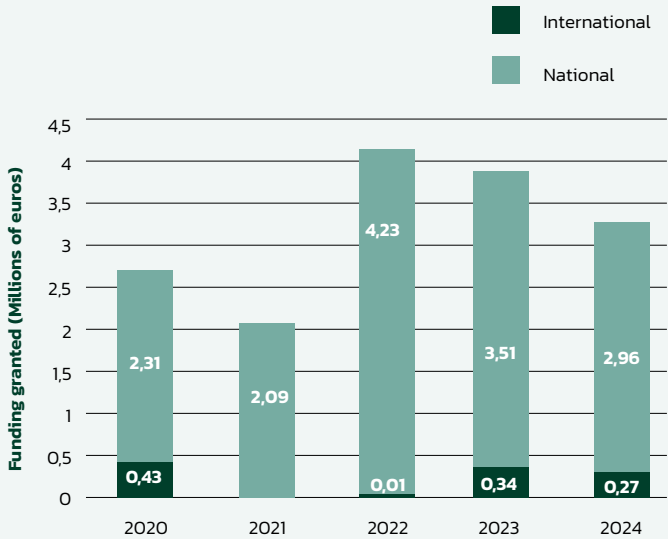


Figure 10. Historical data on funds obtained by IRBLleida from competitive projects, by national/international source.

Funded projects IRBLleida & UdL

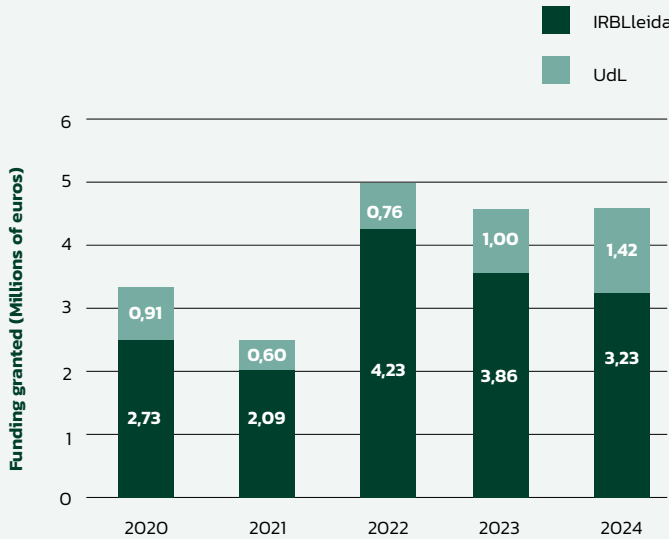


Figure 11. Historical data on funds obtained by IRBLleida groups, indicating whether they are handled by IRBLleida or UdL grants office.

Historical data on funds obtained from human resources competitive calls

In 2024 researchers obtained in IRBLleida 0,69M € and UdL 0,85M € from human resources competitive calls.

Funded human resources IRBLleida

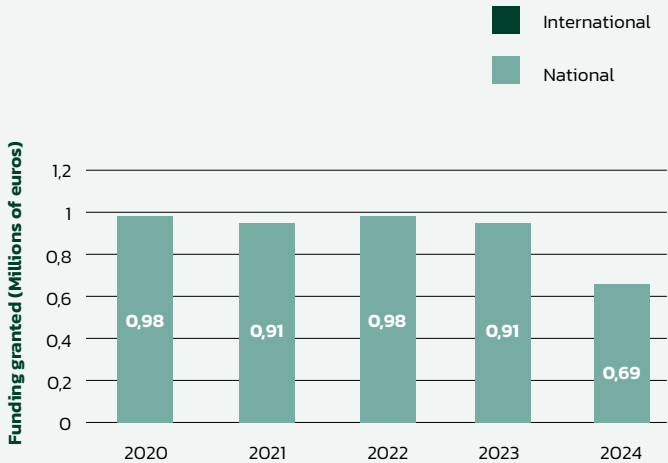


Figure 12. Historical data on funds obtained by IRBLleida from competitive human resources, by national/international source.

Funded human resources IRBLleida & UdL

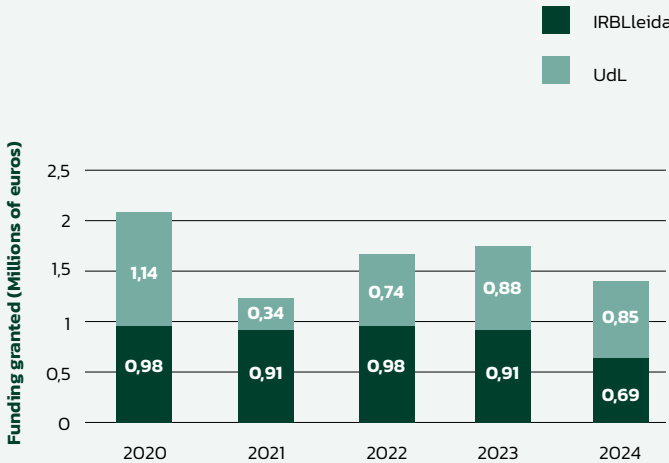


Figure 13. Historical data on funds obtained by IRBLleida groups, indicating whether they are handled by IRBLleida or UdL grants office.

Clinical trials and observational studies

The total number of clinical studies initiated in 2024 was 71 (36 clinical trials and 35 observational studies).
The number of active clinical studies was 246 (162 clinical trials and 84 observational studies).

Active clinical trials and observational studies

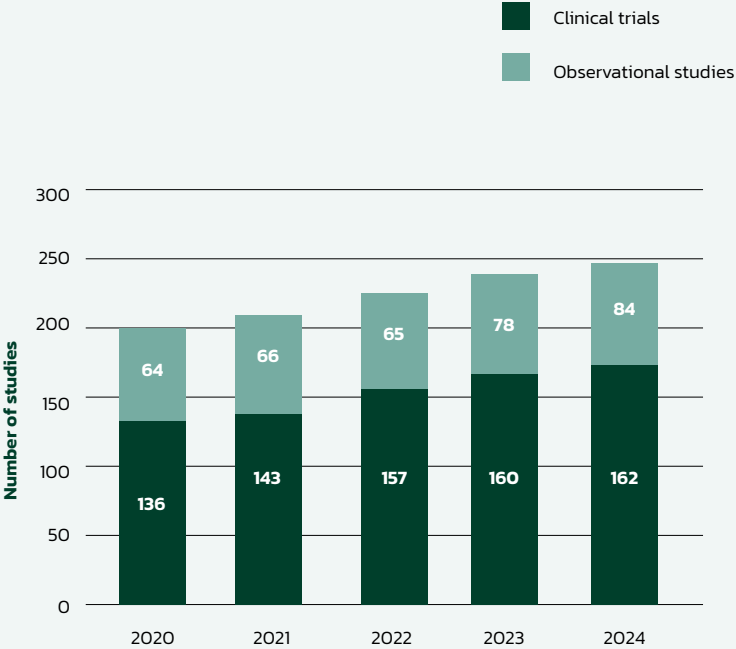


Figure 14. Historical data on active clinical trials and observational studies.

New clinical trials and observational studies

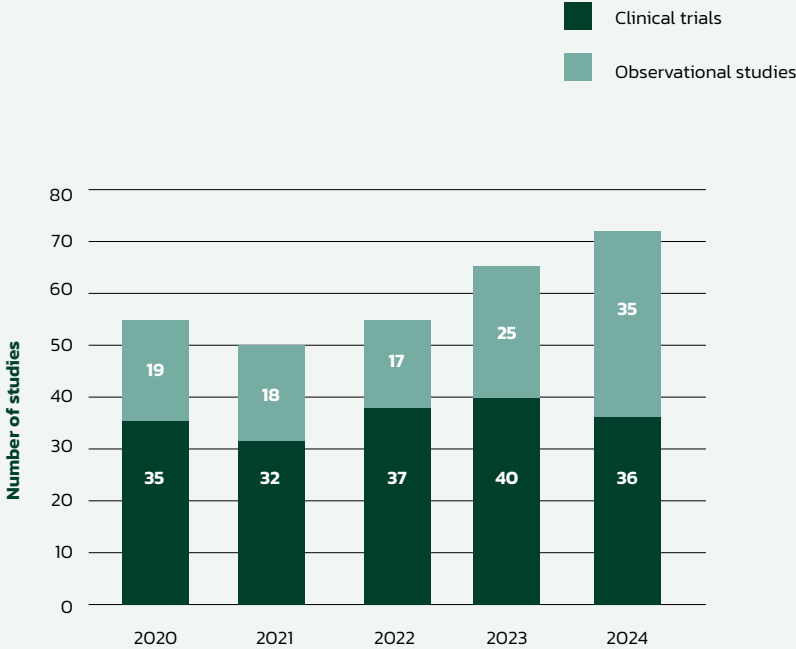


Figure 15. Historical data on new clinical trials and observational studies.

Clinical trials and observational studies

The total income from clinical trials and observational studies was 3.158.768 €.

Funds from clinical trials and observational studies

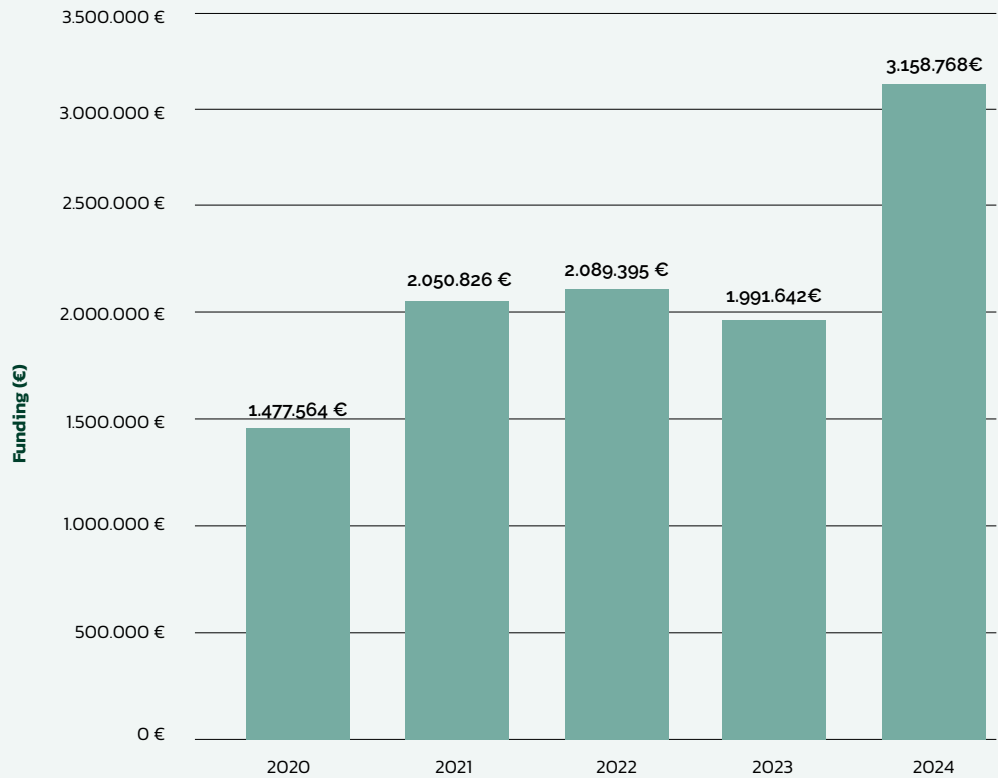


Figure 16. Historical data on funds obtained from clinical trials and observational studies.

Clinical trials and observational studies

Number of active clinical studies by medical area during 2024.

Active clinical trials by medical area

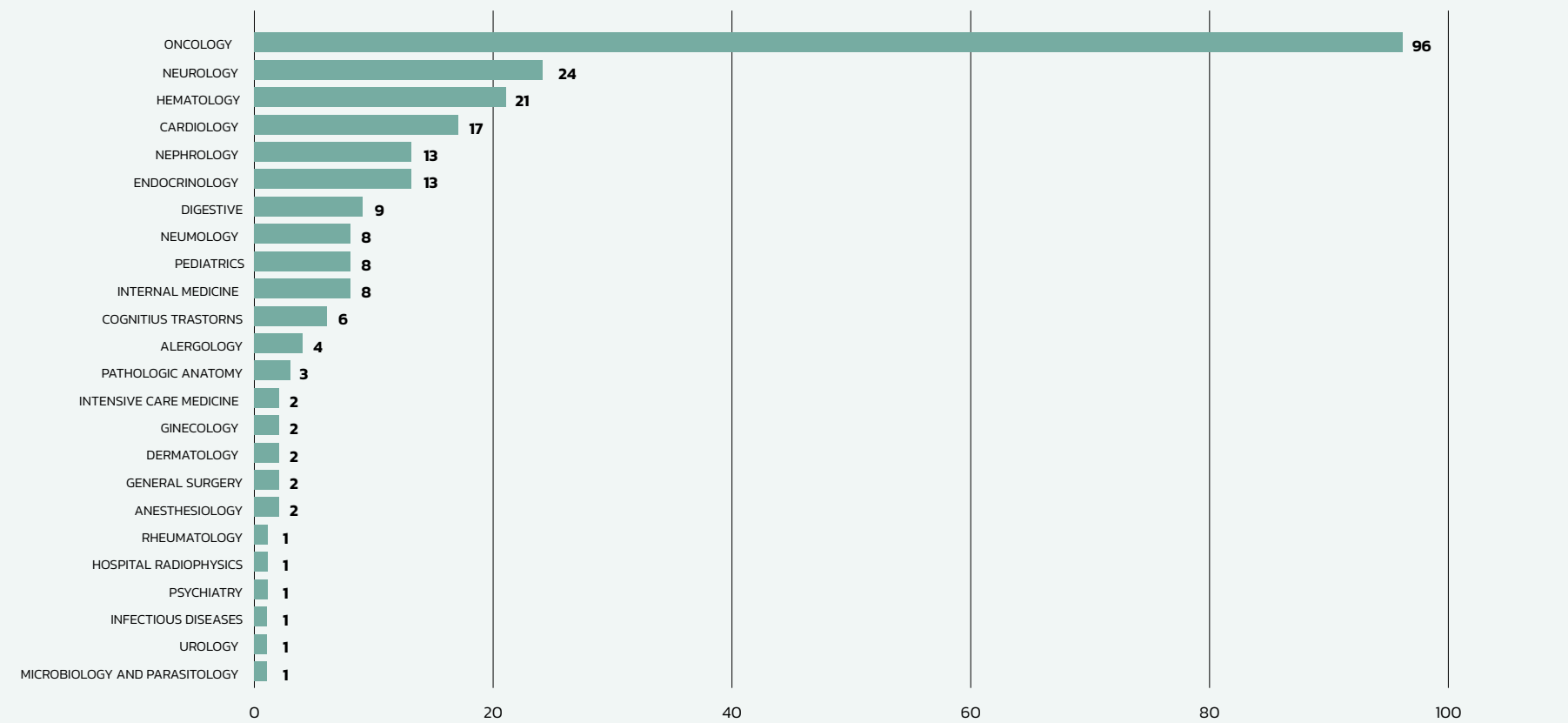


Figure 17. The figure presents the number of active clinical studies by Medical Area during 2024.

Clinical practice guidelines 2024

IRBLleida researchers have published 12 clinical practice guidelines during 2024.

Type of document	Title	Researcher	Research Group	Impact	Additional Info
Cancer					
Article	Clinical research in endometrial cancer: consensus recommendations from the Gyecologic Cancer InterGroup	Matias-Guiu Guia, Xavier	Oncological pathology	Internacional	10.1016/S1470-2045(24)00192-X
Article	ESGO-ESMO-ESP consensus conference recommendations on ovarian cancer: pathology and molecular biology and early, advanced and recurrent disease	Matias-Guiu Guia, Xavier	Oncological pathology	Internacional	10.1016/j.jannonc.2023.11.015
Article	ERS Statement on Benign Pleural Effusions in Adults	Porcel Pérez, Jose Manuel	GREBIC	Internacional	10.1183/13993003.02307-2023
Article	Executive summary of the consensus document for the training and development of clinical ultrasound in Internal Medicine: Recommendations from the Clinical Ultrasound Working Group of the Spanish Society of Internal Medicine (GTECO-SEMI)	Porcel Pérez, Jose Manuel	GREBIC	Nacional	10.1016/j.jrceng.2023.12.006 / 10.1016/j.jrce.2023.11.005
Chronic diseases, surgery and health care					
Article	Guidelines for mitochondrial RNA analysis	de Gonzalo Calvo, David	TRMM	Internacional	10.1016/j.omtn.2024.102262
Article	Diagnosis and treatment of myocarditis and inflammatory cardiomyopathy. Consensus document of the SEC-Working Group on Myocarditis.	Pastor Pueyo, Pablo	Cardiac Physiology and Pathology	Nacional	10.1016/j.jrec.2024.02.022
Epidemiology, infectious diseases and public health					
Clinical Guide	Revisión de fármacos: cáncer de próstata y cáncer renal	Mangues, Irene	Pharmacology & Molecular Microbiology	Nacional	ISBN: 978-84-09-66972-1
Clinical Guide	Guía de vacunación en pacientes tratados con anticuerpos monoclonales y otros agentes biológicos: revisión 2024	Morales Portillo, Arturo	Pharmacology & Molecular Microbiology	Nacional	ISBN: 978-84-126387-1-4
Neurosciences					
Article	Consensus statement of the Spanish Society of Neurology on the treatment of multiple sclerosis and holistic patient management in 2023.	Brieva Ruiz, Luis	Neuroimmunology	Nacional	10.1016/j.jnrleng.2024.01.003

Clinical practice guidelines 2024

Type of document	Title	Researcher	Research Group	Impact	Additional Info
Nutrition, metabolism and cellular stress					
Article	Consensus on the Approach to Hydrosaline Overload in Acute Heart Failure. SEMI/SEC/S.E.N. Recommendations.	Morales Rull, Jose Luis	NUTRIMIC	Nacional	10.1016/j.recesp.2024.01.003
Other research lines					
Article	Diagnosis and clinical management of thrombotic thrombocytopenic purpura (TTP): a consensus statement from the TTP Catalan group.	Luaña Galan, Armando Enrique	Altres Línies	Internacional	10.2450/BloodTransfus.522

Table 12. Clinical practice guidelines published in 2024.

Theses

Through the 2024 the IRBLleida researchers have defended 27 doctoral theses.

Doctoral theses

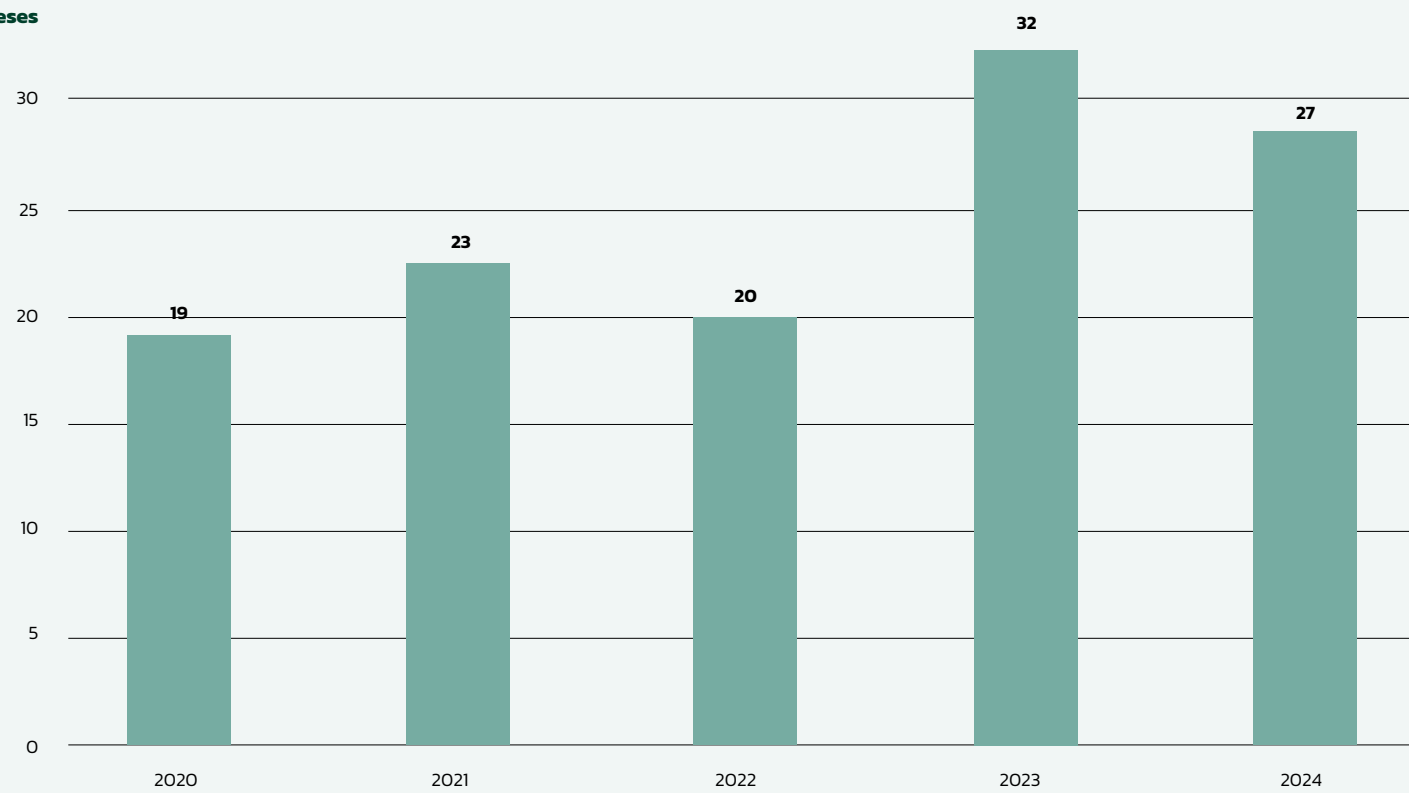


Figure 18. Historical data on doctoral theses defended by PhD students under the supervision of IRBLleida researchers.

Theses directed by IRBLleida researchers in 2024

During 2024, 27 PhD students supervised by IRBLleida researchers have defended their doctoral theses.

PhD Student	Thesis	Director/s	Group
Cancer			
Li Jing	Identification of novel candidate biomarkers of response to chemotherapeutic agents in patients with colorectal cancer	Arango del Corro, Diego & Martinez Barriocanal, Àgueda	Molecular Oncology
Neus Perez Lorite	Molecular analysis of the human SMC5/6 complex and the NSE1 RING domain in genome integrity	Colomina Gabarrella, M. Nieves & Torres Rosell, Jordi	Cell cycle
Pol Siso Camarasa	Estudi de la dinàmica del microambient tumoral en l'adquisició de resistència als inhibidors de BRAF en melanoma. Identificació de biomarcadors d'aplicació clínica.	Marti Laborda, Rosa Maria & Macia Armengol, Anna	Oncological pathology
Chronic diseases, surgery and health care			
Abel Lucido Garbulo	Multiscale mathematical modeling in plant synthetic biology: Elucidating the potential of strigolactones in maize	Vaqueiro de Castro Alves, Rui Carlos & Vilaprinyo Terré, Ester	Systems biology and statistical methods for biomedical research
Àuria Eritja Sanjuán	Pharmacological blockade of N-methyl-D-aspartate receptor protects against obesity-induced kidney disease. Study of molecular mechanisms and possible therapeutic implications	Valdivielso Revilla, Jose Manuel & Bozic Rafailovic, Milica	Vascular and renal translational research group
Aurora Perez Gomez	Paper de la via PI3K/AKT/mTOR en la regulació de Klotho renal. Implicacions en la Malaltia Renal Crònica	Diaz Tocados, Juan Miguel	Vascular and renal translational research group
Chadia Mizab Mellah	Profunditzant en l'impacte negatiu de la diabetis mellitus tipus 1 i tipus 2 en la funció pulmonar i respiració nocturna	Rius Riu, Ferran & Gutiérrez Carrasquilla, Liliana Patricia & Lecube Torello, Albert	Research Group in Immunology and Metabolism (GRIM)
Estela Rosell Mases	Modulació mútua de la microbiota intestinal i el sistema immunitari en models animals de diabetis tipus 1	Manichanh , Chaysavanh & Verdaguer Autonell, Joan	Research Group in Immunology and Metabolism (GRIM)
Iván David Benítez Iglesias	Cuantificación, evaluación y gestión de la salud del sueño: hacia la incorporación del sueño como pilar de la salud	de Batlle García, Jordi & Targa Dias Santos, Adriano	Translational research in respiratory medicine group
Laura Albornos Muñoz	Eficacia del Programa de Ejercicios de Otago aplicado de forma grupal frente a individual en la probabilidad de caídas de personas entre 65-80 años no institucionalizadas	Moreno Casbas, Maria Teresa & Blanco Blanco, Juan	Research group of health care (GReCS)
Maria Coronada Garcia Hidalgo	Molecular profile of respiratory sequelae in the COVID-19 patient	Gonzalez Gutierrez, Jessica & de Gonzalo Calvo, David	Translational research in respiratory medicine group

Theses directed by IRBLleida researchers in 2024

PhD Student	Thesis	Director/s	Group
Maria Jose Groizard Botella	Infiltraciones de puntos gatillo miofasciales en cervialgia crónica: evidencia aportada tras estudio prospectivo en una Unidad de Dolor	Montero Matamala, Antonio	Experimental surgery
Miquel Àngel Calderó Solé	ORIGEN DEL CORPORATIVISME DELS PRACTICANTS, LLEVADORS I INFERMERES A LA PROVÍNCIA DE LLEIDA	Torres Penella, Carmen & Gea Sanchez, Montserrat	Research group of health care (GReCS)
Oriol Martínez Navarro	A step forward in the management of pain in Fibromyalgia: integrating the patients, perspectives and eHealth approaches	Blanco Blanco, Juan & Climent Sanz, Carolina & Valenzuela Pascual, Francesc	Research group of health care (GReCS)
Patricia Urieta Sabate	Abordatge de la presa de decisions en població general i en Trastorn de joc: exploració de les diferències individuals i l'activitat de l'escorça prefrontal	Vaqueiro De Castro Alves, Rui Carlos & Lucas Adell, Ignacio	Systems biology and statistical methods for biomedical research
Epidemiology, infectious diseases and public health			
Alba Torné Ruiz	Manejo del acceso venoso periférico en paciente adulto: abordaje bibliométrico y estudio Delphi con expertos nacionales e internacionales	Roca Llobet, Judith	Health Education, Nursing, Sustainability and Innovation Research Group (GREIS)
Carla Camí Garanto	Guiant cap a la salut: intervenció educativa per a la prevenció i l'abordatge de la COVID-19	Botigue Satorra, Maria Teresa & Selva Pareja, Laia	Health Education, Nursing, Sustainability and Innovation Research Group (GREIS)
Ester Navarro Correal	Avance en los cuidados enfermeros a las personas con enfermedad inflamatoria intestinal	Selva Pareja, Laia & Espart Herrero, Anna	Health Education, Nursing, Sustainability and Innovation Research Group (GREIS)
Iris Nathalie San Roman Arispe	Comparación de las escalas HEART, GRACE y TIMI para la predicción de Eventos Cardíacos Adversos Mayores en pacientes con dolor torácico en una región sanitaria española	Ortega Bravo, Marta & Yuguero Torres, Oriol	ERLab, research in emergency medicine
Jordi Torralbas Ortega	Sexoafectividad y Trastorno del Espectro Autista: una perspectiva multifocal descriptiva y compartida entre personas con autismo, sus familias y los profesionales de la salud y de la educación	Roca Llobet, Judith	Health Education, Nursing, Sustainability and Innovation Research Group (GREIS)
Neurosciences			
Alessandra Pross	Amygdalar neurons regulating the stress response in chicken	Desfilis Barcelo, Ester & Medina Hernandez, Loreta Maria	Evolutionary developmental neurobiology
Ana Rita Gil Sánchez	Implicació de l'estrès oxidatiu en el deteriorament cognitiu de l'esclerosi múltiple remitent recurrent amb bona evolució clínica	Brieva Ruiz, Luis & Gonzalo Benito, Hugo	Neuroimmunology
Carme Jorge Tufet	Prevalencia e influencia del Síndrome de apnea e hipoapnea del sueño en la evolución cognitiva de pacientes con Enfermedad Alzheimer	Piñol Ripoll, Gerard & Torres Cortada, Gerardo	Cognition and behaviour study group

Theses directed by IRBLleida researchers in 2024

PhD Student	Thesis	Director/s	Group
Cristina Lorca Romero	In-Depth Charcaterization of Extracellular Vesicles for Their Use ad Disease Biomarkers and Next-Generation Nanovectors	Serra Maqueda, Aida & Gallart Palau, Xavier	+Pec Proteomics
Nutrition, metabolism and cellular stress			
Arabela Sanz Alcazar	Mecanismes moleculars implicats en l'ataxia de Friedreich. Estudi de la deficiència de frataxina en els ganglis de l'arrel dorsal	Ros Salvador, Joaquin & Cabiscol Catala, Elisa	Biochemistry of Oxidative Stress
Laia Fontdevila Olivé	Explorant la interacció entre remodelació lipídica, agregació proteica i alteracions en la microbiota en l'etiopatogènesi de l'Esclerosi Lateral Amiotròfica	Ayala Jove, Maria Victoria & Portero Otin, Manuel	Metabolic physiopathology
Sandra Montellà Manuel	Influència de la disponibilitat i hormesi del ferro i la glucosa en l'autofàgia i la vida cronològica en Saccharomyces cerevisiae	de la Torre Ruiz, M. Angeles	Cell signalling in yeast

Table 13. List of doctoral theses defended during 2024 directed by IRBLleida researchers.

Research networks and platforms

Reference	Acronym	Funder/Entity	Researcher Member	Research Group
Cancer				
CB16/12/00231	CIBERONC	ISCIII (CIBER)	X. Matias-Guiu	Oncological pathology
RED2022-134164-T	INGEN	Ministerio de Ciencia e Innovación	Jordi Torres	Cell Cycle
Chronic diseases, Surgery and Health Care				
COST Action B26	ESADA	European Cooperation in Science & Technology (COST)	F. Barbé	Translational research in respiratory medicine group
CB07/06/2008	CIBERES	ISCIII (CIBER)	F. Barbé, Torres G., Benitez I., Targa A., Belmonte T., Gracia E., Gort C., de Batlle J., de Gonzalo D., M. Sanchez, L. Pinilla.	Translational research in respiratory medicine group, Precision medicine in chronic diseases group
	APORED	Various Organizations	J. Ribas	Pharmacology & Molecular Microbiology
COST CA21153		European Cooperation in Science & Technology (COST)	D. de Gonzalo	Translational research in respiratory medicine group
CB15/00071	CIBERDEM	ISCIII (CIBER)	Esther Rubinat/ Minerva Granados	GRECS
CB16/10/00468	CIBERFES	ISCIII (CIBER)	Joan Blanco/ Montse Gea	GRECS
Epidemiology, infectious diseases and public health				
COST CA19137	PARQ COST	European Cooperation in Science & Technology (COST)	O. Yuguero	Urgency and emergency multi-disciplinary research group
	EFLM	Laboratory medicine credit points, working group. European Federation of clinical chemistry and laboratori medicine.	M. Ibarz	Indicadors i específic laboratori clinic
	EFLM	Preanalytical phase, working group. European Federation of clinical chemistry and laboratori medicine	M. Ibarz	Indicadors i específic laboratori clinic
Neurosciences				
CB/07/09/0037	CIBERSAM	Centro de investigación biomédica en red de salud mental	Salvador Miret	Fonaments dels trastorns mentals
	TECSAM	AGAUR	X. Gallart/ A. Serra	+Pec Proteomics
	XARSMART	IDIBELL	X. Gallart/ A. Serra	+Pec Proteomics
RD21/0006/0023	RICORS-ICTUS	ISCIII (RETICS)	F. Purroy	Clinical Neurosciences

Research networks and platforms

Reference	Acronym	Funder/Entity	Researcher Member	Research Group
EXOPSYCOG2023	IKUR- EXOPSYCOG2023	IKUR Neurobiosciences – Basque Government	X. Gallart	+Pec Proteomics
	Xartec Salut	AGAUR	X. Gallart/ A. Serra	+Pec Proteomics
COST CA23106	COST ACTION	European Cooperation in Science & Technology (COST)	L. Medina	Neurobiología Evolutiva y del Desarrollo
Nutrition, Metabolism and Cellular Stress				
COST CA19105	EpILipidNET	European Cooperation in Science & Technology (COST)	R. Pamplona	Metabolic physiopathology
	INFECMOL	Campus Iberus	G. Bellí	Molecular biology of yeast
	Xartec Salut	AGAUR	R. Alves	Biologia de Sistenes i Mètodes Estadístics per la recerca mèdica
Transversal Platforms				
PT23/00121	Plataforma de in- vestigación clínica	ISCIII (Plataformas)	A. Lecube	Clinical Research Support Unit (USIC) IRBLLeida
PT23/00032	Plataformas de biomodelos y bio- bancos	ISCIII (Plataformas)	X. Matias-Guiu	Biobank IRBLLeida

Table 14. Research networks and researchs platforms with IRBLLeida researchers.

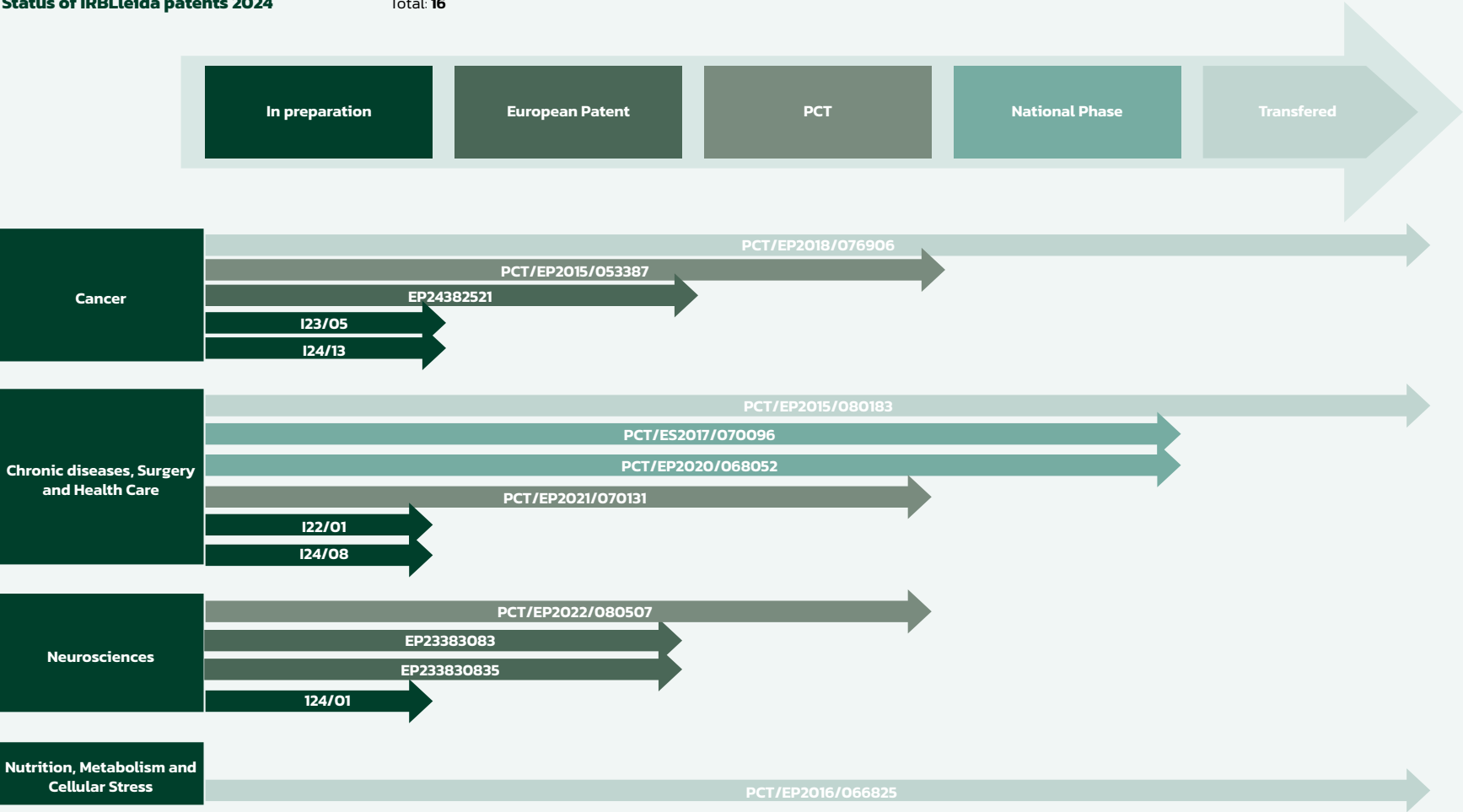


Knowledge transfer and innovation

Innovation unit 2024

Status of IRBLleida patents 2024

Total: 16

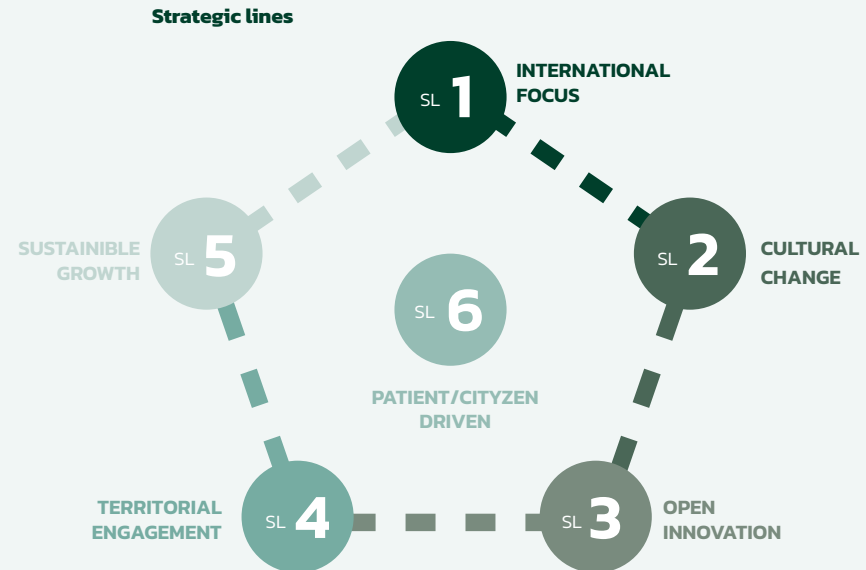


Innovation unit: 2023–2025 Plan

Within the IRBLleida Strategic Plan, innovation is identified as one of the strategic pillars of the Institute. This recognized need led to the preparation and development of the Innovation Plan 2023–2025. An outline of the model that will facilitate the acceleration of innovation at the institute can be found below.

Milestones 2024

- Achieved a 93% compliance rate for activities planned in the 2024 Innovation Plan (2023–2025).
- Support and training for grant application of CaixaImpulse, DTS, Plataforma ITEMAS, Proves de validació
- 2nd call of the intramural Innovation Seed Grant : ISP 2024
- Participation in in Innovation networking: 2 new groups incorporated to TECSAM innovation network
- Creation of the patient engagement commission and presentation of first projects for their review, discuss feedback and approval
- Innovation training for researchers and IRBLleida Directorate
- Identification and mapping of existing connections between research groups and companies
- Participation in innovation forums to position the center and create synergies: MWC, Comunitat i àgora d'innovació CERCA, 12ª Trobada de gestors/es de recerca de Catalunya, Up-link fest
- Prepared for the launch of two upcoming spin-offs.



Innovation unit: 2023-2025 Plan

Innovative researchers

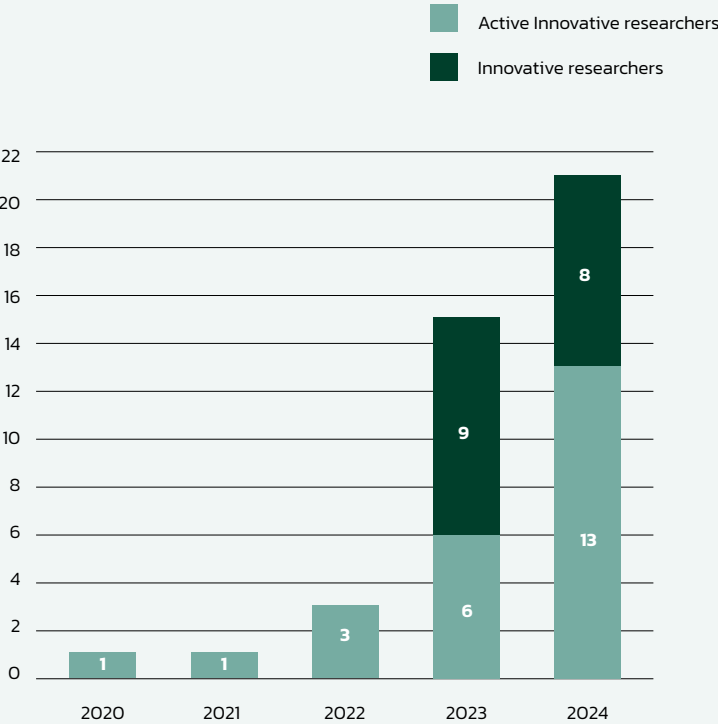


Figure 19. Innovative researchers.

Ideas and Industrial and Intellectual property



Figure 20. Ideas and Industrial and Intellectual property.

Note: Active innovative researchers are the investigators at the institute that have already submitted an idea in Fundanet and are actively working on the innovation process; Innovative researchers are the researchers that are on the radar of IRBLleida (based on conversations, interactions, trainings, projects, etc.) with a potential innovation idea but have not yet made the submission of the idea in Fundanet software.

Innovation unit: 2023-2025 Plan

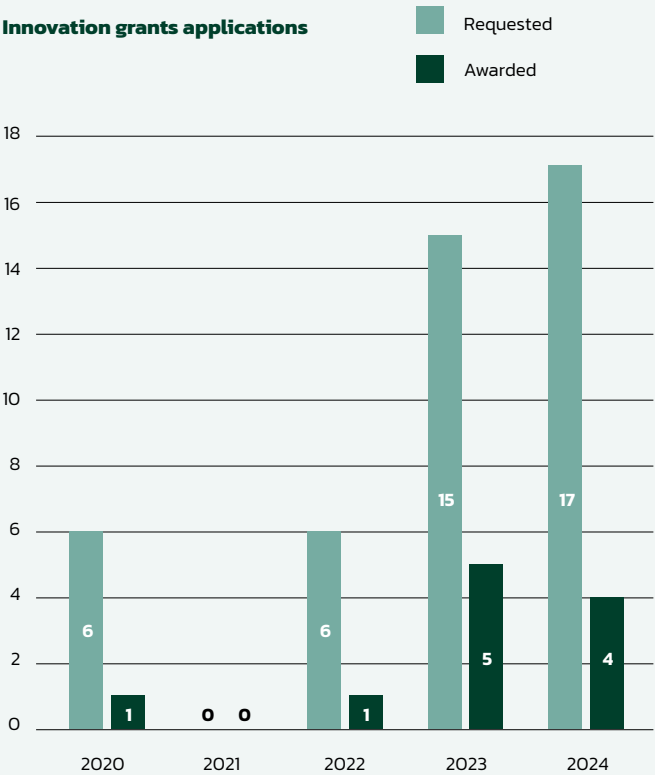


Figure 21. Number of innovation grants applications.

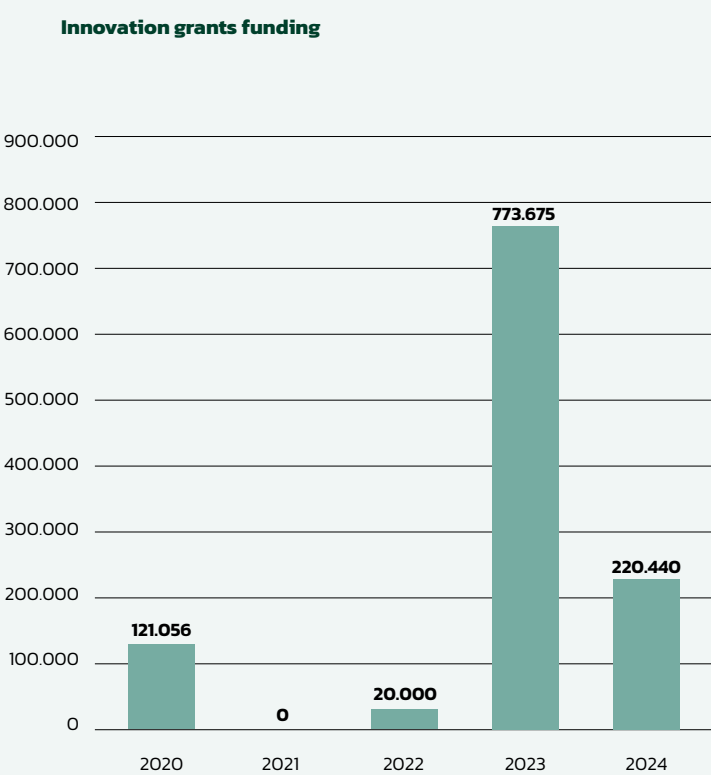


Figure 22. Funding obtained from innovation grants.

Note: Requested innovative projects are IRBLleida projects that have been submitted to diferent grants with the support of the innovation department of the administration office of the institute. Awarded count the total amount of those grants that had a positive resolution for IRBLleida.



Research activity by areas and groups

- Area 1. Cancer
- Area 2. Chronic diseases, surgery and health care
- Area 3. Epidemiology, infectious diseases and public health
- Area 4. Neurosciences
- Area 5. Nutrition and cell metabolism
- Area 6. Other research areas

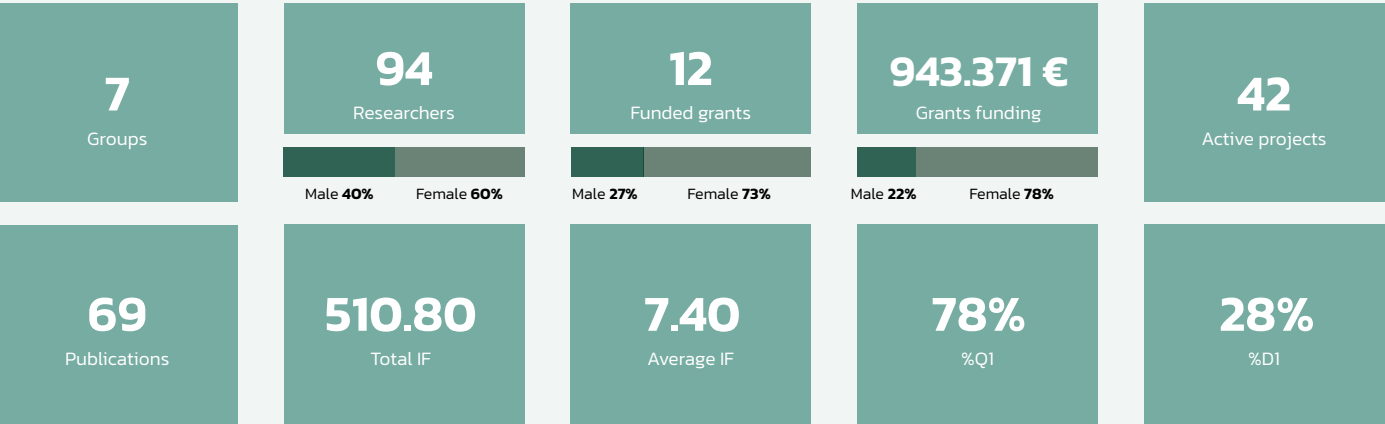
Area 1. Cancer

Area coordinator: Dr. Eloi Garí Marsol & Dr. Águeda Martínez Barriocanal

The cancer area includes research staff trained in different specialties of Medicine and Biology. The common goal is oncology research integrating basic (model organisms), translational, and clinical research (trials).

Groups

- 1.1 Calcium cellular signalling
- 1.2 Cell cycle
- 1.3 Developmental and Oncogenic Signaling
- 1.4 Drosophila disease models and (epi)genetic analysis
- 1.5 Molecular Oncology
- 1.6 Oncological pathology
- 1.7 Research group of Cancer Biomarkers (GReBiC)



1.1. Calcium cellular signalling

During tumor progression, cancer cells adapt to changes in the microenvironment (such as a lack of nutrients and/or oxygen) through the activation of stress pathways and autophagy. These processes are relevant to tumor resistance to treatment and therefore important in the fight against cancer. Our group studies the relationship between calcium signaling and these adaptive processes, with the aim of proposing antitumoral strategies. The reason for this relationship stems from our findings that showed that T-channel deficiency activates processes of death or proliferative arrest in tumor cells. Currently our working model is Glioblastoma, an aggressive brain tumor that is characterized by its rapid growth, high invasiveness, plasticity and resistance to treatment. Recent studies on this complex tumor show its functional integration with the surrounding nervous tissue (including neurons and glia) and the hijack of brain mechanisms in benefit of the tumor. Ion channels directly participate in this intercommunication between the different cellular elements constituting the tumor and its environment. We use primary glioblastoma cultures derived from human biopsies, established cell lines, biochemical and cell biology techniques, gene silencing, and preclinical models of glioblastoma. The group is formed by two senior researchers, a postdoctoral researcher, two predoctoral researchers and technical staff.

Active projects

PI	Funding agency	Project	Budget (€)
Carles Cantí Nicolás & Judit Herreros Danés	Ministerio de Ciencia e Innovacion	Disrupción del contexto protumoral del glioblastoma: modulación de canales iónicos en las distintas poblaciones celulares implicadas	180.000 €

Publications

- Bayona C, Alza L, Randelovic T, Sallán MC, Visa A, Cantí C, Ochoa I, Oliván S, Herreros J. Tetralol derivative NNC-55-0396 targets hypoxic cells in the glioblastoma microenvironment: an organ-on-chip approach. Cell Death Dis. 2024. 15. (2):p. 127-127. IF:8,100. (D2)(Q1).
- Visa A, Casals M, Alza L, Herreros J, Cantí C. Induction of Ca(2+)-dependent autophagy and concurrent lysosomal alkalization underlies the cytotoxic effects of NNC-55-0396 on glioblastoma cells. Biomed Pharmacother. 2024. 181. p. 117690-117690. IF:6,900. (D1)(Q1).

RESEARCH TEAM

Group leaders

Carles Cantí Nicolás
Judit Herreros Danés

Research

Anna Visa Pretel

Technician

Roser Pané Domenec

PhD students

Lia Alza Blanco
Maria Casals Sánchez
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judit.herreros@udl.cat

1.2. 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 human keratinocyte cultures are used as models for 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.

Publications

– Escolà H, Llombart B, Escolà A, Barchino L, Marcoval J, Alcaraz I, Beà S, Toll A, Miñano R, Rodríguez P, López M, Ferrándiz C, Jaka A, Masferrer E, Aguayo RS, Yébenes M, Arandes J, Ruiz V, Turrión L, Just M, Sánchez J, Leal L, Mayo F, Haya L, Sandoval A, Dradi GG, Delgado Y, Verdaguer J, López D, Pujol RM, Deza G. Therapeutic outcomes and survival analysis of Extramammary Paget’s disease: A multicentre retrospective study of 249 patients. *J. Am. Acad. Dermatol.* 2024. 90. (1).p. 66–73. IF:12,800. (D1)(Q1).

– Escolà H, Llombart B, Escolà A, Barchino L, Marcoval J, Alcaraz I, Beà S, Toll A, Miñano R, Rodríguez P, López M, Ferrándiz C, Jaka A, Masferrer E, Aguayo RS, Yébenes M, Arandes J, Ruiz V, Turrión L, Just M, Sánchez J, Leal L, Mayo F, Haya L, Sandoval A, Dradi GG, Delgado Y, Verdaguer J, López D,

Pujol RM, Deza G. Treatment of extramammary Paget disease with imiquimod in a real-life setting: a multicentre retrospective analysis in Spain. *Clin. Exp. Dermatol.* 2024. 49. (10).p. 1140–1147. IF:3,700. (D2)(Q1).

– Fontdevila L, Povedano M, Domínguez R, Boada J, Serrano J, Pamplona R, Ayala V, Portero M. Examining the complex Interplay between gut microbiota abundance and short-chain fatty acid production in amyotrophic lateral sclerosis patients shortly after onset of disease. *Sci Rep.* 2024. 14. (1).p. 23497–23497. IF:3,800. (D2)(Q1).

– Garbayo P, Lara A, Haselgruber S, Vilarrasa E, Martorell A, Gamissans M, Gracia I, Aguayo RS, Ciudad C, Rivera R, Mora V, Romaní J, Garcias J, Fornons R, Bailón DF, Molina A. Clinical characteristics and risk factors for secondary lymphoedema in hidradenitis suppurativa. *Br. J. Dermatol.* 2024. 192. (1).p. 157–158. IF:11,000. (D1)(Q1).

– Lorite NP, Apostolova S, Guasch M, Pryer A, Unzueta F, Freire R, Solé R, Pedraza N, Dolcet X, Garí E, Agell N, Taylor EM, Colomina N, Torres J. Crucial role of the NSE1RING domain in Smc5/6 stability and FANCM-independent fork progression. *Cell Mol Life Sci.* 2024. 81. (1).p. 251–251. IF:6,200. (D2)(Q1).

– Magdalenó J, Ortiz JM, Sánchez JL, Hernández P, Pérez A, Santos S, Sahuquillo A, Pujol C, Rivera R, Belinchón I, Ruiz D, Romero A, Ruiz R, Ferrán M, Gallardo F, Almenara M, Alonso J, González A, Martínez E, Fernández JM, de Alcázar E, García J, Rocamora V, Ara M, Mateu A, Llamas M, Vilarrasa E, Velasco M, de la Cueva P, Carrascosa JM, Martorell A. Efficacy of Risankizumab in Patients with Suboptimal Response or Failure to Ustekinumab: A Multicenter Retrospective Study in Spain. *Dermatol. Ther.* 2024. 2024. 5528484. IF:3,700. (D2)(Q1).

– Matas C, Gatiús S, Ribes M, Guasch M, Arbones XG, Casanova JM, Aguayo RS, Garí E. FAPB5 in keratinocyte carcinomas: expression, secretion, and its impact on tumor aggressiveness. *Arch Dermatol Res.* 2024. 316. (7).p. 342–342. IF:1,800. (D6)(Q3).

RESEARCH TEAM

Group leaders

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Active projects

PI	Funding agency	Project	Budget (€)
Eloi Garí Marsol	Agencia Gestio Ajuts Universitat i Recerca AGAUR	Ajut per donar suport a les activitats dels grup de recerca	40.000 €
Eloi Garí Marsol & Sonia Gatiús Caldero	Diputació de Lleida	Clinical and functional identification of metastatic colonization biomarkers.	50.000 €
Gemma Belli Martínez	Centre de Recerca en Agrotecnologia Agrotecnio	Designing functional food containing active ingredients with potential anti-obesity properties	25.623 €
Jordi Torres Rosell & Neus Colomina Gabarrella	Ministerio de Ciencia e Innovacion	Mecanismos moleculares de transacciones dependientes del complejo Smc5/6 sobre cromosomas eucarióticos	229.900 €

1.3. Developmental and Oncogenic Signaling

The team’s goal is to study the molecular mechanisms that take place during embryonic development to form a complete and functional organism and how these mechanisms are affected in pathological conditions such as cancer. We believe that understanding these mechanisms will help us better comprehend how our organism functions and, moreover, we hope that this knowledge will lay the foundations for the design of new therapeutic approaches in different diseases.

We use genetically modified mice as an animal model for our studies. The advantage of this model is that it is a vertebrate with a physiology very similar to ours. The possibility of making genetic modifications allows us to evaluate the relevance, in vivo, of the molecular mechanisms that we study in development and to create animal models of pathological conditions that allow us to better understand the disease and thus propose new therapeutic approaches. In our studies, we use different techniques that cover various levels of experimentation: from animal behaviour and the analysis of different tissues of these genetically modified mice using specialised microscopy to primary cell cultures, biochemical and molecular assays that include cutting-edge techniques in gene manipulation such as CRISPR/Cas technology.

In our research we have defined three study models: the embryonic development of the genitourinary system (coordinated by Dr. Encinas), the embryonic development of the nervous system (coordinated by Dr. Egea) and the generation of mouse models of endometrial carcinogenesis (coordinated by Dr. Dolcet). In this way we aim to have a broader and more integrative view of the molecular mechanisms involved in embryonic development and which, if affected, can lead to diseases such as cancer.

Funded projects

PI	Funding agency	Project	Budget (€)
Mario Encinas Martin & Marta Vaquero Susagna	Diputació de Lleida	Exploring vulnerabilities of medullary thyroid carcinoma beyond Ret kinase inhibition	50.000 €

Publications

- Alberti M, Olave S, Olomí A, Macià A, Eritja N. Advances in Immunotherapy for Endometrial Cancer: Insights into MMR Status and Tumor Microenvironment. *Cancers (Basel)*. 2024. 16. (23):3918. IF:4,500. (D3)(Q1).
- Altés G, Olomí A, Perramon A, Hernandez S, CASANOVAS A, Perez A, Diaz JM, Valdivielso JM, Megino C, Navaridas R, Matias X, Klein OD, Egea J, Dolcet X, Yeramian A, Encinas M. Multiple endocrine defects in adult-onset Sprouty1/2/4 triple knockout mice. *Sci Rep*. 2024. 14. (1):p. 19479–19479. IF:3,800. (D2)(Q1).
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- Lorite NP, Apostolova S, Guasch M, Pryer A, Unzueta F, Freire R, Solé R, Pedraza N, Dolcet X, Garí E, Agell N, Taylor EM, Colomina N, Torres J. Crucial role of the NSE1RING domain in Smc5/6 stability and FANCM-independent fork progression. *Cell Mol Life Sci*. 2024. 81. (1):p. 251–251. IF:6,200. (D2)(Q1).

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Active projects

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Francisco Javier Dolcet Roca	Ministerio de Ciencia e Innovacion	Análisis funcional de genes supresores de tumores implicados en el cáncer de endometrio de alto riesgo mediante edición CRISPR/Cas9 in vivo	206.250 €
Francisco Javier Dolcet Roca & Dolors Cuevas Sanchez	Diputació de Lleida	Analysis Of Molecular Alterations And Therapeutic Targets For P53/Pten-Deficient Endometrial Cancers.	50.000 €
Joaquim Egea Navarro	Ministerio de Ciencia e Innovacion	Estudio de la RhoGTPasa Rnd3/RhoE en la formación de pliegues corticales durante el desarrollo del cerebro mediante el uso de ratones modificados genéticament	127.050 €
Mario Encinas Martin	Ministerio de Ciencia e Innovacion	Mecanismos moleculares y efectos biológicos de la senescencia celular mediada por Sprouty	157.300 €

1.4. Drosophila disease models and (epi)genetic analysis

Our research group embodies a multidisciplinary approach, encompassing diverse research lines that delve into both basic and translational research. Our work primarily revolves around two key research areas.

- Using *Drosophila* as a model organism to investigate the genetic and biological mechanisms underlying human diseases, with a particular focus on metastatic colorectal cancer.
- Delving into the comprehensive characterization of genetic and epigenetic alterations in complex traits, discerning their involvement in disease susceptibility and progression.

Publications

– Dakterzada F, Cipriani R, López R, Arias A, Riba I, Ruiz M, Huerto R, Tahan N, Matute C, Capetillo E, Piñol G. Assessment of the Correlation and Diagnostic Accuracy between Cerebrospinal Fluid and Plasma Alzheimer’s Disease Biomarkers: A Comparison of the Lumipulse and Simoa Platforms. *Int. J. Mol. Sci.* 2024. 25. (9):4594. IF:4,900. (D3)(Q1).

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S, García P, Valero S, Sotolongo O, Pérez A, Rábano A, Arias A, Pastor AB, Espinosa A, Corma A, Martín Á, Sanabria Á, Martínez C, Buiza D, Rodriguez E, Ortega G, Alvarez I, Rosas I, Pineda JA, Rosende M, Bernal Sánchez M, Fernández M, Alegret M, Roberto N, Del Ser T, Garcia G, Sánchez P, Pastor P, Piñol G, Bullido MJ, Álvarez V, Mir P, Medina M, Marquié M, Sáez ME, Carracedo Á, Laplana M, Tomas L, Orellana A, Tárraga L, Boada M, Fibla J, Vitorica J, Ruiz A, Guigo R, Gutierrez A, Royo JL. An Insertion Within SIRPB1 Shows a Dual Effect Over Alzheimer’s Disease Cognitive Decline Altering the Microglial Response. *J. Alzheimers Dis.* 2024. 98. (2):p. 601-618. IF:3,400. (D4)(Q2).

– González C, Gil A, Begué R, López R, Luis BR. Ischemic encephalopathic debut of CADASIL, a case report: It is better to be safe than sorry. *Neurologia.* 2024. 39. (8):p. 712-715. IF:2,900. (D4)(Q2).

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– Laplana M, Royo JL, Real LM. Genetic Association Studies in Host-Pathogen Interaction Analysis. *Methods Mol Biol.* 2024. 2751. p. 19-30.

– Ramirez MF, Gonzalez EL, Moles SI, Garcia CA, Munoz JMR, Ortega RL, Navas LG, Sanchez AB, Jover A. Diagnostic challenges of recurrent malaria in non-endemic areas. *J Travel Med.* 2024. 31. (3):IF:9,100. (D1)(Q1).

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Active projects

PI	Funding agency	Project	Budget (€)
Andreu Casali Taberner	Ministerio de Ciencia e Innovacion	Identificación de genes esenciales para el inicio de la metastasis en un modelo de <i>Drosophila</i>	200.000 €
Marina Laplana Lafaja & Rafael Villalobos Mori	Diputació de Lleida	Mejora del Diagnóstico en Cáncer de Páncreas (MEDI-CAPA)	50.000 €

1.5. 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, thereby contributing to the personalization of treatment for colorectal cancer patients. Finally, we explore novel therapeutic options for microvillus inclusion disease (MVID), a rare life-threatening intestinal disease.

Funded projects

PI	Funding agency	Project	Budget (€)
Diego Arango del Corro	Institut Recerca Biomedica de Lleida, IRBLleida	CHEMBAR: Chemopreventive effects of barley-based foods rich	22.500 €
Diego Arango del Corro & Marta Bonet Beltran	Diputació de Lleida	Towards precision radiotherapy for rectal cancer patients Principal Investigator	50.000 €

Active projects

PI	Funding agency	Project	Budget (€)
Agueda Martinez Barriocanal	Instituto de Salud Carlos III ISCIII	Turning drug-induced senescence into a novel therapeutic opportunity for colorrectal cancer treatment	102.500 €
Agueda Martinez Barriocanal & Xavier Matias-Guiu Guia	Diputació de Lleida	EPH Receptor Signaling in Endometrial Cancer	50.000 €
Diego Arango del Corro	Agencia Gestio Ajuts Universitat i Recerca AGAUR	Ajut per donar suport a les activitats dels grup de recerca consolidat de Oncologia Molecular	- €
Diego Arango del Corro	Instituto de Salud Carlos III ISCIII	Antioxidant treatment as a novel therapeutic option for microvillus inclusion disease. ARMED	174.966 €
Diego Arango del Corro	Instituto de Salud Carlos III ISCIII	Desarrollo de nanosistemas de marcaje de CXCR4 mediante radiosondas para la imagen molecular de células tumorales y del microambiente tumoral	99.946 €
Diego Arango del Corro	Instituto de Salud Carlos III ISCIII	Nueva aproximación terapéutica para el cáncer colorectal.	183.920 €
Diego Arango del Corro	Instituto de Salud Carlos III ISCIII	Nueva estrategia terapéutica para ael cáncer gástrico basada en la modulación de la señalización de RHOA	236.858 €

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1.6. 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, epigenetic profiling, and analysis of gene gains and losses), as well as in vitro functional analysis in cell cultures (2D and 3D), and experimental animal models. The objective is to transfer the results to clinical practice for the benefit of patients.

Publications

– Alberti M, Olave S, Olomí A, Macià A, Eritja N. Advances in Immunotherapy for Endometrial Cancer: Insights into MMR Status and Tumor Microenvironment. *Cancers (Basel)*. 2024. 16. (23):3918. IF:4,500. (D3)(Q1).

– Altés G, Olomí A, Perramon A, Hernandez S, CASANOVAS A, Perez A, Diaz JM, Valdivielso JM, Megino C, Navaridas R, Matias X, Klein OD, Egea J, Dolcet X, Yeramian A, Encinas M. Multiple endocrine defects in adult-onset Sprouty1/2/4 triple knockout mice. *Sci Rep*. 2024. 14. (1):p. 19479–19479. IF:3,800. (D2)(Q1).

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– Gatiús S, Matias X, Davidson B. Molecular features for timely cancer diagnosis and treatment – tumors of the ovary, fallopian tube and endometrium. *Virchows Arch*. 2024. 484. (2):p. 339–351. IF:3,400. (D3)(Q1).

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1.6. Oncological pathology

– Matias X, Raspollini MR, Kulka J, Ryska A, Dieri RA, Schirmacher P, European Society of Pathology E. The role of the pathologist in the design and conducting of biomarker-driven clinical trials in cancer: position paper of the European Society of Pathology. Virchows Arch. 2024. 486. (2):p. 207–214. IF:3,400. (D3)(Q1).

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– Morice P, Scambia G, Abu NR, Acien M, Arena A, Brucker S, Cheong Y, Collinet P, Fanfani F, Filippi F, Eriksson A, Gouy S, Harter P, Matias X, Pados G, Pakiz M, Querleu D, Rodolakis A, Rousset C, Stepanyan A, Testa AC, Mac-klon KT, Tzolakidis D, De Vos M, Planchamp F, Grynberg M. Fertility-sparing treatment and follow-up in patients with cervical cancer, ovarian cancer, and borderline ovarian tumours: guidelines from ESGO, ESHRE, and ESGE. Lancet Oncol. 2024. 25. (11):p. 602–610. IF:41,600. (D1)(Q1).

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Funded projects

PI	Funding agency	Project	Budget (€)
Anna Macia Armengol & Robert Montal Roura	Diputació de Lleida	Immunophenotyping of Cholangiocarcinoma using Liquid Biopsy	50.000 €
Anna Macia Armengol & Rosa Maria Marti Laborda	Instituto de Salud Carlos III ISCIII	Abordaje proteómico de los pacientes diagnosticados de novo de melanoma: impacto en la estratificación pronóstica y la predicción de la respuesta al tratamiento adyuvante (PRO2-MEL).	152.500 €
Felipe Vilardell Vilellas & Anabel Sorolla Bardaji	Diputació de Lleida	Simultaneous targeting the partners in crime MYC and BRD4 in triple negative breast cancer	50.000 €
Marta Vaquero Susagna & Mario Encinas Martin	Diputació de Lleida	Exploring vulnerabilities of medullary thyroid carcinoma beyond Ret kinase inhibition	50.000 €
Nuria Eritja Sanchez	Fundacio La Marato de TV3	Unravelling the molecular and phenotypic complexity of endometriosis through new models and omics integration: towards a personalized clinical management	67.500 €
Nuria Eritja Sanchez	Institut Recerca Biomedica de Lleida, IRBLleida	Targeted design of edible nanostructured delivery systems containing beta-carotene as a diet supplementation strategy with antitumoral activity	22.500 €

1.6. Oncological pathology

Active projects

PI	Funding agency	Project	Budget (€)
Anna Macia Armengol & Núria Eritja Sanchez	Instituto de Salud Carlos III ISCIII	Análisis del microambiente tumoral del melanoma cutáneo asociado al perfil genético y/o a la aparición de resistencias	87.120 €
Dolors Cuevas Sanchez & Francisco Javier Dolcet Roca	Diputació de Lleida	Analysis Of Molecular Alterations And Therapeutic Targets For P53/Pten-Deficient Endometrial Cancers.	50.000 €
Felipe Vilardell Villellas & Anabel Sorolla Bardaji	Diputació de Lleida	Development of precision therapies for triple negative breast cancer based on CRISPR/Cas12a ribonucleoproteins	50.000 €
Nuria Eritja Sanchez	Fundación Contigo	Implicación de ARID1A en la remodelación del microambiente tumoral y la reprogramación metabólica en el cáncer endometrial	79.983 €
Núria Eritja Sanchez	Instituto de Salud Carlos III ISCIII	Papel de ARID1A en la carcinogénesis endometrial dependiente de contexto. Análisis de los mecanismos moleculares y posibles implicaciones terapéuticas	87.120 €
Sonia Gatus Caldero & Eloi Garí Marsol	Diputació de Lleida	Clinical and functional identification of metastatic colonization biomarkers.	50.000 €
Sonia Gatus Caldero & Xavier Matias-Guiu Guia	Instituto de Salud Carlos III ISCIII	Homologous recombination deficiency in high-grade endometrial cancers. Biomarkers and impact of intratumor heterogeneity.	115.000 €
Xavier Matias-Guiu Guia	Agencia Gestio Ajuts Universitat i Recerca AGAUR	Ajut per donar suport a les activitats dels grup de càncer ginecològic i afins (GinA)	40.000 €
Xavier Matias-Guiu Guia	Instituto de Salud Carlos III ISCIII	Incorporación de nuevas areas temáticas y nuevos grupos al consorcio CIBER	63.500 €
Xavier Matias-Guiu Guia	Instituto de Salud Carlos III ISCIII	Integrative genomic, digital imaging and clinical information towards Precision Oncology Optimization – INGENIO	88.871 €
Xavier Matias-Guiu Guia	Instituto de Salud Carlos III ISCIII	Plataforma de Biobancos y Biomodelos	205.700 €
Xavier Matias-Guiu Guia	Instituto de Salud Carlos III ISCIII	Plataformas Biomodelos y Biobancos	401.012 €
Xavier Matias-Guiu Guia & Agueda Martinez Barriocanal	Diputació de Lleida	EPH Receptor Signaling in Endometrial Cancer	50.000 €

1.7. Research group of Cancer Biomarkers (GReBiC)

Our research group is translational, multidisciplinary and young. It is composed of medical doctors specialized in Medical Oncology, Internal Medicine, Radiotherapy Oncology and Clinical Analysis; and basic researchers trained in Biosciences (Biology, Biochemistry, Biomedicine and Biotechnology) forming a highly cohesive team. The work of our group focuses on three main lines of research related to cancer: i) Digestive tumors: colorectal cancer, gastric cancer and hepatocellular carcinoma; ii) Breast cancer and iii) Pleural effusion. All three lines address high-prevalence diseases in our society that are associated with a high mortality rate. We work with basic and translational research approaches to respond to the great challenges posed by these pathologies, which are: identifying diagnostic biomarkers, stratifying the risk of recurrence or metastasis and predicting the good therapeutic response to different treatments. In addition, new highly innovative therapies based on gene editing are being developed in our group.

Publications

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RESEARCH TEAM

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Maria Alba Sorolla Bardaji

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Robert Montal Roura
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1.7. Research group of Cancer Biomarkers (GReBiC)

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Laboratories

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1.7. Research group of Cancer Biomarkers (GReBiC)

Funded projects

PI	Funding agency	Project	Budget (€)
Anabel Sorolla Bardaji	Instituto de Salud Carlos III ISCIII	Diseño y testaje de péptidos de interferencia para el tratamiento del cáncer de mama triple negativo	215.000 €
Anabel Sorolla Bardaji & Felipe Vilardell Villellas	Diputació de Lleida	Simultaneous targeting the partners in crime MYC and BRD4 in triple negative breast cancer	50.000 €
Antonia Salud Salvia & Eva Parisi Capdevila	Instituto de Salud Carlos III ISCIII	Decodificación de la metástasis del cáncer colorrectal desentrañando el señalosoma de PLA2G12A	134.621 €
Marta Bonet Beltran	BAYER HISPANIA S.L.	MECAPER: Mejora de la Calidad de Vida en Pacientes con Cáncer de Próstata Hormonosensible Metastásico mediante Ejercicio de Fuerza y Resistencia Potenciado por una Solución Tecnológica Motivacional	15.000 €
Marta Bonet Beltran & Diego Arango del Corro	Diputació de Lleida	Towards precision radiotherapy for rectal cancer patients Principal Investigator	50.000 €
Robert Montal Roura	Instituto de Salud Carlos III ISCIII	Inteligencia Artificial basada en Patología y Transcriptómica Espacial para la identificación de la clase inflamada del Adenocarcinoma Gástrico y la predicción de respuesta a Inmunoterapia.	113.750 €
Robert Montal Roura & Anna Macia Armengol	Diputació de Lleida	Immunophenotyping of Cholangiocarcinoma using Liquid Biopsy	50.000 €

Active projects

PI	Funding agency	Project	Budget (€)
Anabel Sorolla Bardaji	Instituto de Salud Carlos III ISCIII	Contrato Miguel Servet - Proyecto	40.000 €
Anabel Sorolla Bardaji	Instituto de Salud Carlos III ISCIII	DEVELOPMENT OF PRECISION THERAPIES FOR TRIPLE NEGATIVE BREAST CANCERS BASED ON CRISPR/CAS9 RIBONUCLEOPROTEINS.	117.370 €
Anabel Sorolla Bardaji & Felipe Vilardell Villellas	Diputació de Lleida	Development of precision therapies for triple negative breast cancer based on CRISPR/Cas12a ribonucleoproteins	50.000 €
Jose Manuel Porcel Pérez & David de Gonzalo Calvo	Diputació de Lleida	Construcción de un algoritmo diagnóstico y pronóstico del derrame pleural maligno secundario a cáncer de pulmón mediante firmas de RNA no codificante y Machine Learning	50.000 €
Jose Manuel Porcel Pérez & Maria Alba Sorolla Bardaji	Instituto de Salud Carlos III ISCIII	"Exosomal short-chain non-coding RNA profiling of pleural fluid for the non-invasive diagnosis of squamous cell lung carcinoma"	107.500 €
Maria Alba Sorolla Bardaji	Agencia Gestio Ajuts Universitat i Recerca AGAUR	Ajut per donar suport a les activitats dels grup de recerca consolidat de Biomarcadors en Càncer (GREBIC)	40.000 €

1.7. Research group of Cancer Biomarkers (GReBiC)

PI	Funding agency	Project	Budget (€)
Maria Alba Sorolla Bardaji & Jose Manuel Porcel Pérez	Instituto de Salud Carlos III ISCIII	"Exosomal short-chain non-coding RNA profiling of pleural fluid for the non-invasive diagnosis of squamous cell lung carcinoma"	107.500 €
Robert Montal Roura	Grupo Tratamiento de los Tumores Digestivos – Grupo TTD	Editing of TERT promoter mutations with CRISPR/Cas9 technology for the treatment of Hepatocellular carcinoma	40.000 €
Robert Montal Roura	Instituto de Salud Carlos III ISCIII	Biomarcadores de Respuesta a Inmunoterapia mediante la Inmunofenotipificación Exhaustiva del Adenocarcinoma Gástrico.	98.010 €
Robert Montal Roura	Sociedad Española de Oncología Medica SEOM	AYUDA SEOM – JUAN RODÉS 2021	40.000 €
Robert Montal Roura	Sociedad Española de Oncología Medica SEOM	BIOMARCADORES EN BIOPSIA LÍQUIDA DE COLANGIOCARCINOMA AVANZADO PARA UNA INMUNO-ONCOLOGÍA DE PRECISIÓN	30.000 €
Serafin Morales Murillo	ADAMED LABORATORIOS, S.L.U.	Selección de tratamiento con quimioterapia neoadyuvante en pacientes con cáncer de mama en estadio precoz y con receptores hormonales positivos mediante la determinación de la plataforma oncotype, CF DNA en sangre periférica y cambios del marcador KI67 en tejido tumoral.	9.000 €
Serafin Morales Murillo	PFIZER SLU	Development of Computer Application (Apps) for Information and Monitoring of Patients with Breast Cancer at the Hospital Arnau de Vilanova De Lleida	49.500 €
Silvia Bielsa Martin	Instituto de Salud Carlos III ISCIII	Ensayo clínico randomizado: lavados con suero salino vs tratamiento estándar en el derrame pleural paraneumónico complicado o empiema	43.560 €
Silvia Bielsa Martin	Sociedad Española De Medicina Interna – SEMI	Inteligencia artificial para predecir la causa de un derrame pleural: generación de modelos de diagnóstico etiológico	27.930 €

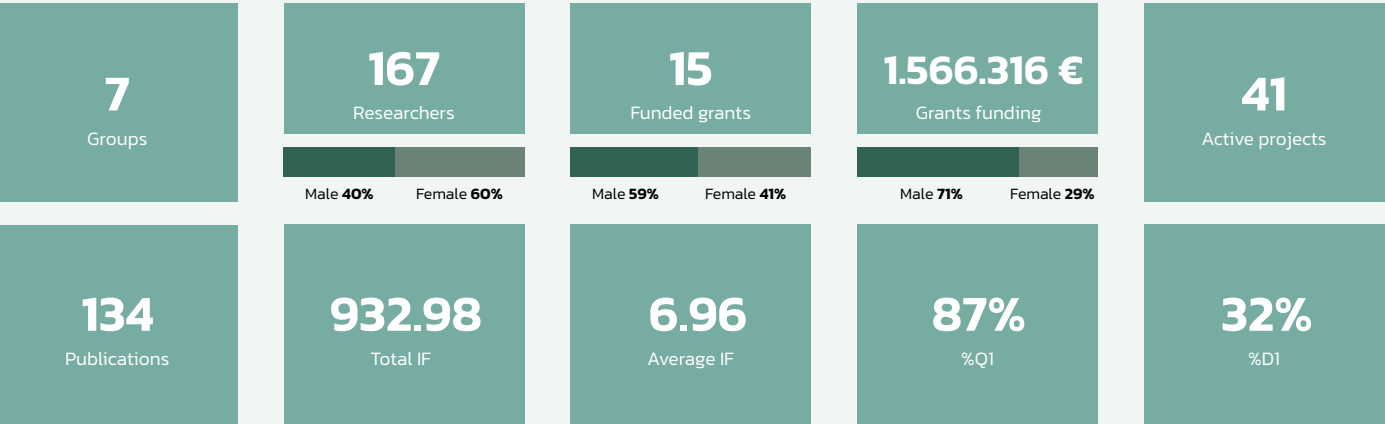
Area 2. Chronic diseases, surgery and health care

Area coordinator: Dr. José Manuel Valdivielso Revilla and Dr. Montserrat Gea Sanchez

The area contains 8 groups dedicated to investigating the pathophysiological mechanisms of vascular, renal, metabolic and pulmonary diseases. In addition, research is being conducted on new surgical methods and strategies to promote healthy aging.

Groups

- 2.1 Cardiac Physiology and Pathology
- 2.2 Clinical & Experimental Surgery group (CESurG)
- 2.3 Digestive Diseases Research Group - DdRG
- 2.4 Research Group in Immunology and Metabolism (GRIM)
- 2.5 Research group of health care (GReCS)
- 2.6 Translational research in respiratory medicine group
- 2.7 Vascular and renal translational research group



2.1. Cardiac Physiology and Pathology

The Cardiac Physiology and Pathology group is formed by researchers with a strong clinical background. The principal investigator is Dr. Fernando Worner. The group has participated in relevant clinical trials in cardiovascular disease and in multiple nationwide multicenter registries, which has allowed it to become part of a network of centers with interest in cardiovascular research. The group's objectives for the coming years include not only consolidating its clinical research base, but also progressively developing translational projects that bridge clinical and basic research, along with the development of animal models. Among our lines of development are, a) the study of coronary microvascular dysfunction in patients with angina, b) the search for strategies to reduce reperfusion injury and microvascular obstruction in patients with myocardial infarction, c) the analysis of advanced cardiac imaging parameters and biochemical markers involved in the evolution of atrial fibrillation, d) the study of entities related to myocardial infarction with no obstructive coronary arteries (MINOCA), such as myocarditis or spontaneous coronary artery dissection, and the study of cardiac involvement in COVID-19.

Publications

– Almendro M, Hernández B, Padilla G, Blanco E, Arboleda JA, Rodríguez JC, Soto JM, Fernández I, Castillo JM, García JC, Hidalgo R. Timing of P2Y 12 Inhibitor Administration in Patients With STEMI Undergoing Primary PCI. *J. Am. Coll. Cardiol.* 2024. 83. (25)p. 2629–2639. IF:21,700. (D1)(Q1).

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– Almendro M, Padilla G, Hernández B, Blanco E, Arboleda JA, Rodríguez JC, Soto JM, Fernández I, Castillo JM, García JC, Hidalgo R. Nonadherence to ticagrelor versus clopidogrel and clinical outcomes in patients with ACS. Results from the CREA-ARIAM registry. *Rev. Esp. Cardiol.* 2024. 77. (2)p. 113–124.

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2.2. Clinical & Experimental Surgery group (CESurG)

The Clinical & Experimental Surgery group (CESurG) group is a multidisciplinary group composed of professionals from the fields of surgery, anaesthesiology, veterinary medicine, technical research and management who work to develop research projects in surgical pathology, either by designing experimental models with large animals (pigs) to facilitate translational research, or by participating in multicentre clinical trials to innovate and improve clinical outcomes, and to maintain continuous training in diagnostic and surgical techniques for professionals in human and animal health sciences, through hybrid simulation. The research of the Clinical & Experimental Surgery group (CESurG) is mainly carried out at the facilities of the CREBA Centre of the IRBLleida in Torrelameu, which provides the infrastructure needed to develop pig experimental models. These models allow, in the long term, for the extrapolation of research findings to human clinical practice.

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PI	Funding agency	Project	Budget (€)
Rafael Villalobos Mori & Marina Laplana Lafaja	Diputació de Lleida	Mejora del Diagnóstico en Cáncer de Páncreas (MEDI-CAPA)	50.000 €

2.3. Digestive Diseases Research Group – DdRG

The Digestive Diseases Research Group brings together a multidisciplinary team of researchers working toward common goals on the study of the epidemiology, prevention, diagnosis and treatment of digestive diseases. The research activities of our group are mainly clinical, original or collaborative, although we are eager to participate in fundamental basic research projects. Current lines of research focus on digestive endoscopy, inflammatory bowel disease, liver and pancreatic diseases, gastrointestinal disorders, and nutrition. Soon, we will also establish a research line in digestive motility and functional diseases.

Publications

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2.3. Digestive Diseases Research Group – DdRG

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Active projects

PI	Funding agency	Project	Budget (€)
Francesc Xavier Molero Richard	Instituto de Salud Carlos III ISCIII	Contribution of dysfunctional CFTR in the development and aggressiveness of pancreatic cancer. Stimulation of pancreatic cancer growth and metastasis by CFTR down regulation in stellate cells.	141.775 €
Patricia Huelin Alvarez	GILEAD SCIENCES SL	Estrategia de cribaje de hepatitis "D" en subpoblación inmigrante con elevada prevalencia de hepatitis "B" (Provincia Lleida)	29.790 €

2.4. 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.

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 composed by two Principal Investigators, Joan Verdaguer and Concepció Mora, and their respective research units. Both investigators have a long history as leading researchers in R&D for more than fifteen years 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.

Clinical node: Obesity, Diabetes and Metabolism Research Group (ODIM)

The ODIM Research Group has worked in recent years on 2 main lines of research: (i) Being able to predict the response to bariatric surgery (BC), both in terms of weight and metabolic response, and (ii) The study of the mechanisms by which diabetes has a negative impact on lung function and breathing during sleep. Although both lines emerged independently, they have eventually synergised with each other. Our group's research is mainly clinical, although with a clear translational application, fostering collaboration with external groups complementary to our own.

Two of the members of the group are not principal investigators in publicly funded competitive projects. 80% have a PhD degree in health sciences or are currently working on their doctoral thesis.

Most of the team members are specialists in Endocrinology and Nutrition, but our group also includes nursing graduates and graduates in human nutrition and dietetics.

We combine funded research projects with the development of clinical trials promoted by both the researcher and the laboratory. In recent years we have become one of the most recruiting centres in our country in the studies in which we participate.

Publications

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2.4. Research Group in Immunology and Metabolism (GRIM)

– Navarro E, Petit NM, Salinas B, Herrerías F, VILARDELL F, de la Fuente MC, Pallares J, Santamaría M, Zorzano M, Sánchez E, Matías X, López C, Soler AG, León J, Bueno M, Lecube A. Metabolic Dysfunction-Associated Steatotic Liver Disease in Severe Obesity and Concordance between Invasive (Biopsy) and Noninvasive (OWLiver®) Diagnoses. *Obes Facts*. 2024. 17. (5):p. 473–482. IF:3,900. (D3)(Q2).

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Funded projects

PI	Funding agency	Project	Budget (€)
Albert Lecube Torelló	Instituto de Salud Carlos III ISCIII	¿Por qué soy un mal respondedor a la pérdida de peso? Buscando nuevos fenotipos clínicos en la obesidad.	208.750 €
Juan Verdaguer Autonnell	Diputació de Lleida	Analysis of a microbiotherapy for type 1 diabetes treatment- ajut ISP 2023	20.000 €
Juan Verdaguer Autonnell	Instituto de Salud Carlos III ISCIII	Estudio del impacto generado por modificaciones en la microbiota intestinal sobre la actividad del sistema inmune en el modelo murino NOD de diabetes autoinmune.	275.000 €

2.4. Research Group in Immunology and Metabolism (GRIM)

Active projects

PI	Funding agency	Project	Budget (€)
Albert Lecube Torelló	Instituto de Salud Carlos III ISCIII	¿CONOCER LA PREDISPOSICION GENETICA DEL PACIENTE CON OBESIDAD AYUDA A MEJORAR LA EFICACIA DE LA CIRUGÍA BARIÁTRICA?	153.670 €
Albert Lecube Torelló	Instituto de Salud Carlos III ISCIII	Plataforma de soporte para la Investigación Clínica	183.570 €
Albert Lecube Torelló	Instituto de Salud Carlos III ISCIII	SUSCEPTIBILIDAD GENÉTICA PARA PREDECIR LA PÉRDIDA DE PESO TRAS LA CIRUGÍA BARIÁTRICA	839.299 €
Albert Lecube Torelló & Adriano Targa Dias Santos	Diputació de Lleida	Comprendiendo mejor la interacción entre los mecanismos etiopatogénicos de la obsidad: Hacia un modelo predictivode base genética.	50.000 €
Carolina Lopez Cano	Instituto de Salud Carlos III ISCIII	El efecto de la diabetes mellitus tipo 2 y la obesidad sobre la cronodisrupción. La hipoxia nocturna como nexo de unión.	62.920 €
Carolina Lopez Cano & Milica Bozic	Diputació de Lleida	Unraveling the role of piwi-interacting RNAs in the pathogenesis of obesity-induced kidney disease. Identification of potential biomarkers and therapeutic targets (RENOPIWI)	50.000 €
Josep León Mengibar	Fundació ACMSCB – SC Endoscopia Digestiva Mèdico- Quirúrgica	Impacte dels trastorns de la respiració nocturna en les característiques i evolució de les úlceres del peu en pacients amb diabetis (Estudi PEU)	5.000 €
Juan Verdaguer Autonell	Agencia Gestio Ajuts Universitat i Recerca AGAUR	Ajut per donar suport a les activitats dels grup de recerca	– €
Juan Verdaguer Autonell	Instituto de Salud Carlos III ISCIII	OncoNeoVac, un nuevo enfoque inmunoterapéutico para el tratamiento del melanoma.	168.619 €
Marta Hernandez Garcia	ASSOCIACIO DE DIABETICS DE CATALUNYA, DELEGACIO LLEIDA	Impacto de los trastornos de la respiración nocturna en las características y evolución de la úlcera del pie diabético.	20.000 €

2.5. Research group of health care (GReCS)

The group is mainly made up of nurses and physiotherapists from both clinical practice (Santa Maria University Hospital, Arnau de Vilanova University Hospital and Primary Care) and academic settings (Faculty of Nursing and Physiotherapy at the University of Lleida). Its main areas of research are active and healthy ageing, Social Determinants of Health and Health Services. The GReCS group participates in several projects in Spain, Europe and worldwide. Thanks to its potential, GReCS has established a stable collaboration with the Nursing and Healthcare Research Unit (Investén-isciii), focused on Best Practice Spotlight Organizations (BPSO), funded by the Ministry of Health and Long-Term Care of the Government of Ontario and the Instituto de Salud Carlos III, part of the Spanish Ministry of Economy and Finance. As part of the Spanish Collaborating Centre of the Joanna Briggs Institute, the group is involved in the implementation of Evidence-Based Nursing Practice in various clinical settings, through an agreement signed between the Instituto de Salud Carlos III (Unidad de Investigación en Enfermería y Asistencia Sanitaria: Investén-ISCI) and the Spanish Regional Health Systems.

Publications

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2.5. Research group of health care (GReCS)

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2.5. Research group of health care (GReCS)

Funded projects

PI	Funding agency	Project	Budget (€)
Esther Rubinat Arnaldo	Consorci Sanitari de Terrassa CST	SOMCare: Integració de robots d'assistència domiciliària per millorar l'autonomia i la qualitat de vida de les persones.	19.000 €
Francesc Valenzuela Pascual	Agencia Gestio Ajuts Universitat I Recerca AGAUR	Projecte Uni-Emotican Avaluació de l'efecte d'un programa de benestar emocional mitjançant una intervenció assistida amb animals en estudiants universitaris: assaig clínic aleatoritzat.	20.000 €
Marta Traperó Bertran	Instituto de Salud Carlos III ISCIII	Immune4ALL Explorando la viabilidad de biomarcadores predictivos y farmacodinámicos de inmunoterapia en tumores sólidos.	38.000 €
Marta Traperó Bertran	Instituto de Salud Carlos III ISCIII	INGENIO: Integrative genomic, digital imaging and clinical information towards Precision Oncology Optimization	8.500 €
Marta Traperó Bertran	Ministerio de Ciencia e Innovacion	Robotic-SNS: Desarrollo e Implementación de Rehabilitación Robótica Value-based en el Sistema Nacional de Salud (SNS)	102.473 €

Active projects

PI	Funding agency	Project	Budget (€)
Erica Tula Briones Vozmediano	Instituto de Salud Carlos III ISCIII	Trabajo agrícola y migración en España: Precariedad Sociolaboral y Salud (PSLyS)	51.425 €
Erica Tula Briones Vozmediano	Instituto de Salud Carlos III ISCIII	Trabajo Agrícola, Migración, Precariedad y Salud (Proyecto Agromisalud II)	83.750 €
Esther Rubinat Arnaldo	European Commission EU	DistriMuSe: DISTRIBUTED MULTI-SENSOR SYSTEMS FOR HUMAN SAFETY AND HEALTH	257.946 €
Helena Fernandez Lago	Instituto de Salud Carlos III ISCIII	Efectos de la combinación del tapiz rodante en un entorno virtual gamificado con la estimulación cerebral no invasiva en la enfermedad de Parkinson: ensayo clínico aleatorizado.	62.920 €
Montserrat Gea Sanchez	Fundacio La Marató de TV3	The effect of a workplace active pauses intervention on the reduction of cardiovascular risk factors in call center workers: a mixed methods study	193.161 €

2.6. 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 affiliated with the University of Lleida. The principal investigator is Ferran Barbé Illa.

Since 2008, the TRRM group has belonged to the CIBER of Respiratory Diseases (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 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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	HEALTHCARE FRAMEWORK	ORGANIZATION	CORE FACILITIES	ECONOMIC INDICATORS	RESEARCH ACTIVITY	KNOWLEDGE TRANSFER AND INNOVATION	RESEARCH ACTIVITY BY AREAS AND GROUPS	COMMUNICATION	FUNDRAISING	MAIN FUNDERS	HIGHLIGHTS
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Funded projects

PI	Funding agency	Project	Budget (€)
Adriano Targa Dias Santos	Instituto de Salud Carlos III ISCIII	CRONOCRIT: Alteraciones en la salud del sueño y los ritmos circadianos tras una enfermedad crítica: del diagnóstico a la predicción	72.819 €
Jessica Gonzalez Gutierrez	Institut Català de La Salut ICS	Premis de Recerca de l'ICS 2024 a la Trajectòria Investigadora	5.000 €

2.6. Translational research in respiratory medicine group

Active projects

PI	Funding agency	Project	Budget (€)
Adriano Targa Dias Santos	Instituto de Salud Carlos III ISCIII	Contrato Miguel Servet – Proyecto	40.000 €
Adriano Targa Dias Santos & Albert Lecube Torelló	Diputació de Lleida	Comprendiendo mejor la interacción entre los mecanismos etiopatogénicos de la obsidad: Hacia un modelo predictivo de base genética.	50.000 €
Blanca Salinas Roca	Universitat de Lleida UdL	"Monitorització de l'impacte en indicadors de salut i a nivell socioeconòmic de l'ús de Pasta Nutricional Enriquida en població maternoinfantil: Programa integrat en UnTeNu+23"	10.543 €
David de Gonzalo Calvo	Fundacion Eugenio Rodriguez Pascual	Análisis de Endotipos Pulmonares en Pacientes Post-COVID: Un Estudio Integral	24.429 €
David de Gonzalo Calvo	GILEAD SCIENCES SL	Deciphering the Pulmonary Sequelae in the POSTCOVID patient: Introducing the Endotype Concept.	49.375 €
David de Gonzalo Calvo	Instituto de Salud Carlos III ISCIII	Towards the Understanding and Diagnosis of the Persistent Pulmonary Sequelae in the Critically Ill Patient: Introducing the Endotype Concept (e-postcritical project)	215.000 €
David de Gonzalo Calvo & Jose Manuel Porcel Pérez	Diputació de Lleida	Construcción de un algoritmo diagnóstico y pronóstico del derrame pleural maligno secundario a cáncer de pulmón mediante firmas de RNA no codificante y Machine Learning	50.000 €
Ferran Barbé Illa	Agencia Gestio Ajuts Universitat i Recerca AGAUR	Ajut per donar suport a les activitats dels grups de recerca consolidats: Translational Research in Respiratory Medicine	60.000 €
Ferran Barbé Illa	Diputació de Lleida	Normotensive Patients with Sleep Apnea: Differential Impact of CPAP Treatment According to the Circadian Blood Pressure Pattern. A Randomized Controlled Trial. The MOISES study.	50.000 €
Ferran Barbé Illa	Institut Català de la Salut ICS	PREMI A LA TRAJECTORIA INVESTIGADORA ALS HOSPITALS DE L'ICS 2022	5.000 €
Ferran Barbé Illa	Instituto de Salud Carlos III ISCIII	Impacto del Manejo de los Trastornos Respiratorios Durante el Sueño en el control de la hipertensión sistémica: Proyecto METASLEEP	2.344.100 €
Ferran Barbé Illa & Gerard Torres Cortada	Instituto de Salud Carlos III ISCIII	Pacientes Normotensos con Apnea del Sueño: Impacto Diferencial del Tratamiento con CPAP según el Patrón Circadiano de Presión Arterial. Ensayo Clínico Aleatorizado. Estudio MOISÉS	147.015 €
Ivan Benitez Iglesias	Instituto de Salud Carlos III ISCIII	Caracterización de los mecanismos del daño vascular inducido por la apnea del sueño en la hipertensión nocturna y posibles dianas terapéuticas. Estudio HYPERSLLEEP.	275.275 €
Jessica Gonzalez Gutierrez	Instituto de Salud Carlos III ISCIII	"Longitudinal recovery trajectories after an acute respiratory distress syndrome, a new understanding. The TENACITY study."	183.750 €
Jordi de Batlle Garcia	Instituto de Salud Carlos III ISCIII	Big Data para la predicción del riesgo de complicaciones durante y después del ingreso en pacientes crónicos con monitorización intensiva en las primeras 24h de ingreso.	121.000 €
Jordi de Batlle Garcia	Instituto de Salud Carlos III ISCIII	Contrato Miguel Servet – Proyecto	40.000 €

2.7. 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 in rodents and swine, and state-of-the-art vascular imaging techniques, scientists from the VRTR group join their efforts in solving challenging scientific problems. 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.

Publications

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 – Balafa O, Fernandez B, Ortiz A, Dounousi E, Ekart R, Ferro CJ, Mark PB, Valdivielso JM, Del Vecchio L, Mallamaci F. Sex disparities in mortality and cardiovascular outcomes in chronic kidney disease. *Clin Kidney J.* 2024. 17. (3):sfae044. IF:3,900. (D2)(Q1).
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– Gómez I, Ladehesa ML, Diaz JM, López C, Abalos MC, Ruiz D, Paz G, Gonzalez A, Ranea J, Escudero A, Moreno I, Tinahones FJ, Collantes E, Ruiz P. Bone metabolism and inflammatory biomarkers in radiographic and non-radiographic axial spondyloarthritis patients: a comprehensive evaluation. *Front Endocrinol (Lausanne).* 2024. 15. p. 1227196–1227196. IF:3,900. (D3)(Q2).
 – González J, Jatem E, del Carpio J, Castañeda ZI, Abó AI, Martín ML, Segarra A. Epidemiological, clinical and prognostic issues in SARS-CoV-2 infection or vaccination-related glomerular disease: Our single-center experience. *Nefrologia (Engl Ed).* 2024. 44. (4):p. 582–583. IF:2,000. (D5)(Q2).
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RESEARCH TEAM

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Jose Manuel Valdivielso Revilla

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 Milica Bozic
 Serafin Cambray Carner

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Àngela del Rocío Vallejos Nuñez
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 Juan Diego Dominguez Coral

2.7. Vascular and renal translational research group

Funded projects

PI	Funding agency	Project	Budget (€)
Jose Manuel Valdivielso Revilla	European Commission EU	Calprotectin as a new companion biomarker and associated drug target for premature vascular aging in chronic kidney disease and type 2 diabetes	219.625 €
Jose Manuel Valdivielso Revilla	Instituto de Salud Carlos III ISCIII	RICORS2040-Renal	171.699 €
Jose Manuel Valdivielso Revilla & Juan Miguel Díaz Tocados	European Renal Association ERA-EDTA	Crosstalk between vascular vitamin D signaling and bone homeostasis in CKD. Implications in mineral metabolism.	29.200 €
Jose Manuel Valdivielso Revilla & Marisa Martin Conde	Instituto de Salud Carlos III ISCIII	Papel de la señalización renal por IGF en los eventos tempranos de la enfermedad renal crónica	248.750 €
Milica Bozic	Instituto de Salud Carlos III ISCIII	miRNAs como Potentes Reguladores de la nefropatía asociada a Obesidad. Identificación de potenciales biomarcadores y Dianas Terapéuticas (MIR-PROTECT)	152.500 €

Laboratories

Biomedicine I 1st floor Lab b1.10
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Active projects

PI	Funding agency	Project	Budget (€)
Jose Manuel Valdivielso Revilla	Agencia Gestio Ajuts Universitat i Recerca AGAUR	Ajut per donar suport a les activitats dels grup de recerca consolidat de Translacional Vascular i Renal	- €
Jose Manuel Valdivielso Revilla	Instituto de Salud Carlos III ISCIII	El primer Estudio de asociación de genoma completo (GWAS) con enfermedad coronaria poblacional a 10 años en más de 100.000 participantes para personalizar la prevención cardiovascular en España	54.167 €
Jose Manuel Valdivielso Revilla	Instituto de Salud Carlos III ISCIII	Papel de PTEN en la reabsorcion tubular renal de proteínas. Implicaciones en nefropatías proteinúricas	165.770 €
Jose Manuel Valdivielso Revilla	Instituto de Salud Carlos III ISCIII	SPAIN CKD CAUSE (SPACKDC)	312.400 €
Jose Manuel Valdivielso Revilla & Maria Mercedes Ibarz Escuer	Diputació de Lleida	Influence of SARS-COV-2 infection in atherosclerosis development. "El BUS DE LA SALUT" study	50.000 €
Marcelino Bermudez Lopez	Instituto de Salud Carlos III ISCIII	ANGEL: A machine learning algorithm to predict atherosclerotic cardiovascular disease.	58.938 €
Milica Bozic	Instituto de Salud Carlos III ISCIII	Contrato Miguel Servet - Proyecto	40.000 €
Milica Bozic	Instituto de Salud Carlos III ISCIII	Descifrando el papel de SNCA en la regulación de la autofagia y el daño renal: implicaciones mecanísticas, terapéuticas y pronósticas.	123.420 €
Milica Bozic & Carolina Lopez Cano	Diputació de Lleida	Unraveling the role of piwi-interacting RNAs in the pathogenesis of obesity-induced kidney disease. Identification of potential biomarkers and therapeutic targets (RENOPIWI)	50.000 €
Sara Bielsa Gracia & Serafin Cambray Carner	Instituto de Salud Carlos III ISCIII	Women Molecular Biology of ATtherosclerosis (WOMBAT)	63.750 €

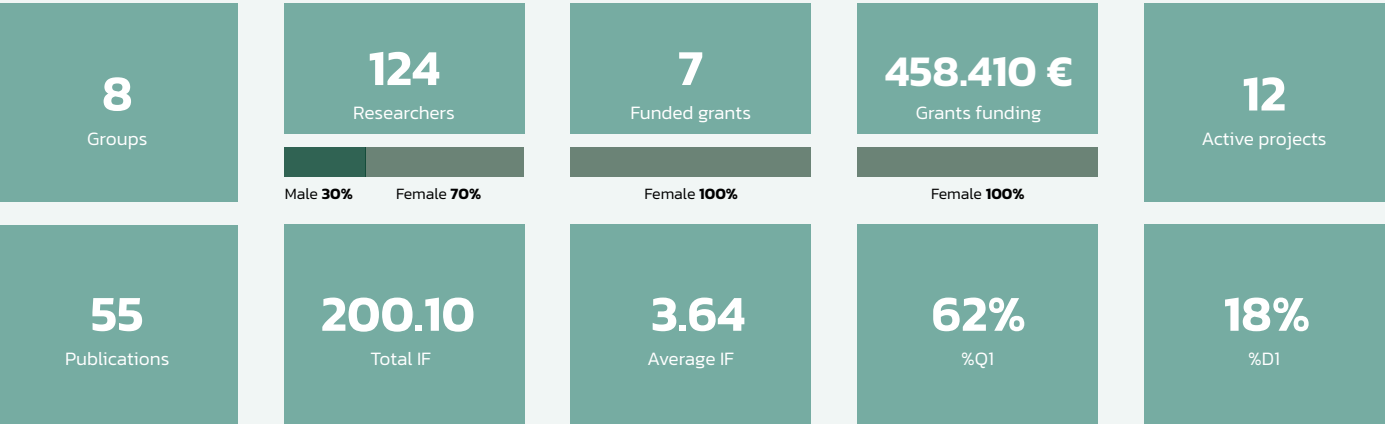
Area 3. Epidemiology, infectious diseases and public health

Area coordinator: Dr. Oriol Yuguero Torres and Dr. Alba Belles Belles

In this area we aim to respond to epidemiological challenges through collaboration between clinical and basic researchers. We combine our research to see the impact on public health and the environment around us of all the pathologies we attend in our care centers.

Groups

- 3.1 Applied epidemiology
- 3.2 ERLab, research in emergency medicine
- 3.3 Health Education, Nursing, Sustainability and Innovation Research Group (GREISI)
- 3.4 Indicators and specifications of the quality in the Clinical Laboratory
- 3.5 Intensive Medicine
- 3.6 Multidisciplinary Clinical Research Group on Musculoskeletal Pathology, Fragility and Pain Management
- 3.7 Pharmacology & Molecular Microbiology
- 3.8 Research in clinical microbiology and antibiotic resistance



3.1. Applied epidemiology

This is a multidisciplinary group formed 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 include the investigation of epidemic outbreaks for Norovirus, factors associated with HIV infection in immigrants, risk factors for tuberculosis infection in contacts with patients and studies on vaccines and international travel.

Publications

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– Bullón V, Toledo D, Vera N, Godoy P, Cenoz MG, Pardos J, Castilla J, Domínguez A, Martínez I. Level of knowledge, attitudes and the use of preventive measures among household contacts of COVID-19 cases after the acute phase of the pandemic. *An Sist Sanit Navar*. 2024. 47. (1):IF:1,000. (D9)(Q4).

Domínguez A, Avellón A, Hernando V, Soldevila N, Borrás E, Martínez A, Izquierdo C, Torner N, Pericas C, Rius C, Godoy P. Hepatitis B Virus-Related Cirrhosis and Hepatocellular Carcinoma Hospital Discharge Rates from 2005 to 2021 in Spain: Impact of Universal Vaccination. *Vaccines (Basel)*. 2024. 12. (11):1254. IF:5,200. (D3)(Q1).

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– García C, Mirada G, Estany P, Sol J, Ortega M, Artigues E. Analysis of Sociodemographic and Clinical Characteristics of Inflammatory Bowel Disease in Catalonia Based on SIDIAP. *J. Clin. Med*. 2024. 13. (21):6476. IF:3,000. (D2)(Q1).

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– Godoy P, Soldevila N, Martínez A, Godoy S, Jané M, Torner N, Acosta L, Rius C, Domínguez A. Effectiveness of Influenza Vaccination and Early An-

tiviral Treatment in Reducing Pneumonia Risk in Severe Influenza Cases. *Vaccines (Basel)*. 2024. 12. (2):173. IF:5,200. (D3)(Q1).

– Godoy S, Parrón I, Millet JP, Caylà JA, Follia N, Carol M, Orcau A, Alsedà M, Toledo D, Plans P, Ferrús G, Barrabeig I, Clotet L, Domínguez A, Godoy P. Transmission TBGRP. Risk of tuberculosis among pulmonary tuberculosis contacts: the importance of time of exposure to index cases. *Ann Epidemiol*. 2024. 91. p. 12–17. IF:3,300. (D3)(Q1).

– Llinas A, Paredes E, Sol J, Palacin JM, Solanes M, Martínez J, Florensa C, Llor L, Castañ MT, Gracia MI, Paül JM, Bravo MO, Llor C. Impact of Lung Ultrasound along with C-Reactive Protein Point-of-Care Testing on Clinical Decision-Making and Perceived Usefulness in Routine Healthcare for Patients with Lower Respiratory Tract Infections: Protocol for Analytical Observational Study. *J. Clin. Med*. 2024. 13. (19):5770. IF:3,000. (D2)(Q1).

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Montserrat J, Fornells I, Roso A, Olivares P, Romero A, Ichart JX. Impact of COVID-19 on the mental health of the population: Study in primary care. *Aten. Prim*. 2024. 56. (3):102813. IF:1,800. (D4)(Q2).

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– Sol J, Ortega M, Portero M, Pinol G, Ribas V, Artigues E, Butí M, Pamplona R, Jové M. Human lifespan and sex-specific patterns of resilience to disease: a retrospective population-wide cohort study. *BMC Med*. 2024. 22. (1):p. 17–17. IF:7,000. (D1)(Q1).

– Vera N, Bullón V, Miret C, Pardos J, Cenoz MG, Godoy P, Castilla J, Domínguez A, Toledo D, Martínez I. Assessment of Long-Term Changes in Knowledge and Attitudes of Household Contacts of COVID-19 Cases in Northern Spain. *Infect Dis Rep*. 2024. 16. (5):p. 923–931.

RESEARCH TEAM

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3.1. Applied epidemiology

Active projects

PI	Funding agency	Project	Budget (€)
Marta Ortega Bravo & Mariona Jove Font	Diputació de Lleida	Development of dynamic models for the personalized prevention and treatment of age-related diseases	50.000 €
Pere Godoy Garcia	Instituto de Salud Carlos III ISCIII	Factores asociados a la transmisión de SARS-CoV-2 en los convivientes de Cataluña y Navarra y efectividad de las vacunas y de las medidas no farmacológicas para reducir la transmisión.	76.230 €

3.2. ERLab, research in emergency medicine

ERLab is the only research group dedicated to emergency pathology research in Catalonia and the rest of the country. It is composed of healthcare professionals from Hospital Emergency Departments, Primary Care Emergency Departments and the out-of-hospital area. Our group is made up of professionals highly committed to clinical care, which is why the COVID-19 pandemic significantly disrupted our activities. Even so, we have been able to carry out research and publish the results of our work. Over the years, the group has been awarded various competitive projects. We have always maintained a public health vocation, since Arnau de Vilanova is the only 2nd level hospital in our health region and territory. Our group has established working alliances with other research groups of the IRB-Lleida, as well as with the Department of Legal Medicine of the Faculty of Medicine of the University of Lleida or with the Chair of Social Innovation, also of the University of Lleida. In collaboration with the Medical Emergency System, we carry out joint projects in Catalonia. Faced with the challenge of the situation of emergency professionals, we also collaborate with the Galatea Foundation to find solutions to improve emotional well-being and carry out research projects in this field. We are currently carrying out two competitive projects and other small projects aimed at improving our care for the patients we attend throughout the emergency process.

Active projects

PI	Funding agency	Project	Budget (€)
Oriol Yuguero Torres	Agencia Gestio Ajuts Universitat i Recerca AGAUR	Ajut per donar suport a les activitats del grup de recerca consolidat en Urgències i Emergències.	- €
Oriol Yuguero Torres	Fundación ASISA	LA NARRATIVA ESCRITA DE QUIÉN ENFERMA Y/O ACOMPAÑA	2.500 €
Oriol Yuguero Torres	Institut Català de la Salut ICS	Premi investigador/a jove ICS 2021	5.000 €
Oriol Yuguero Torres & Aida Serra Maqueda	Diputació de Lleida	Extracellular vesicles profiling for the discovery of specific biomarkers associated to the initiation and early development of atrial fibrillation	50.000 €

Publications

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- Serra M, Yuguero O. Clinical factors of patients who die in an emergency department: the significance of early clinical data, especially for the elderly. Signa Vitae. 2024. 20. (7):p. 53-59. IF:1,000. (D8)(Q3).
- Zafra RP, Parramon NA, Albiol M, Torres OY. Analysis of the challenges and dilemmas that bioethics of the 21st century will face in the digital health era. Aten. Prim. 2024. 56. (7):p. 102901-102901. IF:1,800. (D4)(Q2).

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3.3. Health Education, Nursing, Sustainability and Innovation Research Group (GREISI)

The research group in Health Education, Nursing, Sustainability and Innovation (GREISI) develops its activity in these four areas with a common focus: the generation of scientific evidence in the field of health sciences. Its members lead and participate in several competitive research projects, focused on improving the care and sustainability of the health of people across the different stages of life (childhood, adulthood and senescence) and in the different healthcare settings (primary care, hospital and socio-sanitary), as well as providing tools and scientific evidence to health science professionals and improving the training of students in this field through educational innovation. As a result of this research, in the last five years more than 50 scientific articles, more than 10 books, book chapters and monographs, nearly 40 outreach articles and 100 participations in national and international congresses have been produced. They have developed stable lines of research, such as the one focused on dehydration in the elderly, and have addressed important challenges of society in recent years, such as COVID-19 or climate change, through collaboration with researchers from other disciplines and/or regional, national and international institutions.

Publications

– Botigué T, Camí C, Selva L, Masot O, Espart A, Campoy C, Roca J. Knowledge, Attitudes, and Practices Two Years after the Start of the COVID-19 Pandemic: A Mixed Methods Study. *J. Nurs. Manag.* 2024. 2024. 6636649. IF:3,700. (D1)(Q1).

- Labadía EF, Masot O, Vidal LLT, Botigué T, Bielsa S. Educational interventions and identification of risk factors to prevent and reduce peritonitis in peritoneal dialysis: A scoping review. *J. Ren. Care.* 2024. 50. (3):p. 307–318. IF:1,500. (D6)(Q3).
- Masot O, Paraiso E, Lavedan A, Botigue T, Selva L, Barallat E, Alzuria RM, Espart A. Nursing Student Perception of Different Simulation Methodologies Applied to Help First-Year Students Integrate Knowledge Acquired: A Cross-Sectional Study. *Clin. Simul. Nurs.* 2024. 91. 101548. IF:3,400. (D1)(Q1).
- Medel D, Cemeli T, Sanromà M, Jimenez M, Bonet A, Torné A, Roca J. Exploring communicative interactions in debriefing sessions with nursing students: A qualitative study. *Nurse Educ. Today.* 2024. 142. 106334. IF:3,600. (D1)(Q1).
- Sanz MT, González L, Sánchez G, Vallès V, Escobar MA, Monistrol O. Humanised care in acute psychiatric hospitalisation units: Definition, values and strategic initiatives from the perspective of persons with mental health problems, primary carers and professionals. *J. Psychiatr. Ment. Health Nurs.* 2024. 31. (2):p. 228–239. IF:2,600. (D2)(Q1).
- Seck F, Masot O, Carey N, Roca J, Botigué T, Pueyo EP, Santamaria AL. Nurses' perceived barriers and facilitators to the implementation of nurse prescribing: Delphi study and focus group. *J Adv Nurs.* 2024. 80. (5):p. 2106–2120. IF:3,800. (D1)(Q1).
- Torralbas J, Valls V, Roca J, Campoy C, Sastre M, García J. Sexual Affectivity in Autism Spectrum Disorder: Bibliometric Profile of Scientific Production. *Arch. Sex. Behav.* 2024. 54. (2):p. 673–684. IF:2,900. (D1)(Q1).

Funded projects

PI	Funding agency	Project	Budget (€)
Eva Barallat Gimeno	Associacio Espanola Contra el Cancer AECC	Comunicar es Humanizar (+ComOn): un estudio multimétodo sobre necesidades comunicativas en oncología y una intervención formativa	148.920 €
Laia Selva Pareja	Universitat de Lleida UdL	Perspectives i desafiaments professionals salut_ Estudi qualitatiu sobre deshidratació	1.250 €
Teresa Botigue Satorra	Agencia Gestio Ajuts Universitat i Recerca AGAUR	Abordatge interdisciplinari per mitigar la deshidratació produïda per les onades de calor en les persones vulnerables de les terres de Lleida: Projecte HIDROPONENT	225.990 €
Teresa Botigue Satorra	Agencia Gestio Ajuts Universitat i Recerca AGAUR	Cuidar-se per poder cuidar: Intervenció multicèntrica pel benestar emocional dels estudiants del Grau en Infermeria a Catalunya (Programa Inspira)	20.000 €
Teresa Botigue Satorra	Institut Català de la Salut ICS	Eficacia y eficiencia de GEL-AID, agua gelificada para la hidratación segura y eficaz de personas mayores institucionalizadas	42.250 €

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Teresa Botigué Satorra

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Olga Masot Ariño
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Glòria Tort Nasarre
Olga Monistrol Ruano

3.3. Health Education, Nursing, Sustainability and Innovation Research Group (GREISI)

Active projects

PI	Funding agency	Project	Budget (€)
Teresa Botigue Satorra	Agencia Gestio Ajuts Universitat i Recerca AGAUR	Ajuts per donar suport a l'activitat científica dels grups de recerca GREISI (SGR-Cat 2021)	36.000 €

3.4. 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 a guarantee 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 enhance patient safety. One of the lines of work of the group is the variability, appropriateness, and efficiency of demand-driven interventions.

Publications

–Alonso A, Salgado J, Tejjido O, Gonzalez F, Valiente A, Fanlo AJ, Vicente J. Genetic polymorphisms of CYP2C19 in ecuadorian population: An interethnic approach. Heliyon. 2024. 10. (7):p. 28566–28566. IF:3,400. (D3)(Q1).

Active projects

PI	Funding agency	Project	Budget (€)
Maria Mercedes Ibarz Escuer & Jose Manuel Valdivielso Revilla	Diputació de Lleida	Influence of SARS-COV-2 infection in atherosclerosis development. “El BUS DE LA SALUT” study	50.000 €

– Alonso N, Menao S, Lastra R, Arruebo M, Bueso MP, Perez E, Murillo ML, Alvarez M, Alonso A, Rebollar S, Cruellas M, Arribas D, Ramos M, Isla D, Gallano JJ, Garcia H, Sancho J, Andres R. Association between missense variants of uncertain significance in the CHEK2 gene and hereditary breast cancer: a cosegregation and bioinformatics analysis. Front. Genet. 2024. 14. p. 1274108–1274108. IF:2,800. (D5)(Q2).

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3.5. Intensive Medicine

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

Publications

–Barea JA, Chico M, Ballesteros MA, Manuel AC, Castaño AM, Egea JJ, Lagares A, Morales G, Pérez J, Goixart LS, Llompарт JA. Resuscitation and Initial Management After Moderate-to-Severe Traumatic Brain Injury: Questions for the On-Call Shift. *J. Clin. Med.* 2024. 13. (23):7325. IF:3,000. (D2)(Q1).

– Ceccato A, Forne C, Bos LD, Camprubí M, Areny A, Campaña E, Quero S, Diaz E, Roca O, de Gonzalo D, Fernández L, Motos A, Ferrer R, Riera J, Lorente JA, Peñuelas O, Menendez R, Amaya R, Añón JM, Balan A, Barberà C, Barberán J, Blandino A, Boado MV, Bustamante E, Caballero J, Carbajales C, Carbonell N, Catalán M, Franco N, Galbán C, Gumucio VD, de la Torre MDC, Estella Á, Gallego E, García JL, Garnacho J, Gómez JM, Huerta A, Jorge RN, Loza A, Marin J, Martínez de la Gándara A, Martin MC, Martínez I, Messa JL, Muñoz G, Nieto MT, Novo MA, Peñasco Y, Pozo JC, Pérez F, Ricart P, Roche F, Rodríguez A, Sagredo V, Sánchez A, Sancho S, Socías L, Solé J, Suarez F, Tamayo L, Trenado J, Úbeda A, Valdivia LJ, Vidal P, Bermejo J, Gonzalez J, Barbe F, Calfee CS, Artigas A, Torres A, CIBERESUCICOVID P. Clustering COVID-19 ARDS patients through the first days of ICU admission. An analysis of the CIBERESUCICOVID Cohort. *Crit. Care.* 2024. 28. (1):p. 91–91. IF:8,800. (D1)(Q1).

– Contreras S, Vich C, Caballero J, G, S. Practical approach to inhaled sedation in the critically ill patient. Sedation, Analgesia and Delirium Working Group (GTSAD) of the Spanish Society of Intensive and Critical Care Medicine and Coronary Units (SEMICYUC). *Med. Intensiv.* 2024. 48. (8):p. 467–476. IF:2,700. (D5)(Q2).

– Ferrer R, Castro P, Lorenzo C, Monclou J, Marcos P, Ochagavía A, Ruiz JC, Trenado J, Villavicencio C, Yébenes JC, Zapata L, trabajo sepsis SOCMIC GRP. Ten take-home messages on vasopressin use in critically ill patients. *Med. Intensiv.* 2024. 48. (12):p. 704–713. IF:2,700. (D5)(Q2).

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– Henríquez M, Vaca R, Benítez ID, González J, Santisteve S, Aguilà M, Minguez O, Moncusí A, Gort C, Torres G, Labarca G, Caballero J, Barberà C, Torres A, de Gonzalo D, Barbé F, Targa A. Sleep and Circadian Health of Critical Survivors: A 12-Month Follow-Up Study. *Crit. Care Med.* 2024. 52. (8):p. 1206–1217. IF:7,700. (D2)(Q1).

– Hernández L, Ulldemolins M, Vilanova J, Torras C. Effects of Channelling a Peripherally Inserted Central Venous Catheter on Blood Flow. *Fluids.* 2024. 9. (11):245.

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– Ramirez MF, Gonzalez EL, Moles SJ, Garcia CA, Munoz JMR, Ortega RL, Naves LG, Sanchez AB, Jover A. Diagnostic challenges of recurrent malaria in non-endemic areas. *J Travel Med.* 2024. 31. (3):IF:9,100. (D1)(Q1).

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– Trujillano L, Ayerza A, Puaic B, Latorre A, Arnedo M, Lucia C, Gil M, Parenti I, Kaiser FJ, Ramos FJ, Trujillano J, Pié J. Assessment of Quality of Life Using the Kidslife Scale in Individuals With Cornelia de Lange Syndrome. *Cureus.* 2024. 16. (4):e57378.

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3.6. Multidisciplinary Clinical Research Group on Musculoskeletal Pathology, Fragility and Pain Management

Our research group is clinical and multidisciplinary team that promote patient-centered medicine encompassing diverse and complementary visions of musculoskeletal pathology.

It is composed of medical health personnel, nurses, and physiotherapists from different levels of care and from two hospitals in the same region, each with distinct patient and pathology profiles.

The doctors have training in various specialties related to musculoskeletal pathology to varying degrees, such as Orthopedic Surgery, Geriatrics, Physical Medicine and Rehabilitation or the Pain Clinic, forming 8 strongly interrelated subgroups:

- Spine
- Pain
- Rehabilitation
- Traumatology
- Prosthetics
- Upper limb
- Ortho-geriatrics and Fragility
- Neurosurgery

with many common projects and others more specific

The work of our group focuses on four main lines of research:

1. Aspects related to perioperative surgery in Orthopaedic Surgery and Traumatology.
2. Clinical measurement of treatment, surgical, semi-invasive and non-invasive results.
3. Evaluation of the repercussions of fragility, especially in the hospital setting in relation to hip fractures.
4. Risk assessment through big data analysis systems / Machine learning.

Publications

–Andrés JV, Nomdedéu J, Aguado HJ, González D, Minguell J, Joshi N, Teixidor J, Tomàs J, Selga J, García Y, Noriega DC, Mateos E, Pereda A, Cervera

MC, Balvis P, García A, Rodríguez M, Castro M, Moreta J, Olías B, Amaya P, Boluda J, Bárcena L, Blas JA, Freile P, Castellón P, Lanuza L, Cabria J, Valle J, García J, Bonome C, Cano MD, Benjumea A, Chico M, Fernández A, Saura E, Sánchez P, Ricón FJ, García EM, Medrano I, Cuadrado F, Pérez MI, García S, Del Pozo P, García FM, García E, Guijarro A, Navas I, Videla M, Muñoz JM, Querolt J, de Santamaría GTL, Serra T, Carrasco MC, Pena S, Otero V, Fernández F, Martínez A, Galián E, Hernández JM, Renau M, Campuzano B, Carreras A, Vives M, Camacho P, Jornet M, Muñoz A, Gámez C, Plaza N, Benito J, Cuenca A, Alonso L, Mingo J, Briso R, Barbería A, Chouza L, Ojeda C, Ajuria E, Díaz R, Gasset A, Domínguez A, Gosálbez J, Pérez I, Riera L, Roche A, Macho M, Criado G, Cabello HG, Cunchillos J, Saló JC, Espona J, Salamanca C, García P, Blasco J, Sevilla P, Cano JR, Martínez S, Carabelli GS, Slullitel P, Astore I, Hernández C, Marín J, Córdova JC, Sánchez N, García G, Rodríguez A, Pérez JM, Piñeiro A, Mandía A, De Caso J, Benito M, Murillo AD, De La Herrán G, Nunes N, Pérez NE, De Sande M, García XD, de Cortázar UG, Sánchez DE, PIPPAS GRP. Predictors of outcomes after internal fixation of periprosthetic femoral hip fractures Subgroup analysis of the peri-implant and peri-prosthetic fractures Spanish registry (PIPPAS). Injury. 2024. 55. (10):p. 111715–111715. IF:2,200. (D3)(Q2).
– Nuñez JH, Colomina J, Angles F, Pallisó F, Acosta HF, Mateu D, Novellas M. Routine pretransfusion testing before primary total hip or knee arthroplasty are an expensive and wasteful routine. Systematic review and meta-analysis. Arch. Orthop. Trauma Surg. 2024. 144. (4):p. 1585–1595. IF:2,000. (D4)(Q2).
– Pilares E, Colomina J, Gómez J, Drudis R, Torra M. Determining factors on length of stay in primary total knee arthroplasty patients using enhanced recovery protocol after surgery (ERAS) pathway. Rev Esp Cir Ortop Traumatol. 2024. 68. (5):p. 446–453.
– Salva G, Lluch A, Esplugas M, Carreño A, Scott A, Larrea M, García M. Scapholunate and lunotriquetral joint dynamic stabilizers and their role in wrist neuromuscular control and proprioception. J. Hand Ther. 2024. 37. (2):p. 273–281. IF:2,100. (D3)(Q1).
– Thenier JL, Martinez FR, Figueroa M, Arian F. Glioblastoma Pseudoprogression Discrimination Using Multiparametric Magnetic Resonance Imaging, Principal Component Analysis, and Supervised and Unsupervised Machine Learning. World Neurosurg. 2024. 183. p. 953–962. IF:1,900. (D5) (Q2).

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3.6. Multidisciplinary Clinical Research Group on Musculoskeletal Pathology, Fragility and Pain Management

Funded projects

PI	Funding agency	Project	Budget (€)
Maria Merce Matute Crespo	Instituto de Salud Carlos III ISCIII	Eficacia de duloxetina perioperatoria en pacientes con alto riesgo de desarrollar dolor crónico post-quirúrgico tras la cirugía de hernia inguinal: ensayo multicéntrico, aleatorizado y controlado	- €

Active projects

PI	Funding agency	Project	Budget (€)
Jaume Peroy Garcia	Sociedad Española de Columna Vertebral GEER	Efectividad de la inyección de anestésicos locales en herida quirúrgica en contexto post operatorio inmediato. comparación entre la ropivacaina al 50% con suero fisiológico frente a la no administración	3.000 €
Jordi Colomina Morales	Hospital Universitari Arnau de Vilanova de Lleida HUAV	Estudi de l'impacte de la salut del son en procediments artroplàstics de genoll i maluc a Lleida	6.000 €

3.7. Pharmacology & Molecular Microbiology

We are a passionate group of researchers working in both the basic and clinical fields. Our main focus is understanding the molecular mechanisms behind important biological processes impacting human health and survival. These processes include autophagy, iron and sphingolipid metabolism, oxidative stress, and cell death. We study these processes in various model organisms, from yeast to humans, to gain a deeper understanding. Our ultimate goal is to apply this knowledge to improve patient outcomes through clinical research. In addition to our work on biological processes, we evaluate the effectiveness, safety, and efficiency of biomedical technologies, particularly drugs, in preventing and treating diseases. We pay special attention to analyzing drug usage patterns to ensure they are implemented logically and appropriately. The group actively participates in national and international multicenter clinical trials to develop new medications in various areas of interest.

Publications

–Bernardez B, Mangues I, Callejo VM, Avila JJF, Rodríguez J, Aradilla M, Bautista MJM. [Artículo traducido] Modelo de estratificación de riesgo de atención farmacéutica para pacientes oncológicos con neoplasias sólidas o hematológicas. Farm. Hosp. 2024. 48. (3):p. 108–115. (D6)(Q3).
– Bernardez B, Mangues I, Callejo VM, Avila JJF, Rodríguez J, Aradilla M, Bautista MJM. Risk stratification model for the pharmaceutical care of oncology patients with solid or hematologic neoplasms. Farm. Hosp. 2024. 48. (3):p. 108–115. (D6)(Q3).

Funded projects

PI	Funding agency	Project	Budget (€)
Mª Angeles de la Torre Ruiz	Universitat de Lleida UdL	YeastIDA – Pre-prototype validation of a new engineered yeast designed to orally ameliorate iron deficient anemia	20.000 €

Active projects

PI	Funding agency	Project	Budget (€)
Judit Ribas Fortuny	Ministerio de Ciencia e Innovacion	Reposicionamiento contra el Crohn: cribado de una librería de fármacos aprobados por FDA que frenen la muerte celular por TNF-α en modelos genéticos deficientes en autofagia	110.110 €
Mª Angeles de la Torre Ruiz	IRBLleida	Weaning pigs an animal model to resolve iron deficiency anaemia based on biotechnologically-modified yeast	20.500 €

– Cid P, Vilaltella M, Martínez M, Mir M, Huerva V. Topical Insulin for Ocular Surface Disease. J Ocul Pharmacol Ther. 2024. 40. (4):p. 204–214. IF:1,900. (D5)(Q2).
– Costeira C, Querido A, Ventura F, Loureiro H, Coelho J, Benito E, Nabal M, Dones M, Specos M, Laranjeira C. Spiritual Care[Givers] Competence in Palliative Care: A Scoping Review. Healthcare (Basel). 2024. 12. (11):1059. IF:2,400. (D5)(Q2).
– García LF, Arnuelos JA, González EL, Bellés A, AM, Báscones ES, Bayo SM, Sánchez AB, Sánchez IP, Portillo AC, González MG. Azithromycin and moxifloxacin resistance determinants in Mycoplasma genitalium in Lleida, Spain. Rev Esp Quimioter. 2024. 37. (3):p. 270–273. IF:1,900. (D7)(Q3).
– Rivera M, Morales A, de Alba I, Fernandez NF, Schoenenberger JA, Barranco JL, Valero C. Vaccination strategies for patients under monoclonal antibody and other biological treatments: an updated comprehensive review based on EMA authorisations to January 2024. Expert Rev Vaccines. 2024. 23. (1):p. 887–910. IF:5,500. (D3)(Q1).
– Verdugo RM, Escrig EV, Izquierdo MM, Barrueta OI, Bonastre PT, Fernández CM. Analysis of the evolution of outpatient pharmaceutical care in hospital pharmacy services in Spain after the implementation and development of the MAPEX initiative. J Healthc Qual Res. 2024. 39. (2):p. 65–79.
Vicente E, Taberner P, Ibarra O, Murillo M, Fernández CM, Morillo R. Analysis 2016–2021 of the development of the MAPEX outpatient pharmaceutical care Project by regions in Spain. Farm. Hosp. 2024. 48. (2):p. 64–69. (D6)(Q3).

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3.8. Research in clinical microbiology and antibiotic resistance

Our group is made up of specialists in Clinical Microbiology and Clinical Analysis. Our research lines cover various areas of Microbiology and include infectious diseases caused by bacteria, viruses, fungi and parasites. The work of our group focuses on two main lines of research:

- The study and characterisation of different mechanisms of antibiotic resistance, the main virulence factors of pathogenic microorganisms isolated from clinical samples and the surveillance of circulating clones in our environment.
- The study and active surveillance of respiratory viruses circulating in the community as well as the monitoring of other microorganisms responsible for emerging infectious diseases.

Publications

– García LF, Arnuelos JA, González EL, Bellés A, AM, Báscones ES, Bayo SM, Sánchez AB, Sánchez IP, Portillo AC, González MG. Azithromycin and moxifloxacin resistance determinants in Mycoplasma genitalium in Lleida, Spain. Rev Esp Quimioter. 2024. 37. (3):p. 270–273. IF:1,900. (D7)(Q3).
– Jover A, Ramírez M, Bellés AB, Murillo ER, Bosch MB, Miró AR, López AM, Cabanillas JC, Palacín NP, Garrido S, Valls MO, Vilas M, Navés LG, Caudevilla MJJ, Navarro LM, Argiles CB, Castilla PV, Tomás J, Codina MS, Mayor EA, Solé RM, Martínez AV, Samper J, Marrón SC, Elcacho CS, Garrocho AR, Manrique

G, Curcó AS, Escuin DD, Servalls M, Farreny A, Esteban LM, Borrell LS, Valle AM, Planes MP, Hamadi A, Aymerich FP, Redondo FT, Castellón M, Palacios JV, Parejo M, Torres J, P GRP, Clinical Microbiology Antibiotic &. Effects of a Primary Care Antimicrobial Stewardship Program on Meticillin-Resistant Staphylococcus aureus Strains across a Region of Catalunya (Spain) over 5 Years. Antibiotics-Basel. 2024. 13. (1):92. IF:4,300. (D2)(Q1).
– Palom A, Rando A, Fernandez G, Calatayud L, Sellés A, Pérez Del Campo D, Mormeneo S, Perez M, Tabernero D, Ayats J, Llopis MA, Quer JC, Buti M. OPTI-HEP-D: a protocol for an intervention study comprising screening and linkage to care of people living with hepatitis D in Catalonia. Bmj Open. 2024. 14. (11):e086961. IF:2,400. (D3)(Q1).
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– Sánchez AB, Bellés AB, González MG, Domingo LM, Mir ES. Clinical relevance of viral codetection in infants with respiratory syncytial virus bronchiolitis. Enferm. Infect. Microbiol. Clin. 2024. 42. (6):p. 308–312. IF:2,600. (D6)(Q3).
– Sanchez E, Bellés A, Panzano PV, Castrillo NG, Verdasco AC, Sánchez AB, Bayo SM, González EL, Sánchez IP, García M. Group A Streptococcus vulvovaginitis in Spain, 2011–2023: antibiotic resistance and emm-type distribution. Eur. J. Clin. Microbiol. Infect. Dis. 2024. 44. (1):p. 181–185. IF:3,700. (D3)(Q2).

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Active projects

PI	Funding agency	Project	Budget (€)
Alba Muñoz Santa	Fundacion Jose Luis Castaño SEQC	Ayudas para profesionales jóvenes para Tesis Doctoral 2022 (SEQC)	15.000 €
Albert Bernet Sanchez	European Commission EU	RELECOV 2.0	14.084 €

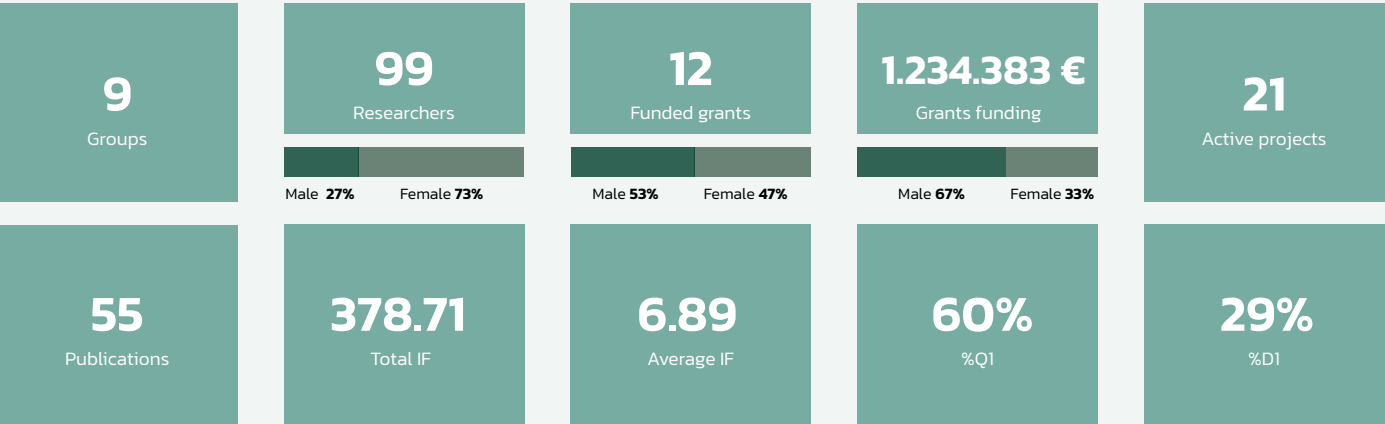
Area 4. Neurosciences

Area coordinator: Dr. Ana Garcera Teruel and Dr. Gerard Piñol Ripoll

Neuroscience is a multidisciplinary area that studies the nervous system in terms of its structure, function, development and pathology. IRBLleida research groups investigate neurological and psychiatric diseases addressing molecular, cellular and clinical aspects.

Groups

- 4.1 +Pec Proteomics
- 4.2 Biological foundations of mental disorders
- 4.3 Clinical neurosciences
- 4.4 Cognition and Behavior Study Group
- 4.5 Evolutionary Developmental Neurobiology
- 4.6 Experimental Neuromuscular Pathology
- 4.7 Neurocognition, psychobiology of the personality and behavioral genetics
- 4.8 Neuroimmunology
- 4.9 Neuronal Signalling Unit



4.1. +Pec Proteomics

The objective of +PPRG is to employ state-of-the-art techniques in clinical proteomics, mass spectrometry, and systems biology to uncover pathological molecular mechanisms that contribute to the onset and progression of various major diseases. We use chromatography and mass spectrometry, supported by cutting-edge equipment, to analyze and characterize proteins and metabolites involved in pathological processes, enabling a deeper understanding of molecular alterations. The group places special emphasis on investigating the pathological molecular mechanisms involved in intercellular communication, as well as identifying biomarkers with clinical prognostic value.

At +PPRG, we prioritize translational research by exploring the potential of extracellular vesicles as an intercellular communication system and as biomarkers for diagnosis, stratification, and clinical prognosis. Additionally, we investigate the use of nanoparticles and vesicles as biocompatible nanovectors for the delivery of bioactive compounds and drugs in advanced therapeutic applications within personalized medicine.

Publications

– Fernández M, Lorca C, Lisa J, Batalla I, Ramos A, Gallart X, Serra A. New Origins of Yeast, Plant and Bacterial-Derived Extracellular Vesicles to Expand and Advance Compound Delivery. *Int. J. Mol. Sci.* 2024. 25. (13):7151. IF:4,900. (D3)(Q1).

Funded projects

PI	Funding agency	Project	Budget (€)
Xavier Gallart Palau	Agencia Gestio Ajuts Universitat i Recerca AGAUR	Vesícules extracel·lulars de subproductes industrials (BP-EVs): un pas endavant en l'administració i l'eficàcia de compostos terapèutics per l'osteoporosis	20.000 €
Xavier Gallart Palau	Instituto de Salud Carlos III ISCIII	Nano-Glio-Blast: mejora de diana cerebral de agentes terapéuticos para el glioblastoma mediante el uso de la plataforma tecnológica patentada BP-EVs	114.400 €

– Gabarda A, Elias A, Mendo M, Arenas L, Forné C, Fernandez D, Bossa L, Torrent A, Gallart X, Batalla I. Short- and Long-Term Outcomes of an Adventure Therapy Programme on Borderline Personality Disorder: A Pragmatic Controlled Clinical Trial. *Brain Sci.* 2024. 14. (3):236. IF:2,700. (D6)(Q3).

Llorca V, Batalla I, Ruiz M, Adrados M, Buil E, Piñol G, Gallart X, Torrent A. Lithium management of periodic mood fluctuations in behavioural frontotemporal dementia: a case report. *Front Psychiatry.* 2024. 14. p. 1325145-1325145. IF:3,200. (D4)(Q2).

– Lorca C, Fernandez M, Milan J, Mulet M, Elortza F, Ramos A, Callado LF, Meana JJ, Mur M, Batalla I, Vilella E, Serra A, Gallart X. Next-Generation Proteomics of Brain Extracellular Vesicles in Schizophrenia Provide New Clues on the Altered Molecular Connectome. *Biomedicines.* 2024. 12. (1):129. IF:3,900. (D3)(Q1).

– Sánchez JA, Fernández M, Guo X, Mulet M, Ngan SC, Iyappan R, Katoueezadeh M, Sze SK, Serra A, Gallart X. Trioxidized cysteine in the aging proteome mimics the structural dynamics and interactome of phosphorylated serine. *AGING CELL.* 2024. 23. (3):e14062. IF:8,000. (D1)(Q1).

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4.1. +Pec Proteomics

Active projects

PI	Funding agency	Project	Budget (€)
Aida Serra Maqueda & Oriol Yuguero Torres	Diputació de Lleida	Extracellular vesicles profiling for the discovery of specific biomarkers associated to the initiation and early development of atrial fibrillation	50.000 €
Aida Serra Maqueda & Xavier Gallart Palau	Instituto de Salud Carlos III ISCIII	BP-EVs como nanotrasportadores para la liberación avanzada de compuestos.	- €
Xavier Gallart Palau	Instituto de Salud Carlos III ISCIII	Contrato Miguel Servet – Proyecto + RRHH	40.000 €
Xavier Gallart Palau	Instituto de Salud Carlos III ISCIII	Marcadores de pronóstico y estratificación en vesículas extracelulares cerebrales circulantes en plasma para identificar alteraciones incipientes de la unidad neurovascular en el Alzheimer.	93.170 €
Xavier Gallart Palau & Aida Serra Maqueda	Instituto de Salud Carlos III ISCIII	BP-EVs como nanotrasportadores para la liberación avanzada de compuestos.	- €
Xavier Gallart Palau & Iolanda Batalla Llordes	Diputació de Lleida	Extracellular vesicles from industrial by-products: next generation nanocarriers in biomedicine	50.000 €

4.2. Biological foundations of mental disorders

The Group is composed primarily of 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 disorders, and personality disorders.

Publications

- Alija M, Riaño I, Esquerda M. The minor in spanish legislation: an ethics perspective. An. Pediatr. 2024. 101. (5):p. 337–343. IF:1,500. (D5)(Q2).
- Badia T, Royuela E, Pera V, Vergés P, Cebolla A, Luciano JV, Soler J, Feliu A, Miguel AH. Combining mindfulness and cognitive training in children with attention deficit hyperactivity disorder: study protocol of a pilot randomized controlled trial (the NeuroMind study). Front. Psychol. 2024. 15. p. 1291198–1291198. IF:2,600. (D3)(Q2).
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- Gabarda A, Elias A, Mendo M, Arenas L, Forné C, Fernandez D, Bossa L, Torrent A, Gallart X, Batalla I. Short- and Long-Term Outcomes of an Adventure Therapy Programme on Borderline Personality Disorder: A Pragmatic Controlled Clinical Trial. Brain Sci. 2024. 14. (3):236. IF:2,700. (D6)(Q3).
- Giraló M, Miret S, Campanera S, Moreira M, Sotero A, Krebs MO, Fañanás L, Fatjó M. Theory of mind in schizophrenia through a clinical liability approach: a sib-pair study. Front. Psychol. 2024. 15. 1391646. IF:2,600. (D3)(Q2).

Funded projects

PI	Funding agency	Project	Budget (€)
Maria Irigoyen Otiñano	Diputació de Lleida	Factores predictores de la letalidad en los intentos de suicidio	17.670 €

- Irigoyen M, Ibarra L, Nicolau E, Albert C, Adrados M, Buil E, Arenas L, Torterolo G, Sánchez M, Puigdevall M, Llorca V. Emergency care carried out during the pandemic due to substance abuse in a Spanish province. Adicciones. 2024. 0. (0):p. 1819–1819. IF:2,200. (D6)(Q3).
- Jimenez A, Irigoyen M. Suicide Attempt without a Mental Health Diagnosis. Actas Esp. Psiquiatri. 2024. 52. (3):p. 378–381. IF:1,000. (D8)(Q4).
- Llorca V, Batalla I, Ruiz M, Adrados M, Buil E, Piñol G, Gallart X, Torrent A. Lithium management of periodic mood fluctuations in behavioural frontotemporal dementia: a case report. Front Psychiatry. 2024. 14. p. 1325145–1325145. IF:3,200. (D4)(Q2).
- Llorca V, Mur M, Font M, Palacios R, Sellart M, del Agua E, Bioque M, Artega G. Differences in total and differential white blood cell counts and in inflammatory parameters between psychiatric inpatients with and without recent consumption of cannabinoids, opioids, or cocaine: A retrospective single-center study. Brain Behav Immun Health. 2024. 42. p. 100898–100898.
- López G, Irigoyen M, Mur M. Impact of COVID-19 on the mental health of elderly population during the pandemic. Med. Clin. 2024. 163. (10):p. 522–523. IF:2,600. (D3)(Q1).
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- Morillo A, Esquerda M, Riverola de Veciana A, Cambra FJ. End-of-life decision-making in the neonatal intensive care unit. Front. Pediatr. 2024. 11. p. 1352485–1352485. IF:2,100. (D4)(Q2).

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4.2. Biological foundations of mental disorders

Active projects

PI	Funding agency	Project	Budget (€)
Gerard Piñol Ripoll	Fundacio La Marato de TV3	Ajut per donar suport a les activitats dels grup de recerca consolidat d'Estudi de la Cognició i la Conducta	- €
Gerard Piñol Ripoll	Diputació de Lleida	Importancia del sueño y los ritmos circadianos en la biología y evolución clínica de los sujetos en el continuum de la Enfermedad de Alzheimer.	32.670 €
Gerard Piñol Ripoll & Reinald Pamplona Gras	Fundacio La Marato de TV3	La vía de señalización mediada por los lípidos bioactivos diacilglicerol-ácido fosfatídico como biomarcadores para discriminar los estadios iniciales de la enfermedad de Alzheimer del envejecimiento normal	50.000 €

4.3. Clinical Neurosciences

The Clinical Neurosciences Group was created with the aim of bringing together all the neurological research conducted in the Lleida hospital network in 2008. It is led and coordinated by Dr. Francesc Purroy. Currently, it is a translational research group formed by different professional profiles (neurologists, radiologists, psychologists, nurses, vascular surgeons, clinical biochemists, biologists, and biotechnologists). The group aims to improve the diagnosis, prognosis and treatment of patients who have suffered a stroke through the identification of biomarkers (neuroimaging and biological) and the understanding of the molecular mechanisms involved in stroke. Currently, it is conducting a clinical trial of remote ischemic tolerance in patients with stroke code criteria (REMOTECAT study – Clinical-Trials.gov NCT03375762). It is part of the RICORS–ICTUS Network.

Publications

– Caronna E, Gallardo VJ, Egeo G, Vázquez MM, Castellanos CN, Membrilla JA, Vaghi G, Rodríguez J, Fabra NF, Sánchez F, Sánchez AJ, Muñoz A, Oliveira R, Gárate G, González Y, Guisado D, Ornello R, Thunstedt C, Fernández I, Torres M, Alpuente A, Torelli P, Aurilia C, Pére RL, Castrillo MJR, De Icco R, Sances G, Broadhurst S, Ong HC, García AG, Campoy S, Sanahuja J, Cabral G, Blasco IB, Waliszewska M, Pereira L, Layos A, Luzeiro I, Dorado L, Escudero M, May A, López A, Martins IP, Sundal C, Irimia P, Ros AL, Gago AB, Juanes FV, Ruscheweyh R, Sacco S, Cuadrado E, García D, Pascual J, Gil R, Huerta M, Rodriguez J, Romero JV, Obach V, Santos S, Ghadiri M, Tassorelli C, Díaz J, Insa SD, Oria CG, Barbanti P, Pozo P, EUREKA G. Redefining migraine prevention: early treatment with anti-CGRP monoclonal antibodies enhances response in the real world. *J Neurol Neurosurg Psychiatry*. 2024. 95. (10):p. 927–937. IF:8,700. (D1)(Q1).

– Diaz ML, Carmona T, Requena M, Pinana C, Hernández D, Diana F, De Dios M, Farrero J, Ribo M, Araya AF, Gramegna LL, Purroy F, Fernandez L, Villalba J, Quintana M, Tomasello A. Remote Teleproctoring with the TEGUS System for Mechanical Thrombectomy in a Non-Comprehensive Stroke Center: Initial Preliminary Data On Clinical Experience. *Clin Neuroradiol*. 2024. 35. (1):p. 35–41. IF:2,400. (D4)(Q2).

– Flores A, Elizalde M, Seró L, Ustrell X, Avivar Y, Pellisé A, Rodriguez P, Monterde A, Lara L, Gonzalez JM, Cuba V, Gisbert MR, Requena M, Molina CA, Chamorro A, de la Ossa NP, Cardona P, Cánovas D, Purroy F, Silva Y, Campzello A, Marti J, Abilleira S, Ribó M, Catalan Stroke Code Reperfusion C. Predicting Recanalization Failure With Conventional Devices During Endovascular Treatment Related to Vessel Occlusion. *Stroke–Vasc. Interv. Neurol*. 2024. 4. (5):e001371.

– Gil A, Canudes M, Valcheva P, Nogueras L, González C, Hervás JV, Peralta S, Solana M, Brieva L. Effects of Vortioxetine on Cognition and Fatigue in Patients with Multiple Sclerosis and Depression: A Case Series Study. *CNS*

Neurol. Disord.–Drug Targets. 2024. 23. (3):p. 395–401. IF:2,700. (D5)(Q2).

González C, Gil A, Begué R, López R, Luis BR. Ischemic encephalopathic debut of CADASIL, a case report: It is better to be safe than sorry. *Neurologia*. 2024. 39. (8):p. 712–715. IF:2,900. (D4)(Q2).

– Kelly P, Lemmens R, Weimar C, Walsh C, Purroy F, Barber M, Collins R, Cronin S, Czlonkowska A, Desfontaines P, De Pauw A, Evans NR, Fischer U, Fonseca C, Forbes J, Hill MD, Jatuzis D, Korv J, Kraft P, Kruuse C, Lynch C, McCabe D, Mikulik R, Murphy S, Nederkoorn P, O'Donnell M, Sandercock P, Schroeder B, Shim G, Tobin K, Williams DJ, Price C. Long-term colchicine for the prevention of vascular recurrent events in non-cardioembolic stroke (CONVINCE) : a randomised controlledtrial. *Lancet*. 2024. 404. (10448):p. 125–133. IF:98,400. (D1)(Q1).

– Marti J, Ramos A, Prats L, Núñez A, Rodríguez BL, Rodriguez D, Amaro S, Silva Y, Rodriguez A, Puig I, Gomez M, Vázquez D, Guanyabens N, Cocho D, Cánovas D, Steinhauer EG, Llull L, Guasch M, Martínez A, Marin R, Lambea A, Díaz GE, Paipa A, Quesada H, Casadevall MP, Wenger D, Pancorbo O, Seró L, Pérez J, Costa X, Zaragoza J, Rodríguez N, Catena E, Calvo NM, Krupinski J, de la Ossa NP, Abilleira S, Salvat M, Fagundez O, Camps P, HIC C. Influence of Hospital Type on Outcomes of Patients With Acute Spontaneous Intracerebral Hemorrhage. *Neurology*. 2024. 103. (2):e209539. IF:7,700. (D1)(Q1).

Mccabe JJ, Walsh C, Gorey S, Arnold M, Demarchis GM, Harris K, Hervella P, Iglesias R, Jern C, Katan M, Li LX, Miyamoto N, Montaner J, Purroy F, Rothwell PM, Stanne TM, Sudlow C, Ueno Y, Vicente M, Whiteley W, Woodward M, Kelly PJ. Interleukin-6, C-Reactive Protein, and Recurrence After Stroke: A Time-Course Analysis of Individual-Participant Data. *Stroke*. 2024. 55. (12):p. 2825–2834. IF:7,800. (D1)(Q1).

– McCabe JJ, Walsh C, Gorey S, Harris K, Hervella P, Iglesias R, Jern C, Li L, Miyamoto N, Montaner J, Pedersen A, Purroy FF, Rothwell PM, Sudlow CL, Ueno Y, Vicente M, Whiteley WN, Woodward M, Kelly PJ. C-Reactive Protein, Interleukin-6, and Vascular Recurrence According to Stroke Subtype: An Individual Participant Data Meta-Analysis. *Neurology*. 2024. 102. (2):p. 208016–208016. IF:7,700. (D1)(Q1).

– Mccabe JJ, Walsh C, Gorey S, Harris K, Hervella P, Iglesias R, Jern C, Li LX, Miyamoto N, Montaner J, Pedersen A, Purroy F, Rothwell PM, Sudlow C, Ueno Y, Vicente M, Whiteley W, Woodward M, Kelly PJ. Plasma fibrinogen and risk of vascular recurrence after ischaemic stroke: An individual participant and summary-level data meta-analysis of 11 prospective studies. *Eur. Stroke J*. 2024. 9. (3):p. 704–713. IF:5,800. (D1)(Q1).

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Illescas S, Camacho AR, Capdevila OS, García A, Bayés A, Alonso I. Developmental outcome of electroencephalographic findings in SYNGAP1 encephalopathy. *Front Cell Dev Biol.* 2024. 12. p. 1321282–1321282. IF:4,600. (D2)(Q1).

– Trittler I, Paredes F, Vidiella G, Visa N. Tratamiento prehospitalario y hospitalario de las convulsiones en contexto febril. *Rev Neurol.* 2024. 79. (7):p. 179–185. IF:0,800. (D9)(Q4).

– Vázquez D, Paul M. Factors Related to Nonachievement of Intensive

Blood Pressure-Lowering Target in Patients with Intracerebral Hemorrhage. *Neurocrit. Care.* 2024. 42. (2):p. 495–501. IF:3,100. (D3)(Q2).

– Visa N, Rubio A, Mitjans N, Paredes F. Comparison of plasma inflammatory biomarkers between MIS-C and potentially serious infections in pediatric patients. *Reumatol Clin (Engl Ed).* 2024. 20. (2):p. 84–91.

Funded projects

PI	Funding agency	Project	Budget (€)
Francisco Purroy Garcia	Instituto de Salud Carlos III ISCIII	PReDICT: Pediatric stroke Rare Disorders: Integrative Diagnosis and Treatment using Multi-Omics and Deep Learning	211.057 €
Francisco Purroy Garcia	Instituto de Salud Carlos III ISCIII	RICORS-ICTUS	142.780 €

Active projects

PI	Funding agency	Project	Budget (€)
Francisco Purroy Garcia	Agencia Gestio Ajuts Universitat i Recerca AGAUR	Ajut per donar suport a les activitats dels grup de recerca consolidat de Neurociències Clíniques	40.000 €
Francisco Purroy Garcia	Instituto de Salud Carlos III ISCIII	Determinación del tiempo de inicio del ictus isquémico y el tejido recuperable mediante la firma ómica: OMIC IS BRAIN	185.130 €
Francisco Purroy Garcia	Instituto de Salud Carlos III ISCIII	"Estudio multicéntrico de la aplicación del postcondicionamiento isquémico remoto en pacientes con ictus isquémico POST REMOTE"	246.250 €
Francisco Purroy Garcia	Instituto de Salud Carlos III ISCIII	RICORS-ICTUS	138.274 €
Francisco Purroy Garcia & Manuel Portero Otin	Diputació de Lleida	Perspectivas clínicas de la biología de sistemas aplicada al análisis de placas carotídeas humanas: ILER-CAROTID	50.000 €

4.4. Cognition and Behavior Study Group

The Cognition and Behaviour Study Group is a consolidated research group recognised by the Generalitat de Catalunya. It is composed of clinical and basic translational research staff from various specialities (neurology, neuropsychology, biomedical sciences, etc.), and is led and coordinated by Dr. Gerard Piñol-Ripoll. The group has national and international competitive funding and is currently participating in several clinical trials of anti-Alzheimer's drugs. It is part of several national and international consortia on neurodegenerative diseases.

Publications

– Ballvé A, Pizarro J, Maisterra O, Riba I, Pujadas F, Jimenez J, Palasi A, Ci-rach M, Turner MC, Sunyer J, Delgado P. Ambient air pollution, covert ce-rebrovascular disease and cognition: results from the ISSYS study. *Eur. J. Neurol.* 2024. 31. (10):IF:4500. (D2)(Q1).

– Carnes A, Piñol G, Ariza M, Cano N, Segura B, Junque C, Béjar J, Barrue C, Garolera M, Nautilus Project Collaborative G. Poor sleep quality may trig-ger cognitive deficits after recovery from COVID-19. *Front. Psychol.* 2024. 15. p. 1382875–1382875. IF:2,600. (D3)(Q2).

– Carnes A, Piñol G, Ariza M, Cano N, Segura B, Junque C, Béjar J, Barrue C, Garolera M, Nautilus Project Collaborative GRP. Sleep quality in indi-viduals with post-COVID-19 condition: Relation with emotional, cognitive and functional variables. *Brain Behav Immun Health.* 2024. 35. p. 100721-100721.

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L, Mayeux R, Wang LS, Sims R, DeStefano A, Schellenberg GD, Seshadri S, Amouyel P, Williams J, van der Flier W, Ramirez A, Pericak M, Andreassen OA, Van C, Hiltunen M, Ruiz A, Dupuis J, Martin E, Lambert JC, Kunkle B, Bellenguez C, E, G, D, E, G, D, F, A, C. X-chromosome-wide association study for Alzheimer's disease. Mol. Psychiatr. 2024. IF:9,600. (D1)(Q1).
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Funded projects

PI	Funding agency	Project	Budget (€)
Gerard Piñol Ripoll & Reinald Pamplona Gras	Diputació de Lleida	"Insight into the role of lipids in frontotemporal dementia: uncovering pathophysiological alterations and biomarker discovery opportunities."	50.000 €
Pol Andrés Benito	Instituto de Salud Carlos III ISCIII	Caracterización de las vías moleculares subyacentes en el espectro patológico ELA-DFT en base al fenotipo clínico: estudio de la capacidad de siembra y progresión de tdp-43 (MOLESTDP-43)	165.000 €
Pol Andrés Benito	Instituto de Salud Carlos III ISCIII	SEED-ALS: Synergizing Efforts to Develop and Accelerate Breakthroughs in ALS Research	143.184 €

Active projects

PI	Funding agency	Project	Budget (€)
Gerard Piñol Ripoll	Agencia Gestio Ajuts Universitat i Recerca AGAUR	Ajut per donar suport a les activitats del grup de recerca consolidat d'Estudi de la Cognició i la Conducta	– €
Gerard Piñol Ripoll	Instituto de Salud Carlos III ISCIII	Importancia del sueño y los ritmos circadianos en la biología y evolución clínica de los sujetos en el continuum de la Enfermedad de Alzheimer.	32.670 €
Gerard Piñol Ripoll & Reinald Pamplona Gras	Diputació de Lleida	La vía de señalización mediada por los lípidos bioactivos diacilglicerol-ácido fosfatídico como biomarcadores para discriminar los estadios iniciales de la enfermedad de Alzheimer del envejecimiento normal	50.000 €

4.5. Evolutionary Developmental Neurobiology

The group’s research focuses on the study of the amygdala, a highly complex brain structure involved in the control of emotions, social behavior and cognition, and which is altered in all psychiatric disorders. Currently it is not possible to explain the different outcomes of distinct mental conditions, posing a major challenge for 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 determine 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. Comparing these results with public databases of gene databases related to 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 pave the way for precision medicine in Psychiatry.

Funded projects

PI	Funding agency	Project	Budget (€)
Ester Desfilis Barcelo & Loreta Medina Hernandez	Ministerio de Ciencia e Innovacion	Neuronas glutamatérgicas y circuitos asociados a trastornos del espectro autista	162.500 €

Active projects

PI	Funding agency	Project	Budget (€)
Ester Desfilis Barcelo & Loreta Medina Hernandez		Arquitectura molecular de los centros y redes del cerebro que regulan emoción y cognición: implicaciones para la Psiquiatría.	131.769 €

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4.6. Experimental Neuromuscular Pathology

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

Publications

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Active projects

PI	Funding agency	Project	Budget (€)
Jordi Calderó Pardo	Fundacio La Marato de TV3	"Preclinical Analysis of new combinatorial treatments for spinal muscular atrophy (SMA): Effects on motorneuron survival, synaptic integrity, and skeletal muscle preservation."	198.375 €
Jordi Calderó Pardo	Instituto de Salud Carlos III ISCIII	Microscopio Confocal de Barrido	430.000 €
Jordi Calderó Pardo & Olga Tarabal Mostazo	Ministerio de Ciencia e Innovacion	Mecanismos subyacentes a la patología del circuito motor y la miopatía primaria en atrofia muscular espinal: identificación de dianas para terapias combinadas con nusinersen	226.200 €

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4.7. 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 and 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 monoaminergic neurotransmission (norepinephrine, dopamine, serotonin and MAO), both at the 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).

Publications

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Active projects

PI	Funding agency	Project	Budget (€)
Anton Aluja Fabregat	Ministerio de Ciencia e Innovacion	Efecto de la personalidad en la toma de decisiones y actividad de la corteza prefrontal (cpf) mediante espectroscopia funcional por infrarrojo cercano (fnir)	95.590 €

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4.8. Neuroimmunology

The Neuroimmunology group is a translational research team composed of clinical and basic researchers and researchers collaborating with other centres that complement our experience in neuroimmunology.

The objectives of our research team are:

- To uncover knowledge of the still unknown etiopathogenic mechanisms of multiple sclerosis.
- To identify biomarkers of clinical progression and/or treatment response that support physicians in tailoring treatments, with the ultimate goal of improving patients' quality of life.

The investigation into these clinical evolution markers has led us to delve more specifically into oxidative stress, cholesterol esters, and nutrition. Concerning treatment response markers, we are studying changes in dendritic cells of our patients after disease-modifying treatments.

- The principal investigator is Dr. Luis Brieva Ruiz, head of the neurology section of the Arnau de Vilanova University Hospital of Lleida (HUAUV) and pioneer in research on multiple sclerosis (MS) and in creating a reference unit in the care of patients with MS in the province of Lleida since 2000. In this unit, the patient has been treated in a comprehensive manner, receiving clinical, pharmacological, cognitive, emotional and rehabilitative care from the moment of diagnosis.
- The current professionals who belong to this unit and who make up the Neuroimmunology group in addition to Dr. Brieva are: Dr. Cristina González, Doctor in Neurology at HUAUV, Dr. Agustín Sancho, Neurologist at HUAUV, Dr. Laura Quibus, Neurologist at HUAUV, Silvia Peralta, nurse at the HUAUV Day Hospital, Anna Gil, Neuropsychologist and coordinator of the clinical and basic research of the group and the collaborating researchers Dr. Pascual Torres, expert in Biomedicine and laboratory techniques, Dr. Hugo Gonzalo, PhD in metabolic physiopathology and scientific advisor, and Dr. Jose Vicente Hervás, neurologist at the Hospital Broggi de Sant Joan Despí.

Publications

–Fernández O, Montalbán X, Agüera E, Aladro Y, Alonso A, Arroyo R, Brieva L, Calles C, Costa L, Eichau S, García JM, Hernández MA, Landete L, Llanaez M, Llufríu S, Meca JE, Meca V, Moral E, Prieto JM, Ramió L, Téllez N, Romero

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– Gil A, Gonzalo H, Canudes M, Nogueras L, González C, Valcheva P, Torres P, Serrano JC, Peralta S, Solana MJ, Brieva L. Can Glatiramer Acetate Prevent Cognitive Impairment by Modulating Oxidative Stress in Patients with Multiple Sclerosis?. Pharmaceuticals. 2024. 17. (4):459. IF:4,300. (D2)(Q1).

– González C, Gil A, Begué R, López R, Luis BR. Ischemic encephalopathic debut of CADASIL, a case report: It is better to be safe than sorry. Neurologia. 2024. 39. (8):p. 712–715. IF:2,900. (D4)(Q2).

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– Oreja C, Martínez S, Eichau S, Llanaez MA, Martín J, Peña J, Meca V, Alonso AM, Moral E, Río J, Calles C, Ares A, Ramió L, Marzo ME, Prieto JM, Martínez ML, Arroyo R, Otano MA, Brieva L, Gómez M, Rodríguez A, Sánchez V, Costa L, Hernández MA, Landete L, González M, Meca JE. Beyond lines of treatment: embracing early high-efficacy disease-modifying treatments for multiple sclerosis management. Ther Adv Neurol Disord. 2024. 17. 17562864241284372. IF:4,700. (D2)(Q1).

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4.8. Neuroimmunology

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PI	Funding agency	Project	Budget (€)
Cristina Gonzalez Mingot	Fundación Francisco Luzón Fundación Luzón	Developing a Comprehensive Biomarker Panel for Monitoring Progression and Early Detection in ALS Patients	14.500 €

Active projects

PI	Funding agency	Project	Budget (€)
Cristina Gonzalez Mingot	Asociación Esclerosis Múltiple España (EME) EME	The Prognostic Value of Cholesterol Esters in the Progression of Multiple Sclerosis" (PROCOLEM)	25.000 €

4.9. Neuronal Signalling Unit

The Neuronal Signalling Unit is a research group specialised in the study of the survival of motor neurons and the pathologies associated with the degeneration of these cells. The main focus of study is to investigate the molecular mechanisms involved in motor neuron dysfunction and to identify new therapeutic targets in the context of Spinal Muscular Atrophy (SMA). SMA is a childhood neuromuscular disease of genetic origin characterised by the loss of motor neurons in the spinal cord due to mutation in the SMN1 (Survival Motor Neuron) gene. The SMN1 gene encodes a protein called SMN, whose reduction causes muscle weakness, atrophy and paralysis through partially understood intracellular alterations. Recently developed therapies aim to increase SMN protein levels in cells. However, there is a percentage of patients who do not respond to such treatment. For this reason, a deeper understanding of the molecular mechanisms that take place during the development and evolution of the disease will allow the identification of new therapies that, together with the existing ones, will broaden the treatment opportunities for SMA patients.

Funded projects

PI	Funding agency	Project	Budget (€)
Ana Garcera Teruel & Rosa Maria Soler Tatche	Ministerio de Ciencia e Innovacion	Identificación de nuevas dianas para el desarrollo de terapias combinadas en la Atrofia Muscular Espinal	206.250 €
Rosa Maria Soler Tatche	Institut de Recerca Biomedica de Lleida	Grups consolidats sense finançament competitiu – Unitat de Senyalització Neuronal	12.041 €

Publications

–Ceron M, Torres P, Fernández A, Rico S, Serrano J, Miralles MP, Beltran M, Garcera A, Soler RM, Pamplona R, Portero M. TDP-43 dysfunction leads to bioenergetic failure and lipid metabolic rewiring in human cells. Redox Biol. 2024. 75. p. 103301-103301. IF:10,700. (D1)(Q1).
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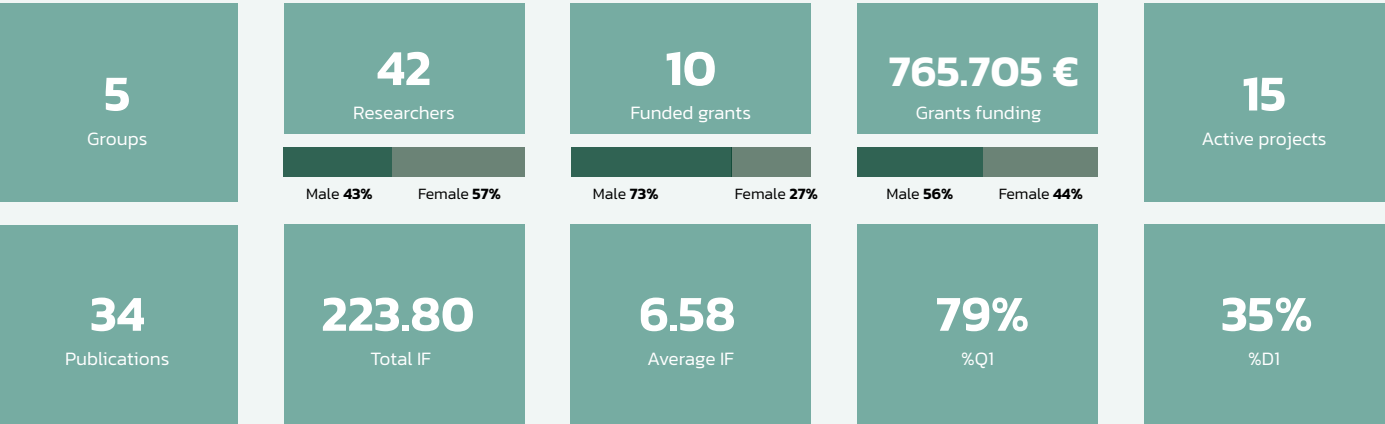
Area 5. Nutrition, Metabolism and Cellular Stress

Area coordinator: Dr. Joaquim Ros Salvador and Dr. Ester Vilapriño Terre

We study the ageing process, myocardial differentiation, neurodegenerative diseases and cell signalling in relation to oxidative stress in various cellular, animal and human models, using experimental and theoretical methods.

Groups

- 5.1 Biochemistry of Oxidative Stress
- 5.2 Cell signalling and apoptosis group
- 5.3 Metabolic physiopathology
- 5.4 Nutrition, Metabolism and Microbiota in patients with heart failure (NUTRIMMIC)
- 5.5 Systems biology and statistical methods for biomedical research



5.1. Biochemistry of Oxidative Stress

The Biochemistry of Oxidative Stress group analyzes the alteration of mitochondrial functions in Friedreich Ataxia (FA), a rare, cardio-neurodegenerative disease caused by deficient levels of frataxin, a mitochondrial protein. This deficit is due to mutations (mostly GAA triplet insertions) in the FXN gene. The main clinical features include, among others, ataxia, dysarthria, cardiac hypertrophy; some patients also develop diabetes. To study this pathology, the group uses primary cultures of neurons –obtained from the dorsal root ganglion– and cardiomyocytes, which are the tissues most affected in this disease, and fibroblast cell lines derived from patients. We have also incorporated a new mouse model FXN^{I151F}, with a point mutation that involves a 95% reduction in normal frataxin levels and that shows functional characteristics very similar to those observed in FA patients.

At the molecular level, we have observed alterations in the mitochondrial proteome, in mitochondrial iron and calcium homeostasis that impact the redox state of proteins and levels of calcium transporters such as NCLX, mitochondrial pore opening, the function of complexes I–III of the electron transport chain that would affect the respiratory rate and ATP synthesis and, in summary, mitochondrial dysfunction. Based on the results obtained,

and since there is currently no effective cure, we design therapeutic strategies trying to improve the patients’ quality of life; in this context, we are analyzing the effects of different compounds that increase frataxin levels such as calcitriol. We have observed that this vitamin restores altered levels of the aforementioned markers and, therefore, a pilot clinical trial is currently being conducted in collaboration with IDIBGI. We also test molecules such as leriglitazone, in collaboration with the company Minoryx Therapeutics, focused on restoring the mitochondrial membrane potential and/or mitochondrial biogenesis.

Publications

- Alemany B, Tamarit J, Cabiscol E, Delaspre F, Miguela A, Huertas JM, Quiroga A, Ruiz MM, Domínguez DL, Torrenta L, Genís D, Ros J. Calcitriol Treatment Is Safe and Increases Frataxin Levels in Friedreich Ataxia Patients. *Mov. Disord.* 2024. 39. (7):p. 1099–1108. IF:7,400. (D1)(Q1).
- Sanz A, Portillo M, Delaspre F, Pazos M, Tamarit J, Ros J, Cabiscol E. Deciphering the ferroptosis pathways in dorsal root ganglia of Friedreich ataxia models. The role of LKB1/AMPK, KEAP1, and GSK3β in the impairment of the NRF2 response. *Redox Biol.* 2024. 76. p. 103339–103339. IF:10,700. (D1)(Q1).

RESEARCH TEAM

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Funded projects

PI	Funding agency	Project	Budget (€)
Elisa Cabiscol Catala & Jordi Tamarit Sumalla	Ministerio de Ciencia e Innovacion	Alteraciones moleculares en el modelo murino FXN ^{I151F} de Ataxia de Friedreich y análisis de nuevas estrategias terapéuticas	262.500 €

Active projects

PI	Funding agency	Project	Budget (€)
Joaquim Ros Salvador	Ministerio de Ciencia e Innovacion	Desarrollo de la leriglitazona para el Síndrome de Rett y trastornos relacionados	147.800 €
Joaquim Ros Salvador & Jordi Tamarit Sumalla	Ministerio de Ciencia e Innovacion	Mecanismos de disfuncion mitocondrial y nuevas estrategias terapéuticas en modelos celulares y animales de Ataxia de Friedreich	193.600 €
Jordi Tamarit Sumalla	Friedrich's Ataxia Research Alliance	Uncovering the function of a conserved site in eukaryotic frataxins.	85.000 €

5.2. Cell signalling and apoptosis group

The group began research at the University of Lleida in 2001 when Dr. Marta Llovera and Dr. Daniel Sanchis joined to conduct studies on the signaling of survival, differentiation, and death of cells of the nervous system and myocardium. Our research has provided information on relevant aspects of the roles of Calcium/Calmodulin (J Neurochem, 2004; J Biol Chem, 2008) and Tyr-kinase Trk receptors (J Neurochem, 2008; J Neurochem, 2011) in the differentiation process. and neuronal survival, as well as the potential of histone deacetylases as therapeutic tools for the treatment of glioblastoma (Cell Death Dis, 2014). At the same time, we pioneered the loss of apoptotic genes during myocardial development, where they play an important role in the division and differentiation of myocytes (J Cell Sci, 2013; PLoSOne, 2014), and the change of an apoptotic cell death to necrotic cell death during this process, identifying relevant proteins such as EndoG (J Biol Chem, 2006). Further characterization of ENDOG led to the discovery of its involvement in the process of cardiac hypertrophy (Nature, 2011; Redox Biol, 2017) and in the control of cell proliferation (Redox Biol, 2020). Recently, the group has focused an important part of its effort on investigating key and differential aspects of cardiac fibroblasts as essential cells for proper myocardial function (FEBS J, 2022).

Active projects

PI	Funding agency	Project	Budget (€)
Daniel Sanchis Morales	Ministerio de Ciencia e Innovacion	Señalización celular en el corazón y metabolismo: supervivencia y nuevas funciones de los fibroblastos cardíacos y el papel de ENDOG en la homeostasis metabólica.	162.500 €

Our research is possible thanks to the continuous funding obtained mainly from competitive public calls of Organizations such as La Marató de TV3, the Spanish Ministries of Health (ISCIII) and Science (MICINN) and the Agency for the Management of University Grants (AGAUR). of the Generalitat de Catalunya. Our research work has involved the establishment of collaborations, both international (Eric Olson, UTSouthWestern Medical Center, Dallas, TX, USA; Chris Smith, University of Cambridge, UK; Junmei Ye, China Pharmaceutical University, Nanjing, China), as nationals, mainly with groups from Madrid (CNIC) and Barcelona (Vall d'Hebron Research Institute, IDIBAPS, IRB Barcelona), as well as from IRBLLEIDA itself (groups led by Xavier Dolcet, Manel Portero, Joaquim Ros and Andreu Casali). This has led to the publication of more than 40 articles in indexed international scientific journals and the completion of 11 doctoral theses in the last 20 years.

Publications

– Llovera M, Gouveia L, Zorzano A, Sanchis D. The effects of ENDOG on lipid metabolism may be tissue-dependent and may not require its translocation from mitochondria. Nat. Commun. 2024. 15. (1):p. 7121–7121. IF:14,700. (D1)(Q1).

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5.3. 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 in humans, in which aging rate and longevity differ naturally 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 decrease significantly.

Publications

– Berdún R, Obis É, Mota N, Bassols A, Valent D, Serrano J, Martín M, Rodríguez M, Moreno JA, Tibau J, Quintanilla R, Pamplona R, Portero M, Jové M. High-Fat Diet-Induced Obesity Increases Brain Mitochondrial Complex I and Lipoxidation-Derived Protein Damage. *Antioxidants*. 2024. 13. (2):161. IF:6,000. (D2)(Q1).

– Brewer MK, Torres P, Ayala V, Portero M, Pamplona R, Andres P, Ferrer I, Guinovart JJ, Duran J. Glycogen accumulation modulates life span in a mouse model of amyotrophic lateral sclerosis. *J Neurochem*. 2024. 168. (5):p. 744–759. IF:4,200. (D3)(Q2).

– Castells A, Puig I, Motger A, de la Vega L, Rosell M, Arnoriaga M, Escrichs A, Garre J, Puig J, Ramos R, Ramió L, Pérez V, Moya A, Pamplona R, Jové M, Sol J, Martín E, Martínez M, Deco G, Maldonado R, Fernández JM, Mayneris J. Microviridae bacteriophages influence behavioural hallmarks of food addiction via tryptophan and tyrosine signalling pathways. *Nat Metab*. 2024. 6. (11):p. 2157–2186. IF:18,900. (D1)(Q1).

– Ceron M, Torres P, Fernández A, Rico S, Serrano J, Miralles MP, Beltran M, Garcera A, Soler RM, Pamplona R, Portero M. TDP-43 dysfunction leads to bioenergetic failure and lipid metabolic rewiring in human cells. *Redox Biol*. 2024. 75. p. 103301–103301. IF:10,700. (D1)(Q1).

– Dakterzada F, Jové M, Cantero JL, Mota N, Pamplona R, Piñoll G. The shift in the fatty acid composition of the circulating lipidome in Alzheimer's disease. *Alzheimers Dement*. 2024. 20. (5):p. 3322–3333. IF:13,000. (D1)(Q1).

– Dakterzada F, Jové M, Huerto R, Carnes A, Sol J, Pamplona R, Piñol G. Cerebrospinal fluid neutral lipids predict progression from mild cognitive impairment to Alzheimer's disease. *Geroscience*. 2024. 46. (1):p. 683–696. IF:5,300. (D2)(Q1).

– Fernández A, Sol J, Galo JD, Mota N, Mas C, Belenguer A, Obis É, Viña J, Borrás C, Jové M, Pamplona R. Phenotypic upregulation of hexacycleramide and ether-linked phosphocholines as markers of human extreme longevity. *AGING CELL*. 2024. e14429. IF:8,000. (D1)(Q1).

– Fontdevila L, Povedano M, Domínguez R, Boada J, Serrano J, Pamplona R, Ayala V, Portero M. Examining the complex Interplay between gut microbiota abundance and short-chain fatty acid production in amyotrophic lateral sclerosis patients shortly after onset of disease. *Sci Rep*. 2024. 14. (1):p. 23497–23497. IF:3,800. (D2)(Q1).

– García C, Mirada G, Estany P, Sol J, Ortega M, Artigues E. Analysis of Sociodemographic and Clinical Characteristics of Inflammatory Bowel Disease in Catalonia Based on SIDIAP. *J. Clin. Med*. 2024. 13. (21):6476. IF:3,000. (D2)(Q1).

– Gil A, Gonzalo H, Canudes M, Nogueras L, González C, Valcheva P, Torres P, Serrano JC, Peralta S, Solana MJ, Brieva L. Can Glatiramer Acetate Prevent Cognitive Impairment by Modulating Oxidative Stress in Patients with Multiple Sclerosis?. *Pharmaceuticals*. 2024. 17. (4):459. IF:4,300. (D2)(Q1).

– Llinas A, Paredes E, Sol J, Palacin JM, Solanes M, Martínez J, Florensa C, Llor L, Castañ MT, Gracia MI, Paül JM, Bravo MO, Llor C. Impact of Lung Ultrasound along with C-Reactive Protein Point-of-Care Testing on Clinical Decision-Making and Perceived Usefulness in Routine Healthcare for Patients with Lower Respiratory Tract Infections: Protocol for Analytical Observational Study. *J. Clin. Med*. 2024. 13. (19):5770. IF:3,000. (D2)(Q1).

– Oros M, Perejón D, Serna C, Siscart J, Àngel J, Sol J. Maternal and foetal complications of pregestational and gestational diabetes: a descriptive, retrospective cohort study. *Sci Rep*. 2024. 14. (1):p. 9017–9017. IF:3,800. (D2)(Q1).

– Rojo MI, Bermúdez M, Castro E, Farràs C, Torres G, Pamplona R, Lecube A, Valdivieso JM, Fernández E, Julve J, Castelblanco E, Alonso N, Antentas M, Barranco M, Perera A, Franch J, Granado M, Mauricio D, ILERVAS C. Mediterranean Diet Is a Predictor of Progression of Subclinical Atherosclerosis in a Mediterranean Population: The ILERVAS Prospective Cohort Study. *Nutrients*. 2024. 16. (21):3607. IF:4,800. (D2)(Q1).

– Rosell M, Petit A, Molas C, Gallardo L, Ramió L, Garre J, Pérez V, Moya A, Jové M, Pamplona R, Puig J, Ramos R, Bäckhed F, Mayneris J, Fernández JM. Metformin-induced changes in the gut microbiome and plasma metabolome are associated with cognition in men. *Metab.-Clin. Exp*. 2024. 157. p. 155941–155941. IF:10,800. (D1)(Q1).

– Salina B, Sánchez E, Bermúdez M, Valdivielso JM, Farràs C, Pamplona R, Torres G, Mauricio D, Castro E, Fernández E, Hernández M, Rius F, Lecube A, ILERVAS P. Association between adherence to the mediterranean diet, physical activity, and sleep apnea-hypopnea syndrome (SAHS) in a middle-aged population with cardiovascular risk: Insights from the ILERVAS cohort. *Sleep Med*. 2024. 116. p. 19–26. IF:3,800. (D3)(Q1).

– Sol J, Ortega M, Portero M, Pinol G, Ribas V, Artigues E, Butí M, Pamplona R, Jové M. Human lifespan and sex-specific patterns of resilience to disease: a retrospective population-wide cohort study. *BMC Med*. 2024. 22. (1):p. 17–17. IF:7,000. (D1)(Q1).

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5.3. Metabolic physiopathology

– Torres P, Rico S, Ceron M, Santacreu M, Seoane D, Jad Y, Ayala V, Mariño G, Beltran M, Miralles MP, Andrés P, Fernandez J, Santamaria E, López C, Soler RM, Povedano M, Ferrer I, Pamplona R, Wood M, Varela MA, Portero M. TDP-43 regulates LC3ylation in neural tissue through ATG4B cryptic splicing inhibition. Acta Neuropathol. 2024. 148. (1):p. 45–45. IF:9,300. (D1)(Q1).

Funded projects

PI	Funding agency	Project	Budget (€)
Manuel Portero Otin	Agencia Gestio Ajuts Universitat i Recerca AGAUR	Comprehensive Roadmap and Preclinical Evaluation of Antisense Oligonucleotides (ASOs) Regulatory Development and Toxicological Assessment for ALS Treatment	20.000 €
Manuel Portero Otin	Fundacion Bancaria Caixa d'Estalvis i Pensions de Barcelona La Caixa	Targeting cryptic exons as biomarkers and ALS therapy	42.000 €
Manuel Portero Otin	Institut Recerca Biomedica de Lleida, IRBLleida	Natural microbicides from rice against current and emerging infectious diseases	22.500 €
Manuel Portero Otin	Instituto de Salud Carlos III ISCIII	SEED-ALS: Synergizing Efforts to Develop and Accelerate Breakthroughs in ALS Research	90.750 €
Mariona Jove Font	Instituto de Salud Carlos III ISCIII	Identificación de patrones moleculares asociados a distintas trayectorias de envejecimiento	203.750 €
Pascual Torres Cabestany	Diputacio de Lleida	Orally available antisense oligonucleotides encapsulated in extracellular vesicles for amyotrophic lateral sclerosis treatment (Evasense) – ajut ISP 2024	20.000 €
Reinald Pamplona Gras	Ministerio de Ciencia e Innovacion	Metabolismo de eter lípidos y envejecimiento humano	100.000 €
Reinald Pamplona Gras & Gerard Piñol Ripoll	Diputacio de Lleida	"Insight into the role of lipids in frontotemporal dementia: uncovering pathophysiological alterations and biomarker discovery opportunities."	50.000 €

Active projects

PI	Funding agency	Project	Budget (€)
Manuel Portero Otin	Departament de Salut Generalitat CAT	Identification of compounds for inhibition of ACE2 membrane expression	137.265 €
Manuel Portero Otin	Fundacion Bancaria Caixa d'Estalvis i Pensions de Barcelona La Caixa	The role of defects in mitochondria-associated ER membranes (MAM) to Amyotrophic Lateral Sclerosis	138.600 €
Manuel Portero Otin	Instituto de Salud Carlos III ISCIII	Desregulacion de TDP-43,eje clave en la ELA: Caracterización de firmas lipídómicas, transcriptómicas y autofágicas en muestras específicas de pacientes para biomarcadores y reposicionamiento	252.500 €

5.3. Metabolic physiopathology

PI	Funding agency	Project	Budget (€)
Manuel Portero Otin	Instituto de Salud Carlos III ISCIII	Metabolismo lipidico intracelular, procesamiento de ARNm y estrés celular en la encrucijada de la fisiopatología de la esclerosis lateral amiotrófica	214.170 €
Manuel Portero Otin & Francisco Purroy Garcia	Diputació de Lleida	Perspectivas clínicas de la biología de sistemas aplicada al análisis de placas carotídeas humanas: ILER-CAROTID	50.000 €
Mariona Jove Font	Fundacion Bancaria Caixa d'Estalvis i Pensions de Barcelona La Caixa	From GFAP mutations in astrocytes to neurodegeneration: exploring a lipid-protein oxidation pathway (ASTROMAD)	275.000 €
Mariona Jove Font & Marta Ortega Bravo	Diputació de Lleida	Development of dynamic models for the personalized prevention and treatment of age-related diseases	50.000 €
Pascual Torres Cabestany	Fundación Francisco Luzón Fundación Luzón	Humanised mouse models to study ATG4B cryptic exon involvement in ALS pathogenesis and its potential as disease biomarker (Hum4ALS)	57.000 €
Reinald Pamplona Gras	Agencia Gestio Ajuts Universitat i Recerca AGAUR	Ajut per donar suport a les activitats dels grup de recerca consolidat de Fisiopatologia Metabòlica	40.000 €
Reinald Pamplona Gras & Gerard Piñol Ripoll	Diputació de Lleida	La vía de señalización mediada por los lípidos bioactivos diacilglicerol-ácido fosfatídico como biomarcadores para discriminar los estadios iniciales de la enfermedad de Alzheimer del envejecimiento normal	50.000 €

5.4. 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 deficiency. It is hypothesized that malnutrition and alteration in 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 clinical research to design specific nutritional and supplementation strategies aimed at modifying the composition of the intestinal microbiota and reduce inflammation.

Publications

– Conde A, Trullàs JC, Morales JL, Casado J, Carrera M, Sanchez M, Llàcer P, Salamanca P, Manzano L, Formiga F. Sex differences in clinical characteristics and outcomes in the CLOROTIC (combining loop with thiazide diuretics for decompensated heart failure) trial. Rev. Clin. Esp. 2024. 224. (2):p. 67–76. IF:2,300. (D3)(Q2).

– Hueso RR, Bautista PS, Simón M, Yun S, Martel AC, Rull JLM, Mera IF, Pérez DA, Rubio IP, Bodas OA, trabajo GRP. Cardiac amyloidosis worsens prognosis in patients with heart failure: findings from the PREVAMIC study. Rev. Clin. Esp. 2024. 224. (8):p. 494–502. IF:2,300. (D3)(Q2).

– Llàcer P, Romero G, Trullàs JC, de la Espriella R, Cobo M, Quiroga B, Casado J, Slon MF, Morales JL, Morgado JI, Ortiz A, Formiga F, Melendo M, de Sequera P, Recio A, Díez J, Manzano L, Núñez J. Consensus on the Approach to Hydrosaline Overload in Acute Heart Failure. SEMI/SEC/S.E.N. Recommendations. Rev Esp Cardiol. 2024. IF:7,200. (D2)(Q1).

– Marcos MC, Comin J, de la Espriella R, Gracia JR, Morales JL, Zegri I, Llacer P, Díez P, Jiménez S, Bagudá JD, Cortés CO, Goirigolzarri J, García JM, Barrios E, Díaz SD, Hernández EM, Sanchez M, Nuñez J. Design and baseline characteristics of SALT-HF trial: hypertonic saline therapy in ambulatory heart failure. ESC Heart Fail. 2024. 11. (3):p. 1767–1776. IF:3,200. (D3)(Q2).

– Marcos MC, de la Espriella R, Comín J, Zegri I, Gracia JR, Morales JL, Llàcer P, Díez P, Jiménez S, Bagudá JD, Cortés CO, Restrepo MA, Goirigolzarri J, García JM, Barrios E, Díaz SD, Hernández EM, Sanchez M, Núñez J. Efficacy and safety of hypertonic saline therapy in ambulatory patients with heart failure: The SALT-HF trial. Eur. J. Heart Fail. 2024. 26. (10):p. 2118–2128. IF:16,900. (D1)(Q1).

– Sánchez M, Garcés V, Morales JL, Casado J, Carrera M, Conde A, Dávila MF, Llàcer P, Salamanca P, Ruiz R, Aramburu O, Formiga F, Manzano L, Trullàs JC. Combining Loop and Thiazide Diuretics Across the Left Ventricular Ejection Fraction Spectrum. JACC Heart Fail. 2024. 12. (10):p. 1719–1730. IF:10,300. (D1)(Q1).

– Trullàs JC, Casado J, Cobo M, Formiga F, Morales JL, Núñez J, Manzano L. Combinational Diuretics in Heart Failure. Curr Heart Fail Rep. 2024. 21. (4):p. 1–11.

– Trullàs JC, Peláez AI, Blázquez J, Sánchez A, López ML, Salamanca P, Fernández JM, Vázquez MA, Dávila MF, Mendoza H, Morales JL, Olmedo J, Llacer P, Conde A, ALCALOTIC I. The significance of metabolic alkalosis on acute decompensated heart failure: the ALCALOTIC study. Clin Res Cardiol. 2024. 113. (8):p. 1251–1262. IF:3,800. (D3)(Q1).

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5.5. Systems biology and statistical methods for biomedical research

This multidisciplinary group is composed of researchers with expertise ranging from biostatistics to systems and synthetic biology. While we also conduct research in biomedicine, we are currently widening our focus to include food and environmental security as well as effects of climate change on human activities, as these fields are expected to have a very strong medium term impact on human health, via the One Health concept.

Publications

– Basallo O, Lucido A, SORRIBAS A, Marin A, Vilaprinyo E, Martinez E, Eleiwa A, Alves R. Modeling the effect of daytime duration on the biosynthesis of terpenoid precursors. *Front Plant Sci.* 2024. 15. p. 1465030–1465030. IF:4,100. (D2)(Q1).

– Eleiwa A, Nadal J, Vilaprinyo E, Marin A, SORRIBAS A, Basallo O, Lucido A, Richart C, Pena RN, Ros R, Usie A, Alves R. Hybrid assembly and comparative genomics unveil insights into the evolution and biology of the

red-legged partridge. *Sci Rep.* 2024. 14. (1):p. 19531–19531. IF:3,800. (D2)(Q1).

– Laza C, Niño de Guzmán E, Gea M, Plazas M, Posso M, Rué M, Castells X, Román M. “For and against” factors influencing participation in personalized breast cancer screening programs: a qualitative systematic review until March 2022. *Arch Public Health.* 2024. 82. (1):p. 23–23. IF:3,200. (D3)(Q2).

– Lucido A, Andrade F, Basallo O, Eleiwa A, Marin A, Vilaprinyo E, Sorribas A, Alves R. Modeling the effects of strigolactone levels on maize root system architecture. *Front Plant Sci.* 2024. 14. p. 1329556–1329556. IF:4,100. (D2)(Q1).

– Rodríguez JV, Prieto A, Vilaprinyo E, Bonet M, Diez M, Salud A, Montal R. Surrogate endpoints in phase III randomized trials of advanced gastroesophageal cancer: A systematic review and meta-analysis. *Crit. Rev. Oncol./Hematol.* 2024. 201. p. 104416–104416. IF:5,500. (D2)(Q1).

Funded projects

PI	Funding agency	Project	Budget (€)
Ester Vilapríño Terre	Universitat de Lleida Udl	CLADIUM: Collaborative Language approach for decision making in intensive care units based on decisionrule model	4 . 205 €

Active projects

PI	Funding agency	Project	Budget (€)
Albert Sorribas Tello & Ester Vilapríño Terre	Instituto de Salud Carlos III ISCIII	“Development of a simulation environment as a tool to support the design of studies and clinical trials.”	43 . 318 €

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Area 6. Other research areas

Other lines of research include researchers who, although not part of a specific research group at IRBLleida, have made significant scientific contributions in areas such as family medicine, ophthalmology, fibromyalgia, internal medicine, traumatology, and others.

Publications

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Area 6. Other research areas

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Funded projects

PI	Funding agency	Project	Budget (€)
Laura Mele Olive	Institut Recerca Biomedica de Lleida, IRBLleida	Efectividad de la Histero-embrioscopia para el diagnóstico etiológico del aborto recurrente de primer trimestre. Estudio HIST-EMB	– €
Mª Jose Ruiz Montilla	Fundacion Española de Calidad Asistencial	Estudio de la accesibilidad en pacientes con discapacidad sensorial atendidos en el Hospital Universitario Arnau de Vilanova y en el Hospital Universitario de Santa María de Lleida	3.000 €
Montserrat Romaguera Bosch	Diputació de Lleida	Título Completoe Esmolet: Prevenció de sinistres en la pràctica d'activitat física i esport	10.000 €
Oscar Ripol Valentin	European Commission EU	CAT-ClinART:Catalan Clinical Audit network for Quality Improvement in RT	5.177 €
Rosa Maria Pérez Capellades	Diputació de Lleida	"L'objecció de consciència i altres tipus d'objecció del professional sanitari front la petició d'ajuda a morir arran de l'entrada en vigor de la Llei Orgànica 3/2021 de regulació de l'eutanàsia: estudi multicèntric."	10.000 €

Area 6. Other research areas

Active projects

PI	Funding agency	Project	Budget (€)
Laura Mele Olive	Hospital Universitari Arnau De Vilanova De Lleida HUAV	Estudi sobre l'efectivitat de l'histero-embrioscòpia per al diagnòstic etiològic de l'avortament recurrent de primer trimestre i el seu impacte en el futur reproductiu de la dona	6 . 000 €
Montserrat Navarra	Diputació de Lleida	Avaluació i replantejament de l'estratègia de reperfusió en IAMEST a l'Alt Pirineu i Aran	5 . 000 €
Pau Antoni Surribas Camps	Diputació de Lleida	Eficàcia i viabilitat del cribratge d'aneurisma d'aorta abdominal des d'Atenció Primària	5 . 000 €

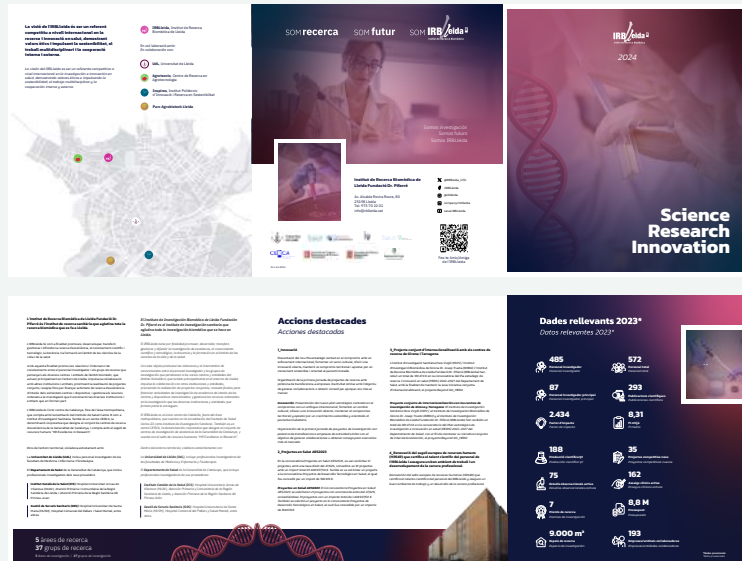


Communication

1. Promotional material
2. Outreach
3. Internal communication
4. External communication

1. Promotional material

1. IRBLleida general leaflet



2. IRBLleida's corporate social responsibility report 2024 and bookmark.



2. Outreach

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.

Summary of activities 2024

VISITS

The IRBLleida has organised **26 visits** for different group profiles (educational centres, medical, nursing and physiotherapy residents) during 2024. **488 people** participated in these visits, which were made possible with the collaboration of research groups and core facilities.



EDUCATIONAL WORKSHOPS

The Institute for Biomedical Research of Lleida (IRBLleida), with the collaboration of the La Caixa Foundation, the Department of Education and the FECYT Foundation, continued to organise workshops aimed at secondary school students to promote the biomedical research that will be carried out in Lleida's counties and to encourage scientific vocations.



- 12/01/2024: Col·legi Episcopal i Sant Jaume les Hures (Lleida)
- 19/01/2024: Col·legi Lestonnac (Lleida)
- 26/01/2024: Col·legi Vedruna Tàrraga
- 16/02/2024: Institut Josep Vallverdú (Les Borges Blanques)
- 23/02/2024: Institut Alpicat
- 05/04/2024: Col·legi Episcopal (Lleida)
- 12/04/2024: Institut Ronda (Lleida)
- 19/04/2024: Col·legi Institució (Lleida)
- 26/04/2024: Institut la Mitjana (Lleida)
- 04/10/2024: Col·legi Episcopal (Lleida) / Escola d'adults
- 18/10/2024: Institut Màrius Torres (Lleida)
- 08/11/2024: Institut de Bellpuig
- 15/11/2024: Col·legi Mater (Lleida)
- 22/11/2024: Col·legi Sagrada Família (Lleida)

CONFERENCE/WORKSHOPS

- 22/09/2024: Nit de la Recerca.
 - Talks: **4**
 - Guided tours IRBLleida: **4**
 - Workshops: **13**
 - Total number of people attending: **700**



SYMPOSIUMS

- 13/12/2024: 4th IRBLleida Annual Scientific Symposium. "4th Annual Scientific Symposium" was held at the Llotja de Lleida. The aim of this symposium is to improve the visibility of the research carried out by the different IRBLleida research groups.



OTHER ACTIVITIES

- Inspiracy Lleida
- Become a Lleida Scientist
- CiènciArt Ponent: Science and Art for Future Researchers

3. Internal communication

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



SOCIAL ACTIVITIES



IRBLleida with the family



Own campaigns on social networks



4. External communication

During 2024, IRBLleida issued 45 press notes, mainly through web and newspapers. These press releases resulted in a total of 889 media hits. In addition, there has been a significant increase in the number of followers on social networks compared to previous years.

Press

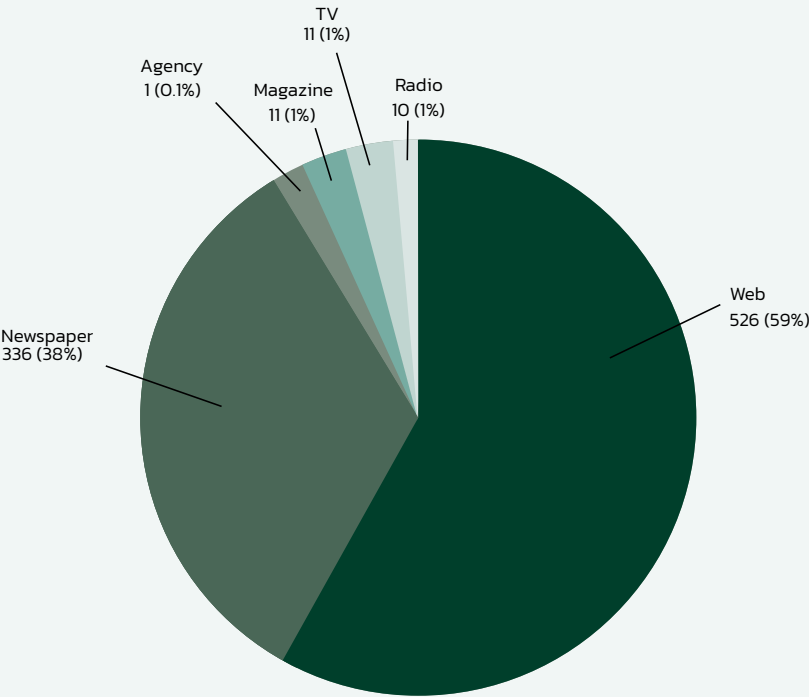


Figure 23. Press releases during 2024.

Social networks

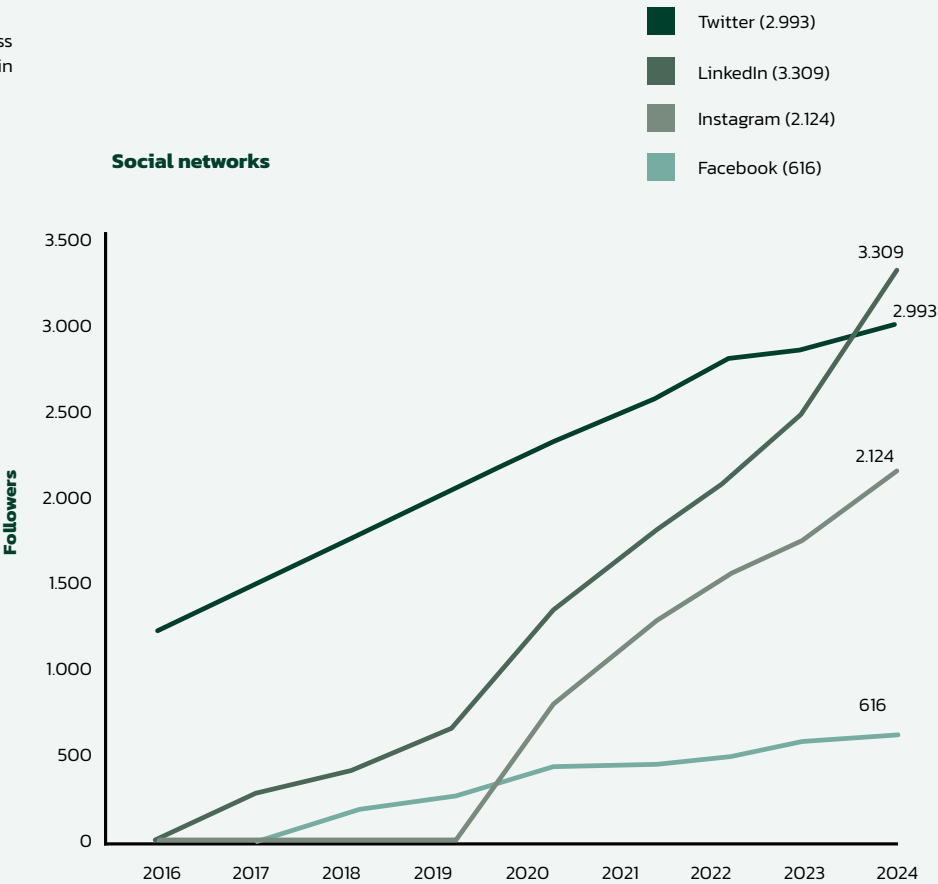


Figure 24. Historical data on social networks followers.

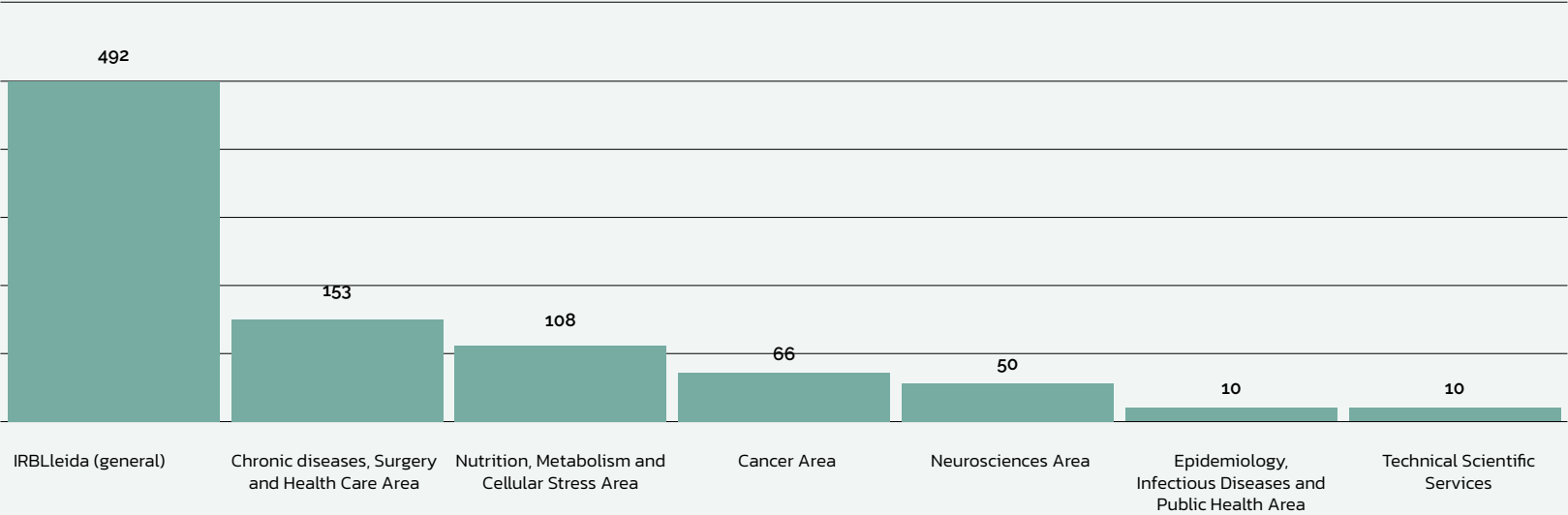


Figure 25. Media impacts (TV, radio, press and others) of the different scientific-technical groups and services in 2024.



Fundraising

Collaborating companies and organizations



The contributions made by companies and organizations that collaborate with IRBLleida have the mission of promoting, developing, managing and disseminating biomedical research in our region. Donations enable us to carry out research across our 5 scientific areas. IRBLleida has the support of 201 companies and organizations from Lleida.

Why donate to 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 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 2024

201

TOTAL COLLABORATION
COMPANIES

27

NEW
COLLABORATORS

274.725 €

CONTRIBUTION
TO IRBLLEIDA

Fundraising

	2018	2019	2020	2021	2022	2023	2024
Number of companies and organizations	157	166	135	157	179	193	201
Donations	190.939	210.056	179.375	202.561	222.784	256.636	274.725
Number of IRBLleida friends						227	535
Donations						19.114	73.653

Table 15. Total number of collaborating companies, organizations and friends.

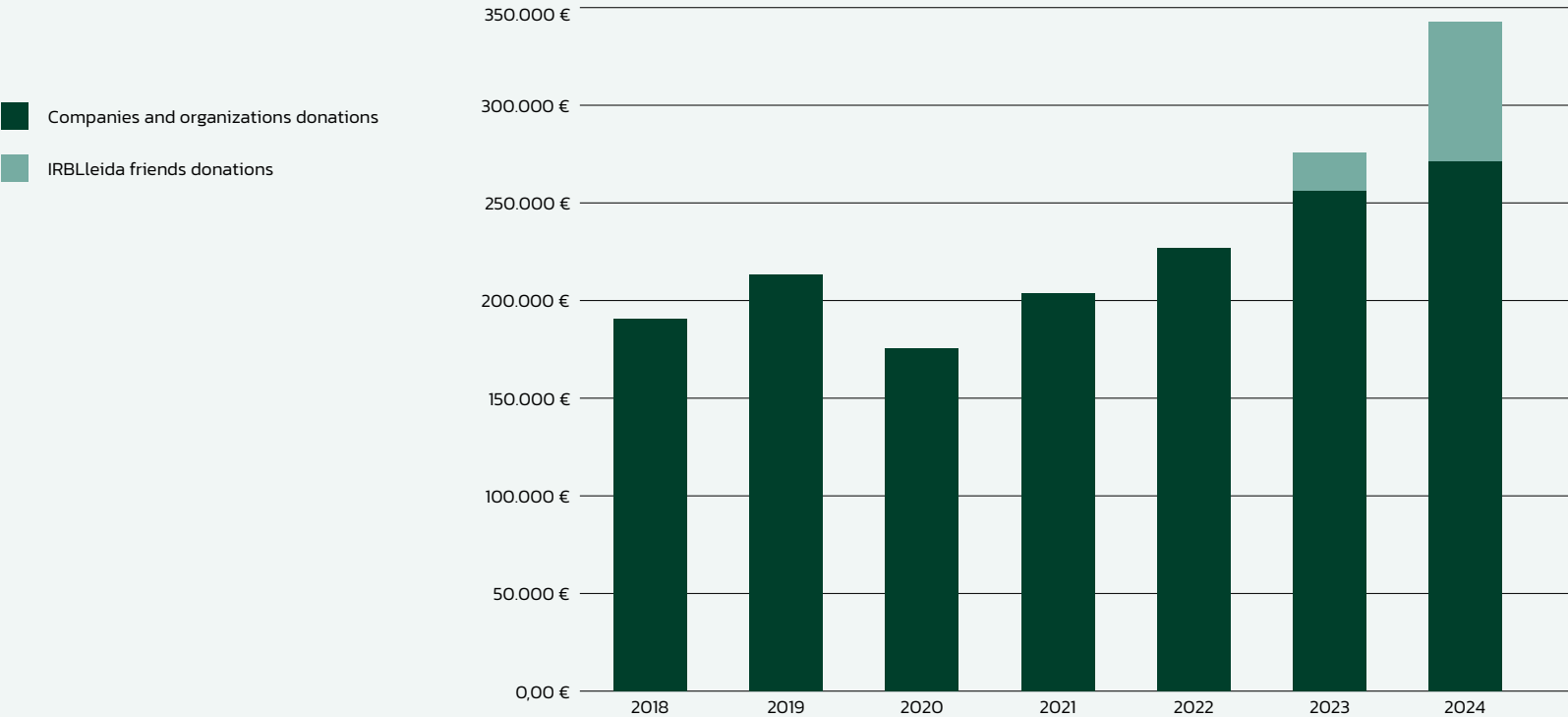


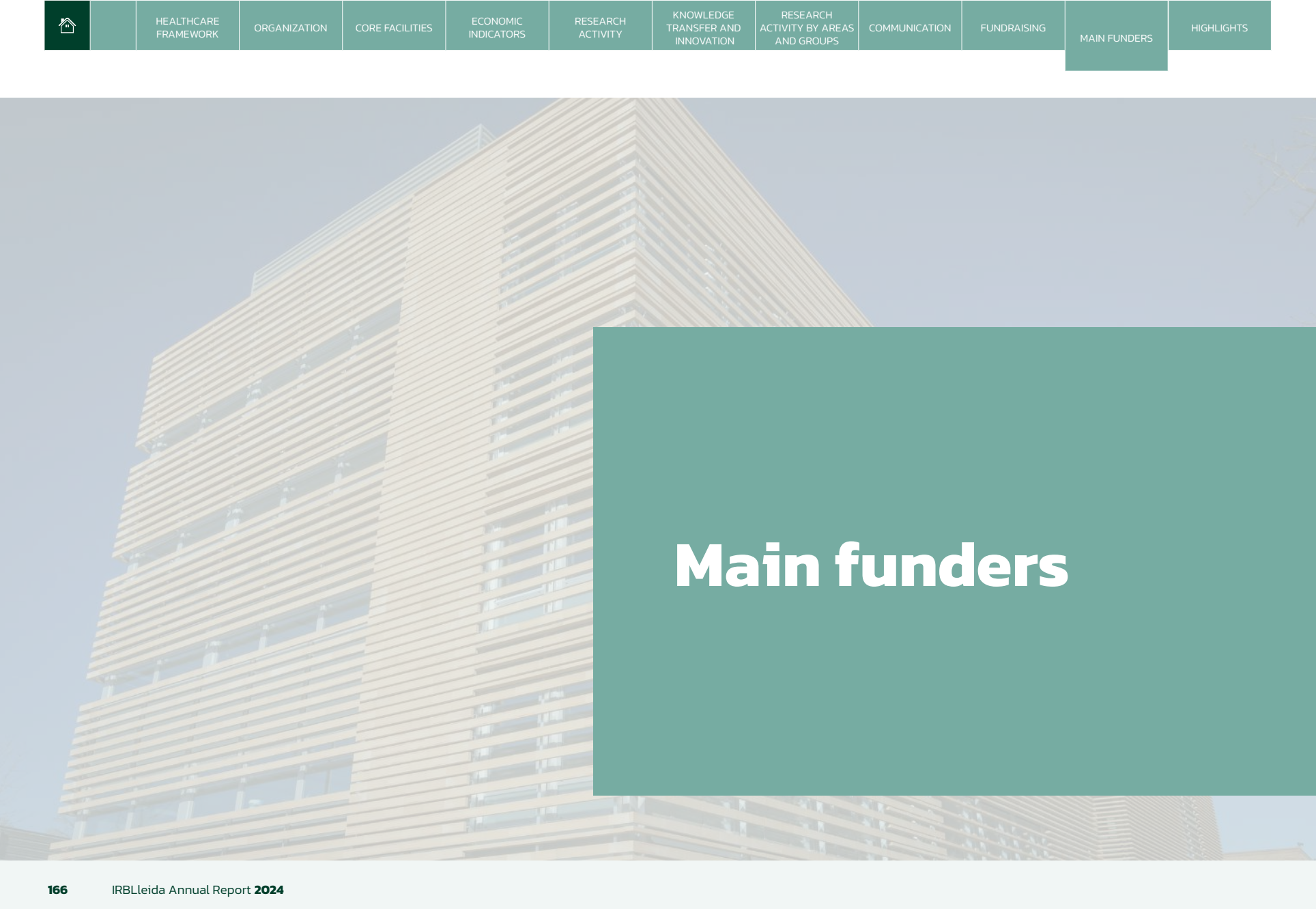
Figure 26. Donations made by companies and organizations since 2018.

Collaborating companies and organizations 2024



Collaborating companies and organizations 2024





Main funders

Acknowledgements to the main funders





HEALTHCARE
FRAMEWORK

ORGANIZATION

CORE FACILITIES

ECONOMIC
INDICATORS

RESEARCH
ACTIVITY

KNOWLEDGE
TRANSFER AND
INNOVATION

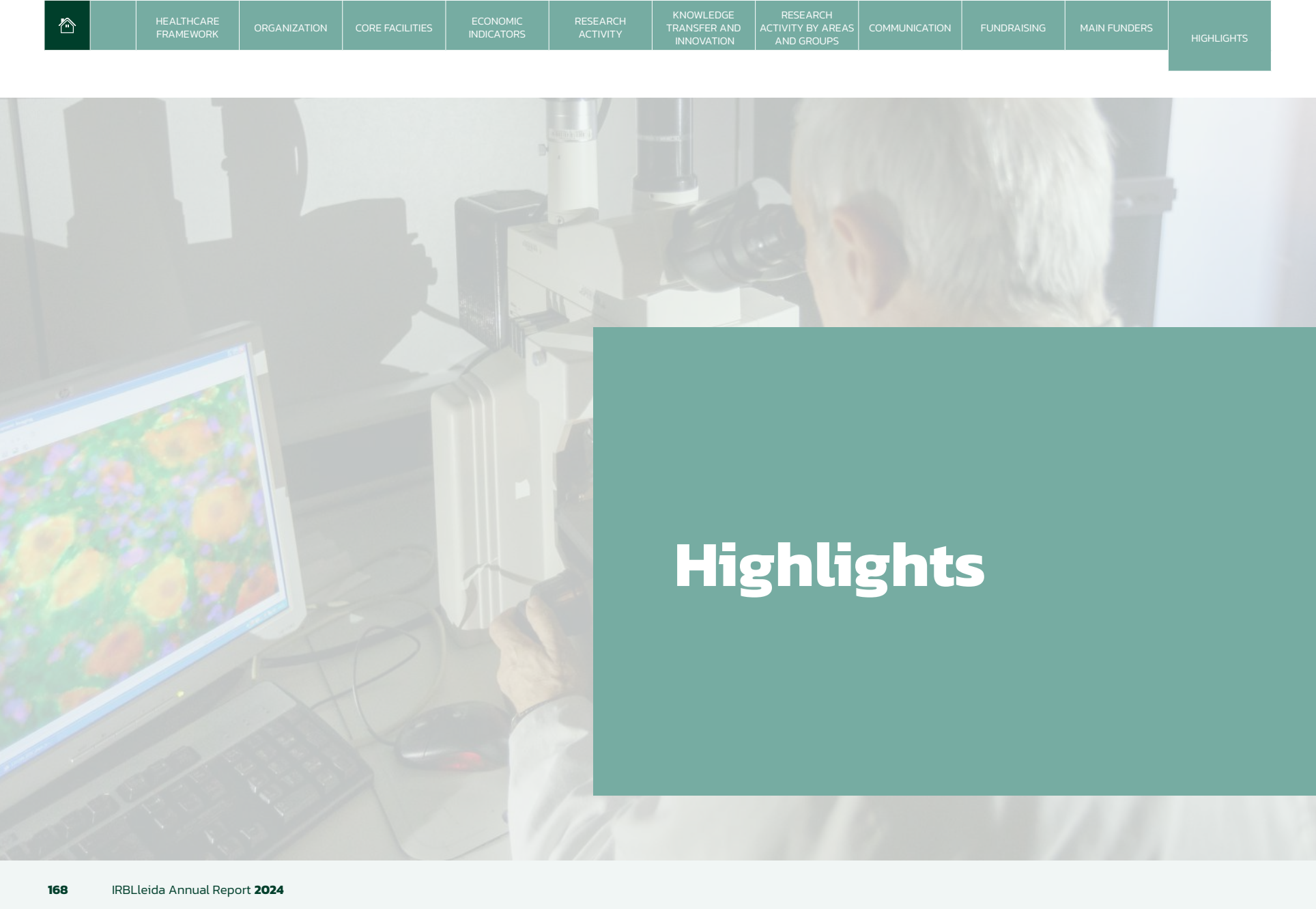
RESEARCH
ACTIVITY BY AREAS
AND GROUPS

COMMUNICATION

FUNDRAISING

MAIN FUNDERS

HIGHLIGHTS



Highlights

II Scientific Conference of its three R&D&I Support Platforms in Biomedicine and Health Sciences: the Clinical Research Support Platform (SCReN), the Biobanks and Biomodels Platform (PNBB) and the Platform for Dynamisation and Innovation of the Industrial Capacities of the National Health System (ITEMAS)

The meeting was held with the collaboration of the Institute for Research in Biomedicine of Lleida (IRBLleida), one of the Health Research Institutes accredited by the ISCIII.

From 28 to 30 October 2024, the city of Lleida will host the second edition of the Scientific Conference of its three R&D&I Support Platforms in Biomedicine and Health Sciences, organised by the Clinical Research Support Platform (SCReN), the Biobanks and Biomodels Platform (PNBB) and the Platform for Dynamisation and Innovation of the Industrial Capacities of the National Health System (ITEMAS), with the collaboration of the IRBLleida.

The ISCIII Platforms of support for R&D&I in Biomedicine and Health Sciences are a set of infrastructures and professionals belonging to different Spanish institutions, which provide transversal support services to the R&D&I system for the generation and transfer of knowledge in the National Health System. They are promoted, coordinated and financed by the ISCIII and their objectives are to provide high-level scientific, technical and technological support to different R&D&I projects in health.

The three-day meeting was attended by numerous representatives of the scientific, biomedical and healthcare community. The programme included sessions on topics such as collaboration between the three platforms, internationalisation, the development of clinical trials, knowledge transfer and the use of animal models, among others.





Celebration of the 20th anniversary of IRBLleida with new logo, events and a new corporate video

Our research, the health of the future

The Biomedical Research Institute of Lleida celebrated its 20th Anniversary in 2024. Since its foundation in 2004, IRBLleida has been a benchmark in biomedical research, contributing to scientific and innovative progress aimed at improving public health.

To mark these two decades of dedication, IRBLleida recognised the work and innovation of its team of researchers, as well as the ongoing support of its collaborators. During these 20 years, the institute has carried out numerous pioneering research projects that have had a positive impact on people's health and well-being.

To commemorate this milestone, IRBLleida organised several events, including:

- The presentation of a new logo that reflects the trajectory during these 20 years.
- A recognition for high school students in the region of Lleida for their research work.
- A photographic exhibition that will mark the visual retrospective of the most outstanding moments in the history of IRBLleida.
- An internal event for the staff to thank and recognize the entire team that is part of it.
- The closing symposium that will end this celebration.

In addition, to promote communication and scientific dissemination, the communication campaign with canvases will be launched in the building under the slogan "Our research, the health of the future".

The 20th anniversary represents a moment of celebration and projection towards the future for IRBLleida to continue contributing to the well-being of society.



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