



Annual Report of
2024
Scientific Activity

INSTITUTO DE
INVESTIGACIÓN
SANITARIA
HOSPITAL
UNIVERSITARIO
DE LA PRINCESA



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Sponsors

Letter from the Scientific Director



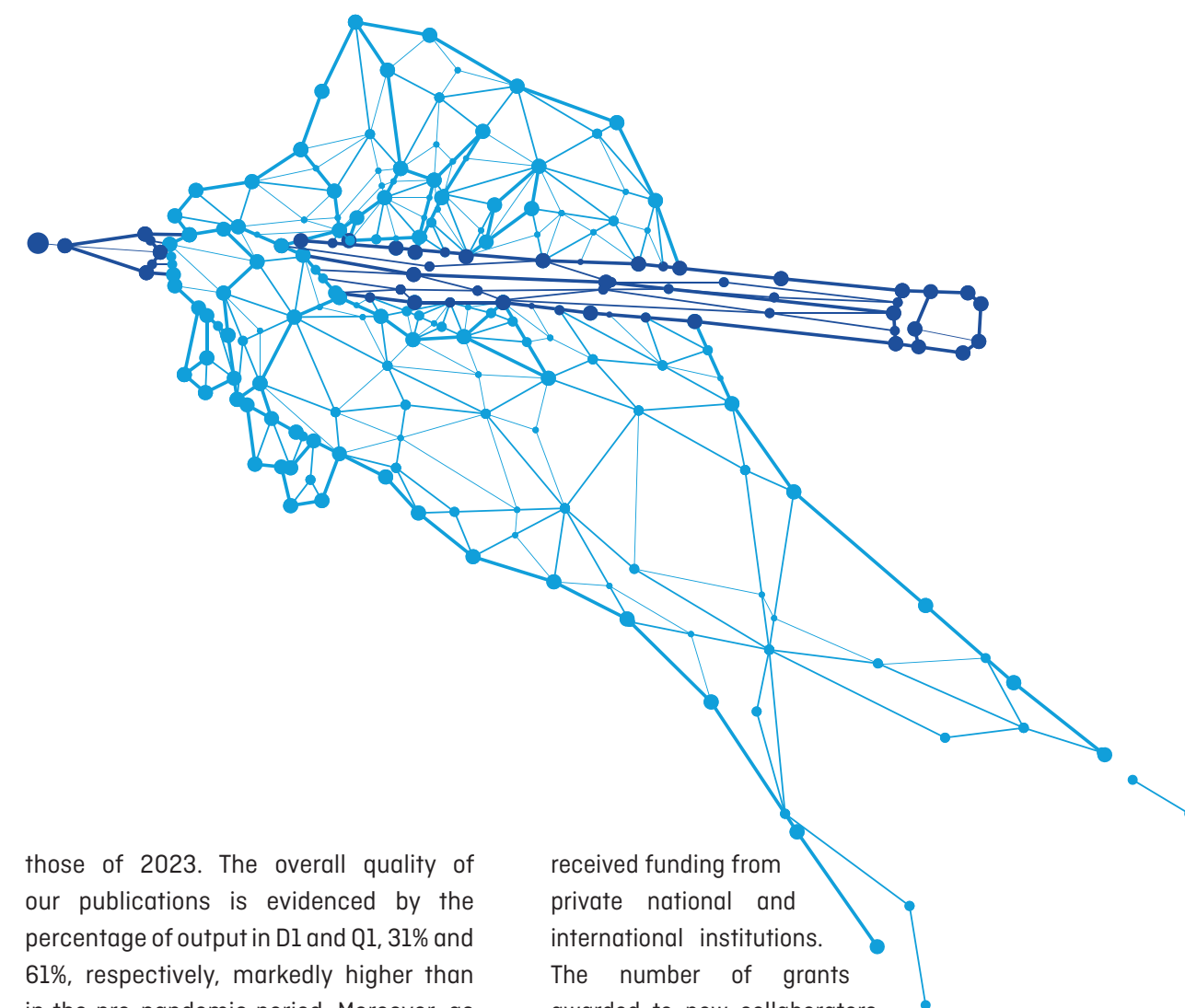
Isidoro González Álvaro
Scientific Director

The year 2024 marks the first under the new scientific direction. After fifteen years of trajectory, we recognized that the Princesa Health Research Institute (IIS-Princesa) needed a revision of its scientific structure.

A series of interviews with the leaders of the Institute's research groups provided an updated view of their priority lines of investigation, revealing substantial changes in research interests and underscoring the need for generational renewal.

The leadership team has been working to realign the Institute's structure with the new challenges faced by our regional health service (SERMAS) and with the priority areas defined by our principal funding institutions, both public and private. This realignment aims to preserve the prestige and visibility of our research centers and of the Institute's researchers, while also promoting research in Primary Care and Nursing Care. We have expanded the Primary Care group and formed three nursing research groups.

In terms of scientific output, 2024 maintained IIS-Princesa's publication pace after the pandemic. This year we produced more than 400 articles, with an accumulated impact factor exceeding 2,500 and a mean relative impact per article of 6.1, figures comparable to



those of 2023. The overall quality of our publications is evidenced by the percentage of output in D1 and Q1, 31% and 61%, respectively, markedly higher than in the pre-pandemic period. Moreover, as of August 2025, the average citation per article rises to 47, underscoring the quality and relevance of our research lines.

Additionally, over 40% of publications were led by IIS-Princesa researchers, indicating a consolidation of scientific leadership within our Institute. Following the strategy established in 2022, 60% of our articles were published in Open Access.

In 2024 we achieved excellent results in public calls for research funding, particularly those promoted by the Instituto de Salud Carlos III, with more than 50% successful proposals (19 projects funded across different calls). Moreover, five projects

received funding from private national and international institutions. The number of grants awarded to new collaborators at early career stages (R1 and R2) was 11, and five grants for technical support were secured.

We signed 121 contracts for clinical studies this year, of which 82 correspond to clinical trials and 39 to observational studies. In terms of academic output, 19 doctoral theses were defended, 3 of which received European mention.

Finally, I am convinced that the scientific achievements of 2024 constitute a fitting culmination of a five-year period and position us well to pursue with confidence the renewal of the ISCIII accreditation for our Institute.

Members of the Institute

The Health Research Institute of the University Hospital La Princesa was constituted on December 15 (2009) under an agreement signed by the Madrid Health Service –representing the University Hospitals La Princesa, Santa Cristina, and the children’s Hospital Niño Jesús– the Autonomous University of Madrid, the Biomedical Research Foundation of the University Hospital La Princesa and the Agency “Pedro Laín Entralgo” of the Community of Madrid for Training, Research and Health Studies. Almost a year later, after an audit from the Institute of Health Carlos III, it got the Accreditation as a Health Research Institute.

In 2013, the activity of the Agency of Training, Research and Health Studies of the Community of Madrid “Pedro Laín Entralgo” was finished, and its functions were assumed by the Ministry of Health of the Community of Madrid, in particular by its the General Directorate of Research, Training and Documentation.



Hospital Universitario de La Princesa

Hospital Universitario Santa Cristina

Hospital Universitario Niño Jesús

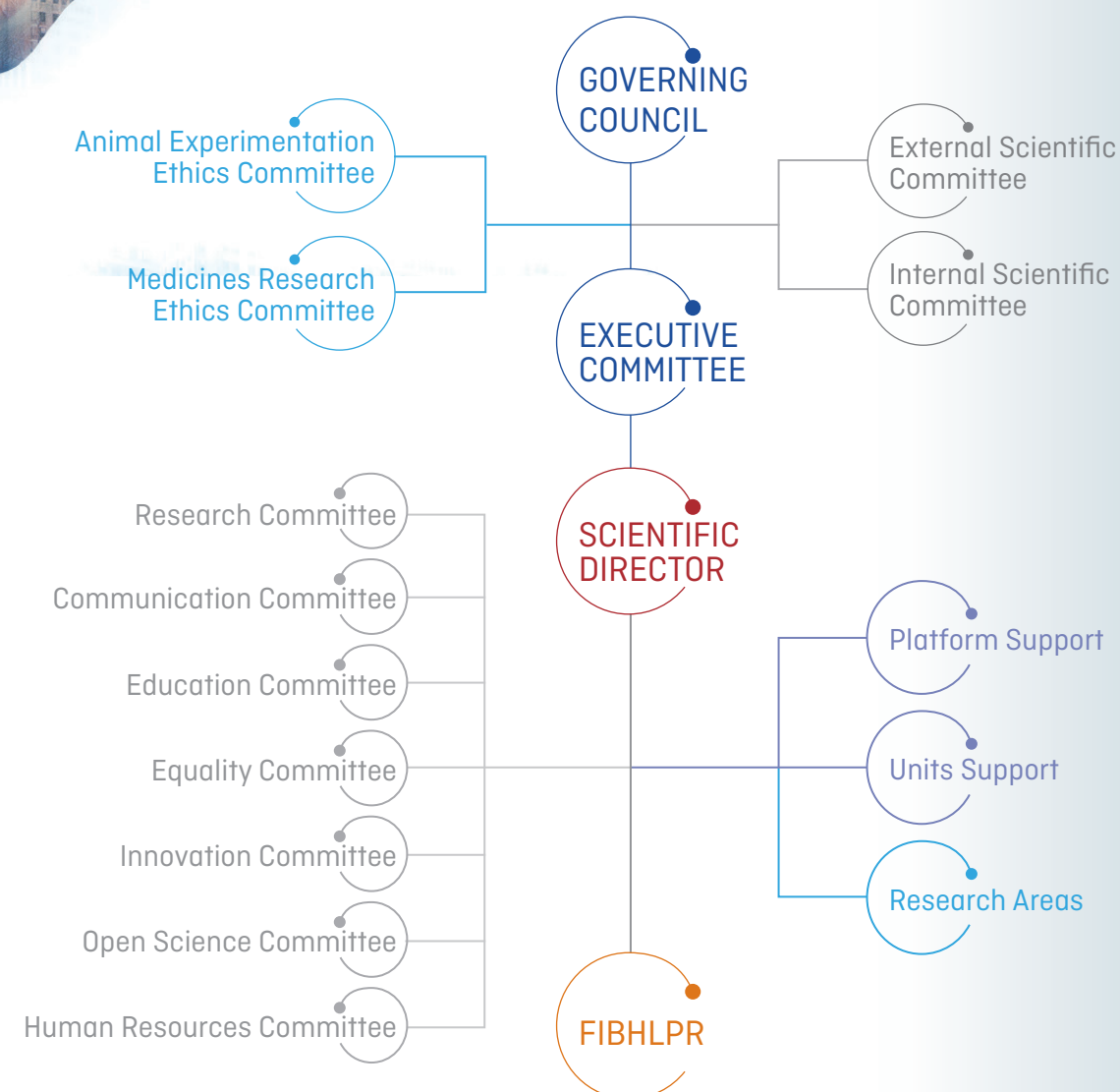


Dirección General de Investigación,
Docencia y Documentación
CONSEJERÍA DE SANIDAD

UAM
Universidad Autónoma
de Madrid

FIB FUNDACIÓN DE INVESTIGACIÓN BIOMÉDICA
hospital universitario la princesa

Organization chart



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Laura Gutiérrez Barreno
Deputy Minister of Health Assistance, Comunidad de Madrid

VICE-CHAIRMAN

Amaya Mendikoetxea Pelayo
Chancellor of Universidad Autónoma de Madrid

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General Director, Hospital Universitario de La Princesa

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General Director, Hospital Universitario Santa Cristina

Julio Zarco Rodríguez
General Director, Hospital Infantil Universitario Niño Jesús

Julio Ancochea Bermúdez
Head of Respiratory Department, Hospital Universitario de La Princesa

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Director of Research, Education and Innovation, Consejería de Sanidad de la Comunidad de Madrid

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Scientific Director of Instituto de Investigación Sanitaria del Hospital Universitario de La Princesa

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Universidad Autónoma de Madrid / Centro de Biología Molecular Severo Ochoa, Madrid

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Asociación Española de Portadores de Válvulas Cardíacas y Anticoagulados

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Quality Coordinator, Hospital Universitario de La Princesa

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Rosario Ortiz de Urbina Barba

Director of Fundación para la Investigación Biomédica del Hospital Universitario de La Princesa

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Gynecology and Obstetrics Department, Hospital Universitario Santa Cristina

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Ángela de la Hoz Rodríguez

Emergency Department, Hospital Universitario de La Princesa

Carmen del Arco Galán

Emergency Department, Hospital Universitario de La Princesa

Andrés López Romero

Family and Community Medicine, Primary Health Care

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Lawyer, ASJUSA

Eva María Nicolás Carrillo

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Biobank, Hospital Universitario de La Princesa

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Ángel Núñez Pagán

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Silvia Duque Sanz

PROJECTS MANAGEMENT DEPARTMENT

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María Joanne Dumanlag Reyes

ACCOUNTING DEPARTMENT

Noelía Alonso Cañada

CLINICAL TRIALS MANAGEMENT DEPARTMENT

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Alberto Sebastián Martínez-Caba

Marta Pérez Díaz

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Ana Aroca Martínez

WARD STAFF

José Corrochano de la Cruz

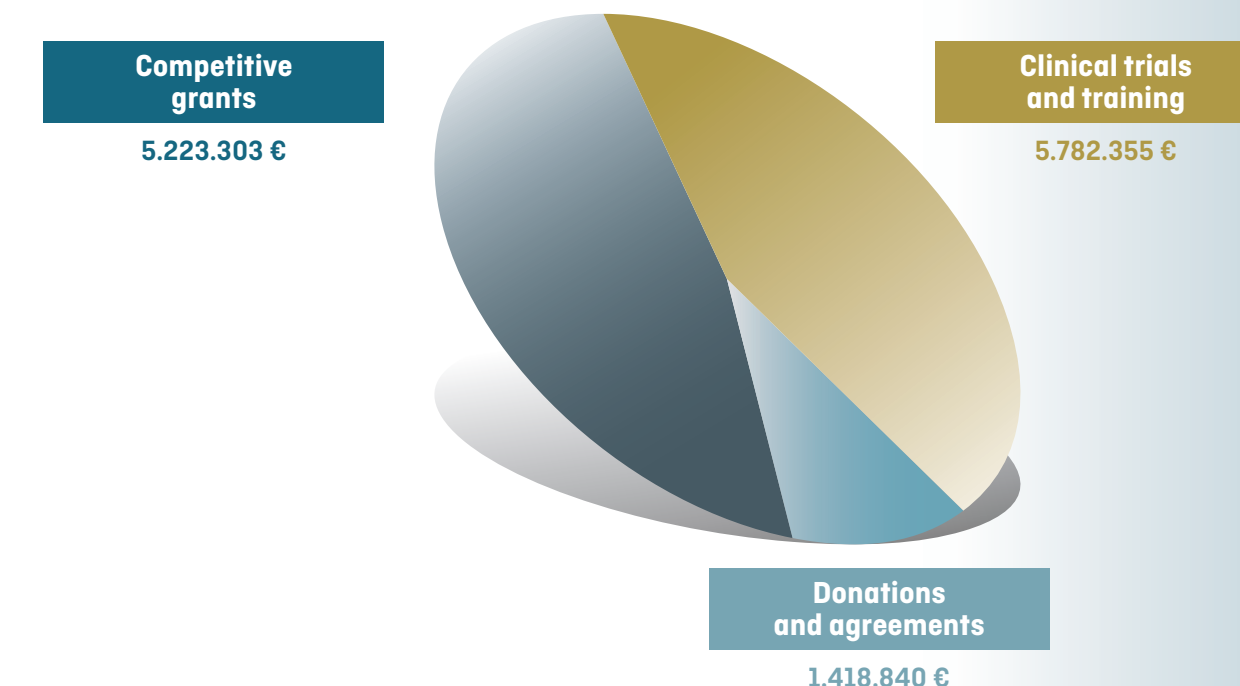
The following table presents the balance of income and expenses for the year 2024. It is worth noting that, with the overhead generated in 2024, the Institute has been able to finance the first two calls for intramural grants: one launched directly by the Institute of Health Research and another promoted by the Innovation Support Unit. Both initiatives were carried out within the framework of the objectives established in the IIS-Princesa Strategic Plan (SP) 2020–2024 (currently extended) and are fully aligned with the priority areas of the forthcoming SP 2026–2030, with the central aim of promoting research.

	2024	2023
Income	12.424.498 €	11.837.343 €
Expenses	12.381.568 €	11.814.603 €

ACTIVE ASSETS 2024	
Non-current active asset	
Intangible fixed assets	38.840,96 €
Material fixed assets	1.558.172,79 €
Current active assets	
Debtors and Client to collect	3.898.987,57 €
Financial short term investments	0,00 €
Cash	21.273.540,96 €
Total Active Assets	26.769.542,28 €

PASSIVE ASSETS 2024	
Net Worth	
Own funds	2.517.446,15 €
Non-refundable grants	2.090.255,03
Non-current passive asset	
Long term debts	0
Current active assets	
Short term provisions	9.714.870,42 €
Refundable grants	12.150.318,32 €
Creditors to pay	370.835,45 €
Total Passive Assets	26.843.725,37 €

Below is shown the information on the income obtained by the Foundation for Biomedical Research, with the income sources grouped as obtained through competitive grants, clinical trials, private invoicing, donations or another income.



Scientific Platforms

Platform Support

BIOBANK

The main mission of Biobank is focused on the development of collections of quality biological samples for the use by the scientific community. Its main tasks are: foster the setting of new collections, provide the scientific community with access to biological samples and associated data, guarantee the rights of patients donating samples, and advice to investigators about the use and handling of biological samples.

SCIENTIFIC COORDINATOR

Mara Ortega Gómez

SCIENTIFIC COMMITTEE

Javier Aspa Marco

Scientific Management Support Unit, Hospital Universitario de La Princesa

Ramón Colomer Bosch
Medical Oncology Department

Isidoro González Álvaro
Rheumatology Department

José A. Jiménez Heffernan
Pathology Department

Carlos Manuel Olivier Gómez
Urology Department

TECHNICAL STAFF

Esther Rey Fernández

Marina Invernón Monedero

METHODOLOGICAL UNIT

It aims to provide to support to the Institute's research teams for the development and implementation of research projects in order to increase the excellence of the scientific activity of IIS-Princesa.

COORDINATOR

Francisco Javier Aspa Marco

TECHNICAL STAFF

Nuria Montes Casado

MEDICAL WRITER

Manuel Gómez Gutiérrez

SCIENTIFIC MANAGEMENT SUPPORT UNIT

The Scientific Management Support Unit of IIS-Princesa has as main objective the organization, planning and coordination of all structures of support for the scientific environment and the researchers of the Institute, under the supervision of the Scientific Director of the Institute.

COORDINATOR

Francisco Javier Aspa Marco

"WHITE" ROOM

The "white" room located at the Niño Jesús Hospital, is a facility specialized to work in conditions with minimal or absent levels of contamination that meets the requirements of Good Manufacturing Practices (GMP). The "white" Room has Certification of Compliance with GMP since April 2010, both for Cell Therapy and Gene Therapy.

COORDINATOR OF THE ADVANCED THERAPIES UNIT

Manuel Ramírez Orellana

FLOW CYTOMETRY UNIT

The Flow Cytometry Unit is located at the Department of Immunology and Molecular Biology, University Hospital of La Princesa and has recently joined the Network of Laboratories of Public Research Organizations (REDLAB) of the Community of Madrid. The unit provides instrumentation and technical assistance to the researchers to perform both immunophenotype analysis and cell sorting based on fluorescence parameters.

COORDINATOR

Cecilia Muñoz Calleja

GENOMICS UNIT

The Genomics Unit is responsible for the development and implementation of technologies for molecular biology and genomics, equipment maintenance, and provision of technical advice on various technologies to research groups. It uses different technologies such as spectrophotometry, automated extraction of nucleic acids, RNA integrity determination, conventional PCR and RT-PCR, real time PCR and RT-PCR, software for search and integration of experimental data and, recently, massive sequencing.

SCIENTIFIC SUPERVISOR

Leonardo Beccari

TECHNICAL DIRECTOR

Laura Tabera Moreno

ELECTRON MICROSCOPY SERVICE

The Electron Microscopy Service of UAM provides technical assistance and scientific support to research groups interested in using electron microscopy techniques for ultrastructural analysis of biological samples and immunodetection of antigens. It has a transmission electron microscope and the material needed for sample preparation.

TECHNICAL DIRECTOR

María Teresa Rejas Marco

SCIENTIFIC DIRECTOR

Germán Andrés Hernández

PROTEOMICS UNIT

The Proteomics Service's objectives are to provide the research groups with support and scientific and technical advice in the identification and characterization of proteins by mass spectrometry (MS) techniques.

COORDINATOR

Ana Isabel Marina Ramírez

HIGH DEFINITION VIDEOMICROSCOPY

The Institute's Videomicroscopy Service provides the infrastructure and scientific expertise needed for studies of fluorescence, confocal and evanescent wave microscopy, with special emphasis on the observation of dynamic processes in living cell.

COORDINATOR

Noa B. Martín Cofreces

TECHNICIAN

Francisca Molina Jiménez

ANIMAL FACILITY

The Veterinary Office of the Universidad Autónoma de Madrid offers its services to our Institute. It is a service whose purpose is to maintain, produce and control animals for experimental research.

DIRECTOR

David Muñoz Valverde

DATA ANALYSIS UNIT

The Data Analysis Unit (DAU) has the objective of supporting the research groups of the Institute. The main objective of the DAU is to implement and develop numerical algorithms for the analysis and visualization of biomedical data. The DAU collaborates actively with the groups that need this expertise, and provides advice on specific issues in everything related to the analysis of data. It also carries out training activities related to data analysis tools.

COORDINATOR

Guillermo J. Ortega Rabbione



Units

BIOLOGICAL AND TARGETED THERAPIES UNIT

Targeted biological and synthetic therapies are the result of the parallel breakthrough in the knowledge of the pathogenesis of several chronic inflammatory and autoimmune diseases and biotechnology. Their discovery and development constitutes one of the most relevant changes that have occurred in the last two decades in several medical specialties. Their incorporation into the therapeutic arsenal has been a crucial milestone in the history of many immune-mediated inflammatory diseases, not only in terms of the availability of drugs with new mechanisms of action, but also for the development of strategies that improve outcomes and the efficient use of all drugs. Their great effectiveness means that there is a growing number of patients requiring access, and safety requires constant and meticulous risk management. In addition to their high cost, it is considered essential to increase rigor in the selection and follow-up of patients who need them, including cost-effectiveness criteria.

Another outstanding characteristic of biological therapies is their common use by different medical specialties, but with different degrees of experience in their use, particularly from the point of view of the way they are administered and the management of their adverse effects. This makes the possibility of sharing experiences that result in a more efficient and safe use of these drugs highly recommendable. In addition, the fact that these drugs must frequently be administered intravenously in day hospitals such as our Ambulatory Medicine Unit poses a common problem that undoubtedly benefits from an interdisciplinary approach.

This multidisciplinary Unit achieved the qualification of good practices of the SNS by the Interterritorial Health Council in 2016, in the call for the Strategy of rheumatic and musculoskeletal diseases of the SNS.

COORDINATOR

Alberto Morell Baladrón
Hospital Pharmacy Department

MULTIDISCIPLINAR TEAM

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Gastroenterology Department

María Chaparro Sánchez
Gastroenterology Department

Esteban Daudén Tello
Dermatology Department

Rosario García de Vicuña
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Gastroenterology Department

Esther Ramírez Herraiz
Hospital Pharmacy Department

Gloria María Torralbo Caballero
Hospital Medical Direction

CLINICAL TRIALS UNIT

The Clinical Trials Unit was created with the primary objective of promoting clinical research as well as providing support to researchers. Clinical trials or observational

studies promoted and/or led by researchers are considered independent clinical research.

SCIENTIFIC DIRECTOR

Francisco Abad Santos

DIRECTOR

Dolores Ochoa Mazarro

DEPUTY DIRECTOR

Manuel Román Martínez

COORDINATOR

Sergio Luquero Bueno

LAB MANAGER

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Andrés del Castillo Kaczmarek

NURSING TECHNICAL AREA RESPONSIBLE

Marisol Morgado Mazón

MEDICAL TECHNICAL AREA RESPONSIBLE

Izaskun Mahave Estévez

INNOVATION UNIT

The Innovation Unit of the Hospital de La Princesa was born with the foundation of the Research Institute, and is responsible, with the existing resources, to analyze new technological trends and their im-

plementation at the Institute.

The Innovation Unit of the Health Research Institute Hospital Universitario de La Princesa was consolidated when it joined the Platform for Innovation in Medical and Health Technologies (ITEMAS), getting access to the funding of the 2013 call for grants from the Strategic Action in Health, from Institute of Health Carlos III.

COORDINATOR

Rubén Eduardo Pacios Blanco
Radiology Department, Hospital Universitario La Princesa

Committees

QUALITY COMMITTEE

To achieve objective results of excellence and get a continuous improvement, the Quality Commission not only elaborates, but also continuously monitors the implementation of quality procedures established in our Institute.

COORDINATOR

Mara Ortega Gómez
Biobank, Hospital Universitario de La Princesa

QUALITY COMMITTEE

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SECRETARY

Beatriz Ovejero Álvarez
Technical Secretary, IIS-Princesa, Instituto de Investigación Biomédica del Hospital Universitario de La Princesa

TRAINING COMMITTEE

One of the priorities set by the IIS-Princesa is the promotion and development of training programs for professionals who are part of the Centre, with a focus on training for translational research to improve the competitiveness of institutions and the qualifications of the personnel that integrates them.

In this sense, all entities that are part of the Health Research Institute Hospital Universitario de La Princesa have an established training and teaching track, and have a wide training offer at all levels (training of undergraduate, graduate, and Continuing Specialized Health).

INNOVATION MANAGERS

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HUMAN RESOURCES COMMITTEE

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Fundación para la Investigación
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Miriam Martínez Parra
PR Department, Hospital
Universitario de La Princesa

**José María Serra
López-Matencio**
Pharmacy Service, Hospital
Universitario de La Princesa

SECRETARY

Beatriz Ovejero Álvarez
Technical Secretary, IIS-Princesa,
Instituto de Investigación
Biomédica del Hospital Universitario
de La Princesa

COMMITTEE FOR EQUAL OPPORTUNITIES AND DIVERSITY MANAGEMENT

The Committee for Equal Oppor-
tunities acts as the main body
responsible for promoting and
coordinating the Institute's gender
equality policies.

COORDINATOR

María del Mar Martín Cuena
Human Resources Department,
Fundación para la Investigación
Biomédica del Hospital Universitario
de La Princesa

MEMBERS

María Chaparro Sánchez
Gastroenterology Department, Hos-
pital Universitario de La Princesa

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Clinical Pharmacology Service,
Hospital Universitario de La
Princesa

Noa B. Martín Cofreces
Immunology Department, Hospital
Universitario de La Princesa

**Alberto Sebastián
Martínez-Cava**
Clinical Trial Department, Fundación
para la Investigación Biomédica
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Princesa

SECRETARY

Beatriz Ovejero Álvarez
Technical Secretary, IIS-Princesa,
Instituto de Investigación
Biomédica del Hospital Universitario
de La Princesa

OPEN SCIENCE COMMITTEE

The Open Science Committee will
act as the main body responsible
for promoting and coordinating
Open Science policies within the
framework of the IIS-Princesa

María Chaparro Sánchez
Gastroenterology Department,
Hospital Universitario de La
Princesa

Noa B. Martín Cofreces
Immunology Department, Hospital
Universitario de La Princesa

Enrique Martín Gayo
Immunology Department, Hospital
Universitario de La Princesa

Rosa Ana Muñoz Codoceo
Gastroenterology Department,
Hospital Universitario de La
Princesa

Pablo Rodríguez Carnero
Radiodiagnosis department,
Hospital Universitario de La
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SECRETARY

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Instituto de Investigación
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de La Princesa

INNOVATION COMMITTEE

COORDINATOR

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Universitario de La Princesa

Juan Vega Villar
Radiology Department, Hospital
Universitario de La Princesa

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Unit, Hospital Universitario de La
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Universitario de La Princesa

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Princesa

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Saida Alonso Marrero
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Princesa

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Nursing Service, Hospital
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SECRETARY

Daniel Andronic
Innovation Support Unit,
IIS-Princesa, Instituto de
Investigación Biomédica del
Hospital Universitario de La
Princesa

Research Areas



3 Areas



23 Research lines



44 Research groups



511 Personnel dedicated to research



327 Women



184 Men

Area 1 Cellular and molecular etiopathogenic mechanisms in inflammatory and autoimmune diseases

COORDINATOR

Francisco Sánchez Madrid

DEPUTY DIRECTOR

Julie Ann Chowen King

GENERAL OBJECTIVES

1. Unravel the molecular and cellular mechanisms that control crucial biological processes in inflammatory / autoimmune based diseases.

2. Identify molecular entities and cellular processes that can be used as targets for the action of new drugs for inflammatory / autoimmune based diseases.
3. Implement advanced experimental techniques and new animal models of disease that will allow improving basic studies to analyse pathophysiological mechanisms, and perform pre-clinical studies.
4. Promote translational research by fostering interactions between basic and clinical groups.

FIVE MOST RELEVANT PUBLICATIONS OF THE AREA:

Group 1 – Enrique Martín Gayo

Tsukalov I, Sánchez Cerrillo I, Rajas O, Avalos E, Iturricastillo G, Esparcia L, Buzón MJ, Genescà M, Scagnetti C, Popova O, Martín Cofreces N, Calvet Mirabent M, Marcos Jimenez A, Martínez Fleta P, Delgado Arévalo C, De los Santos I, Muñoz Calleja C, Calzada MJ, Ivaro IG, Palacios Calvo J, Alfranca A, Ancochea J, Sánchez Madrid F, Martín Gayo E. **NF κ B and NLRP3/NLR4 inflammasomes regulate differentiation, activation and functional properties of monocytes in response to distinct SARS-CoV-2 proteins.** Nat. Commun. 15. (1). 2024. PMID:38453949. DOI:10.1038/s41467-024-46322-8. Nature Communications.

IF:15,70. Citations: 119.

Group 25 – Mónica Marazuela Azpíroz

Martínez Hernández R, de la Blanca NS, Sacristán Gómez P, Serrano Somavilla A, de Nova JLM, Cabo FS, Heyn H, Sampedro Núñez M, Marazuela M. **Unraveling the molecular architecture of autoimmune thyroid diseases at spatial resolution.** Nat. Commun. 15. (1). 2024. PMID:39003267. DOI:10.1038/s41467-024-50192-5. Nature Communications.

IF:15,70. Citations: 103.

Group 24 – Pedro Majano Rodríguez

Molina Jiménez F, Ugalde Triviño L, Arias González L, Armenteros E, Relaño Rupérez C, Casabona S, Moreno Monteagudo JA, Pérez Fernández MT, Martín Domínguez V, Fernández Pacheco J, Laserna Mendieta EJ, Muñoz Hernández P, García Martínez J, Muñoz J, Lucendo AJ, Santander C, Majano P. **Proton pump inhibitor effect on esophageal protein signature of eosinophilic esophagitis, prediction, and evaluation of treatment response.** Allergy. 79. (12). 2024. PMID:39092539. DOI:10.1111/all.16261. ALLERGY.

IF:12,00. Citations: 55.

Group 5 – Pedro Landete Rodríguez

Landete P, Caliman Sturdza OA, Lopez Martin JA, Preotescu L, Luca MC, Kotanidou A, Villares P, Iglesias SP, Guisado Vasco P, Saiz Lou EM, Farinas Alvarez MD, de Lucas EM, Perez Alba E, Cisneros JM, Estrada V, Hidalgo Tenorio C, Poulakou G, Torralba M, Fortun J, Garcia Ocana P, Lemaigen A, Marcos Martin M, Molina M, Paredes R, Perez Rodriguez MT, Raev D, Ryan P, Meira F, Gomez J, Torres N et al. **A Phase III Randomized Controlled Trial of Plitidepsin, a Marine-Derived Compound, in Hospitalized Adults With Moderate COVID-19.** Clin. Infect. Dis. 79. (4). 2024. PMID:39182994. DOI:10.1093/cid/ciae227. CLINICAL INFECTIOUS DISEASES.

IF: 7,3. Citations: 13.

Group 56 – Ana Urzainqui Mayayo

Muñoz Callejas A, Sánchez Abad I, Ramos Manzano A, San Antonio E, González Sánchez E, Silván J, González Tajuelo R, González Alvaro I, García Perez J, Tomero EG, García Vicuña R, Vicente Rabaneda EF, Castañeda S, Urzainqui A. **Regulation of monocyte apoptosis and DNA extrusion in monocyte extracellular traps by PSGL-1: Relevance in systemic lupus erythematosus.** Transl. Res. 274. 2024. PMID:39182668. DOI:10.1016/j.trsl.2024.08.005. TRANSLATIONAL RESEARCH.

IF: 5,9. Citations: 40.

Line 1. Intercellular communication in the inflammatory response

Group 1 Francisco Sánchez Madrid

Group 3 María Yáñez Mó

Group 56 Ana Carmen Urzainqui Mayayo

Line 2. Cellular and molecular responses to hypoxia

Group 9 Julián Aragonés López

Group 7 Antonio Martínez Ruiz

Group 8 María Josefa Calzada García

Line 3. Animal models of inflammatory diseases and intercellular signalling

Group 11 Federico Mayor Menéndez

Group 12 Manuel Fresno Escudero

Group 13 *Petronila Penela Márquez*

Group 17 *Cristina Murga Montesinos*

Group 18 *Miguel Ángel Íñiguez Peña*

Line 5. Cellular mechanisms and molecular determinants of allergybased diseases

Group 20 *Carlos Blanco Guerra*

Group 15 *María Dolores Ibáñez Sandín*

Line 6. Inflammatory processes in nephrological diseases

Group 21 *Guillermina Barril Cuadrado*

Line 7. Inflammatory mechanisms in pulmonary diseases

Group 22 *Julio Ancochea Bermúdez*

Line 8. Inflammatory response in hepatic diseases

Group 24 *Pedro Lorenzo Majano Rodríguez*

Group 23 *Luisa Consuelo García Buey*

Line 9. Mechanisms and mediators of endocrine diseases

Group 25 *Mónica Marazuela Azpiroz*

Line 10. Children's development (obesity and growth)

Group 26 *Jesús Argente Oliver*

Line 11. Metabolic syndrome and vascular risk

Group 5 *Pedro Landete Rodríguez*

Area 2 Translational neuroscience

COORDINATOR

José Luis Ayuso Mateos

DEPUTY DIRECTOR

María Dolores Ochoa Mazarro

GENERAL OBJECTIVES

1. Design, synthesis and characterization of new compounds with potential neuroprotective effect on neurodegenerative diseases and stroke.
2. Search for biomarkers for early diagnosis, study of progression

and response to treatment in these diseases.

3. Drug characterization in preclinical studies in animal models and in clinical trials in humans
4. Expand the knowledge about affective disorders in the population, studying risk factors, clinical evolution and response to treatment, in order to improve the mental health of the population.

FIVE MOST RELEVANT PUBLICATIONS OF THE AREA:

Group 32 – *Francisco Abad Santos*

Abad-Santos F, Aliño SF, Borobia AM, García-Martín E, Gassó P, Maroñas O, Agúndez JAG. **Developments in pharmacogenetics, pharmacogenomics, and personalized medicine**. Pharmacol Res. 2024 Feb;200:107061. doi: 10.1016/j.phrs.2024.107061. Epub 2024 Jan 8. PMID: 38199278. PHARMACOLOGICAL RESEARCH
IF:10,5. Citations: 118.

Group 33 – *José Luis Ayuso Mateos*

Mediavilla R, García Vázquez B, McGreevy KR, Underhill J, Bayón C, Bravo Ortiz MF, Muñoz Sanjosé A, Haro JM, Monistrol Mula A, Nicaise P, Petri Romao P, McDaid D, Park AL, Melchior M, Vuillermoz C, Turrini G, Compri B, Purgato M, Roos R, Witteveen AB, Sijbrandij M, Bryant RA, Fuhr D, Ayuso Mateos JL. **Beyond effectiveness in eHealth trials: Process evaluation of a stepped-care programme to support healthcare workers with psychological distress (RESPOND-HCWs)**. Digit. Health. 10. 2024. PMID:39430699. DOI:10.1177/20552076241287678. Digital Health.
IF:3,30. Citations: 75.

Group 35 – *Ana Gago Veiga*

Gonzalez-Martinez A, Sanz-García A, García-Azorín D, Rodríguez-Vico J, Jaimes A, Gómez García A, Casas-Limón J, Díaz de Terán J, Sastre-Real M, Membrilla J, Latorre G, Calle de Miguel C, Gil Luque S, Trevino-Peinado C, Quintas S, Heredia P, Echavarría-Íñiguez A, Guerrero-Peral Á, Sierra Á, González-García N, Porta-Etessam J, Gago-Veiga AB. **Effectiveness, tolerability, and response predictors of preventive anti-CGRP mAbs for migraine in patients over 65 years old: a multicenter real-world case-control study**. Pain Med. 25(3). 2024. pp. 194–202. DOI:10.1093/pm/pnad141. Pain Medicine.
IF:3. Citations: 43.

Group 35 – *Alicia González Martínez*

Sánchez Rodríguez C, Gago Veiga AB, García Azorín D, Guerrero Peral ÁL, Gonzalez Martinez A. **Potential**

Predictors of Response to CGRP Monoclonal Antibodies in Chronic Migraine: Real-World Data. Curr Pain Headache Rep. 28. (12). 2024. PMID:37874459. DOI:10.1007/s11916-023-01183-6. CURRENT PAIN AND HEADACHE REPORTS.
IF:3,50. Citations: 74.

Group 32 – *Concepción Pérez Hernández / Group 40 – Ramón Colomer Bosch*

Pérez C, Ochoa D, Sánchez N, Ballesteros AI, Santidrián S, López I, Mondéjar R, Carnaval T, Villoria J, Colomer R. **Pain in Long-Term Cancer Survivors: Prevalence and Impact in a Cohort Composed Mostly of Breast Cancer Survivors**. Cancers (Basel). 2024 Apr 20;16(8):1581. PMID: 38672663; PMCID: PMC11049399. doi: 10.3390/cancers16081581.
IF:4,4. Citations: 47.

Line 1. Neuropharmacology and neuroprotection

Group 16 *Manuela García López*

Group 41 *Javier Egea Maiquez*

Line 3. Clinical pharmacology and pharmacogenetics

Group 32 *Francisco Abad Santos*

Line 4. Diagnostic and therapeutic advances in affective disorders

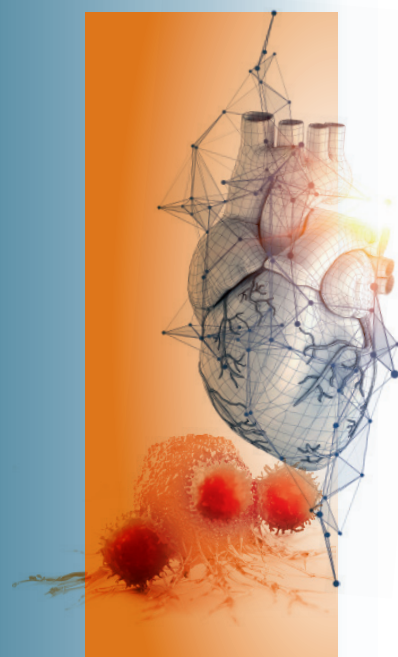
Group 33 *José Luis Ayuso Mateos*

Line 5. Neurosurgery of epilepsy

Group 34 *Jesús Pastor Gómez*

Line 6. Cerebrovascular diseases

Group 35 *José Aurelio Vivancos Mora*



Area 3 Advanced therapies and individualized medicine

COORDINATOR

María Chaparro Sánchez

DEPUTY DIRECTOR

Isidoro González Álvaro

GENERAL OBJECTIVES

1. Identification of biomarkers that allow predicting the prognosis and / or response to treatment in inflammatory, infectious or tumor diseases.
2. Optimization of biological therapies by identifying biomarkers
3. Identification of new drugs and / or therapeutic targets.
4. Search for new treatments and improvement in the efficacy and safety of treatments and in the management of their effects on the quality of life of patients.

FIVE MOST RELEVANT PUBLICATIONS OF THE AREA:

Group 38 – Javier Pérez Gisbert

Olmedo L, Calvet X, Gené E, Bordin DS, Voynovan I, Castro-Fernandez M, Pabón-Carrasco M, Keco-Huerga A, Perez-Aisa Á, Lucendo AJ, Rodrigo L, Sarsenbaeva AS, Khlinov IB, Fadieienko G, Zaytsev O, Lanas Á, Martínez-Domínguez SJ, Alfaro E, Jonaitis L, Núñez Ó, Pellicano R, Hernández L, Gridnyev O, Kupcinskis J, Gasbarrini A, Boltin D, Niv Y, Babayeva G, Marcos-Pinto R, Tepes B, Venerito M, Papp V, Lerang F, Leja M, Phull PS, Marlicz W, Doulberis M, Smith SM, Milivojevic V, Kunovsky L, Mestrovic A, Matysiak-Budnik T, Simsek H, Cano-Català A, Puig I, Moreira L, Parra P, Nyssen OP, Megraud F, O'Morain C, Gisbert JP; Hp-Eu-Reg investigators*. **Evolution of the use, effectiveness and safety of bismuth-containing quadruple therapy for Helicobacter pylori infection between 2013 and 2021: results from the European registry on H. pylori management (Hp-EuReg).** Gut. 2024 Dec 10;74(1):15-25. doi: 10.1136/gutjnl-2024-332804. PMID: 39461739; PMCID: PMC11671959.

IF: 25,8. Citations: 35.

Group 58 – Fernando Alfonso Manterola

Cuesta J, Pérez Vizcayno MJ, del Blanco BG, Bosa F, de Prado AP, Rumoroso JR, Romaguera R, Gutiérrez H, Touchard AG, López Minguez JR, Trillo R, Hernan-

dez JMD, Moreno R, Velázquez M, Moris C, Kockar MJ, Jiménez Quevedo P, Bastante T, del Val D, Rivero F, Alfonso F, RIBS VI Investigators. **Long-Term Results of Bioresorbable Vascular Scaffolds in Patients With In-Stent Restenosis The RIBS VI Study.** JACC-Cardiovasc. Interv. 17. (15). 2024. PMID:39142758. DOI:10.1016/j.jcin.2024.05.038. JACC-CARDIOVASCULAR INTERVENTIONS.

IF: 11,40. Citations: 28.

Group 38 – Javier Pérez Gisbert

Nyssen OP, Martínez B, Mégraud F, Savarino V, Fallone CA, Bazzoli F, Gisbert JP. **Sequential versus Standard Triple Therapy for First-Line Helicobacter pylori Eradication: An Update.** Antibiotics-Basel. 13. (2). 2024. PMID:38391522. DOI:10.3390/antibiotics13020136. ANTIBIOTICS-BASEL.

IF:4,60. Citations: 145.

Group 40 – Nuria Romero Laorden

San-Jose Manso L, Alfranca A, Moreno-Pérez I, Ruiz-Vico M, Velasco C, Toquero P, Pacheco M, Zapatero A, Aldave D, Celada G, Albers E, Fenor de la Maza MD, García J, Castro E, Olmos D, Colomer R, Romero-Laorden N. **Immunome profiling in prostate cancer: a guide for clinicians.** Front Immunol. 2024 Nov 20;15:1398109. doi: 10.3389/fimmu.2024.1398109. PMID: 39635522; PMCID: PMC11614818.

IF: 5,9. Citations: 100.

Group 36 – Santos Castañeda Sanz

Martínez-Fleta P, Vicente-Rabaneda EF, Triguero-Martínez A, Roy-Vallejo E, Uriarte-Ecenarro M, Gutiérrez-Rodríguez F, Quiroga-Colina P, Romero-Robles A, Montes N, García-Castañeda N, Mejía-Abril GP, García-Vadillo JA, Llorente-Cubas I, Villagrasa JR, Serra López-Matencio JM, Ancochea J, Urzainqui A, Esparcia-Pinedo L, Alfranca A, de la Fuente H, García-Vicuña R, Sánchez-Madrid F, González-Álvaro I, Castañeda S. **Beneficial effect of temporary methotrexate interruption on B and T cell responses upon SARS-CoV-2 vaccination in patients with rheumatoid arthritis or psoriatic arthritis.** NPJ Vaccines. 2024 Jan 30;9(1):21. doi: 10.1038/s41541-024-00805-3. PMID: 38291047; PMCID: PMC10827732.

IF: 6,5. Citations: 41.

Line 1. Prognostic and predictor markers in autoimmune diseases

Group 36 Isidoro González Álvaro

Group 37 Esteban Daudén Tello

Line 2. Esophagogastrintestinal inflammatory diseases

Group 38 Javier Pérez Gisbert

Line 3. Progenitors and cell therapy

Group 39 Luis Madero López

Line 4. Advanced therapies in oncohematology

Group 44 Juan Luis Steegmann Olmedillas

Line 5. Biological, cellular and molecular monitoring in oncohematology

Group 45 Elena Fernández Ruiz

Group 46 Cecilia Muñoz Calleja

Line 6. New diagnostic and therapeutic advances in cardiovascular diseases

Group 58 Fernando Alfonso Manterola

Group 48 Luis Jesús Jiménez Borreguero

Group 57 Carmen Suárez Fernández

Group 49 Blanca Novella Arribas

Line 7. New therapies in infectious pathologies

Group 50 Ignacio de los Santos Gil

Group 51 Javier Aspa Marco

Group 52 Teresa Alarcón Cavero

Line 8. Individualized medicine in solid tumors

Group 40 Ramón Colomer Bosch

Group 53 Almudena Zapatero Laborda

Associated group 3 José Cordero Ampuero

Scientific Output

In 2024, the scientific output of researchers of the Health Research Institute reached a total of 447 publications, representing an increase over the previous year and reflecting the intense research activity and thematic diversity of our groups. Following the same line of presentation as in previous years, this report provides a breakdown of the results corresponding to original articles, reviews and editorials, as these are considered the most relevant at the scientific level and have the greatest impact within the research community. Nevertheless, it is important to highlight that the Institute's output also includes other types of valuable documents that enrich and complement our institution's overall contribution to the advancement of knowledge.

Global Analysis

PUBLICATIONS

	Total	Impact Factor	Mean Impact Factor	% D1	%Q1	% IF>10	% International collaborations	% Open Access	% Leadership
Publications	423	2719,9	6,43	34,52	64,78	11,58	39,48	56,74	39,72
Articles	370	2289,7	6,19	34,59	65,68	10,81	41,08	56,22	35,95
Editorial	24	273,1	11,38	54,17	62,50	25	33,33	45,83	75
Review	29	157,1	5,42	17,24	55,17	10,34	24,14	72,41	58,62

New Grants:

New Research grants in 2024: **24**.

New Human Resources grants in 2024: **17**.

Clinical Trials:

Ongoing Clinical Trials during the year 2024: **442**.

Clinical Trial agreements signed in 2024: **121**.

Clinical Practice Guidelines:

Number of Clinical Practice Guidelines: **23**.

Patents:

Number of patent applications: **1**.

Number of utility model applications: **1**.

Number of innovations generated by IIS (2024):

7 projects enrolled in the year and **12** in development phase in 2024.

Number of patents or useful models during 2024:

2 applications, **2** granted.

Total number of patents or useful models:

3 applications, **12** granted and **2** licensed/transferred.

Theses:

Number of theses defended: **19**.

Number of theses with European mention: **3**.

Communication:

Number of news published in printed press: **10**.

News in other audiovisual media (TV / Radio): **41**.

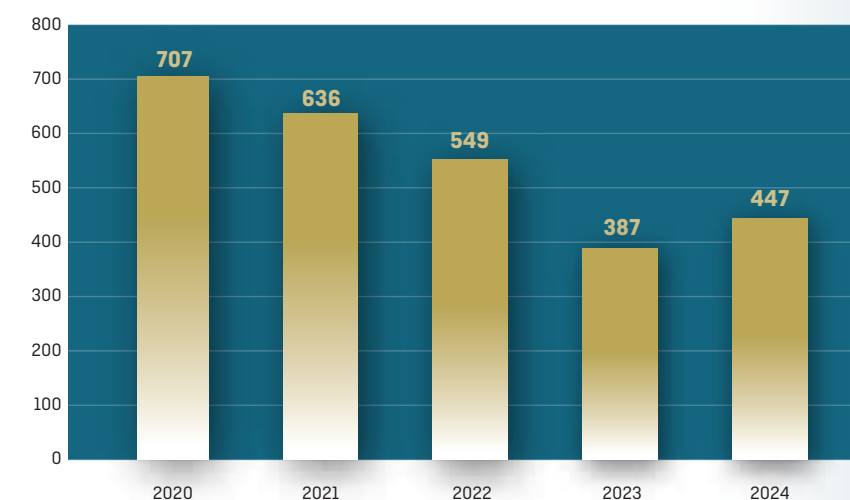
Number of news in specialised and non-specialised digital media: **155**.

Number of Research Bulletin "Factor de Impacto" with the last scientific news with wide dissemination among patients, researchers and media: **4**.

Publications

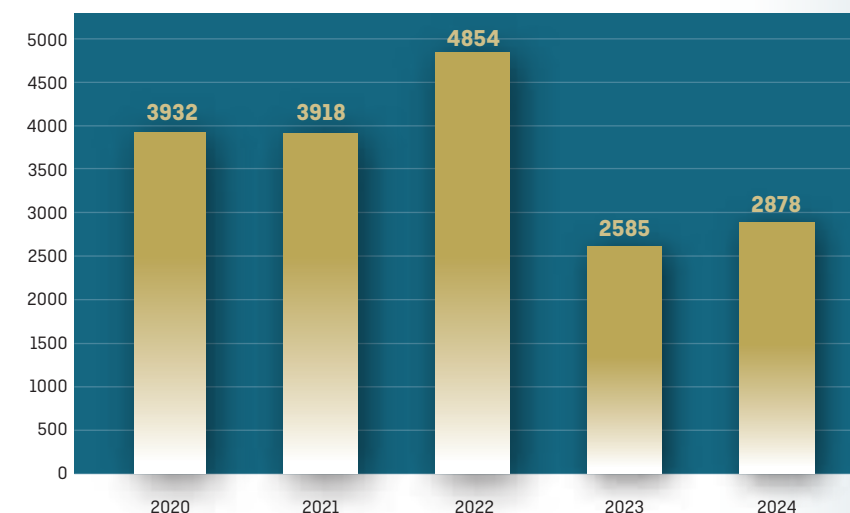
After the significant decline in the total number of publications recorded between 2020 and 2023, the year 2024 shows a change in trend with an increase compared to the previous year, rising from 387 to 447 publications. This upturn suggests a partial recovery in scientific output following the stabilisation that followed the extraordinary volume reached in 2020, a year marked by the research efforts in response to the COVID-19 pandemic. As shown in the graph, although current levels remain below those observed during the 2020–2022 period, the Institute's research activity continues to consolidate and diversify, laying the foundation for sustained growth in the coming years.

Evolution of publications per year 2020-2024



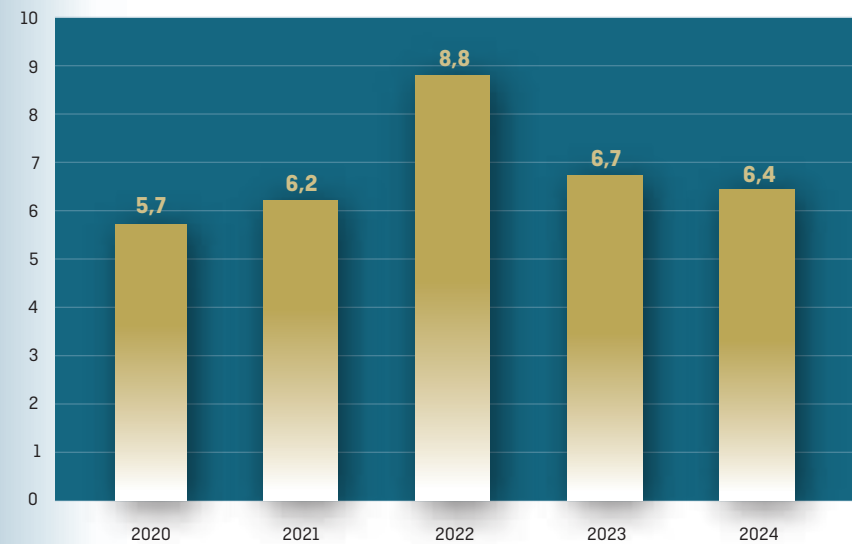
In line with the trend observed in the number of publications, the cumulative impact factor (IF) in 2024 has experienced a slight increase compared to 2023, rising from 2,585 to 2,878.1. Despite this improvement, the current figures remain below those recorded during the pandemic years (2020–2022), when the extraordinary volume of COVID-19-related research led to a temporary surge in the IF of many journals worldwide. As these exceptional circumstances have subsided, the values reported by the Journal Citation Reports have stabilized, reflecting more typical citation patterns. The historical evolution of the cumulative IF at IIS-Princesa over the last five years is presented in the graph below.

Cumulative Impact Factor 2020-2024



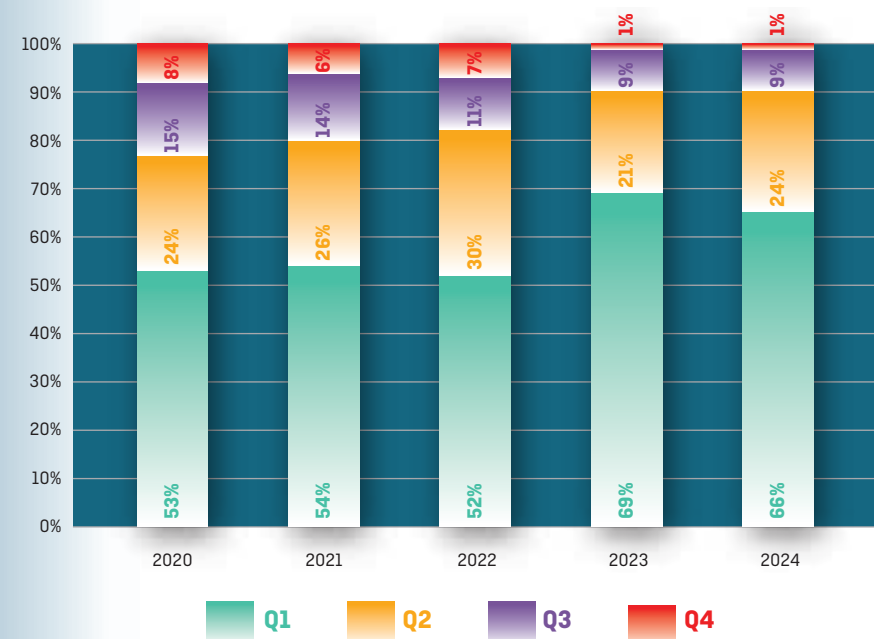
Although the number of publications and the cumulative impact factor remain below the levels observed during the pandemic years, the mean impact factor per publication in 2024 remains stable and at a high level, reaching 6.44. This value is slightly lower than that in 2023 but continues to reflect the consistent scientific quality of our researchers' output. Excluding the exceptional peak in 2022 —driven by the temporary rise in impact factors across many journals due to COVID-19-related research— the data confirm that the average quality of the publications produced at IIS-Princesa has been maintained over time, as illustrated in the graph below.

Mean Impact Factor 2020-2024



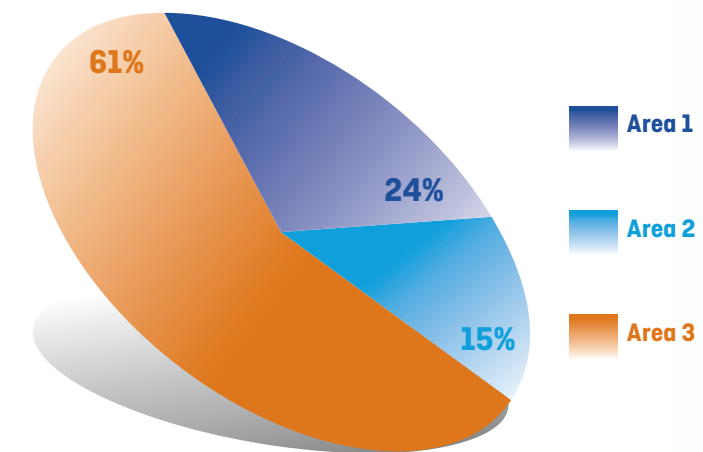
The proportional distribution of publications by quartiles in 2024 confirms the sustained high quality of our researchers' scientific output. Two-thirds (66%) of all articles were published in journals ranked in Q1. These figures consolidate the positive trend observed in recent years, highlighting the strong presence of IIS-Princesa researchers in the most prestigious scientific journals.

Publications by quartiles 2020-2024



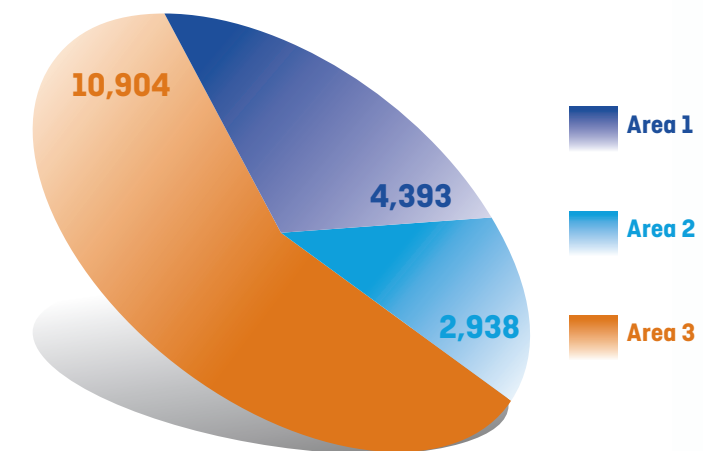
The distribution of publications by research area in 2024 reflects the predominant contribution of Area 3, which accounts for 61% of the total scientific output. Area 1 represents 24% of publications, while Area 2 contributes 15%. It is noteworthy that Area 1 hosts the largest number of research groups (20), followed by Area 3 with 18 groups, and Area 2 with 6 groups. This distribution highlights the strong publication output of Area 3, the significant potential of Area 1 given its broad research base, and the valuable and specialised contributions of Area 2. Below is a comparative chart of publications by area.

Publications by Research Area

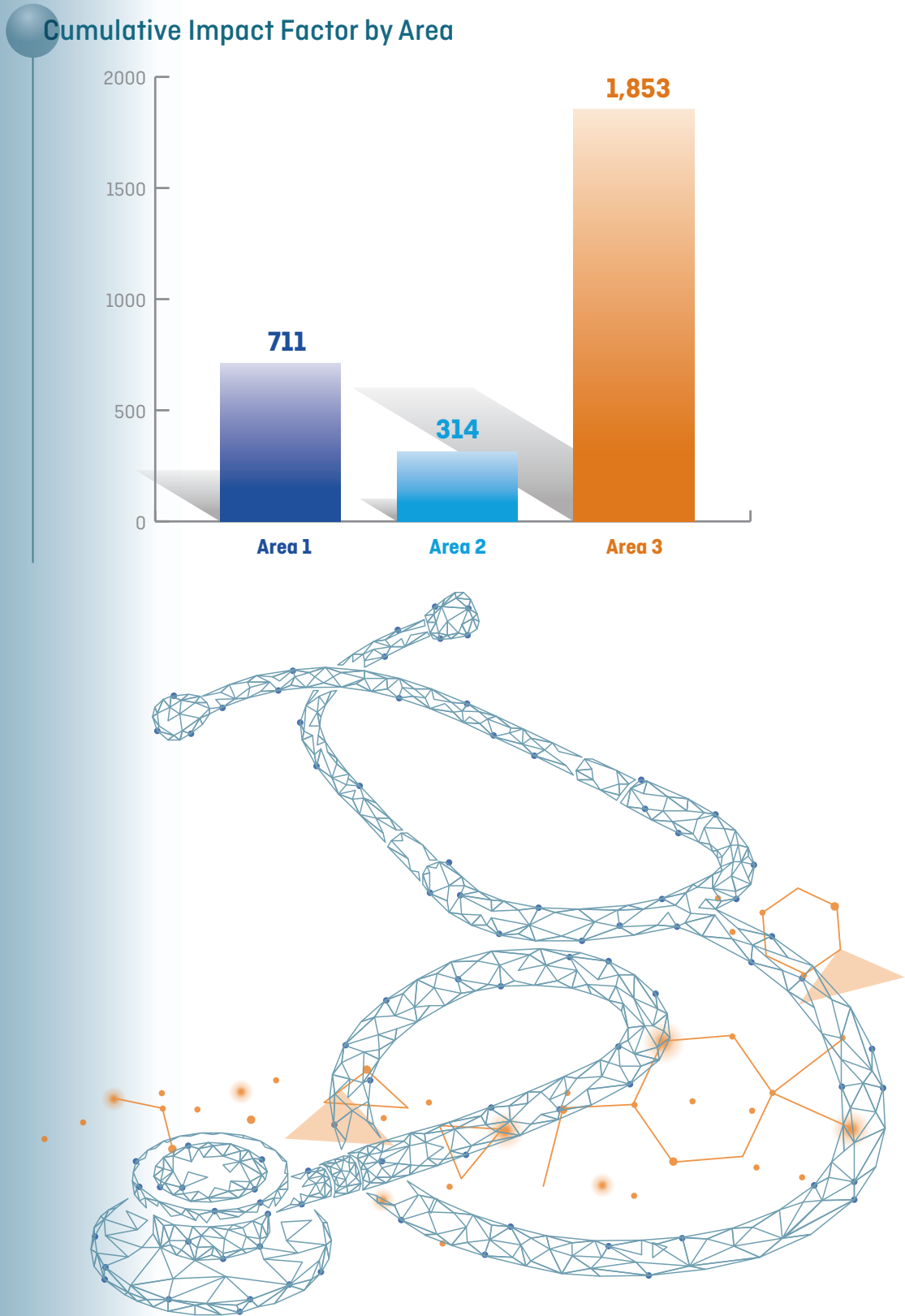


The analysis of citations by research area in 2024 shows a clear predominance of Area 3, which accumulates 10,904 citations, reflecting its strong scientific visibility. Area 1 follows with 4,393 citations, while Area 2 reaches 2,938. These figures are consistent with the distribution of publications observed across the three areas, where Area 3 produced the largest proportion of output, Area 1 demonstrated significant productivity supported by its broad research base, and Area 2 contributed a valuable share through its specialised activity. Together, these results highlight the complementary strengths of the Institute's research areas in terms of both production and scientific impact.

Citations by Research Area



The cumulative impact factor by research area in 2024 shows a clear predominance of Area 3, with a total of 1,853, reflecting its high volume of publications and presence in journals with substantial impact. Area 1 follows with 711, supported by its large number of research groups and diverse thematic coverage, while Area 2 reaches 314, representing a focused yet valuable contribution within its specialised fields. This distribution illustrates both the diversity of research strengths across areas and the complementary nature of their scientific outputs in enhancing the Institute’s overall impact.



Scientific Production

Below is a detailed list of the journals in which IIS articles were published, arranged in descending order according to their impact factor. The table includes the journal title, the number of publications, the impact factor, and the cumulative impact factor.

Journal	Number of Publications	Impact Factor	Cumulative IF
EUROPEAN HEART JOURNAL	3	106,8	320,4
LANCET	1	88,5	88,5
ANNALS OF ONCOLOGY	1	65,4	65,4
Nature Communications	4	62,8	251,2
JOURNAL OF CROHNS & COLITIS	7	60,9	426,3
JACC-CARDIOVASCULAR INTERVENTIONS	5	57	285
ARCHIVOS DE BRONCONEUMOLOGIA	6	55,2	331,2
ALIMENTARY PHARMACOLOGY & THERAPEUTICS	8	53,6	428,8
Gut	2	51,6	103,2
HEPATOLOGY	3	47,4	142,2
UNITED EUROPEAN GASTROENTEROLOGY JOURNAL	7	46,9	328,3
Journal of clinical medicine	16	46,4	742,4
LANCET NEUROLOGY	1	45,5	45,5
JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY	2	44,6	89,2
EUROPEAN RESPIRATORY JOURNAL	2	42	84
JOURNAL OF CLINICAL ONCOLOGY	1	41,9	41,9
NATURE BIOTECHNOLOGY	1	41,7	41,7
Frontiers in immunology	7	41,3	289,1
Leukemia	3	40,2	120,6
INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES	8	39,2	313,6
Circulation	1	38,6	38,6
LANCET GASTROENTEROLOGY & HEPATOLOGY	1	38,6	38,6
EUROINTERVENTION	4	38	152
CRITICAL CARE	4	37,2	148,8
JOURNAL OF HEPATOLOGY	1	33	33
Lancet Respiratory Medicine	1	32,8	32,8
JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY	4	32	128
LANCET INFECTIOUS DISEASES	1	31	31
Cancers	6	26,4	158,4
Lancet Digital Health	1	24,1	24,1
ALLERGY	2	24	48
HAEMATOLOGICA	3	23,7	71,1
Blood	1	23,1	23,1
RHEUMATOLOGY	5	22	110
CLINICAL INFECTIOUS DISEASES	3	21,9	65,7
INTENSIVE CARE MEDICINE	1	21,2	21,2
REVISTA ESPANOLA DE CARDIOLOGIA	4	19,6	78,4
Scientific Reports	5	19,5	97,5
AMERICAN JOURNAL OF RESPIRATORY AND CRITICAL CARE MEDICINE	1	19,4	19,4
Cell Death & Disease	2	19,2	38,4

Journal	Number of Publications	Impact Factor	Cumulative IF
DIGESTIVE AND LIVER DISEASE	5	19	95
CONTACT DERMATITIS	4	18,4	73,6
European Journal of Internal Medicine	3	18,3	54,9
CLINICAL PHARMACOLOGY & THERAPEUTICS	3	16,5	49,5
Lancet Rheumatology	1	16,4	16,4
Journal of the American Heart Association	3	15,9	47,7
BONE MARROW TRANSPLANTATION	3	15,6	46,8
NEFROLOGIA	6	15,6	93,6
NEUROLOGIA	5	15,5	77,5
AMERICAN JOURNAL OF GASTROENTEROLOGY	2	15,2	30,4
npj Digital Medicine	1	15,1	15,1
NUTRIENTS	3	15	45
RESPIRATORY RESEARCH	3	15	45
Hemasphere	1	14,6	14,6
INTERNATIONAL JOURNAL OF ANTIMICROBIAL AGENTS	3	13,8	41,4
EUROPEAN NEUROPSYCHOPHARMACOLOGY	2	13,4	26,8
JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY-IN PRACTICE	2	13,2	26,4
LANCET REGIONAL HEALTH-EUROPE	1	13	13
INFLAMMATORY BOWEL DISEASES	3	12,9	38,7
Clinical Gastroenterology and Hepatology	1	12	12
JOURNAL OF INFECTION	1	11,9	11,9
JOURNAL OF THE AMERICAN ACADEMY OF DERMATOLOGY	1	11,8	11,8
EUROPEAN JOURNAL OF NEUROLOGY	3	11,7	35,1
BLOOD CANCER JOURNAL	1	11,6	11,6
Gastroenterología y Hepatología	6	11,4	68,4
JOURNAL OF INVESTIGATIVE DERMATOLOGY	2	11,4	22,8
Gut Microbes	1	11	11
Pharmaceutics	2	11	22
CARDIOVASCULAR DIABETOLOGY	1	10,6	10,6
MEDICINA CLINICA	5	10,5	52,5
PHARMACOLOGICAL RESEARCH	1	10,5	10,5
INTERNATIONAL JOURNAL OF SURGERY	1	10,1	10,1
Eclinicalmedicine	1	10	10
INTERNATIONAL JOURNAL OF DERMATOLOGY	3	9,6	28,8
Frontiers in Pharmacology	2	9,6	19,2
GENOME BIOLOGY	1	9,4	9,4
Rmd Open	2	9,4	18,8
European Urology Oncology	1	9,3	9,3
ANTIBIOTICS-BASEL	2	9,2	18,4
CEPHALALGIA	2	9,2	18,4
ANESTHESIOLOGY	1	9,1	9,1
AMERICAN JOURNAL OF CLINICAL DERMATOLOGY	1	8,8	8,8
SEMINARS IN ARTHRITIS AND RHEUMATISM	2	8,8	17,6
Transplantation and Cellular Therapy	2	8,8	17,6
ACTA DIABETOLOGICA	3	8,7	26,1

Journal	Number of Publications	Impact Factor	Cumulative IF
MULTIPLE SCLEROSIS AND RELATED DISORDERS	3	8,7	26,1
Helicobacter	2	8,6	17,2
CLINICAL MICROBIOLOGY AND INFECTION	1	8,5	8,5
Brain sciences	3	8,4	25,2
BMC MEDICINE	1	8,3	8,3
BRITISH JOURNAL OF PHARMACOLOGY	1	7,7	7,7
JOURNAL OF NEUROLOGY NEUROSURGERY AND PSYCHIATRY	1	7,5	7,5
CNS DRUGS	1	7,4	7,4
DISEASES OF THE COLON & RECTUM	2	7,4	14,8
JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY	2	7,2	14,4
Cell Death Discovery	1	7	7
LUPUS SCIENCE & MEDICINE	2	7	14
BMJ OPEN	3	6,9	20,7
THERAPEUTIC ADVANCES IN GASTROENTEROLOGY	2	6,8	13,6
Antioxidants	1	6,6	6,6
Diagnostics	2	6,6	13,2
European Heart Journal-Cardiovascular Imaging	1	6,6	6,6
npj Vaccines	1	6,5	6,5
PEDIATRICS	1	6,4	6,4
AMERICAN JOURNAL OF CARDIOLOGY	3	6,3	18,9
EMERGENCIAS	1	6,3	6,3
ONCOIMMUNOLOGY	1	6,3	6,3
RESPIROLOGY	1	6,3	6,3
CELLULAR AND MOLECULAR LIFE SCIENCES	1	6,2	6,2
BEST PRACTICE & RESEARCH CLINICAL ENDOCRINOLOGY & METABOLISM	1	6,1	6,1
Journal of Cystic Fibrosis	1	6	6
JOURNAL OF MEDICAL INTERNET RESEARCH	1	6	6
ENVIRONMENTAL HEALTH	1	5,9	5,9
TRANSLATIONAL RESEARCH	1	5,9	5,9
CARDIORENAL MEDICINE	2	5,8	11,6
Endocrine	2	5,8	11,6
Frontiers in neurology	2	5,6	11,2
NEPHROLOGY DIALYSIS TRANSPLANTATION	1	5,6	5,6
PEDIATRIC DIABETES	1	5,6	5,6
MODERN PATHOLOGY	1	5,5	5,5
RADIOGRAPHICS	1	5,5	5,5
CLINICAL DRUG INVESTIGATION	2	5,4	10,8
SURGERY	2	5,4	10,8
EUROPEAN JOURNAL OF ENDOCRINOLOGY	1	5,2	5,2
JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM	1	5,1	5,1
CLINICAL & TRANSLATIONAL ONCOLOGY	2	5	10
JOURNAL OF AFFECTIVE DISORDERS	1	4,9	4,9
ANNALS OF HEMATOLOGY	2	4,8	9,6
BEST PRACTICE & RESEARCH IN CLINICAL RHEUMATOLOGY	1	4,8	4,8

Journal	Number of Publications	Impact Factor	Cumulative IF
JOURNAL OF INVESTIGATIONAL ALLERGOLOGY AND CLINICAL IMMUNOLOGY	1	4,8	4,8
Pharmaceuticals	1	4,8	4,8
EUROPEAN RADIOLOGY	1	4,7	4,7
INTERNATIONAL IMMUNOPHARMACOLOGY	1	4,7	4,7
ARTHRITIS RESEARCH & THERAPY	1	4,6	4,6
CLINICAL KIDNEY JOURNAL	1	4,6	4,6
Endocrine Practice	1	4,6	4,6
ENDOCRINE-RELATED CANCER	1	4,6	4,6
Frontiers in endocrinology	1	4,6	4,6
Journal of Cardiovascular Development and Disease	2	4,6	9,2
JOURNAL OF MEDICAL VIROLOGY	1	4,6	4,6
JOURNAL OF NEUROLOGY	1	4,6	4,6
FRONTIERS IN MICROBIOLOGY	1	4,5	4,5
JOURNAL OF INFECTIOUS DISEASES	1	4,5	4,5
PEDIATRIC ALLERGY AND IMMUNOLOGY	1	4,5	4,5
AMERICAN JOURNAL OF MEDICAL GENETICS PART C-SEMINARS IN MEDICAL GENETICS	1	4,4	4,4
HEART	1	4,4	4,4
JOURNAL OF PHYSIOLOGY-LONDON	1	4,4	4,4
Frontiers in cell and developmental biology	1	4,3	4,3
HUMAN GENOMICS	1	4,3	4,3
JOURNAL OF NEUROINTERVENTIONAL SURGERY	1	4,3	4,3
BIOCHIMICA ET BIOPHYSICA ACTA-MOLECULAR BASIS OF DISEASE	1	4,2	4,2
HEART FAILURE REVIEWS	1	4,2	4,2
Microorganisms	1	4,2	4,2
iScience	1	4,1	4,1
JOURNAL OF HYPERTENSION	1	4,1	4,1
Toxics	1	4,1	4,1
BEST PRACTICE & RESEARCH CLINICAL HAEMATOLOGY	2	4	8
REVISTA ESPANOLA DE ENFERMEDADES DIGESTIVAS	1	4	4
CIRUGIA ESPANOLA	3	3,9	11,7
Annals of Clinical and Translational Neurology	1	3,9	3,9
Biomedicines	1	3,9	3,9
CLINICAL IMMUNOLOGY	1	3,8	3,8
DRUGS & AGING	1	3,8	3,8
Internal and Emergency Medicine	1	3,8	3,8
Journal of Cachexia Sarcopenia and Muscle	1	3,8	3,8
SCANDINAVIAN JOURNAL OF MEDICINE & SCIENCE IN SPORTS	1	3,8	3,8
EUROPEAN JOURNAL OF IMMUNOLOGY	1	3,7	3,7
Expert Review of Clinical Immunology	1	3,7	3,7
EUROPEAN JOURNAL OF CLINICAL INVESTIGATION	1	3,6	3,6
Heliyon	1	3,6	3,6
INFECTION	1	3,6	3,6
ANNALS OF SURGICAL ONCOLOGY	1	3,5	3,5
CURRENT PAIN AND HEADACHE REPORTS	1	3,5	3,5

Journal	Number of Publications	Impact Factor	Cumulative IF
JOURNAL OF ENDOCRINOLOGICAL INVESTIGATION	1	3,5	3,5
Practical Radiation Oncology	1	3,5	3,5
VIRUSES-BASEL	1	3,5	3,5
BMC CANCER	1	3,4	3,4
CAMBRIDGE PRISMS-GLOBAL MENTAL HEALTH	1	3,4	3,4
CURRENT OPINION IN CRITICAL CARE	1	3,4	3,4
DERMATOLOGIC THERAPY	1	3,4	3,4
JOURNAL OF MOLECULAR DIAGNOSTICS	1	3,4	3,4
JOURNAL OF RHEUMATOLOGY	1	3,4	3,4
LIFE-BASEL	1	3,4	3,4
Vaccines	1	3,4	3,4
ARTHRITIS CARE & RESEARCH	1	3,3	3,3
BASIC & CLINICAL PHARMACOLOGY & TOXICOLOGY	1	3,3	3,3
CLINICAL AND EXPERIMENTAL RHEUMATOLOGY	1	3,3	3,3
Digital Health	1	3,3	3,3
EUROPEAN JOURNAL OF RADIOLOGY	1	3,3	3,3
HIV MEDICINE	1	3,2	3,2
INTERNATIONAL JOURNAL OF CARDIOLOGY	1	3,2	3,2
RADIATION ONCOLOGY	1	3,2	3,2
EXPERIMENTAL DERMATOLOGY	1	3,1	3,1
Expert Opinion On Drug Safety	1	3,1	3,1
INTERNATIONAL JOURNAL OF CHRONIC OBSTRUCTIVE PULMONARY DISEASE	1	3,1	3,1
JOURNAL OF PUBLIC HEALTH	1	3,1	3,1
OBESITY SURGERY	1	3,1	3,1
RESPIRATORY MEDICINE	1	3,1	3,1
British journal of clinical pharmacology	1	3	3
Current Research in Translational Medicine	1	3	3
FEBS LETTERS	1	3	3
Frontiers in Medicine	1	3	3
NUTRITION	1	3	3
PAIN MEDICINE	1	3	3
THERAPEUTIC ADVANCES IN RESPIRATORY DISEASE	1	3	3
TRANSPLANT INTERNATIONAL	1	3	3
Epilepsia Open	1	2,9	2,9
J PSYCHOL	1	2,9	2,9
NEUROGASTROENTEROLOGY AND MOTILITY	1	2,9	2,9
PSYCHIATRIC QUARTERLY	1	2,9	2,9
RHEUMATOLOGY INTERNATIONAL	1	2,9	2,9
TECHNIQUES IN COLOPROCTOLOGY	1	2,9	2,9
CLINICAL AND EXPERIMENTAL DERMATOLOGY	1	2,8	2,8
CTS-CLINICAL AND TRANSLATIONAL SCIENCE	1	2,8	2,8
CURRENT OPINION IN PULMONARY MEDICINE	1	2,8	2,8
GENES	1	2,8	2,8
Journal of Proteomics	1	2,8	2,8
COLORECTAL DISEASE	1	2,7	2,7

Journal	Number of Publications	Impact Factor	Cumulative IF
INTERNATIONAL JOURNAL OF ORAL AND MAXILLOFACIAL SURGERY	1	2,7	2,7
Movement Disorders Clinical Practice	1	2,7	2,7
POSTGRADUATE MEDICAL JOURNAL	1	2,7	2,7
EUROPEAN JOURNAL OF PEDIATRICS	1	2,6	2,6
Journal of Geriatric Cardiology	1	2,6	2,6
JOURNAL OF ORAL AND MAXILLOFACIAL SURGERY	1	2,6	2,6
PloS one	1	2,6	2,6
ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA	1	2,5	2,5
PHYSIOLOGICAL GENOMICS	1	2,5	2,5
NEUROLOGICAL SCIENCES	1	2,4	2,4
Infectious Diseases Now	1	2,2	2,2
INTERNATIONAL JOURNAL FOR QUALITY IN HEALTH CARE	1	2,2	2,2
INTERNATIONAL JOURNAL OF UROLOGY	1	2,2	2,2
JOURNAL OF CLINICAL MONITORING AND COMPUTING	1	2,2	2,2
Updates in Surgery	1	2,2	2,2
ACTA PAEDIATRICA	1	2,1	2,1
ANALES DE PEDIATRIA	1	2,1	2,1
DIGESTIVE DISEASES	1	2,1	2,1
JOURNAL OF CARDIOTHORACIC AND VASCULAR ANESTHESIA	1	2,1	2,1
JOURNAL OF CRANIO-MAXILLOFACIAL SURGERY	1	2,1	2,1
WORLD NEUROSURGERY	1	2,1	2,1
CORONARY ARTERY DISEASE	1	2	2
Frontiers in Pediatrics	1	2	2
JOURNAL OF INTELLECTUAL DISABILITY RESEARCH	1	2	2
JOURNAL OF APPLIED RESEARCH IN INTELLECTUAL DISABILITIES	1	1,9	1,9
JOURNAL OF THORACIC DISEASE	1	1,9	1,9
Pharmacogenomics	1	1,9	1,9
Endocrinología Diabetes Y Nutricion	1	1,8	1,8
EUROPEAN JOURNAL OF GASTROENTEROLOGY & HEPATOLOGY	1	1,8	1,8
JOURNAL OF PEDIATRIC HEALTH CARE	1	1,8	1,8
NEUROREHABILITATION	1	1,8	1,8
ONCOLOGY	1	1,8	1,8
CARDIOLOGY	1	1,7	1,7
REVISTA CLINICA ESPANOLA	1	1,7	1,7
Gland Surgery	1	1,6	1,6
REVISTA DE NEUROLOGIA	2	1,6	3,2
VOX SANGUINIS	1	1,6	1,6
HEART AND VESSELS	1	1,5	1,5
INTERNATIONAL JOURNAL OF CARDIOVASCULAR IMAGING	1	1,5	1,5
Mediterranean journal of hematology and infectious diseases	1	1,5	1,5
JOURNAL OF ASTHMA	1	1,3	1,3
REVIEWS IN CARDIOVASCULAR MEDICINE	1	1,3	1,3
Actas Urologicas Espanolas	1	1,2	1,2
CYTOPATHOLOGY	1	1,1	1,1
JOURNAL OF CUTANEOUS PATHOLOGY	1	1,1	1,1
Nutricion Hospitalaria	1	1,1	1,1

Patents

Innovation improves the quality of life of the citizens, through the improvement of the healthcare and it is used for the launching of new products and services. In this sense, IIS-Princesa is actively committed to Innovation and the transfer of innovative advances to industry. As a sign of this commitment, researchers at our center, in collaboration with other institutions, have developed the patents shown below.

NATIONAL UTILITY MODEL APPLICATIONS

Title: Dispositivo de implante para tratamiento de patologías mediante campos eléctricos.

Number: U202430903.

Date of application: 11/10/2024.

Owners: Universidad Politécnica de Madrid (60%), Fundación de Investigación Hospital Universitario de La Princesa (40%).

Inventors: Miguel Jiménez Carrizosa, Ricardo Gil Simoes, María Regina Ramos Hortal.

NATIONAL PATENT APPLICATIONS

Title: Biomarcadores de Enfermedades Inflamatorias Intestinales.

Number: P202430664.

Date of application: 08/08/2024.

Owners: Fundación de Investigación Hospital Universitario de La Princesa (64%), Consorcio Centro de Investigación Biomédica en Red (36%).

Inventors: Javier Pérez Gisbert, María Chaparro Sánchez, Montserrat Baldan Martín, Félix Elortza Basterrika, Mikel Azkargorta Mujica, Ibon Lloro Manzano.

Competitive Grants

GRANTS

Funding Institution	Call Title	Calls Granted
Instituto de Salud Carlos III (ISCIII)	Proyectos de I+D+i en Salud (PI)	11
	Proyectos de Desarrollo Tecnológico en Salud (DTS)	1
	Redes de Investigación Cooperativa Orientadas al Resultado en Salud (RICORS)	4
	Ayudas para la MEJORA de Unidades de Investigación Clínica existentes (UICM)	1
	Proyectos de Colaboración Internacional (AC)	1
	Proyectos de Investigación Clínica Independiente (ICI)	1
Fundación La Marató de TV3	Ayudas económicas a proyectos de investigación sobre salud sexual y reproductiva Marató 2023	1
Fundación Eugenio Rodríguez Pascual	Ayudas a la investigación médica 2024	1
Weston Family Foundation (Canadá)	Proof-of-Principle (POP)	1
GILEAD	XI Becas GILEAD Investigación biomédica en VIH, COVID-19, Hepatitis Delta, Linfomas no Hodgkin de células B y Oncología Médica	1
European Scleroderma Trials and Research group (EUSTAR)	EUSTAR Database Improvement Grant	1

Research staff fully or partially funded through competitive calls in 2024

Funding Institution	Call Title	Calls Granted
Agencia Estatal de Investigación	Juan de la Cierva	1
	Consolidación Investigadora	1
Instituto de Salud Carlos III (ISCIII)	Movilidad de personal investigador contratado en el marco de la AES (M-AES)	1
	Contratos de gestión en investigación en salud en los IIS (GIS)	1
	Contratos para la Intensificación de la actividad investigadora en el SNS (INT)	1
	Contratos Juan Rodés	1
Comunidad de Madrid	Contratos de personal investigador predoctoral en formación	3
	Contratos de Ayudantes de investigación y técnicos de laboratorio	5
Ministerio de Ciencia, Innovación y Universidades	Ayudas para estancias de movilidad en el extranjero José Castillejo para jóvenes doctores	1
	Ayudas complementarias de movilidad destinadas a beneficiarios del programa de Formación del Profesorado Universitario (EST)	1
	Formación de Profesorado Universitario (FPU)	1

Defended Doctoral Theses

The thesis represents a systematic and exhaustive research work on a subject, which is considered a crucial step in the training of new generations of researchers. During 2024, a total of 21 theses have been defended by member of the IIS. Four of them were European theses.

THESES

Doctoral Candidate	Title	Director	Defense Date
Shirley Alarcón Salazar	Impacto de la microscopía confocal de reflectancia en el diagnóstico y manejo del cáncer de piel melanoma y no melanoma	Esteban Daudén Tello & Susana Puig Sardá	24/02/2024
Paloma Aparicio Jiménez	Evolución epidemiológica de los ingresos de los adultos con síndrome de Down españoles en el periodo 2007-2014	Diego Real de Asúa & Carmen Suárez Fernández	15/10/2024
Antonio Ferrández Infante	Obesidad y disfunciones sexuales femeninas: revisión sistemática y metaanálisis de la prevalencia	Carmen Suárez Fernández & Blanca Novella Arribas	17/05/2024
Emilia Roy Vallejo	Interleuquina 6 y viremia de SARS-CoV-2 como marcadores de gravedad en pacientes ingresados con COVID-19	Carmen Suárez Fernández & Laura Cardeñoso Domingo	22/04/2024
Beatriz Benayas	Desarrollo y optimización de métodos cromatográficos para el aislamiento de vesículas extracelulares y su uso en biopsia líquida	María Yáñez Mó & Pilar Armisen Gil	19/04/2024
Jose María Eiros Bachiller	Influencia de los factores medioambientales en la morbi-mortalidad causada por la infección por SARS-CoV-2	Marta Hernández Pérez & Antonio Orduña Domingo	31/05/2024
Javier Merino Valverde	Lipopolisacáridos atípicos: estructura, actividad biológica y posibles aplicaciones clínicas	Manuel Fresno Escudero	18/10/2024

Doctoral Candidate	Title	Director	Defense Date
Alfonso Herreros Cabello	Aproximaciones ómicas para la biología y genética de Trypanosoma cruzi y la definición de biomarcadores en la enfermedad de Chagas	Manuel Fresno Escudero & Nuria Gironés Pujol	14/10/2024
Beatriz Aldave Orzaiz	Impacto del tratamiento con presión continua positiva en las comorbilidades metabólicas y vasculares vinculadas a la apnea obstructiva del sueño	Águeda González Rodríguez & Pedro Landete Rodríguez	15/11/2024
José Rafael Terán Tinedo	Utilidad de la combinación de terapias respiratorias no invasivas como tratamiento de la insuficiencia respiratoria hipoxémica aguda grave secundaria a neumonía por SARS-CoV-2	Pedro Landete Rodríguez, Luis Puente & Daniel López Padilla	04/04/2024
Viviana Marolda	CXCR4/ACKR3/GRK2-governed networks in cancer cell migration and metastasis	Petronila Penela & Federico Mayor	23/10/2024
Céline Decouty Pérez	Identificación y validación de biomarcadores de barrera hematoencefálica y angiogénesis en traumatismo craneoencefálico	Fco Javier Egea Máiquez & Ana B. López Rodríguez.	13/09/2024
Ana Isabel Garre Vázquez	Estudio prospectivo y multicéntrico sobre la epidemiología de la enfermedad inflamatoria intestinal de reciente diagnóstico en población adulta en España	María Chaparro & Javier Pérez Gisbert	22/01/2024
Diana Acosta Rubio	Tofacitinib en colitis ulcerosa: efectividad a corto y largo plazo, impacto en las manifestaciones extraintestinales y enfermedades inmunomediadas y seguridad en la práctica clínica	Javier Pérez Gisbert & María Chaparro	12/02/2024
Elena Resina Sierra	Estudio prospectivo y comparativo de la exactitud del test de antígeno en heces "LIAISON® Meridian H. pyloriSA" para el diagnóstico de la infección por Helicobacter pylori	Javier Pérez Gisbert & Olga Nyssen	10/04/2024
Viviana Marolda	Redes de Proteínas Asociadas a GRK2 en la Interacción de las Células de Cáncer de Mama con el Microambiente Tumoral	Federico Mayor Menéndez & Petronila Penela Márquez	23/10/2024
Alejandro Asensio López	Papel de GRK2 en la homeostasis epidérmica	Federico Mayor Menéndez & Catalina Ribas Núñez	04/06/2024
Carmen Choya Foces	Papel del intercambiador mitocondrial sodio/calcio (NCLX) en la respuesta a la hipoxia y en los efectos mitocondriales del litio // Role of the mitochondrial sodium/calcium exchanger (NCLX) in the response to hypoxia and in the mitochondrial effects of lithium	Antonio Martínez Ruiz	31/05/2024
Claudia Mesa-Ciller	Papel de los factores de respuesta a hipoxia (HIF) en la expresión del regulador mitocondrial NDUFA4L2 en pericitos, y en la regulación paradójica de la glucólisis en células de carcinoma renal	Julián Aragonés & Andrés Amalio Urrutia Elorduy	25/04/2024

Clinical Trials

Clinical Trials represent an indication of being at the forefront of R+D in the health sector. They provide a benefit to society based on the most innovative treatments and the most advanced techniques, with the special aim of improving the health and well-being of citizens. During 2024, 118 new agreements have been signed for clinical trials led by IIS members.

Ana Gago. Medicina de precisión para prevenir la cronicación de la migraña a través de la predicción de las crisis de dolor y de la respuesta al tratamiento con anticuerpos anti-CGRP utilizando estrategias multi-ómicas Ana Gago Veiga. PREDIMIGRAINE.

Dolores Ochoa. Ensayo clínico cruzado, aleatorizado de bioequivalencia de almotriptán 12.5 mg comprimidos bucodispersable versus almotriptán 12.5 mg comprimidos recubiertos con película, tras su administración oral en dosis única a voluntarios sanos en ayunas Qualix-pharma. UECHUP-ALM/23-6.

Marcos Lahera. Estudio observacional, internacional, retrospectivo de revisión de historias clínicas, para describir las características, patrones de tratamiento y resultados clínicos en los pacientes tratados con selpercatinib dentro de un Programa de Acceso Temprano en España y Portugal (Estudio SELPIBER) Lilly S.A.U. 2023-12144.

Javier Loscertales. Estudio en fase III, aleatorizado y abierto de sonrotoclastax (BGB-11417) más zanubrutinib (BGB-3111) comparado con venetoclastax más obinutuzumab en pacientes con leucemia linfocítica crónica no tratada previamente BeiGene Switzerland GmbH. BGB-11417-301.

Santos Castañeda. Criterios de cribado de enfermedad pulmonar intersticial difusa en pacientes con artritis reumatoide. Estudio de validez Fundación Española de Reumatología. VAR-EPIDSER.

Dolores Ochoa. Ensayo clínico cruzado y aleatorizado de bioequivalencia de donepezilo 5 mg cápsulas versus donepezilo 5 mg comprimidos recubiertos con película, tras su administración oral en dosis única a voluntarios sanos en ayunas Laboratorios Alter. UECHUP-DON/23-5.

Enrique Alday. Ensayo clínico fase III, doble ciego, aleatorizado, controlado con placebo y con tratamiento activo, para evaluar la eficacia analgésica y la seguridad de una combinación de ibuprofeno (arginato)-tramadol hidrocloreuro 400-37,5 mg, administrada por vía intravenosa a pacientes con dolor agudo severo posoperatorio Farmalíder S.A.. FMLD-FEBETRADI-53_FIII.

Mar Llamas Velasco. Estudio de mantenimiento de fase 3, multicéntrico y doble ciego para evaluar la seguridad, tolerabilidad y eficacia a largo plazo de rocatinlimab en

sugetos adultos y adolescentes con dermatitis atópica (DA) de moderada a grave (ROCKET-ASCEND) Amgen Inc. . 20210146.

Alba Vieira . Estudio de extensión abierto para evaluar la seguridad y tolerabilidad a largo plazo de KarXT en pacientes con psicosis asociada a la enfermedad de Alzheimer Karuna Therapeutics Inc. KAR-033.

Fernando Alfonso. Creación de una Plataforma Nacional Multicéntrica para el Estudio de la Enfermedad Inflamatoria del Miocardio: Cohorte Pre-MYO Fundación para la Formación e Investigación Sanitarias de la Región de Murcia FFIS. Pre-MYO.

Lydia López Manzanares. Ensayo clínico multicéntrico, aleatorizado y controlado por placebo, de evaluación de la eficacia y la seguridad del donepezilo versus placebo en el deterioro cognitivo leve asociado a la Enfermedad de Parkinson Fundación Hospital Santa Creu i Sant Pau. IIBSP-DON-2022-43.

José Vivancos Mora. PROMISE-GLOBAL Monitorización de Potenciales evocados somatosensoriales (PES) en la globalidad de pacientes con sospecha de ictus agudo. Validación clínica del dispositivo médico Brain20® como nuevo biomarcador de recuperación funcional en un estudio de población hospitalaria TIME IS BRAIN, S.L. PROMISE-GLOBAL.

Dolores Ochoa. ENSAYO CLÍNICO ALEATORIZADO DE BIOEQUIVALENCIA DE EDOXABÁN 60 mg COMPRIMIDOS RECUBIERTOS CON PELÍCULA, TRAS SU ADMINISTRACIÓN ORAL EN DOSIS ÚNICA A VOLUNTARIOS SANOS EN AYUNAS CON DISEÑO CRUZADO REPLICADO Laboratorios Normon. N-ED0-24-285.

María Aguilera García. Estudio retrospectivo y prospectivo multicéntrico que evalúa la eficacia y seguridad de Cabotegravir y Rilpivirina como tratamiento LONG ACTING en vida real en personas que viven con VIH tras su implementación en España. Cohorte RELATIVITY Fundación Burgos por la investigación de la salud. FBIS 2956.

Elena Martín Pérez. Validación de la escala VIBe de sangrado intraoperatorio en cirugía hepática. Estudio prospectivo y multicéntrico, código de protocolo Escala VIBe Fundación Instituto de Investigación Sanitaria Aragón.

Ramón Colomer Bosch. EMBER-4: Estudio aleatorizado,

abierto, de fase 3 de imlunestrant adyuvante frente a terapia endocrina adyuvante estándar en pacientes que han recibido previamente de 2 a 5 años de terapia endocrina adyuvante para el cáncer de mama precoz ER+, HER2- con mayor riesgo de recurrencia Lilly SA. J2J-MC-JZLH.

Pablo Díez Villanueva. RIESGO CARDIOVASCULAR DE LA POBLACIÓN ATENDIDA POR CARDIÓLOGOS EN ESPAÑA Sociedad Española de Cardiología. RIESCAR.

Susana Almenara. "Ensayo clínico pragmático para evaluar la utilidad del genotipado prospectivo de SLC01B1, ABCG2 y CYP2C9 y de la formación en farmacogenética sobre la incidencia de reacciones adversas musculoesqueléticas en pacientes tratados con estatinas en atención primaria y especializada." Fundación para la Investigación Biomédica del Hospital Universitario de La Princesa. AP-PRIME.

Pablo Díez Villanueva. Efecto de la acetazolamida sobre la diuresis y natriuresis en pacientes con Insuficiencia Cardíaca Aguda María Cobo (Hospital Puerta de Hierro). ESTUDIO SANDI.

Fernando Alfonso. Estudio de fase III, aleatorizado, doble ciego, con doble simulación, con grupos paralelos y comparativo con tratamiento activo para evaluar la eficacia y la seguridad de Milvexian, un inhibidor oral del factor XIa, en comparación con apixabán en participantes con fibrilación auricular Janssen Pharmaceutica NV. 70033093AFL3002.

Guillermo Reyes Copa. Estudio multicéntrico, aleatorizado, doble ciego (participante e investigador) y controlado con placebo en el que se evalúan la seguridad, la tolerabilidad y la eficacia de TIN816 en pacientes adultos con riesgo de lesión renal aguda tras una cirugía cardíaca NOVARTIS FARMACÉUTICA S.A. CTIN816A12201.

Luis Miguel Juárez . CHOP PLUS MOSUNETUZUMAB AS FIRST LINE IN PATIENTS WITH RICHTER'S SYNDROME; A PHASE II STUDY OF THE SPANISH GROUP OF CLL Grupo Español de Leucemia Linfocítica Crónica. GELLC 9 RICHTER .

María Chaparro. Seguridad de los fármacos para la EII durante el embarazo y la lactancia: resultados para madres y bebés (registro DUMBO 2)) María Chaparro y Javier Perez Gisbert. GIS-DUMBO 2-2024.

Fernando Alfonso . Tratamiento antiplaquetario único con ticagrelor frente a aspirina después del implante percutáneo de válvula aórtica: ensayo clínico aleatorizado multicéntrico. REAC-TAVI 2 Fundación Biomédica Galicia Sur. REAC-TAVI2.

Beatriz Aguado. Estudio de fase II, multicéntrico, alea-

torizado, doble ciego y comparativo con placebo para investigar la eficacia y la efectividad de CYP 001 en combinación con corticosteroides en monoterapia para el tratamiento de la enfermedad injerto contra huésped Cynata Therapeutics Limited. CYP-GVHD-P2-01.

Esther Ramírez. Evaluación de los resultados reportados por el paciente con psoriasis tratado con un fármaco anti IL-17AF a través de un modelo de atención farmacéutica telemática Farmacéuticos Unidades de Pacientes Externos Illes Balears (FARUPEIB). PromPsoAF. Patricia Heredia. Estudio ONA - ONAbotulinumtoxin A, administración enfermera Patricia Heredia. Patricia Heredia.

Virginia Meca Lallana. Estudio aleatorizado, doble ciego con doble enmascaramiento y grupos paralelos en el que se compara la eficacia y seguridad de remibrutinib frente a teriflunomida en participantes con esclerosis múltiple recurrente, seguido de una extensión abierta del tratamiento con remibrutinib NOVARTIS FARMACÉUTICA S.A. CLOU064C12301.

Dolores Ochoa. ENSAYO CLÍNICO CRUZADO, ALEATORIZADO DE BIOEQUIVALENCIA DE LINAGLIPTINA 5 mg COMPRIMIDOS RECUBIERTOS CON PELÍCULA, TRAS SU ADMINISTRACIÓN ORAL EN DOSIS ÚNICA A VOLUNTARIOS SANOS EN AYUNAS Laboratorios Normon. N-LIA-23-282.

Fernando Rivero. Reduced stent strategy versus conventional percutaneous coronary revascularization in patients presenting with ST-segment elevation myocardial infarction Jorge Sanz Sánchez y D. Ignacio Jesús Amat. COPENICAN.

Fernando Alfonso. PREVAIL Paclitaxel-coated balloon in small coronary disease and high-bleeding risk patients Fundacion EPIC. EPIC30 - Paris.

Yolanda Delgado. Protocolo del Registro Español de Hidradenitis Supurativa Fundación Piel Sana de la Academia Española de Dermatología y Venereología.. FAEHS-2023-01.

Valle Gómez. Ensayo clínico en fase I para evaluar la seguridad, tolerabilidad, farmacocinética y eficacia de TERN-701 en participantes con leucemia mieloide crónica TERNS PHARMACEUTICALS. TERN701-1012.

Fernando Ramasco Rueda. Estudio prospectivo, randomizado, simple ciego y de grupo paralelos comparando la pala Macintosh y la pala hiperangulada para la intubación orotraqueal con videolaringoscopia en pacientes enfermos críticos Manuel Taboada Muñoz. INVIBLA-DE-ICU.

Fernando Alfonso. Estudio de fase III, aleatorizado, doble ciego, controlado con placebo y motivado por los acontecimientos para demostrar la eficacia y seguridad

del milvexián, un inhibidor oral del factor Xla, después de padecer un síndrome coronario agudo reciente Janssen Pharmaceutica NV. 70033093ACS3003.

María Pérez Abanedes. Estudio observacional con medicamento. Adherencia y creencias sobre la medicación en pacientes con cáncer de próstata avanzado Alberto Morell. AMB-CREATH-2024-01.

Virginia Meca Lallana. Protocolo maestro de dos estudios en fase III, independientes, aleatorizados y doble ciegos que comparan la eficacia y la seguridad de frexalimab (SAR441344) con teriflunomida en participantes adultos con formas recidivantes de esclerosis múltiple Sanofi-aventis recherche & développement. EFC17919 .

Eva Tomero. Generación de una cohorte longitudinal y caracterización multiómica del Lupus Eritematoso Sistémico [Proyecto SMILES] FUNDACIÓ HOSPITAL UNIVERSITARI VALL D'HEBRON - INSTITUT DE RECERCA,. Proyecto SMILES.

Claudia Valenzuela. Estudio en fase III, multi céntrico, aleatorizado, doble ciego y controlado con placebo para evaluar la eficacia, la seguridad y la tolerabilidad de BMS-986278 en participantes con fibrosis pulmonar idiopática (FPI) BRISTOL-MYERS SQUIBB. IM027-068.

Dolores Ochoa. Ensayo clínico, aleatorizado de bioequivalencia de rasagilina 1 mg cápsulas vs rasagilina 1 mg comprimidos, tras su administración oral en dosis única a voluntarios sanos en ayunas con diseño replicado cruzado Laboratorios Alter. UECHUP-RAS/24-2.

Dolores Ochoa. Ensayo clínico cruzado, aleatorizado de bioequivalencia de linagliptina/metformina 2.5 mg/1000 mg comprimidos recubiertos con película, tras su administración oral en dosis única a voluntarios sanos en presencia de alimentos Laboratorios Alter. UECHUP-LIN-MET/24-1.

Javier Loscertales. Estudio observacional ambispectivo del tratamiento de Leucemia Linfocítica Crónica/ Linfoma Linfocítico de células pequeñas en primera línea con Ibrutinib + Venetoclax en práctica clínica habitual en España. Estudio LIVE Janssen Cilag S.A.. 54179060CLL4036.

Francisco Abad. Evaluación de una propuesta de implementación de farmacogenética en el sistema nacional de salud para salud mental y cardiovascular Fundación para la investigación Biosanitaria del Hospital Universitario de La Princesa. BioFRAM.

Pilar López. Estudio de los mecanismos inflamatorios y cerebrales y del efecto clínico y cognitivo de un programa de ejercicio físico en depresión mayor mediante un ensayo clínico longitudinal aleatorizado Fundación para

la investigación Biosanitaria del Hospital Universitario de La Princesa. CARE-MIND.

Concepción Pérez y Dolores Ochoa. Estudio colaborativo nacional para evaluar la efectividad y eficiencia de la implementación de un modelo de predicción de riesgo del Trastorno por Consumo de Opioides de Prescripción, mediante el uso de técnicas de Inteligencia Artificial Instituto de Investigación Sanitaria y Biomédica de Alicante (ISABIAL). MORPHEO.

Claudia Valenzuela. Observational, multi centre, prospective, real-world study describing the clinical management of nintedanib-associated Diarrhoea in patients with idiopathic pulmonary Fibrosis (IPF) and progressive pulmonary fibrosis (other than IPF) in Spain: the DIALFIB study Boehringer Ingelheim España, S.A.. 1199-0545.

Pablo Chicharro. Estudio en fase IIIb sin enmascaramiento para evaluar la eficacia y la seguridad del tratamiento con lebrikizumab en adultos y adolescentes con dermatitis atópica de moderada a grave Almirall S.A.. M-17923-34.

Mar Llamas. A Phase 4 Multicenter, Randomized, Open-label, Efficacy Assessor-blinded Study of Risankizumab Compared to Deucravacitinib for the Treatment of Adult Subjects with Moderate Plaque Psoriasis who are Candidates for Systemic Therapy AbbVie. M24-541.

Valle Gómez. Estudio de fase 3, abierto y aleatorizado para comparar la eficacia y la seguridad de luspatercept (ACE-536) frente a la epoetina alfa para el tratamiento de la anemia debida al síndrome mielodisplásico (SMD) de riesgo muy bajo, bajo o intermedio según el Sistema Internacional de Puntuación Pronóstica Revisado (IPSS-R) en participantes que no han recibido agentes estimulantes de la eritropoyesis (AEE) y no dependientes de transfusiones (NDT)" Ensayo "ELEMENT-MDS Celgene. CA056-025.

Aranzazu Alfranca - Manuel Ramirez Orellana. Ensayo clínico abierto, fase I para evaluar la seguridad y respuesta clínica de la infusión intra-arterial de dosis repetidas de células mesenquimales autólogas en niños y adolescentes con epilepsias refractarias de base inmune Fundación para la investigación biomédica del Hospital Universitario de la princesa. RasmussCell.

Claudia Valenzuela. ENSAYO DE EXTENSIÓN ABIERTO SOBRE LA EFICACIA Y LA SEGURIDAD A LARGO PLAZO DE

BI 1015550 ADMINISTRADO POR VÍA ORAL EN PACIENTES CON FIBROSIS PULMONAR IDIOPÁTICA (FPI) Y FIBROSIS PULMONAR PROGRESIVA (FPP) (FIBRONEER™-ON) BOEHRINGER INGELHEIM ESPAÑA, S.A.. 1305-0031.

Carmen Suárez. Estudio de fase 3, aleatorizado y controlado con placebo para evaluar la eficacia y la seguridad de MK-0616 para reducir las complicaciones cardiovasculares graves en participantes con riesgo cardiovascular elevado. Merck Sharp & Dohme LLC.. MK 0616-015.

Ignacio de los Santos. Ensayo clínico aleatorizado de no inferioridad para evaluar la eficacia y seguridad del

práctica clínica real en pacientes con enfermedad de Crohn de moderada a grave durante 3 años (UPlift) AbbVie Spain, S.L.U. P23-899.

Dolores Ochoa. Estudio Fase IIIb, aleatorizado, abierto, multinacional, multicéntrico, de extensión y vacunación cruzada para evaluar la inmunogenicidad y seguridad de diferentes pautas de revacunación, así como

la persistencia de una dosis única de la vacuna RSVPreF3 OA en adultos de 60 años o más de edad que participaron en el estudio RSV OA=ADJ-006 GLAXOSMITHKLINE, S.A. 222090.

Emma Vázquez. Oxigenoterapia suplementaria para el tratamiento de la tromboembolia de pulmón de

tratamiento corto de la bacteriemia enterocócica no complicada Fundación para la Gestión de la Investigación en Salud de Sevilla (FISEVI). INTENSE.

Fernando Alfonso. ARTEMIS: Efectos de ziltivekimab frente a placebo sobre los resultados cardiovasculares en pacientes con infarto agudo de miocardio Novo Nordisk A/S . EX6018-4979.

Fernando Alfonso. Un ensayo clínico prospectivo, aleatorizado, multicéntrico, internacional, abierto, que compara la estrategia SELUTION DEB frente a la estrategia DES M.A. Med Alliance SA . s2021-02.

Claudia Valenzuela. Estudio Fase 2, aleatorizado, doble ciego, controlado con placebo y de grupos paralelos para evaluar la eficacia y seguridad de GSK3915393 en participantes con Fibrosis Pulmonar Idiopática (FPI), (TRANSFORM) GSK. 220929.

Javier Pérez Gisbert. Estudio prospectivo, posautorización, internacional, de UPadacitinib para evaluar su rapidez de acción y la durabilidad de su efectividad en

riesgo intermedio Fundación para la Investigación Biomédica del Hospital Universitario Ramón y Cajal. Ensayo ROPE.

Pedro Parra. Oxigenoterapia suplementaria para el tratamiento de la tromboembolia de pulmón de riesgo intermedio Fundación para la Investigación Biomédica del Hospital Universitario Ramón y Cajal. Ensayo ROPE.

Dolores Ochoa. Ensayo clínico, aleatorizado de bioequivalencia de atorvastatina 80 mg cápsulas vs atorvastatina 80 mg comprimidos recubiertos con película, tras su administración oral en dosis única a voluntarios sanos en ayunas con diseño replicado cruzado Laboratorios Alter. UECHUP-ATO/24-3.

Dolores Ochoa. ENSAYO CLÍNICO CRUZADO Y ALEATORIZADO DE BIOEQUIVALENCIA DE DAPAGLIFLOZINA 10 mg COMPRIMIDOS RECUBIERTOS CON PELÍCULA, TRAS SU ADMINISTRACIÓN ORAL EN DOSIS ÚNICA A VOLUNTARIOS SANOS EN AYUNAS Laboratorios Normon. N-DAP-23-281.

Claudia Valenzuela. Manejo clínico, resultados clínicos, calidad de vida relacionada con la salud, uso de recursos sanitarios y costes asociados en pacientes con fibrosis pulmonar idiopática (FPI) y fibrosis pulmonar progresiva (distinta de la FPI) en España: estudio no intervencionista, multicéntrico y ambispectivo en la práctica clínica real. Estudio RECOFIB Boehringer Ingelheim España, S.A.. 1305-0041.

Javier Pérez Gisbert. ESTUDIO OBSERVACIONAL COMPARATIVO, PROSPECTIVO Y MULTICÉNTRICO PARA EVALUAR LA PERSISTENCIA, EFICACIA Y SEGURIDAD DE INFLIXIMAB SUBCUTÁNEO BIOSIMILAR FRENTE A INFLIXIMAB INTRAVENOSO BIOSIMILAR EN PACIENTES CON ENFERMEDAD INFLAMATORIA INTESTINAL Fundación para la Investigación Biomédica del Hospital Universitario Ramón y Cajal. SPIN.

Ana Gago Veiga. Estudio observacional con medicamento sin ánimo comercial. Análisis de la efectividad y seguridad de los gepantes en pacientes con migraña Ana Gago Veiga.

Claudia Valenzuela. Estudio en fase III, multicéntrico, aleatorizado, doble ciego y controlado con placebo para evaluar la eficacia, la seguridad y la tolerabilidad de BMS-986278 en participantes con fibrosis pulmonar progresiva BRISTOL-MYERS SQUIBB. IM027-1015.

Estudio observacional retrospectivo para evaluar el impacto del tratamiento con mepolizumab a los 5 años en pacientes con asma grave en vida real en España (Estudio TYREX) GlaxoSmithkline, S.A.. 222693.

Javier Pérez Gisbert. Programa de fase 3, aleatorizado, doble ciego y controlado con placebo para evaluar la eficacia y la seguridad de MK-7240 en participantes con colitis ulcerosa activa moderada o grave Merck Sharp & Dohme LLC. MK 7240-001.

Adrián Alegre Amor. Estudio observacional retrospectivo para describir las características clínicas, el manejo y los resultados del anticuerpo Blespecífico antiGPRC5D (TALquetamab) en pacientes con mieloma múltiple en recaída refractario tratados fuera de ensayo clínico (SPR/NPP) en España. Estudio BiTAL Janssen Cilag S.A.. 64407564MMY4006.

Fernando Rivero. TRICUS REGISTRY - Seguimiento clínico retrospectivo, prospectivo y multicéntrico de pacientes con regurgitación tricúspide severa tras tratamiento con el sistema de válvulas bicavales transcáteter Tric-Valve® P+F Products + Features GmbH. CTP-TRIC-003.

Javier Loscertales. Estudio internacional, multicéntrico, abierto, aleatorizado, de fase 3, de registro de lisaftoclax (APG-2575) en pacientes con leucemia linfocítica

crónica/linfoma linfocítico de células pequeñas tratados previamente Ascentage Pharma Group Inc.. GLORA.

Ana García Noblejas. Estudio fase III, multicéntrico, aleatorizado, doble ciego, controlado con placebo, para comparar la eficacia y la seguridad de golcadomida más quimioterapia R-CHOP frente a placebo más quimioterapia R-CHOP en participantes con linfoma de células B grandes de alto riesgo no tratado previamente Celgene. CA073-1020.

Ana Barrios Blandino. Estudio en fase III, aleatorizado, doble ciego, controlado con placebo y multicéntrico para evaluar la eficacia, la seguridad y la inmunogenicidad de la vacunación con ExPEC9V en la prevención de la enfermedad por Escherichia coli patógena extra-intestinal invasiva en adultos de 60 años de edad en adelante con antecedentes de infección urinaria en los últimos 2 años Janssen Research & Development LLC. VAC52416BAC3001.

Claudia Valenzuela. Estudio de extensión abierto de treprostinil inhalado en sujetos con fibrosis pulmonar idiopática United Therapeutics Corp.. RIN-PF-302.

Javier Loscertales. Análisis de los pacientes con leucemia linfática crónica (LLC) que discontinúan la monoterapia con un inhibidor de BTK sin progresión de la enfermedad Grupo Español de Leucemia Linfocítica Crónica. GELLC-EOM-2024-01.

Javier Pérez Gisbert. Estudio en fase 3b, de un solo brazo, abierto y multicéntrico para evaluar la curación transmural y el efecto modificador de la enfermedad de guselkumab en pacientes con enfermedad de Crohn JANSSEN PHARMACEUTICA, NV. CNT01959CRD3008 - REASON.

Jesús Nieves. Estudio prospectivo observacional multicéntrico de pacientes en tratamiento con vasopresina en Unidad de Cuidados Críticos Fernando Ramasco Rueda. REGISTRO VASOPRES.

Berta Hernández. Estudio de fase 1/2, abierto, de aumento y ampliación de dosis para investigar la seguridad y tolerabilidad de TransCon IL-2 β/γ solo o en combinación con pembrolizumab TransCon IL-2 β/γ sola o en combinación con pembrolizumab, quimioterapia estándar o agonista TLR7/8 TransCon, o en combinación con pembrolizumab y quimioterapia estándar en participantes adultos con tumores sólidos malignos localmente avanzados o metastásicos Ascendis Pharma. ASND0029.

Javier Pérez Gisbert. Ensayo aleatorizado, doble ciego, doble simulación, multicéntrico, fase III, de no inferioridad de una formulación oral de mesalazina para la in-

ducción de remisión en pacientes con colitis ulcerosa leve a moderada FAES FARMA, S.A.. CGRA-0121/ES.

Fernando Suárez Sipmann. Comparación de la prevalencia de asincronías durante la ventilación mecánica con ajuste manual de los parámetros ventilatorios y con el ajuste automático mediante la herramienta INTELLISYNC+® (RESPIRADORES HAMILTON). Estudio clínico controlado. Miguel Sanchez-Garcia y Paloma Gonzalez Arenas Clínico San Carlos.

Esther Vicente Rabaneda. Estudio en fase II/III, multicéntrico, aleatorizado, doble ciego, controlado con placebo y de grupos paralelos para evaluar la eficacia y la seguridad de los comprimidos de dapansutrilo en sujetos con un ataque agudo de gota Olatec Therapeutics LLC. OLT1177-08.

Dolores Ochoa. "Estudio Fase I, primera vez en humanos, observador-ceigo, aleatorizado y controlado para evaluar la seguridad, reactogenicidad y respuesta inmune de varias dosis de una vacuna en investigación basada en ARNm frente al virus respiratorio sincitial (VRS) en participantes sanos de 18 a 45 años de edad" GLAXOSMITHKLINE, S.A. 222261 (RSV PED MRNA-001 AD).

Dolores Ochoa. Ensayo clínico cruzado y aleatorizado de bioequivalencia de dapagliflozina 10 mg comprimidos recubiertos con película, tras su administración oral en dosis única a voluntarios sanos en ayunas Laboratorios Alter. UECHUP-DAP/24-4.

Jorge Salamanca. Utilidad de los betabloqueantes en el síndrome de Takotsubo: Ensayo clínico aleatorizado Sociedad Española de Cardiología. B-TAKO.

Dolores Ochoa. ENSAYO CLÍNICO CRUZADO, ALEATORIZADO DE BIOEQUIVALENCIA DE BILASTINA 20 mg COMPRIMIDOS BUCODISPERSABLES, TRAS SU ADMINISTRACIÓN ORAL EN DOSIS ÚNICA A VOLUNTARIOS SANOS EN AYUNAS Laboratorios Normon. N-BIL-24-288.

Guillermo Reyes Copa. Estudio clínico de fase 2b, de búsqueda de dosis, aleatorizado, controlado con placebo, doble ciego y con grupos paralelos, para evaluar la eficacia en la función renal y la seguridad de RMC-035 en participantes con un riesgo elevado de lesión renal tras una cirugía cardíaca abierta Clinical Study to Evaluate the Efficacy on Renal Function, and Safety, of RMC-035 in Participants at High Risk for Kidney Injury Following Open-Chest Cardiac Surgery Guard Therapeutics International AB. 24-R0S-07.

Javier Pérez Gisbert. Estudio de utilización de fármaco para evaluar medidas adicionales de minimización del riesgo para upadacitinib en el tratamiento de la colitis ulcerosa en Europa AbbVie. P24-344.

Adrián Alegre Amor. Estudio en fase II de búsqueda de dosis e interceptación de linvoseltamab en pacientes con gammapatía monoclonal de alto riesgo de alcance indeterminado o mieloma múltiple asintomático de riesgo no alto Regeneron Pharmaceuticals, Inc. R5458-ONC-2257.

María Caldas. Estudio fase 2, de búsqueda de dosis, doble ciego y controlado con placebo para evaluar la eficacia y seguridad de GSK4532990 para la esteatohepatitis en adultos con enfermedad hepática relacionada con el alcohol (ALD) GSK. 222291.

Pablo Díez Villanueva. REGISTRO FINE: UTILIDAD CLÍNICA Y SEGURIDAD DE FINERENONA (ANTAGONISTA DE LOS RECEPTORES DE MINERALOCOIDES) EN PACIENTES CON INSUFICIENCIA CARDIACA Sociedad Española de Cardiología. REGISTRO FINE.

Claudia Valenzuela. Estudio de búsqueda de dosis, aleatorizado, con enmascaramiento doble y controlado con placebo para evaluar la eficacia, la seguridad y la tolerabilidad de diferentes dosis orales de BI 1819479 durante al menos 24 semanas en pacientes con fibrosis pulmonar idiopática (FPI) BOEHRINGER INGELHEIM ESPAÑA, S.A.. 1462-0004.

Cecilio Santander. Ensayo de fase II, aleatorizado, controlado con placebo, con enmascaramiento doble, multicéntrico y con extensión sin enmascaramiento, para investigar la eficacia y seguridad de solrikítug en adultos con esofagitis eosinofílica (ALAMERE) NI One Inc. . NSI-8226-201.

Dolores Ochoa. ENSAYO CLÍNICO CRUZADO, ALEATORIZADO DE BIOEQUIVALENCIA DE LINAGLIPTINA/METFORMINA 2,5 mg/1000 mg COMPRIMIDOS RECUBIERTOS CON PELÍCULA, TRAS SU ADMINISTRACIÓN ORAL EN DOSIS ÚNICA A VOLUNTARIOS SANOS EN PRESENCIA DE ALIMENTOS Laboratorios Normon. N-LINMET-24-287.

Adrián Alegre Amor. Ensayo clínico fase III, aleatorizado, doble ciego, controlado con placebo y multicéntrico de mavorixafor en participantes con trastornos neutropénicos primarios congénitos y adquiridos autoinmunitarios e idiopáticos crónicos que están experimentando infecciones recurrentes y/o graves X4 Pharmaceutical. X4P-001-110.

Javier Pérez Gisbert. Un estudio posautorización de vigilancia activa para describir la seguridad (PASS) de TOFAcitinib en pacientes con colitis ulcerosa activa de moderada a grave en el que se usan datos de la base de datos United Registries for Clinical Assessment and Research (UR-CARE) de la Unión Europea - (PASS TOFA) GETECCU. PASS TOFA.

Dolores Ochoa. Ensayo clínico cruzado, aleatorizado de bioequivalencia de loperamida 2 mg comprimidos bucodispersables versus loperamida 2 mg liofilizado oral, tras su administración oral en dosis única a voluntarios sanos en ayunas. Laboratorios Normon. N-LOP-24-289.

Dolores Ochoa. ENSAYO CLÍNICO CRUZADO, ALEATORIZADO DE BIOEQUIVALENCIA DE LINAGLIPTINA/METFORMINA 2,5 mg/850 mg COMPRIMIDOS RECUBIERTOS CON PELÍCULA, TRAS SU ADMINISTRACIÓN ORAL EN DOSIS ÚNICA A VOLUNTARIOS SANOS EN PRESENCIA DE ALIMENTOS Laboratorios Normon. N-LINMET-24-290.

Concepción Pérez. Ensayo multicéntrico, doble-ciego, aleatorizado, controlado con placebo, de dosis-respuesta con el extracto de espectro completo de Cannabis VER-01 en pacientes con lumbalgia inespecífica crónica Vertanical GmbH. VER-CLBP-004.

Virginia Meca. Estudio multicéntrico retrospectivo sobre la neurotoxicidad asociada a la terapia con células CART FUNDACIÓ DE RECERCA CLÍNICA BARCELONA-INSTITUT D'INVESTIGACIONS BIOMÈDIQUES AUGUST PI I SUNYER. Neuro-CART-Spain.

Javier Ortiz Martín. Eficacia de asciminib en el contexto real de la leucemia linfoblástica aguda con cromosoma Filadelfia (LLA Ph+); un estudio retrospectivo de revisión de pacientes del programa de acceso gestionado a asciminib (ASCERTAIN). Novartis Pharma AG. ASCERTAIN CABL001A2007.

Sara González. Evaluación prospectiva del rendimiento clínico en pacientes con amputación transfemoral protetizados en carga distal a partir de un implante Keep Walking Tequir, S.L. . TEQIKW202201.

José María Serra . Estudio en vida real del uso de anticuerpos monoclonales AntiCGRP y Gepantes en pacientes con migraña Jose María Serra

Lydia López Manzanares. Estudio de Fase 3 sobre la Seguridad y Eficacia de AMX0035 en Parálisis Supranuclear Progresiva (ORION) Amylyx Pharmaceuticals, Inc. A35-009.

Fernando Alfonso. Intracoronary stenting and restenosis - randomized trial of drug-eluting stent implantation or drug-coated balloon angioplasty according to neointima morphology in drug-eluting stent restenosis 5 (Estudio comparativo-estratégico para reestenosis de endoprótesis vasculares) (ISAR-DESIRE 5) German Heart Center Munich. ISAR-DESIRE 5.

Fernando Alfonso. Ensayo aleatorizado de estrategias de revascularización completa de lesiones no culpables guiadas por fisiología frente a estrategias de revascularización completa de lesiones no culpables guiadas por angiografía en pacientes con infarto agudo de miocar-

dio y enfermedad coronaria multivaso Hamilton Health Sciences Corporation - Population Health Research Institute. COMPLETE-2.

María Jimena Cannata Ortiz. Estudio de fase III, aleatorizado, abierto, internacional y multicéntrico para evaluar la eficacia y seguridad del mosunetuzumab combinado con lenalidomida en comparación con un anticuerpo monoclonal anti-CD20 combinado con quimioterapia en pacientes con linfoma folicular FLIPI 2-5 sin tratamiento previo GELTAMO. MorningLyte.

Mónica Marazuela. Estudio observacional multicéntrico nacional retrospectivo para describir la tolerabilidad y manejo de las complicaciones en pacientes que reciben nutrición enteral (NE) por sonda de la gama Nutrison en la práctica clínica habitual en España Danone Nutricia. NUTRECONSONDA 2.0.

Adrián Alegre Amor. Estudio en fase I/II de linvoseltamab (anti cuerpo biespecífico anti -BCMA y anti -CD3) en pacientes con mielomamúltiple sintomático sin tratamiento previo Regeneron Pharmaceuticals, Inc. R5458-ONC-2158.

Azucena Bautista. CABO-CHANCE: Estudio en vida real sobre el uso de Cabotegravir/Rilpivirina de acción prolongada (CAB/RPV AP) en pacientes pretratados que viven con el VIH (PVVIH) Fundación para la investigación Biosanitaria de Andalucía Oriental-Alejandro Otero (FIBAO). FIB-CAB-2023-02.

Lydia López Manzanares. Registro Clínico de Pacientes con Enfermedad de Parkinson tratados con Terapia con Dispositivo en España Fundación Degen. EPA - TcD - ESP.

Carolina Cisneros Serrano. A Multicentre, Randomised, Open-Label, Parallel-Group, Phase IIIb Study to Assess the Potential for Tezepelumab-treated Patients with Severe Asthma to Reduce Background Therapy While Sustaining Asthma Control and Clinical Remission (ARRIVAL) AstraZeneca AB. D5180C00047.

Dolores Ochoa. Ensayo clínico aleatorizado, de dos secuencias, cuatro períodos, cruzado y replicado, para comparar la biodisponibilidad de dos formulaciones orales de mesalazina tras la administración de dosis única a voluntarios sanos tras la ingesta de alimentos. FAES FARMA, S.A. . CLEU-0524/FED.

Virginia Meca. Experiencia clínica del uso de Tixagevimab y Cilgavimab (Evusheld) como profilaxis de la infección por SARS-CoV-2 en pacientes con esclerosis múltiple tratados con anticuerpos monoclonales anti-CD20 Virginia Meca Lallana

Lydia López Manzanares. Estudio fase 2a, multicéntrico, aleatorizado, doble ciego, controlado con placebo para

evaluar la seguridad y efectos farmacocinéticos de BIIB122 en pacientes con la enfermedad de Parkinson asociada a LRRK-2 (EP-LRRK2) Denali. DNLI-C-0009.

Iluminada García Polo. Estudio no intervencionista sobre el tratamiento con ácido bempedoico y/o su combinación de dosis fija con ezetimiba en la práctica clínica habitual en pacientes con hipercolesterolemia primaria o dislipidemia mixta Daiichi Sankyo Europe GmbH. DSE-BMP-01-20-EU.

Alicia Justel. Eficacia y seguridad de la administración conjunta de cagrilintida y semaglutida (CagriSema) una vez a la semana frente a placebo en participantes con diabetes tipo 2 y neuropatía diabética periférica dolorosa Novo Nordisk A/S . NN9388-7864.

Ana Gago. CORNERSTONE: A Prospective Observational Study of Atogepant Effectiveness in Routine Clinical Practice AbbVie Spain S.L.U. P24-880.

Mar Llamas . Estudio de fase 3 multicéntrico, aleatorizado, controlado con placebo y doble ciego de 52 semanas de duración para evaluar la eficacia, la seguridad y

la tolerabilidad de rocatinlimab en sujetos adultos con prurigo nodular que no se controlan de forma adecuada o que no son aptos para recibir tratamientos tópicos Amgen Inc. . 20230053.

Jacobo Rogado. Estudio de la respuesta inmune antitumoral generada tras quimio-radioterapia concurrente (QRTc) y tratamiento con IO en pacientes con estadio IIIA/B y IIIC NSCLC no resecables tratados en el mundo real GECP. GECP 23/04 (SIENNA).

María de Toro. Estudio de factores pronósticos y predictivos de respuesta a tratamiento quimioterápico en pacientes diagnosticados de cáncer de páncreas avanzado Sociedad Española de Oncología Médica (SEOM). PANT-SP-2023-01.

Diego de Argila Fernández. Estudio de fase 3, aleatorizado, doble ciego y controlado con placebo para evaluar la eficacia y seguridad del barzolvolimab en pacientes con urticaria espontánea crónica que siguen presentando síntomas a pesar de recibir tratamiento con antihistamínicos H1(EMBARQ - CSU2) Celldex Therapeutics, Inc. CDX0159-13.

Books

Alarcón T, Domingo D, López-Brea M. **Los inicios de Helicobacter pylori en España**. In: Carrascosa A (ed.). *El desarrollo de la microbiología en España*. Vol. III. Fundación Ramón Areces. 2024.

Bruton K, Bel imam M, Koenig JFE, Hoh R, Ruiz de Azcárate PH, Patil SU, Jordana M, van de Veen W, Jiménez-Saiz R. **Long lived immune memory and food allergy**. In: Sicherer SH (ed.). *Encyclopedia of Food Allergy*. Elsevier. 2024. pp. 108-122. DOI:10.1016/b978-0-323-96018-2.00059-6.

Catalá Ortuño M, Ramos García T, Belver González MT, Gómez Fernández A, Blanco Guerra C. **La cara oculta de los medicamentos biológicos**. In: *Sesiones Interhospitalarias de la Sociedad de Madrid Castilla La Mancha de Alergología*. KR Solutions. 2024. pp. 109-117. ISBN: 978-84-09-68125-9.

Chaparro M, Gisbert JP. **Enfermedad inflamatoria intestinal y embarazo**. In: Hinojosa J, Nos P, Gutiérrez Casbas A (eds.). *Conductas de actuación en la Enfermedad Inflamatoria Intestinal. Manual práctico*. 8ª edición. 2024. pp. 227-240. ISBN: 978-84-19955-24-1.

Gisbert JP, Calvet X, Lanás A, Elizalde JI, Bujanda L. **Enfermedades del estómago y del duodeno**. In: *Farre-ras-Rozman, Medicina Interna*. 20ª Edición. Elsevier España. 2024. Capítulo 18. pp. 96-129.

Gisbert JP, Chaparro M. **Fármacos biológicos anti-TNF y biosimilares**. In: Hinojosa J, Nos P, Gutiérrez Casbas A (eds.). *Conductas de actuación en la Enfermedad Inflamatoria Intestinal*. Manual práctico. 8ª edición. 2024. pp. 65-81. ISBN: 978-84-19955-24-1.

Gisbert JP, Malfertheiner P. **Considerations for choice of Helicobacter pylori treatment regimens**. In: Park JY (ed.). *Population-based Helicobacter pylori screen-and-treat strategies for gastric cancer prevention*. IARC Working Group Report No. 12. International Agency for Research on Cancer, World Health Organization. 2024-2025. pp. 338-357.

Koenig JFE, Jiménez-Saiz R, Jordana M. **An overview of the fundamental immune mechanisms of food allergy**. In: Sicherer SH (ed.). *Encyclopedia of Food Allergy*. Elsevier. 2024. pp. 1-11. DOI:10.1016/b978-0-323-96018-2.00068-7.

Communication and Dissemination

Scientific communication through specialised journals and congresses remains a cornerstone of biomedical research. Yet, there is an increasing awareness among researchers of the importance of engaging with society, which plays a fundamental role in sustaining research through public funding. Bringing biomedical research closer to citizens not only facilitates a better understanding of advances with current or potential applications in human health but also strengthens transparency, social commitment and the development of a more informed and health-conscious community.

At IIS-Princesa, this mission is pursued through two main channels: the institutional website and the Factor de Impacto newsletter. The Institute's website (<https://www.iis-princesa.org>), underwent a redesign by the end of 2024 to enhance accessibility and user experience, and now offers updated information on the activities of research groups alongside relevant news, training opportunities, congresses, job offers and additional resources. It also provides practical services for the research community, including a alert system for national and internacional funding opportunities.

Complementing this, the Factor de Impacto newsletter –published since 2011 in both print and digital formats– presents major scientific achievements, institucional developments and the successes of IIS-Princesa researchers. These initiatives are further reinforced by the Institute's active involvement in the Madrid Science and Innovation Week, where research is presented to the public through engaging, accessible talks that make advanced biomedical science both informative and approachable.

Science Week Workshops

Date	Title	Director / Professor
4 nov	Presente y futuro en enfermería, fisioterapia y técnicos superiores especialistas: nuevos roles al servicio de todos.	Servicio de Enfermería
4 nov	Dale un giro a tu dolor, aprende a manejarlo.	Unidad del Dolor
5 nov	¿Cómo es la vida de un medicamento? Etapas del desarrollo clínico.	Servicio de Farmacología
5 nov	Investigación traslacional: línea directa entre el laboratorio y el paciente.	Hospital Santa Cristina
5 nov	Taller práctico de alergia: qué es la alergia, las pruebas cutáneas y los autoinyectores.	Servicio de Alergología
6 nov	Hackathon Salud Junior, videojuegos educativos contra los bulos de salud.	Innovación
6 nov	Cerebros y Bisturíes en Neurocirugía: Del Quirófano al Laboratorio.	Servicio de Neurocirugía
7 nov	Simulación clínica Hospital de La Princesa abróchense los cinturones.	Servicio de Anestesiología, Reanimación y Tratamiento del Dolor

Date	Title	Director / Professor
7 nov	Investigación biomédica traslacional. De la investigación básica a la búsqueda de la aplicación clínica.	Servicio de Microbiología
8 nov	¿Cómo es la vida de un medicamento? Etapas del desarrollo clínico.	Servicio de Farmacología
8 nov	Inmunología del tubo digestivo: del laboratorio a los pacientes.	Servicio de Aparato Digestivo
11 nov	Cerebros y Bisturíes en Neurocirugía: del Quirófano al Laboratorio.	Servicio de Neurocirugía
11 nov	Cirugía mínimamente invasiva. Cirugía del siglo XXI.	Servicio de Cirugía
11 nov	Enfermería y ciencia: diagnosis, prescripción e innovación para el cuidado de la salud.	Servicio de Farmacología
12 nov	Cirugía mínimamente invasiva. Cirugía del siglo XXI.	Servicio de Cirugía Torácica
12 nov	Tatuajes, piercings y enfermedades de transmisión sexual. Mitos y realidades.	Servicio de Dermatología
13 nov	Tatuajes, piercings y enfermedades de transmisión sexual. Mitos y realidades.	Servicio de Dermatología
13 nov	Biobanco: únete a la ciencia.	Biobanco
14 nov	Simulación clínica Hospital de La Princesa abróchense los cinturones.	Servicio de Anestesiología, Reanimación y Tratamiento del Dolor
14 nov	Diagnóstico microbiológico de las enfermedades infecciosas.	Servicio de Microbiología
15 nov	¿Qué significa respirar? Se explica para que usamos los pulmones y como se alteran con el uso del tabaco.	Servicio de Neumología
15 nov	Protocolos convencionales de un laboratorio de biología molecular: extracción de ADN, frotis de sangre y conteo celular.	Servicio de Endocrinología y Nutrición

Seminars – IIS-Princesa

Date	Title	Director / Professor
25 ene	Título: Using Soft-X-Rays Tomography to study T cells at synaptic contacts and other tricks for microscopy.	Dra. Noa Martín-Cófreces, Investigadora del IIS-Princesa
1 feb	Título: Efficacy of combined immunotherapy and checkpoint receptor blockade boosting antiviral immunity against HIV-1 in vivo in humanised mouse models	Ildefonso Sánchez-Cerrillo del grupo del Dr. Enrique Martín-Gayo del Servicio de Inmunología del Hospital Universitario de La Princesa
8 feb	Título: "Caracterización de los linfocitos T asociados a la edad y su contribución al envejecimiento"	Gonzalo Soto Heredero del grupo de la Dra. María Mittelbrunn, investigadora ERC en el CBMSO (CSIC).
15 feb	Título: El complejo transportador de aminoácidos SLC7A5/SLC3A2 en vesículas extracelulares y la enfermedad de injerto contra huésped.	Nieves Fernández del grupo del Dr. F. Sánchez-Madrid en el CNIC.
22 feb	Título: "Transcriptional, metabolic and functional analysis of CD8+ T cell subsets differentially responding to DC immunotherapy against HIV."	Ilya Tsukalov del grupo del Dr. Enrique Martín-Gayo del Servicio de Inmunología del Hospital Universitario de La Princesa

Training provided at Hospital Universitario de La Princesa

Date	Title	Director / Professor
9, 10 y 13 mar	EPI PREVENCIÓN DE RIESGOS R1	MARIANO AGUILAR
21 may	CURSO CIRUGIA BIENVENIDA R1	MARIANO AGUILAR
28 may	CURSO DE BIOVIGILANCIA EN REPROCCIÓN HUMANA ASISTIDA	NIEVES G ^a VAZQUEZ
29 may	CURSO MAXILOFACIAL	ENFERMERIA
4 jun	III JORNADA DE COORDINACIÓN SOCIO SANITARIA DESDE EL TRABAJO SOCIAL	JOSE JOAQUIN CUADRADO RODRIGUEZ
6 jun	JORNADA RESIDENTES SEPSIS	FERNANDO RAMASCO
11-12 jun	CURSO DE ECOGRAFIA PARA CUIDADOS CRITICOS	FERNANDO RAMASCO
13-14 jun	CURSO URGENCIAS	Dr. Andrés von Wernitz Teleki
15 jun	SIMPOSIO INTERNACIONAL DE TARTAMUDEZ	ALEXANDRA TISAIRE DE DIOS
18 jun	CURSO DE PREVENCIÓN DE INCENDIOS - MANEJO DE EXTINTORES	MANUELA G ^a CEBRIAN
19 jun	JORNADA DE SOSTENIBILIDAD EN TERAPIA RESPIRATORIA	AMELIA RODRIGUEZ
20 jun	JORNADA MULTIDISCIPLINAR SOBRE DISFUNCIÓN URINARIA Y FECAL EN ESCLEROSIS MÚLTIPLE	ELENA BERMEJO MARCOS
21-22 jun	CURSO SVA	FERNANDO RAMASCO
26 jun	IX JORNADA DE COMITÉS DE CALIDAD	ALBERTO PARDO HERNÁNDEZ
26 jun	CURSO DE BALÓN CON FARMACO	FERNANDO ALFONSO
27 jun	CURSO HIGIENE POSTURAL Y MOVILIZACIÓN DE PACIENTES	RAIMUNDO SARDINERO
3-4 oct	CURSO IMAGEN INTRACORONARIA	FERNANDO ALFONSO
4 oct	CURSO DE CEFALÉAS	PATRICIA HEREDIA
4 oct	X JORNADA DÍA MUNDIAL PACIENTE OSTOMIZADO	ASOCIACIÓN DE OSTOMIZADOS DE MADRID
17-18 oct	XXVIII REUNIÓN ANUAL MÉDICOS RESIDENTES	DR. E. MONGUIO
22 oct	III JORNADAS DE LA RED DE TERAPIAS AVANZADAS DE LA C.M	RAQUEL SAN JOSÉ RODRÍGUEZ
23 oct	REUNIÓN ACADEMIA ESPAÑOLA DE DERMATOLOGÍA SECCIÓN CENTRO	PEDRO RODRIGUEZ
24 oct	III JORNADAS CIENTÍFICAS DIRECCIÓN DE ENFERMERÍA	GERENCIA
25 oct	JORNADA MAXILAR ATROFICO	JESUS SASTRE PEREZ
29 oct	JORNADA DE COMISIONES HOSPITALARIAS DE VIOLENCIA DE GÉNERO	ESTHER GALLEGU CANOVAS
29-30 oct	CURSO SVB URGENCIAS IED	MARIANO AGUILAR
14-15 oct	MODELO ASISTENCIAL DE LA MEDICINA DE PRECISIÓN	ISIDORO GONZALEZ
21-22 nov	CURSO MMM	FERNANDO ALFONSO
26 nov	JORNADA MULTIDISCIPLINAR ACTUALIZACIÓN NEUMOLOGÍA	PEDRO LANDENTE RODRIGUEZ
27 nov	REUNIÓN ACADEMIA ESPAÑOLA DE DERMATOLOGÍA SECCIÓN CENTRO	PEDRO RODRIGUEZ
28 nov	XXI CURSO DE FORMACIÓN MIR DE HEMATOLOGÍA Y HEMOTERAPIA	ADRIAN ALEGRE AMOR

Courses on the “Conocimiento Princesa” online platform

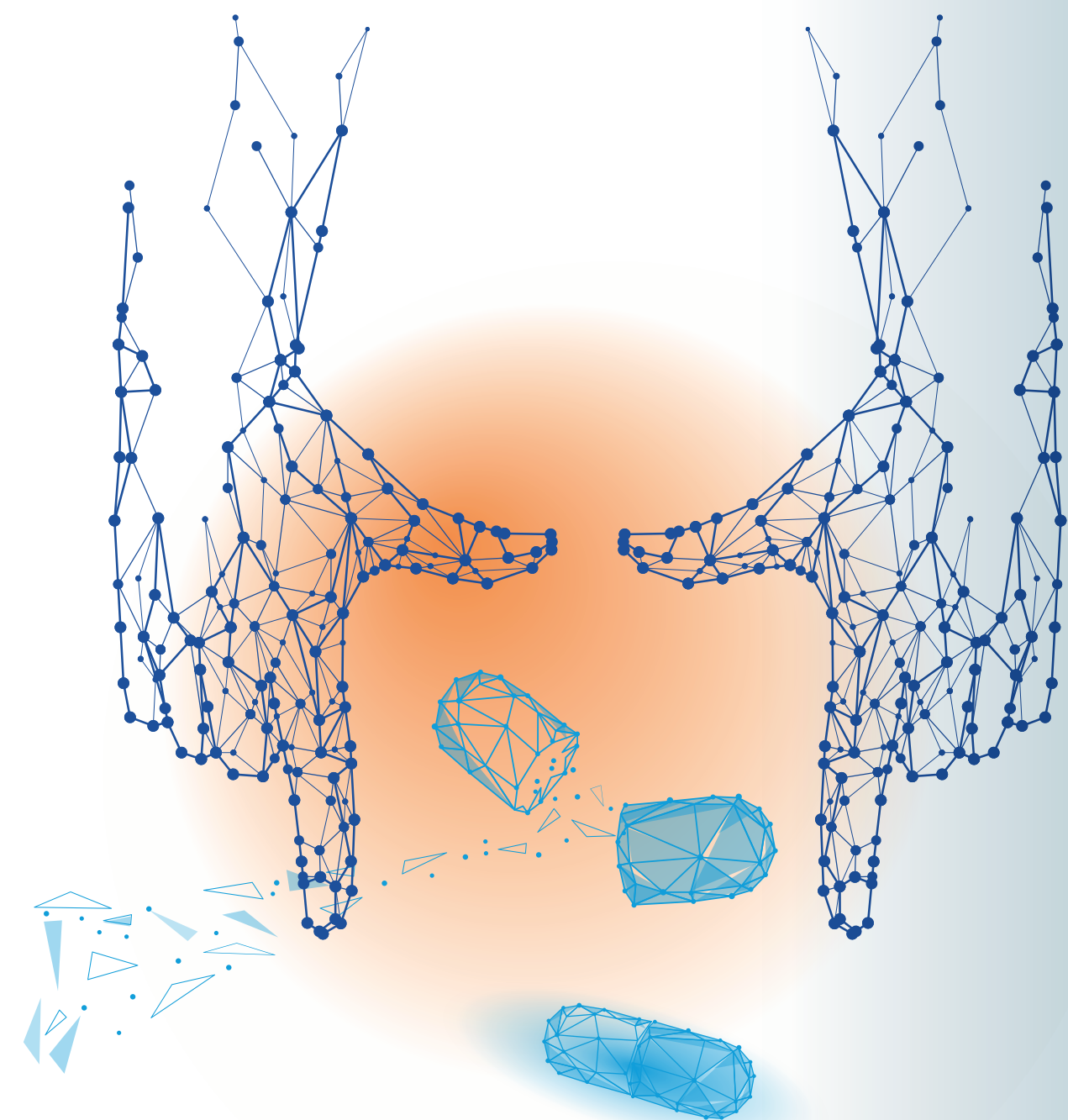
Date	Title	Director / Professor
12 feb - 13 may	Competencias en Ecografía Clínica para Atención Primaria: Edición IX	Juan Mariano Aguilar Mulet Fernando Alfageme Roldan Jose Ignacio Alonso González Sonia Gonzalez Del Val Iñigo Guerra Molina Ana Maria Martinez Molina Jorge Sorando Ortin Javier Val De Santos Andres Von Wernitz Teleki
1 mar	Competencias en Ecografía perioperatoria (ECOPRIN) 2 Edición	Carlos Figueroa Yusta Fernando Garca-Montoto Prez Raquel Garcia Alvarez Beatriz Nacarino Alcorta Jesús Manuel Nieves Alonso Fernando Ramasco Rueda Alejandro Suárez de La Rica
3 abr - 11 abr	CÓMO SUTURAR UNA HERIDA. TALLER TEÓRICO-PRÁCTICO 2024	Pablo Cereceda Barbero Mar de Castro Marinas Libertad Martín Prieto Sonia Morales Artero
9 mar	Curso de Bienvenida a los nuevos Residentes 2024	Juan Mariano Aguilar Mulet Ignacio Redondo Pascual
9 mar	Curso de Historia Clínica Electrónica – 2024	Juan Mariano Aguilar Mulet Iñigo Garcia Sanz María José Venegas de L'Hotellerie
9 mar	Soporte Vital Inmediato para Residentes 2024	Juan Mariano Aguilar Mulet María Cruzate Aparicio Noemí Díaz Velasco Sonia Gonzalez Del Val Ana Maria Martinez Molina Ester Miravalles Fernández Rosa María Nieto Ortiz Diana Parrado María Isabel Puca Briones Blanca Ruata Laclaustra María Cristina Santiago Poveda Jorge Sorando Ortin Javier Val De Santos Andres Von Wernitz Teleki
9 mar	Curso de Traumatología para nuevos residentes – 2024	Juan Mariano Aguilar Mulet Rafael Carbonell
9 mar	Cirugía para nuevos Residentes – 2024	Juan Mariano Aguilar Mulet Iñigo Garcia Sanz María José Venegas de L'Hotellerie
9 mar	ELECTROCARDIOGRAFÍA – 2024	Juan Mariano Aguilar Mulet Amparo Benedicto Buendia
9 mar	Curso de interpretación básica de radiología simple – 2024	Juan Mariano Aguilar Mulet

Date	Title	Director / Professor
13 may - 12 jun	Código Sepsis Princesa (EDICIÓN 10)	Ana Barrios Blandino Marta Chicot Llano Marianela Ciudad Sañudo Iñigo Garcia Sanz Rosa Méndez Hernandez Sara Navarro Ausere Natalia Pascual Gomez Alberto Pizarro Portillo Fernando Ramasco Rueda Maria Jose Rubio Perez Carmen Saez Béjar Maria Del Pilar Sanz Martin Maria Semiglia Andres Von Wernitz Teleki Nelly Zurita Cruz
31 may - 8 jul	Simulación en el manejo de la vía aérea 8ª Ed (2024)	Noemí Díaz Velasco Luis Aníbal Gómez Arredondo Ricardo Moreno Gonzalez Jesús Manuel Nieves Alonso Diana Parrado Fernando Ramasco Rueda Elena Rojo Rodríguez Sheila Santidrián Meritxell Sierra Silvestre
3 jul - 22 jul	2ED Metodología en investigación Hospital Universitario de la Princesa	María Apellániz Ruiz Gauruv Bose Victor Fanjul Alicia González Martínez Mariana Hernández González Jesús Novalbos Reina Miguel Antonio Sampedro Nuria Sánchez de la Blanca Carrero Ancor Sanz García
9 sep - 17 sep	Cómo presentar un proyecto de investigación a un CEIm 2ED	Francisco Abad José Luis Muñoz de Nova María del Mar Ortega Gómez Fernando Ramasco Rueda
9 sep - 7 nov	Actualización en cuidados de enfermería del paciente crítico: UCI, REA y UCC	Sonia Teresa Almero Barriga Elena Espiritu María Mercedes García Franco Natalia González García David Jiménez Jiménez Leticia Martínez Ferreiro Nuria Oliva Illescas José Enrique Partida Márquez Mar Puente Cepeda Susana Rodríguez María Jesús Rodríguez Alonso María Dolores Rodríguez Huerta María del Carmen Rodríguez Montero

Date	Title	Director / Professor
16 sep - 4 oct	Soporte Mecánico Cardiopulmonar	Bea Abad Santamaría Río Jorge Aguilar Torres Nieves de Antonio Pablo Díez Villanueva Carlos Figueroa Yusta Judit Iglesias Franco Maria Jose López Manuel Emilio Monguió Santin Nuria Oliva Illescas Mar Orts Rodríguez José Enrique Partida Márquez Fernando Ramasco Rueda Guillermo Reyes Copa Fernando Rivero Emilia Rosas Carvajal Jorge Salamanca Viloría Marta Sánchez Galindo Juan Antonio Sánchez Giralt Fernando Suárez Sipmann Olinda Gladys Tupac Yupanqui Lopez Laura Varela Barca Pablo Villamayor Tirado
18 sep - 6 nov	Lectura crítica de artículos científicos para residentes - Edición II	María Apellániz Ruiz Alicia González Martínez Miguel Antonio Sampedro Núñez
23 sep - 14 oct	Lectura crítica de artículos científicos	María Apellániz Ruiz Alicia González Martínez Jesus Novalbos Reina Miguel Antonio Sampedro Nuria Sánchez de la Blanca Carrero
23 sep - 7 oct	Cómo dirigir y ayudar para hacer un trabajo de fin de grado	María José Calzada García María Candelas Gil Alicia González Martínez Fernando Ramasco Rueda Miguel Antonio Sampedro Núñez Nuria Sánchez de la Blanca Carrero
23 sep - 10 nov	Código Sepsis Princesa para Residentes (Edición 2)	Azucena Bautista Hernández Marta Chicot Llano Marianela Ciudad Sañudo Iñigo Garcia Sanz Rosa Mendez Hernandez Sara Navarro Auser Natalia Pascual Gomez Alberto Pizarro Portillo Mar Puente Cepeda Fernando Ramasco Rueda Maria Jose Rubio Perez Carmen Saez Bejar Maria Del Pilar Sanz Martin Maria Semiglia Andres Von Wernitz Teleki Nelly Zurita Cruz

General Sessions on the “Conocimiento Princesa” online platform

Date	Title	Director / Professor
12 ene	Sesión General	Servicio de Medicina Física y Rehabilitación Sesión General
19 ene	Sesión General	Servicio de Radiodiagnóstico
26 ene	Sesión General	Servicio de Neurocirugía
2 feb	Sesión General	Servicio de Anestesiología y Reanimación
9 feb	Sesión General	Comité de Ensayos Clínicos
16 feb	Sesión General	Servicio de Microbiología
23 feb	Sesión General	Servicio de Otorrinolaringología
1 mar	Sesión General	Servicio de Urología
8 mar	Sesión General	Servicio de Psiquiatría
15 mar	Sesión General	Servicio de Cirugía Cardíaca
22 mar	Sesión General	Dirección de Enfermería
5 abr	Sesión General	Servicio de Análisis Clínicos
12 abr	Sesión General	Comunicación interna
19 abr	Sesión General	Servicio de Cirugía Maxilofacial
26 abr	Sesión General	Servicio de Alergia
10 may	Sesión General	Servicio de Cirugía Torácica
17 may	Sesión General	Unidad del dolor
24 may	Sesión General	Servicio de Cardiología
31 may	Sesión General	Servicio de Urgencias
7 jun	Sesión General	Servicio de Cirugía Ortopédica y Traumatología
14 jun	Sesión General	Unidad de Cuidados Paliativos
21 jun	Sesión General	Unidad Clínica Docente
28 jun	Sesión General	Servicio de Medicina Nuclear
20 sep	Sesión General	Servicio de Prevención de Riesgos Laborales
27 sep	Sesión General	Servicio de Neumología
4 oct	Sesión General	Servicio de Oftalmología
18 oct	Sesión General	Servicio de Oncología Médica
25 oct	Sesión General	Servicio de Medicina Preventiva
8 nov	Sesión General	Servicio de Farmacia
15 nov	Sesión General	Unidad Técnica de Apoyo a Programas Europeos – UTAPE



Area 1

Cellular and molecular etiopathogenic mechanisms in inflammatory and autoimmune diseases

- Line 1.1** Intercellular communication in the inflammatory response
- Line 1.2** Cellular and molecular responses to hypoxia
- Line 1.3** Animal models of inflammatory diseases and intercellular signalling
- Line 1.5** Cellular mechanisms and molecular determinants of allergybased diseases
- Line 1.6** Inflammatory processes in nephrological diseases
- Line 1.7** Inflammatory mechanisms in pulmonary diseases
- Line 1.8** Inflammatory response in hepatic diseases
- Line 1.9** Mechanisms and mediators of endocrine diseases
- Line 1.10** Children's development (obesity and growth)
- Line 1.11** Metabolic syndrome and vascular risk

Line 1.1

Intercellular communication in the inflammatory response

GROUP 1



Francisco Sánchez Madrid
Head of group

GROUP MEMBERS

Alfranca González, Arantzazu
Calzada Fraile, Diego
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Fernández-Gallego Anaya, Nieves
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Lozano Prieto, Marta
Martín Cofreces, Noa Beatriz
Martín Gayo, Enrique
Ramírez Huesca, Marta Esther
Requena Galindo, Silvia
Rojas Gómez, Amelia
Sánchez Alonso, Santiago
Sánchez Cerrillo, Ildefonso
Scagnetti Zambrano, Camila
Vera Vega, Alicia
Vallejo Rodríguez, María Ángeles
Vera Tomé, Paula



RESEARCH INTEREST

Activation of the adaptive immune response requires the formation of intimate contacts between antigen-bearing cells (e.g. dendritic cells, DC) and T lymphocytes. These contacts ('immune synapses') act as hubs that transmit activating signals from the DC to the T cell, driving its differentiation and proliferation. However, information also travels in reverse, from the T cell to the DC. Reverse transmission depends of receptor-dependent adhesive contacts, soluble factors, and vesicles, e.g. exosomes. Exosomes are small extracellular vesicles biosynthesized from multi-vesicular bodies (MVB) and released towards the DC through MVB fusion with the plasma membrane. This group aims to determine the extent, nature and function of the information transferred from T cells towards DCs in exosomes through synaptic contacts. We will characterize the role of specific bits of information originated within the T cell and carried by exosomes, e.g. membrane transporters for specific metabolites, captured by the DC during the establishment and maintenance of synaptic contacts. The regulation of anti-viral and anti-bacterial genes determining the ability of DCs to respond to these challenges will define their Alert State. We are assessing the role of epigenetic changes at a DNA level in function of post-synaptic DCs, alone and in combination with metabolic changes and post-translational modifications to specific proteins, for example, Ubiquitin-like modifiers such as ISGylation. Cell viability, survival, and migration of post-synaptic DCs will be determined in vivo. We will also characterize the role of ISGylation on the Alert state during T-DC synopsis and inflammation. Finally, the role of the L-type amino-acid transporter 1 molecule (LAT1) and L-tryptophan metabolism and important T cell immunoregulatory molecules will be analyzed in the context of the immune response associated to atherosclerosis and skin-inflammatory diseases in animal models to identify the molecular basis of these autoimmune diseases. These studies will open new avenues for vaccination strategies and novel therapies to treat autoimmune-related diseases.



MAJOR GRANTS

Martín Cofreces, Noa Beatriz. Proteostasis como regulador del citoesqueleto de tubulina, la distribución de orgánulos y del metabolismo de linfocitos T CD4 a lo largo de la vida// Proteostasis as a regulator of tubulin cytoskeleton dynamics, organelle distribution and metabolic fate for CD4 T cell fitness across the lifespan.PID2022-1418950B-I00.AGENCIA ESTATAL DE INVESTIGACION.2023-

Alfranca González, Arantzazu. "Evaluación del papel de CCL21 en la respuesta al tratamiento con anticuerpos anti-PD-1 en cáncer de pulmón no microcítico". PI22/01542.INSTITUTO SALUD CARLOS III.2023-

Cibrián Vera,Danay; Llamas Velasco, María del Mar. "Proteínas transportadoras de amino ácidos como nuevas dianas terapéuticas en las enfermedades inflamatorias de la piel".PI22/01842.INSTITUTO SALUD CARLOS III.2023-

Sánchez Madrid, Francisco. "Reposicionamiento de compuestos citotóxicos de organismos marinos para inmunoterapia intratumoral (RECYTSEA). LÍNEAS ESTRATÉGICAS 2022.PLEC2022-009298.AGENCIA ESTATAL DE INVESTIGACION.2022-

Daudén Tello, Esteban; de la Fuente Flores, Hortensia. Estudio integrativo de la inflamación sistémica en Dermatitis Atópica e Hidradenitis Supurativa y su asociación con la enfermedad cardiovascular.PI21/01583. INSTITUTO SALUD CARLOS III.2022-

Sánchez Madrid, Francisco. LA SINAPSIS INMUNE COMO MECANISMO EDUCATIVO DE LINFOCITOS Y CÉLULAS INNATAS PARA LA REGULACIÓN DE PROCESOS INFECCIOSOS E INFLAMATORIOS (ISEDINF).PID2020-120412RB-I00.AGENCIA ESTATAL DE INVESTIGACION.2021-

Alfranca González, Arantzazu. "Treg-less: Abordando la Homeostasis mediada por CCR7 de células T reguladoras para Romper la tolerancia inmunológica en Tumores sólidos". LÍNEAS ESTRATÉGICAS 2022.PLEC2022-009312.AGENCIA ESTATAL DE INVESTIGACION.



PUBLICATIONS

The role of the CXCL12/CXCR4 axis in the immunotherapy of non-small cell lung cancer. Clin. Transl. Oncol. 2024. PMID:39708256. DOI:10.1007/s12094-024-03828-3. CLINICAL & TRANSLATIONAL ONCOLOGY.

Role of lamin A/C on dendritic cell function in antiviral immunity. Cell. Mol. Life Sci. 81. (1). 2024. PMID:39264480. DOI:10.1007/s00018-024-05423-9. CELLULAR AND MOLECULAR LIFE SCIENCES.

Immunome profiling in prostate cancer: a guide for clinicians. Front. Immunol.15. 2024. PMID: 39635522. DOI: 10.3389/fimmu.2024.1398109.

Cytosolic protein translation regulates cell asymmetry and function in early TCR activation of human CD8+ T lymphocytes (vol 15, 1411957, 2024). Front. Immunol.15. 2024. PMID: 39469710. DOI: 10.3389/fimmu.2024.1500666.

In-gel protein digestion using acidic methanol produces a highly selective methylation of glutamic acid residues. J. Proteomics. 304. 2024. PMID:38880355. DOI:10.1016/j.jprot.2024.105229. Journal of Proteomics.

Imbalance of SARS-CoV-2-specific CCR6+and CXCR3+CD4+T cells and IFN-γ+CD8+T cells in patients with Long-COVID. Clin. Immunol. 264. 2024. PMID:38825071. DOI:10.1016/j.clim.2024.110267. CLINICAL IMMUNOLOGY.

NF-κB and NLRP3/NLR4 inflammasomes regulate differentiation, activation and functional properties of monocytes in response to distinct SARS-CoV-2 proteins. Nat. Commun. 15. (1). 2024. PMID:38453949. DOI:10.1038/s41467-024-46322-8. Nature Communications.

Leukemic cell-secreted interleukin-9 suppresses cytotoxic T cell-mediated killing in chronic lymphocytic leukemia. Cell Death Dis. 15. (2). 2024. PMID:38360867. DOI:10.1038/s41419-024-06528-6. Cell Death & Disease.

Beneficial effect of temporary methotrexate interruption on B and T cell responses upon SARS-CoV-2 vaccination in patients with rheumatoid arthritis or psoriatic arthritis. npj Vaccines. 9. (1). 2024. PMID:38291047. DOI:10.1038/s41541-024-00805-3. npj Vaccines.

GROUP 3



María Yáñez Mó
Head of group



GROUP MEMBERS

Benayas López, Beatriz
Gutiérrez del Burgo, Fernando
López Martín, Soraya
Morales Bravo de Medina, Joaquín
Palma Cobo, Miguel



RESEARCH INTEREST

Our research team is dedicated to advancing the understanding of tetraspanin-enriched nanodomains, specialized membrane structures crucial in cell adhesion and migration processes. In addition, tetraspanin proteins are highly prevalent on extracellular vesicles (EVs), shuttles for bioactive proteins, lipids, and RNAs, unveiling novel pathways for intercellular communication.

Our investigations aim to unravel the intricate mechanisms underlying EV biogenesis and their subsequent uptake by recipient cells. Within our group we also pioneer innovative approaches for EV isolation, detection and quantification for their use in liquid biopsy in personalized medicine. Moreover, we are at the forefront of engineering synthetic exosome mimetics, harnessing tetraspanin-based tools as therapeutic tools to replicate and enhance natural cellular processes.



MAJOR GRANTS

Yáñez Mó, María. VALIDACION CLINICA DE UN SISTEMA PARA DETECTAR TRANSLOCACIONES DE ALK EN VESICULAS EXTRACELULARES EN PLASMA. DTS21/00134.INSTITUTO SALUD CARLOS III.2022-2024.

Yáñez Mó, María PID2020-119627GB-I00, Microdominios de membrana, exosomas, virus y vacunas. Proyectos I+D. Generación de Conocimiento. 01/09/2021-31/08/2024.

Yáñez Mó, María PDC2021-121052-I00, Vacunas basadas en exosomas miméticos. Ministerio de Ciencia e Innovación. (UAM). 01/12/2021-30/08/2024.

Yáñez Mó, María. Desarrollo de nuevas agarosas para el aislamiento de subpoblaciones específicas de vesículas extracelulares de fluidos biológicos. Agarose Beads Technologies; Comunidad de Madrid. Doctorado Industrial. 03/08/2020-31/12/2023.



PUBLICATIONS

Clares Pedrero I, Rocha Mulero A, Palma Cobo M, Cardeñes B, Yáñez Mó M, Cabañas C. **Molecular Determinants Involved in the Docking and Uptake of Tumor-Derived Extracellular Vesicles: Implications in Cancer.** Int. J. Mol. Sci. 25. [6]. 2024. PMID:38542421. IF:4.90. DOI:10.3390/ijms25063449. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES.

GROUP 56



Ana Carmen Urzainqui Mayayo
Head of group



GROUP MEMBERS

Ramos Manzano, Alejandra Isabel
San Antonio Sánchez, María Esther
Sánchez Abad, Inés



RESEARCH INTEREST

P-Selectin Glycoprotein Ligand-1 (PSGL-1) is a leukocyte receptor that interacts with P-, E- and L-Selectins and is responsible for the initial steps of leukocyte extravasation to inflammation sites. Our laboratory has described that PSGL-1 acts as an immunoregulatory receptor that participates in the generation of regulatory T cells (Treg) and contributes to the maintenance of peripheral tolerance in mice. We described that PSGL-1 knock-out (KO) mice develop a progressive autoimmune disease similar to systemic sclerosis (SSc) [Pérez-Frías et al, Arthritis and Rheumatol 2014]. In addition, we observed that the absence of P-Selectin, main PSGL-1 ligand, causes an autoimmune syndrome similar to human systemic lupus erythematosus (SLE), with generation of anti-dsDNA autoantibodies, immune complex deposits in skin and kidney and hypersensitivity to UV light, characteristics that could match those of SLE [González-Tajuelo et al., Sci Reports 2017]. Interestingly, we have recently described that P-Selectin and PSGL-1 aged female KO mice develop pulmonary arterial hypertension (PAH), the most severe form of connective tissue-related autoimmune diseases, due to increased levels of Angiotensin II and endothelial dysfunction, with low production of NO [González-Tajuelo et al., Arthritis

and Rheumatol. 2019]. Remarkably, clinical studies with patients indicate that PSGL-1 and P-selectin expression is altered in both diseases. SSc patients have reduced PSGL-1 expression in B cells and increased expression in monocytes, dendritic cells and T cells. In addition, our data show the association of high PSGL-1 expression with the presence of interstitial lung disease (ILD) in SSc patients and that 75% or more circulating pDCs expressing ADAM8 associate with the presence of SSc. [Silván J et al, J Invest Dermatol, 2018]. Lupus patients present reduced expression of P-selectin in skin vessels and reduced expression of PSGL-1 in neutrophils correlating with disease activity. Importantly, our recent research has shown the role of PSGL-1/P-selectin in the control of neutrophil and monocyte death by apoptosis and NET and MET generation as well and its deregulation in SLE patients [Muñoz-Callejas et al, IJMS 2023 and Muñoz-Callejas et al, Translational Research 2024]. Importantly, we have recently found biomarkers for the differential diagnosis of SSc and SLE [San Antonio et al, Front Immunol 2024]

Given all these findings, our main goal is to study the molecular and cellular alterations that underlie the pathology of these diseases.

Main Research Lines:

- Study of the interstitial pneumonia associated to scleroderma (SSc-ILD) and lupus (SLE-ILD), which is one of the main causes of death in these diseases.
- Analysis of cells and molecular components implicated in the development of ILD to find molecular alterations that could be potential diagnostic markers or treatment targets.
- Validation of biomarkers found in our laboratory for the differential diagnosis of Systemic Sclerosis, Systemic Lupus Erythematosus and primary Sjögren's Syndrome.
- Analysis of PSGL-1 as possible regulator of cellular proteostasis and its contribution to scleroderma and SLE pathology.



MAJOR GRANTS

Urzainqui Mayayo, Ana Carmen. Estudio de la relevancia de la interacción PSGL-1/P-selectina en la proteostasis celular y generación de NETs y su posible implicación en la patogénesis de esclerodermia y lupus. PI20/01690.INSTITUTO SALUD CARLOS III.2021-2024.

-REI-RICORS 2021, 2022-2024

--REI-RICORS 2024, 2025-2028

Line 1.1 Intercellular communication in the inflammatory response

Urzainqui Mayayo, Ana Carmen. Implicación del eje PSGL-1/P-selectin en la patogénesis del lupus y la esclerodermia y posible contribución de PSGL-1 y sus ligandos al desarrollo de neumonía intersticial e hipertensión pulmonar asociadas a ellas. PI24/01865. INSTITUTO SALUD CARLOS III.

PUBLICATIONS

Muñoz Callejas A, Sánchez Abad I, Ramos Manzano A, San Antonio E, González Sánchez E, Silván J, González Tajuelo R, González Alvaro I, García Pérez J, Tomero EG, García Vicuña R, Vicente Rabaneda EF, Castañeda S, Urzainqui A. **Regulation of monocyte apoptosis and DNA extrusion in monocyte extracellular traps by PSGL-1: Relevance in systemic lupus erythematosus.** Transl. Res. 274, 2024. PMID:39182668. DOI:10.1016/j.trsl.2024.08.005. IF:6,40. TRANSLATIONAL RESEARCH.

San Antonio E, Silván J, Sevilla Montero J, González Sánchez E, Muñoz Callejas A, Sánchez Abad I, Ramos Manzano A, Muñoz Calleja C, González Alvaro I, Tomero EG, García Pérez J, García Vicuña R, Vicente Rabaneda EF, Castañeda S, Urzainqui A. **PSGL-1, ADAM8, and selectins as potential biomarkers in the diagnostic process of systemic lupus erythematosus and systemic sclerosis: an observational study.** Front. Immunol. 15, 2024. PMID:39100683. DOI:10.3389/fimmu.2024.1403104. IF:5,70. FRONTIERS IN IMMUNOLOGY.

Martínez Fleta P, Vicente Rabaneda EF, Triguero Martínez A, Roy Vallejo E, Uriarte Ecenarro M, Gutiérrez Rodríguez F, Quiroga Colina P, Romero Robles A, Montes N, García Castañeda N, Mejía Abril GP, García Vadillo JA, Llorente Cubas I, Villagrasa JR, López Matencio JMS, Ancochea J, Urzainqui A, Esparcia Pinedo L, Alfranca A, De La Fuente H, García Vicuña R, Sánchez Madrid F, González Alvaro I, Castañeda S. **Beneficial effect of temporary methotrexate interruption on B and T cell responses upon SARS-CoV-2 vaccination in patients with rheumatoid arthritis or psoriatic arthritis.** npj Vaccines. 9(1), 2024. PMID:38291047. DOI:10.1038/s41541-024-00805-3. IF:6,90. NPJ VACCINES.

Martínez Fleta P, Vicente Rabaneda EF, Triguero Martínez A, Roy Vallejo E, Uriarte Ecenarro M, Gutiérrez Rodríguez F, Quiroga Colina P, Romero Robles A, Montes N, García Castañeda N, Mejía Abril GP, García Vadillo JA, Llorente Cubas I, Villagrasa JR, López Matencio JMS, Ancochea J, Urzainqui A, Esparcia Pinedo L, Alfranca A, De La Fuente H, García Vicuña R, Sánchez Madrid F, González Alvaro I, Castañeda S. **Beneficial effect of temporary methotrexate interruption on B and T cell responses upon SARS-CoV-2 vaccination in patients with rheumatoid arthritis or psoriatic arthritis.** npj Vaccines. 9(1), 2024. PMID:38291047. DOI:10.1038/s41541-024-00805-3. IF:6,90. NPJ VACCINES.



Line 1.2 Cellular and molecular responses to hypoxia

GROUP 9



Julián Aragonés López
Head of group



GROUP MEMBERS

Aguilar Trujillo, María
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Guajardo Grence, Andrea
Stancu, Carmen Silvia
Urrutia Elorduy, Andrés



RESEARCH INTEREST

An insufficient oxygen supply (hypoxia) is a hallmark of numerous life-threatening pathologies with unmet medical needs such as solid tumor growth, chronic obstructive pulmonary disease (COPD), ischemic diseases and obesity. Cells are equipped with oxygen-sensing systems to mount a programmed response when oxygen becomes limited. Hypoxia-inducible factors (HIF1, HIF2 and HIF3) are central regulators of this cellular response to oxygen fluctuations. Our cu-

rent research interest is focused on the role of the HIF oxygen sensing pathways in cancer, pulmonary disease, liver regeneration, anemia and pericyte biology. In particular, we are mainly interested in cellular metabolic reprogramming, which is one of the central biological functions executed by the HIF factors. 1) HIF factors and renal cell carcinoma: Clear cell renal cell carcinoma (ccRCC), the most common type of renal cancer characterized by constitutive activation of HIF factors. We have unveiled novel metabolic responses (mitochondria rewiring and amino acid metabolism) executed by HIF1 or HIF2 factors essential to understand the progression of these tumors, which can be operational in other tumor types (Elorza et al. Molecular Cell 2012; Meléndez Rodríguez et al. Cell Reports 2019; Urrutia et al. Cell Reports 2024). We are now investigating new mitochondria-dependent signaling not only in ccRCC but also in other hypoxic scenarios. 2) HIF factors and airway dysfunction in pulmonary disease: Pulmonary diseases such as chronic obstructive pulmonary disease (COPD) and sleep-apnea hypoapnea syndrome (SAHS) are the most common respiratory diseases causing illness and death, and are being projected to be the third leading cause of death worldwide by 2020. They are characterized by an insufficient level of oxygen in the blood (hypoxemia), continuous in the COPD and intermittent in the SAHS, and they are associated to pulmonary oxidative damage, an exaggerated inflammatory response in the lung and systemically. Surprisingly, the bronchial epithelium is the first group of cells in contact with oxygen but the role of HIF factors is largely unknown. We have previously shown that HIF2 isoform has a central protagonism to the bronchial epithelial response to hypoxia (Elorza et al. Molecular Cell 2012; Torres-Capelli et al. Scientific Reports 2016). More recently, we have generated gain or loss of function of HIF factors in the bronchial epithelium to study its role in lung biology. 3). The role of HIF factors in liver regeneration after hepatectomy taking into consideration the role of HIF factors (HIF2a) on the metabolism of both essential and non-essential amino acids. 4) Moreover, we are interested in kidney disease and anemia, a pathological

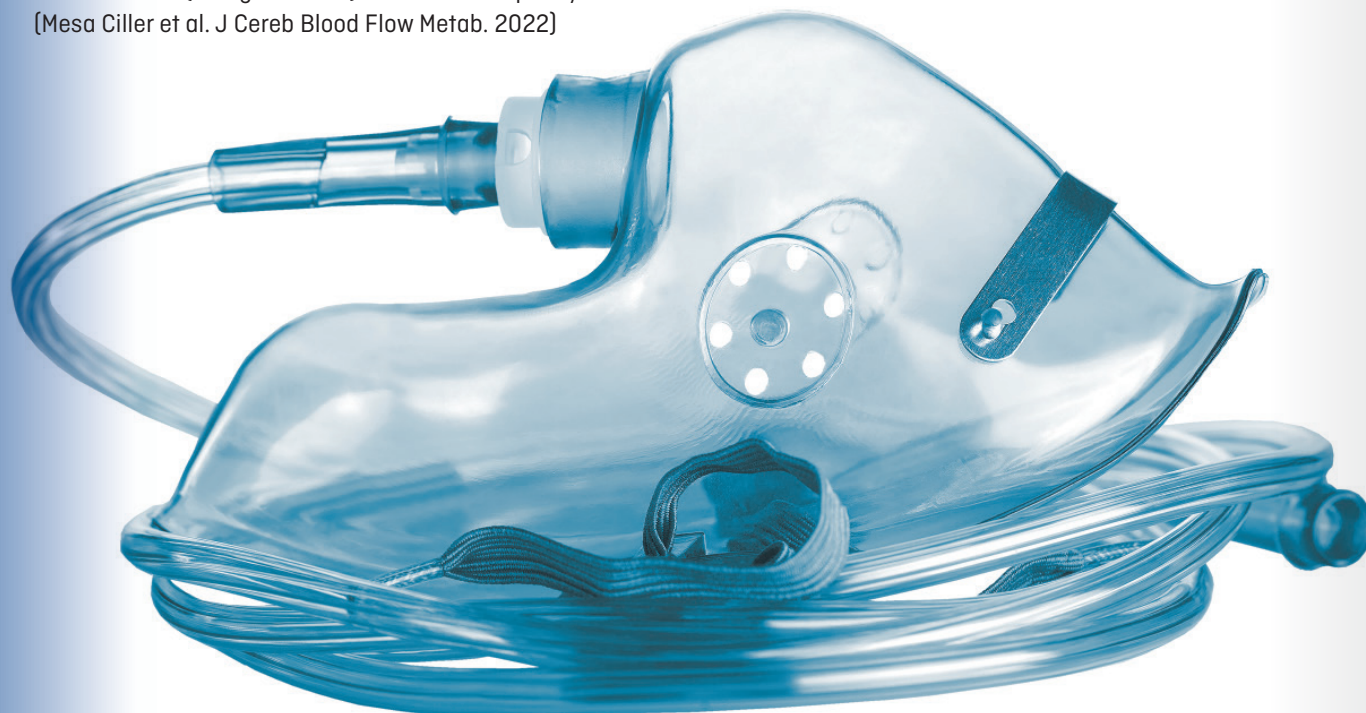
Line 1.2 Cellular and molecular responses to hypoxia

scenario in which hypoxia and HIF factors are activated as a compensatory response to increase the production of erythropoietin (EPO) renal cells. In this line, the group have some previous publications about the biology of EPO (Bouthelier et al. iScience 2023; Urrutia et al. Acta Physiologica 2021). The group is interested in molecular and epigenetic mechanisms that can compromise EPO production, the main cause of anemia associated with chronic kidney disease. 5) Finally, the group is interested in the role of HIF and its impact on metabolism in pericyte and vascular dysfunction. In this context, the group have recently identified the mitochondrial regulator NDUF4L2 (a target of HIFs) as a marker of pericytes [Mesa Ciller et al. J Cereb Blood Flow Metab. 2022]



PUBLICATIONS

Urrutia AA, Mesa-Ciller C, Guajardo-Grence A, Alkan HF, Soro-Arnáiz I, Vandekeere A, Ferreira Campos AM, Igelmann S, Fernández-Arroyo L, Rinaldi G, Lorendeau D, De Bock K, Fendt S-M, Aragonés J. **HIF1α-dependent uncoupling of glycolysis suppresses tumor cell proliferation.** Cell Rep. 43. [4]. 2024. CELL REPORTS.



GROUP 7



Antonio Martínez Ruiz
Head of group



GROUP MEMBERS

Choya Foces, Carmen
Delgado Martín, Susana
Díaz Ortega, Elena
López Rodríguez, Ana Belén
Pacheco Aguado, Ana María
Polo Fernández, Iciar
Prieto Martínez, Javier
Serrano Cuñarro, Laura



RESEARCH INTEREST

1. Role of the mitochondrial sodium/calcium exchanger NCLX in oxidative damage and ferroptotic cell death in stroke.

We discovered the mechanism by which mitochondrial Na⁺ import through NCLX alters the mitochondrial electron transport chain, inducing superoxide and reactive oxygen species (ROS) production during acute hypoxia. Our current work studies the role of NCLX and the molecular mechanisms in which it takes part in different pathophysiological settings, and we also evaluate the pharmacological application of novel NCLX inhibitors in related diseases.

In this research line we focus on the implication of NCLX in oxidative damage in stroke, using cell culture and animal models of stroke, as well as clinical observational studies. We study several aspects of this implication, including the mechanisms of ROS generation and of ferroptosis, a newly described cell death induced by iron dysregulation and oxidative lipid damage.

2. Role of the mitochondrial sodium/calcium exchanger NCLX in inflammation and immunity.

Sodium dysregulation is implied in several inflammation pathways and alterations of the immune system. In this research line we currently study the role of NCLX in the activation of the NLRP3 inflammasome, as well as the potential pharmacological use of NCLX inhibitors in diseases in which this inflammatory pathway has an important role, especially gout and stroke.

3. Protein sulfhydrylation in neurodevelopment in Down syndrome.

We have previously studied the functional role of S-nitrosylation and developed thiol redox proteomics methods for detecting oxidative cysteine post-translational modifications, which we have applied to the study of neurogenesis and other pathophysiological settings. In a collaborative international project, we are currently studying the role of protein sulfhydrylation (an oxidative modification of cysteines induced by the gasotransmitter sulfhydrylic acid, H₂S) in neurogenesis in Down syndrome.



MAJOR GRANTS

Martínez Ruiz, Antonio. El intercambiador mitocondrial de sodio/calcio NCLX como diana farmacológica en ictus isquémico [NCLXstroke]. PDC2022-133246-I00. AGENCIA ESTATAL DE INVESTIGACION. 2022-2025

Martínez Ruiz, Antonio. Análisis del papel del transportador mitocondrial de Na⁺/Ca²⁺/Li⁺ NCLX y especies reactivas de oxígeno en ictus e inflamación [NCLRedox]. PID2021-1246880B-I00. AGENCIA ESTATAL DE INVESTIGACION. 2022-2025.

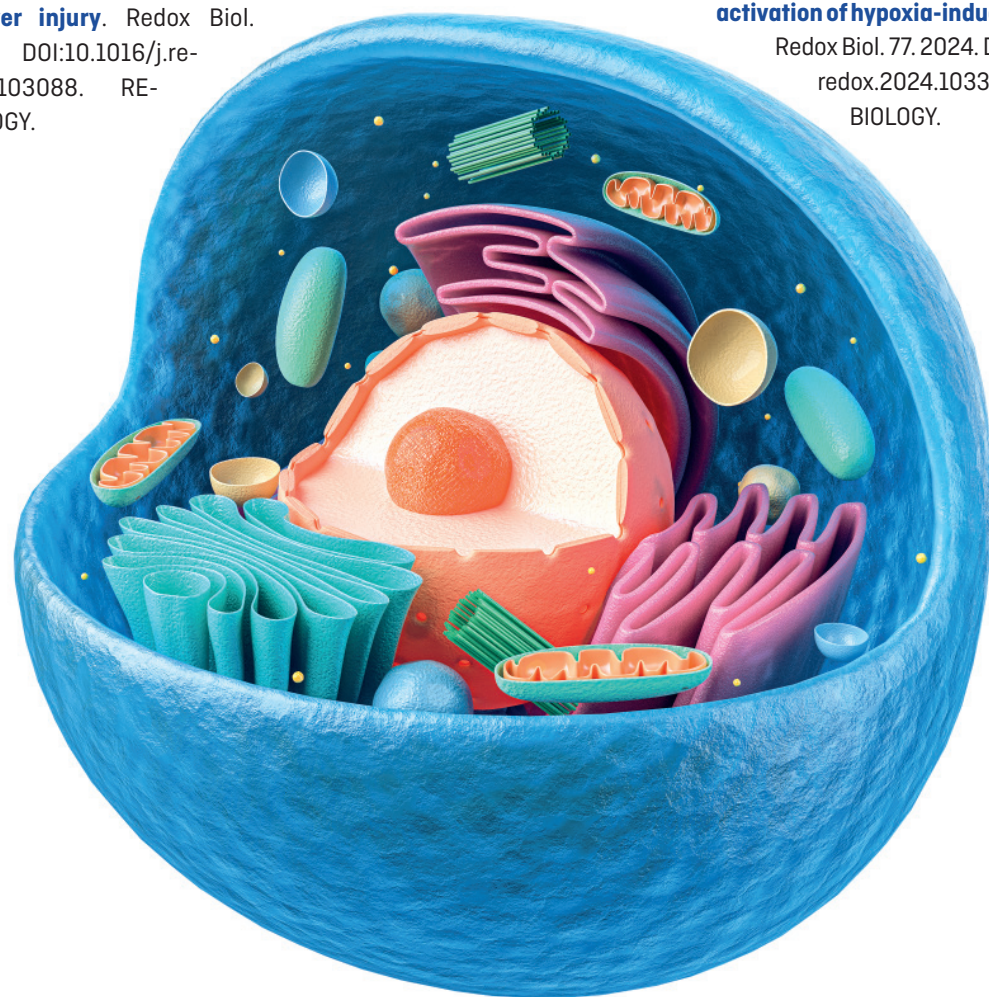
PUBLICATIONS

Delgado Martín S, Martínez Ruiz A. **The role of ferroptosis as a regulator of oxidative stress in the pathogenesis of ischemic stroke.** FEBS Lett. 598. (17) 2024. PMID:38676284. IF:3,00. DOI:10.1002/1873-3468.14894. FEBS LETTERS.

Marañón P, Rey E, Isaza SC, Wu H, Rada P, Choya-Foces C, Martínez-Ruiz A, Martín MÁ, Ramos S, García-Monzón C, Cubero FJ, Valverde ÁM, González-Rodríguez Á. **Inhibition of ALK3-mediated signalling pathway protects against acetaminophen-induced liver injury.** Redox Biol. 71. 2024. DOI:10.1016/j.redox.2024.103088. REDOX BIOLOGY.

Martí-Andrés P, Finamor I, Torres-Cuevas I, Pérez S, Rius-Pérez S, Colino-Lage H, Guerrero-Gómez D, Morato E, Marina A, Michalska P, León R, Cheng Q, Jurányi EP, Borbényi-Galambo K, Millán I, Nagy P, Miranda-Vizuete A, Schmidt EE, Martínez-Ruiz A, Arnér ES, Sastre J. **TRP14 is the rate-limiting enzyme for intracellular cystine reduction and regulates proteome cysteinylation.** EMBO J. 43. 2024. DOI:10.1038/s44318-024-00117-1. EMBO JOURNAL.

Choya-Foces C, Navarro E, de los Ríos C, López MG, Egea J, Hernansanz-Agustín P, Martínez-Ruiz A. **The mitochondrial Na⁺/Ca²⁺ exchanger NCLX is implied in the activation of hypoxia-inducible factors.** Redox Biol. 77. 2024. DOI:10.1016/j.redox.2024.103364. REDOX BIOLOGY.



GROUP 8



María Josefa Calzada García
Head of group



GROUP MEMBERS

Milián Goicoechea, Héctor
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Rodríguez Pérez, Jorge



RESEARCH INTEREST

Chronic respiratory diseases represent a major global health burden, affecting millions and straining healthcare systems worldwide. Among them, chronic obstructive pulmonary disease (COPD) is a major contributor to decreased quality of life and premature death. A distinct subgroup of COPD patients exhibits

a vascular phenotype with unique prognostic and therapeutic implications. These patients often do not respond to oxygen therapy and are resistant to standard treatments for pulmonary hypertension from other causes. However, its prevalence, natural history, and underlying molecular mechanisms remain unclear. Our research focuses on uncovering the molecular mechanisms underlying vascular impairment in chronic respiratory diseases associated with hypoxia. Our group was among the first to show that tobacco smoke can directly cause pulmonary vascular damage uncovering key molecular mechanisms in COPD related pulmonary hypertension (Munar-Rubert O. 2024; Sevilla-Montero et al., 2022, Sevilla-Montero et al., 2021; Labrousse-Arias et al., 2017). Understanding the combined effects of tobacco smoke and hypoxia, common in clinical COPD, is crucial for advancing knowledge and developing targeted therapies for this high-risk patient group.



PUBLICATIONS

Tsukalov I, Sánchez Cerrillo I, Rajas O, Avalos E, Iturricastillo G, Esparcia L, Buzón MJ, Genescà M, Scagnetti C, Popova O, Martín Cofreces N, Calvet Mirabent M, Marcos Jimenez A, Martínez Fleita P, Delgado Arévalo C, De los Santos I, Muñoz Calleja C, Calzada MJ, Álvaro IG, Palacios Calvo J, Alfranca A, Ancochea J, Sánchez Madrid F, Martín Gayo E. **NFκB and NLRP3/NLRC4 inflammasomes regulate differentiation, activation and functional properties of monocytes in response to distinct SARS-CoV-2 proteins.** Nat. Commun. 15. (1). 2024. PMID:38453949. IF:16,6. DOI:10.1038/s41467-024-46322-8. NATURE COMMUNICATIONS.

Line 1.3

Animal models of inflammatory diseases and intercellular signalling

GROUP 11



Federico Mayor Menéndez
Head of group



GROUP MEMBERS

Asensio López, Alejandro
Delgado Arévalo, Cristina
García Higuera, Irene
García Mateos, Dafne
Navarro Lérda, Inmaculada
Portilla Tundidor, Yadileiny
Reglero Real, Natalia
Ribas Núñez, Catalina
Santos Clemente, Rocío
Sanz Flores, María
Vázquez De Oro, Estefanía



RESEARCH INTEREST

An integrated knowledge of the complex functioning of cellular signalling networks and of their alterations or maladaptive rewiring in pathological con-

ditions is key for understanding the molecular basis of disease and for the design of targeted therapeutic strategies. Regulatory nodes or hubs within these signalling networks are particularly relevant since these proteins display a complex interactome and thus integrate multiple upstream inputs and trigger pleiotropic downstream outputs. The main aim of our group is to better understand the role of the G protein-coupled receptor kinase 2 (GRK2) hub in the onset or progression of prevalent diseases and the molecular mechanisms involved. GRK2 is a versatile protein that modulates signalling mediated by many members of the large G protein-coupled receptor (GPCR) superfamily and also via phosphorylation or scaffolding interactions with a growing array of non-GPCR cellular partners. From a pathophysiological perspective, GRK2 is emerging as an oncomodulator, functionally interacting with signalling networks related to the hallmarks of cancer in a tumour and cell type-dependent way. On the other hand, GRK2 levels and activity are convergently upregulated in the heart and in tissues that are key for metabolic control during cardiovascular pathologies and in obesity and insulin resistance-related contexts, which are frequent clinical co-morbidities, pointing to this protein as a potentially relevant "synergic" therapeutic target. The group pursues the following lines of investigation: 1) Integrative role of GRK2 in the crosstalk of signalling cascades acting within the breast tumour microenvironment 2) GRK2 in epidermal homeostasis and in keratinocyte-immune cells crosstalk and potential pathological implications in skin inflammatory diseases and in squamous cell carcinomas. 3) GRK2 in obesity and insulin resistance-related contexts: participation of GRK2 in determining the pro-inflammatory profile of macrophages and impact of myeloid GRK2 in inter-organ crosstalk in cardiometabolic disease. 4) Explore the functional implications of the Galphaq interactome on autophagy and nutrient sensing and on oxidative stress processes and its impact on endothelial cell function and cardiovascular disease.



MAJOR GRANTS

Ribas Núñez, Catalina. "Redes de señalización de Gαq en la homeostasis y comunicación celular: repercusión en disfunción endotelial e inflamación". PI22/00966. INSTITUTO SALUD CARLOS III. 2023-



PUBLICATIONS

Tsukalov I, Sánchez Cerrillo I, Rajas O, Avalos E, Iturricastillo G, Esparcia L, Buzón MJ, Genescà M, Scagnetti C, Popova O, Martín Cofreces N, Calvet Mirabent M, Marcos Jimenez A, Martínez Fleita P, Delgado Arévalo C, De los Santos I, Muñoz Calleja C, Calzada MJ, Álvaro IG, Palacios Calvo J, Alfranca A, Ancochea J, Sánchez Madrid F, Martín Gayo E. **NFκB and NLRP3/NLRC4 inflammasomes regulate differentiation, acti-**

vation and functional properties of monocytes in response to distinct SARS-CoV-2 proteins. Nat. Commun. 15. (1). 2024. PMID:38453949. IF:14,70. DOI:10.1038/s41467-024-46322-8. NATURE COMMUNICATIONS.

Rivas V, González-Muñoz T, Albitre Á, Lafarga V, Delgado-Arévalo C, Mayor F Jr, Penela P. **GRK2-mediated AKT activation controls cell cycle progression and G2 checkpoint in a p53-dependent manner.** Cell Death Discov. 10. (1) 2024. PMID:39198399. DOI:10.1038/s41420-024-02143-8. CELL DEATH DISCOVERY.

Cacho-Navas C, López-Pujante C, Reglero-Real N, Colás-Algora N, Cuervo A, Conesa JJ, Barroso S, de Rivas G, Ciordia S, Paradelo A, D'Agostino G, Manzo C, Feito J, Andrés G, Molina-Jiménez F, Majano P, Correas I, Carazo JM, Nourshargh S, Huch M, Millán J. **ICAM-1 nanoclusters regulate hepatic epithelial cell polarity by leukocyte adhesion-independent control of apical actomyosin.** Elife. 12. 2024. PMID:38597186. DOI:10.7554/eLife.89261. ELIFE.

GROUP 12



Manuel Fresno Escudero
Head of group



GROUP MEMBERS

Callejas Hernández, Francisco
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Galán Martínez, Javier
García Prieto, Teresa
Gironès Pujol, Nuria
Herreros Cabello, Alfonso
Maroto González, Carolina
Maza Moreno, María del Carmen
Merino Valverde, Javier
Polo Nicolí, Sergio
Santos Peñaloza, Diana Karolina
Torres Gérica, Patricia
Úbeda Cantera, María



RESEARCH INTEREST

TCFL5 is a member of the bHLH transcription factor family with multiple isoforms in both humans and mice. Complete deletion of the isoforms drastically reduces tumor properties of colon cancer cells. Interestingly, the two major isoforms (TCFL5 and CHA) showed a reciprocal regulation and different functions in the cell, with CHA exercising a protumoral effect. TCFL5 / CHA expression is essential for NFkB2 activity regulating the expression of anti-apoptotic genes such as BCL2 and also controlling the expression of the pluripotency markers SOX2, NANOG and KLF4. We have also defined a set of genes regulated

by TCFL5/CHA in leukemia cell lines and established their role in the prognosis and development of B- and T-acute lymphoblastic leukemia and in normal hematopoiesis. The expression of TCFL5 and CHA was associated with greater severity in lymphoma and myeloma samples from patients. Last but not least, using Tcfl5 deficient mice, we found that TCFL5 is involved in the formation of germinal centers and in the stage of differentiation of pro-B to pre-B cells, two processes that are not only characterized by a high proliferation rate but are also MYC dependent. The lack of TCFL5 caused a radical decrease in the levels of the most important molecules in BCR signalling, such as SYK and BLNK, resulting in an inability to respond to stimuli, an increase in cell death and an abnormal cell cycle. Using Tcfl5 deficient mice, we found that TCFL5 is expressed in early mouse embryonic development during the preimplantation period and plays a role in the differentiation of embryonic cells to germline precursors by controlling the expression of genes important in this differentiation.

Finally, in the infection by the protozoan parasite *T. cruzi* we are working on the impact of *T. cruzi* genetic variability on the clinical outcome and immunopathology of Chagas' disease as well as drug susceptibility. All intended for improved understanding and prevention of Chagas' disease. Different genetic lineages have been defined in *Trypanosoma cruzi*, the causative agent of Chagas' disease. However, understanding of their comparative biology and pathogenesis is fragmentary. We have identified different T dependent immune responses both in patients and mouse models, which differ depending on the infecting strain. Besides, we are studying how the parasite enters, infects and escapes destruction by myeloid cells, defining Slamf1 (CD150) as a new *T. cruzi* receptor. In contrast, we found that Slamf8 (CD353) is a cell surface receptor that is expressed upon activation of macrophages by IFN- γ and plays a negative role in the infection through repression of NADPH oxidase. We have studied the role that CD4⁺ T cell subsets and myeloid subclasses including myeloid-derived suppressor cells (MDSC) may play in the immunopathogenesis of Chagas' disease, with special focus on myocarditis in animal models and in patients.

Different heart immunopathogenic responses depend on host genetics. Nonetheless, Systems Biology approaches have allowed us defining immunopathogenic markers independent of host and parasite genetics. We have found many metabolic alterations in

T. cruzi infection suggesting a stressful condition in the heart, some of which can be used as biomarkers. Serum miRNAs are also excellent biomarkers of Chagas' disease progression.



PUBLICATIONS

Herreros Cabello A, Bosch Nicolau P, Pérez Molina JA, Salvador F, Monge Maillo B, Rodríguez Palomares JF, Ribeiro ALP, Sánchez Montalvá A, Sabino EC, Norman FF, Fresno M, Gironès N, Molina I. **Identification of Chagas disease biomarkers using untargeted metabolomics**. Sci Rep. 14. (1) 2024. PMID:39138245. IF:3,80. DOI:10.1038/s41598-024-69205-w. SCIENTIFIC REPORTS.

Villar SR, Herreros Cabello A, Callejas Hernández F, Maza MC, del Moral Salmoral J, Gómez Montes M, Rodríguez Angulo HO, Carrillo I, Górgolas M, Bosch Nicolau P, Molina I, Pérez Molina JA, Monge Maillo B, Bottasso OA, Beloscar J, Pérez AR, Fresno M, Gironès N. **Discovery of circulating miRNAs as biomarkers**

of chronic Chagas heart disease via a small RNA-Seq approach. Sci Rep. 14. (1) 2024. PMID:39122783. IF:3,80. DOI:10.1038/s41598-024-69310-w. SCIENTIFIC REPORTS.

Herreros Cabello A, del Moral Salmoral J, Morato E, Marina A, Barrocal B, Fresno M, Gironès N. **Quantitative Proteomic Analysis of Macrophages Infected with Trypanosoma cruzi Reveals Different Responses Dependent on the SLAMF1 Receptor and the Parasite Strain**. Int. J. Mol. Sci. 25. (13) 2024. PMID:39000601. IF:4,90. DOI:10.3390/ijms25137493. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES.

Villar SR, Herreros Cabello A, Callejas Hernández F, Maza MC, del Moral Salmoral J, Gómez Montes M, Rodríguez Angulo HO, Carrillo I, Górgolas M, Bosch Nicolau P, Molina I, Perez Molina JA, Monge Maillo B, Bottasso OA, Beloscar J, Perez AR, Fresno M, Girones N. **Discovery of circulating miRNAs as biomarkers of chronic Chagas heart disease via a small RNA-Seq approach**. Sci Rep. 14. (1) 2024. PMID:38216639. IF:3,80. DOI:10.1038/s41598-024-51487-9. SCIENTIFIC REPORTS.



GROUP 13



Petronila Penela Márquez
Head of group



GROUP MEMBERS

Gonzalez Muñoz, M^a Teresa
Moyano Jimeno, Clara
Nogués Vera, Laura



RESEARCH INTEREST

Breast cancer is a molecularly and histopathologically heterogeneous disease with different clinical outcomes, which makes the development of targeted therapies challenging. Its higher incidence in the developed world suggest that the Western lifestyle —marked by unhealthy dietary patterns (excessive caloric intake, imbalanced diets, obesity) and chronic stress (adrenergic overstimulation)— may contribute to disease onset and progression by progressively impairing genome stability mechanisms.

In breast cancer, the main altered proteins in genomic instability and tumour cell heterogeneity are ATM kinase, Brca1 ligase and the tumour suppressor transcription factor p53. Notably, in ~ 80% of ductal breast carcinomas p53 is restrained by activation or amplification of the ligase Mdm2, but therapies based on these targets are not yet satisfactory. Additionally, adaptive processes involving dynamic rewiring of cell signalling networks may further enhance cellular instability and malignancy. Another major challenge is the emergence

of resistances across all breast cancer subtypes, accompanied by increased genomic instability and tumour metabolic reprogramming. This complexity highlights the need for a deeper understanding of the pathways leading to breast cancer development and progression.

Our group is to identify regulatory nodes that integrate multiple cellular inputs and environmental cues to modulate tumour hallmarks such as genomic instability, cellular dissemination, and chemoresistance. Understanding how dynamic signalling nodes interact with breast cancer susceptibility genes to reinforce malignant features will pave the way for new therapeutic approaches. Our laboratory is investigating the regulatory feedback loop between the serine-threonine kinase GRK2 and the Mdm2 ligase, focusing on their roles in autonomous malignant transformation and in interactions between tumor cells and the tumor microenvironment. Our results indicate that these proteins modulate each other differently in normal epithelial cells and in tumour cells, responding in different ways to signals that stimulate adrenergic receptors and other G-protein coupled receptors (GPCR) or growth factor tyrosine kinase receptors (RTK).

We aim at understanding the role of phosphorylated and ubiquitinated proteins modified by the interplay between GRK2 and Mdm2 in diverse cellular processes such as cell cycle control and cell division, differentiation, energy metabolism or senescence, which are key in maintaining a normal cell behaviour. We also aim to gain insight into the connection of these molecules with hormonal (adrenergic, estrogenic) and metabolic stress, by analysing its impact on proteins related to genomic stability (BRCA1 and others), as well as on stromal remodelling processes such as tumour angiogenesis, which together will promote tumour progression.



MAJOR GRANTS

Penela Márquez, Petronila. PAPEL DE GRK2 EN LA DISFUNCIÓN DE BRCA1 Y EN LA RESISTENCIA A INHIBIDORES PARP EN MODELOS TUMORALES DE MAMA MÁS ALLÁ DEL ESTATUS DE BRCA.PI21/01834.INSTITUTO SALUD CARLOS III.2022-2024

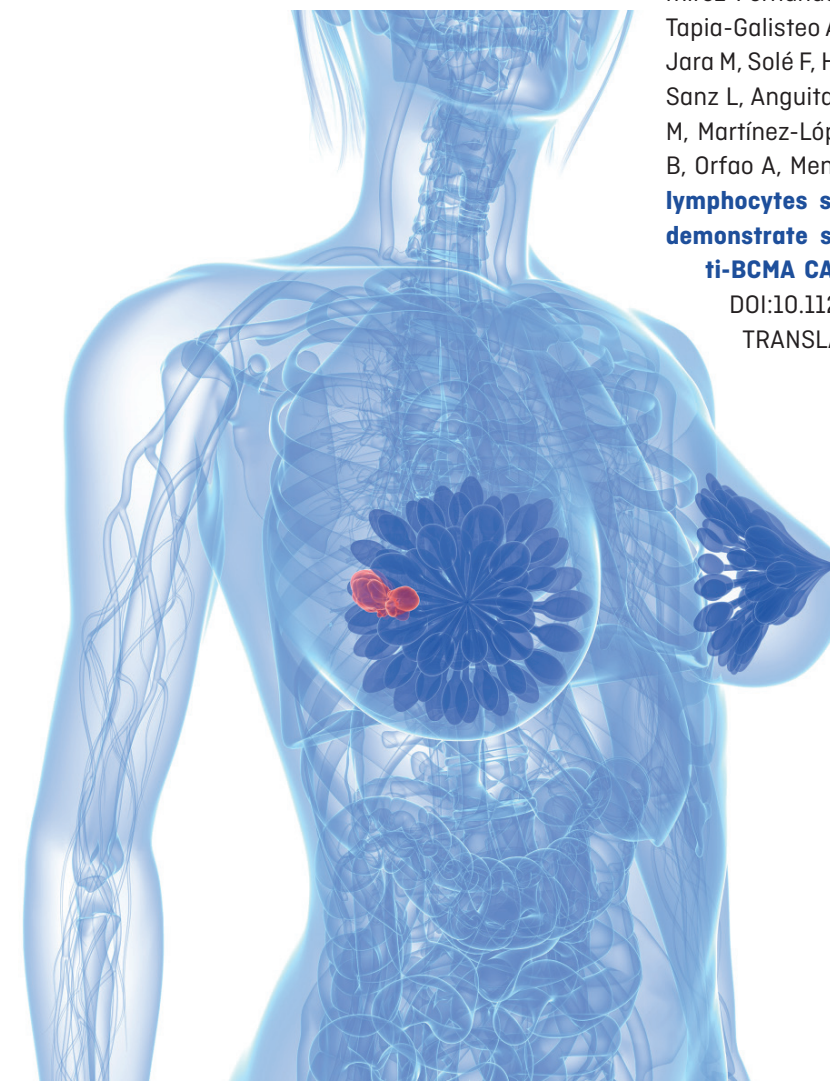
Penela Márquez, Petronila. Explorando el papel del estrés adrenérgico y GRK2 en la promoción de la inestabilidad cromosómica y la aneuploidía como causas de la resistencia al cáncer de mama.PI24/02055.INSTITUTO SALUD CARLOS III.



PUBLICATIONS

Rivas V, González-Muñoz T, Albitre Á, Lafarga V, Mayor F Jr, Penela P. **GRK2-mediated AKT activation controls cell cycle progression and G2-checkpoint in a p53-dependent manner.** Cell Death Discov. 10. 2024. DOI:10.1038/s41420-024-02143-8. CELL DEATH DISCOVERY.

Diez-Alonso L, Arroyo-Ródenas J, Romencín PA, Martínez A, Gómez-Rosel M, Blanco B, Jiménez-Reinoso A, Mayado A, Pérez-Pons A, Aguilar-Sopeña Ó, Ramírez-Fernández Á, Segura-Tudela A, Perez-Amill L, Tapia-Galisteo A, Domínguez-Alonso C, Rubio-Pérez L, Jara M, Solé F, Hangiu O, Almagro L, Albitre Á, Penela P, Sanz L, Anguita E, Valeri A, García-Ortiz A, Río P, Juan M, Martínez-López J, Roda-Navarro P, Martín-Antonio B, Orfao A, Menéndez P, Bueno C, Álvarez-Vallina L. **T lymphocytes secreting anti-BCMA T cell engagers demonstrate superior antitumor activity than anti-BCMA CAR-T cells.** Sci. Transl. Med. 16. 2024. DOI:10.1126/scitranslmed.adg7962. SCIENCE TRANSLATIONAL MEDICINE.



GROUP 17



Cristina Murga Montesinos
Head of group



GROUP MEMBERS

Vida Rueda, María del Carmen



RESEARCH INTEREST

Pathological insults and metabolic cues are increasingly being regarded as key modulators of immunological responses and inflammatory processes. Thus, metabolic signals that affect inflammatory routes are a strategic focus of research to unveil the mechanistic basis of human physiology, but also of different pathologies, in particular those with an inflammatory or metabolic component such as insulin resistance, obesity, metabolic dysregulation and cardiovascular conditions.

An important point of control in the metabolic, stress and inflammatory network of routes is the signaling hub of the G protein-coupled receptor kinase 2 (GRK2), that emerges as a pivotal control point in the onset and/or progression of these diseases.

In this line, our group focuses its research efforts on the following lines:

1. Analysis of the phenotypic differences in the response of mice with decreased or increased levels of GRK2 towards several types of metabolic challenges under physiological and pathological conditions. We are unveiling whether the response of different metabolically-relevant tissues to these challenges varies with GRK2 dosage. Also whether the levels of GRK2 itself may allow for a better adaptation of each tissue to different metabolic situations or even serve as biomarkers of disease.
2. We are also investigating the role of GRK2 in metabolic alterations and systemic inflammation ("metaflammation") caused by Western Diets (WD, diets that are high in saturated fats and free sugars). Specifically, we study the influence of GRK2 in myeloid cells on processes such as neutrophil and macrophage migration, phagocytosis, maturation, infiltration and activation in response to inflammatory and/or metabolic stimuli. We are working to characterize the dynamics of neutrophil and macrophage infiltration into tissues that are key for metabolic homeostasis with emphasis on the very early events taking place a few days after WD feeding has begun. We aim to uncover the molecular mechanisms involved, as well as possible differences in the infiltrating phenotypic subpopulations using OMIQ analysis and spectral flow cytometry data. The possible role of GRK2 in the modulation of neutrophil trafficking and functionality during the early time points after WD feeding, or in alterations of the myeloid cell landscapes triggered by WD, will also be explored.



PUBLICATIONS

Vida C, Portilla Y, Murga C. **Adrenergic modulation of neutrophil and macrophage functions: pathophysiological cues.** Curr. Opin. Physiol. 41. 2024. DOI:10.1016/j.cophys.2024.100780. CURRENT OPINION IN PHYSIOLOGY.

GROUP 18



Miguel Ángel Iñiguez Peña
Head of group



GROUP MEMBERS

Bago Plaza, Ángel
Renshaw Calderón, Ana



RESEARCH INTEREST

Fatty acid modification results in the production of bioactive lipids as oxo or nitro fatty acids, agents that can modulate the activation, differentiation and function of different cell types, as those involved in the inflammatory process and the immune response. Their actions take place through their ability to covalently modify transcriptional regulatory proteins and enzymes and to activate various nuclear and

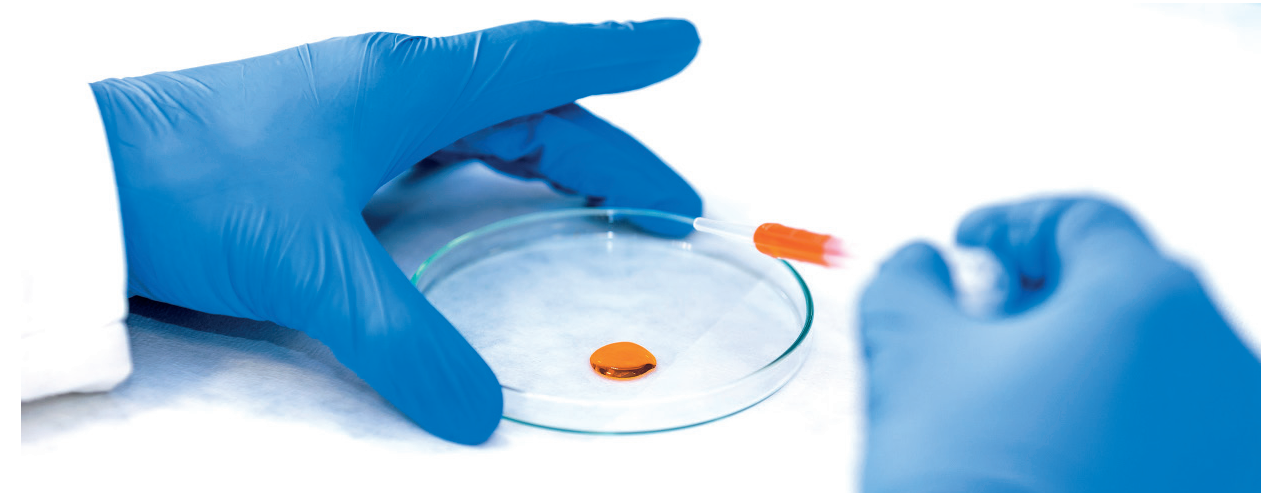
membrane receptors, finally modifying protein function and altering patterns of gene expression.

Enzymatic oxygenation of fatty acids generates signalling mediators, as those of the eicosanoids lipid family, which includes prostaglandins and leukotrienes. Current knowledge shows their key role as signalling molecules in an array of pathophysiological processes, being regarded as critical mediators in a variety of inflammatory diseases such as arthritis, atherosclerosis and cancer. Our current research is focused on a particular class of electrophilic compounds named cyclopentenones (CyPGs), which play an important role in the inflammatory process, acting as anti-inflammatory pro-resolving agents.

Electrophilic fatty acid species also include nitro-containing fatty acids as nitroalkene derivatives of linoleic and oleic acid (LNO2 and OA-NO2). These compounds are a novel class of endogenous, electrophilic mediators that can also exert adaptive anti-inflammatory signalling reactions.

Our research is aimed to the study of the molecular mechanisms involved in the actions displayed by these electrophilic fatty acids as modulators of inflammation and the immune response. To this end, we analyze their influence on diverse parameters of macrophage and T lymphocyte function, focusing on their effects on transcriptional activation and gene expression and their consequences on cell activation and differentiation.

Research on the molecular and cellular basis of the actions of electrophilic fatty acids in inflammation and the immune response is required to clearly understand the potential benefits and risks of pharmaceutical intervention with these lipids in the onset and progress of inflammatory diseases.



Line 1.5

Cellular mechanisms and molecular determinants of allergy based diseases

GROUP 20



Carlos Blanco Guerra
Head of group



GROUP MEMBERS

Belver González, María Teresa Daschner, Álvaro Frutos Moreno, Consolación de Jiménez Saiz, Rodrigo López Sanz, Celia Moreno Serna, Lucía Múgica García, María Victoria Núñez Borque, Emilio Ramos González, Tania María Ruiz Sánchez, Alessandra Sánchez Martínez, Elisa Valls Sánchez, Ana María Vega de la Osada, Francisco



RESEARCH INTEREST

Immunological and microbiological changes associated with allergen immunotherapy. The initial phase of immunotherapy can cause adverse reactions that compromise both the safety and adherence to treatment. This phase is characterized by the rapid desensitization of mast cells and basophils, whose mechanisms we recently reviewed [López-Sanz C et

al. Front Allergy. 2022;16;3:898494] and are currently studying in vitro using a mast cell desensitization protocol [López-Sanz C, Sánchez-Martínez E, Jiménez-Saiz R. STAR Protoc. 2022;16;3(4):101755] to identify therapeutic targets. In this context, our group conducted a two-year placebo-controlled clinical trial investigating the immunological changes induced by grass pollen immunotherapy in respiratory allergy, as part of the doctoral thesis of Dr. Raphaëlle Bazire [Barker-Tejeda & Bazire et al. Allergy. 2021;76(4):1199-1212]. This research line has been funded by the Spanish Society of Allergy and Clinical Immunology (SEAC). In food allergen immunotherapy, adverse reactions are usually mediated by IgE, but a disconnect is often observed between IgE levels and clinical reactivity. We hypothesize that the human microbiota may metabolize certain antigens, modifying their structure, absorption, and IgE recognition. We are currently identifying bacterial strains capable of metabolizing food allergens that could be used in the prevention and immunomodulation of anaphylaxis and serve as biomarkers during immunotherapy. This work has led to a patent. This line of research is being carried out in collaboration with Dr. Alberto Caminero's group [McMaster University, Canada] and has been funded by several Canadian programs, including the New Frontiers in Research Fund, the Weston Family Foundation, and the Canadian Asthma, Allergy and Immunology Foundation [CAAIF], as well as by The Nutricia Research Foundation [Netherlands] and the European Food Safety Authority [EFSA].

Hypersensitivity reactions to radiodiagnostic contrast media. Drug allergies are also a growing concern, due to both the potentially severe nature of reactions and their significant impact on patients' quality of life. In recent decades, the use of contrast media for radiological imaging has become a valuable tool to enhance X-ray and MRI studies. A downside of this increased use is the rise in hypersensitivity reactions to both iodinated and gadolinium-based contrast media. In this context, our group studies adverse reactions to contrast media, evaluates tolerance to alternative agents through a rapid full-dose challenge protocol, and investigates the underlying immunological mechanisms [Ruiz de Azcárate et al. Allergy. 2023 [12]:3255-3258; Vega et al. Allergy. 2022;77(10):3151-3153; Lopez-Raigada et al. J Invest Allergol Clin Immunol. 2022;32(2):163-164].

Allergic inflammation and its association with cardiovascular risk. Several observational clinical studies suggest that having an allergic disease—particularly asthma, atopic dermatitis, allergic rhinitis, or food allergy—may increase the risk of cardiovascular disease. Cardiovascular disease is the leading cause of global mortality and morbidity, and its prevalence continues to rise. In this line of work, our group has reviewed the clinical association between allergic inflammation and cardiovascular disease, as well as the potentially involved immunological mechanisms, through a collaborative effort with allergists, immunologists, and cardiologists from various institutions [Fernández-Gallego N, et al. Allergy. 2022;77(11):3249-3266]. Moreover, we recently identified that allergic inflammation induces a harmful lipid signature characterized by increased serum triglycerides, which was validated in 59 patients after an allergic reaction [Fernández-Gallego N, et al. Allergy. 2024;79(10):2680-2699]. Both studies were funded by the Spanish State Health Agency, and the latter was selected for the "Editor's Choice" list [October 2024] and awarded the "Best Scientific Publication by Young Researchers 2024" by the Hospital Universitario de La Princesa.



MAJOR GRANTS

Rodrigo Jiménez Saiz. Regulación de las respuestas secundarias de tipo 2 por mastocitos desensibilizados: implicaciones en inmunoterapia con alérgenos. CNS2024-154194. Agencia Estatal de Investigación.

Red de Enfermedades Inflamatorias (REI, RD24/0007/0037). Agencia Estatal de Salud.

Rodrigo Jiménez Saiz. Estudio integrativo de la inflamación aguda y crónica en enfermedad alérgica y su asociación con dislipemia y aterosclerosis. PI22/00236. Instituto de Salud Carlos III.



PUBLICATIONS

Fernández-Gallego N, Castillo-González R, Moreno-Serna L, García-Cívico AJ, Sánchez-Martínez E, López-Sanz C, Fontes AL, Pimentel LL, Gradillas A, Obeso D, Neuhaus R, Ramírez-Huesca M, Ruiz-Fernández I, Nuñez-Borque E, Carrasco YR, Ibáñez B, Martín P, Blanco C, Barbas C, Barber D, Rodríguez-Alcalá LM, Villaseñor A, Esteban V, Sánchez-Madrid F, Jiménez-Saiz R. **Allergic inflammation triggers dyslipidemia via IgG signalling.** Allergy. 2024. PMID:38864116. IF:12,60. ALLERGY.

Fernandez-Bravo S, Canyelles M, Martín-Blázquez A, Borrás C, Nuñez-Borque E, Palacio-García L, Rodríguez Del Rio P, Betancor D, Gómez-López A, Sabaté Brescó M, Laguna JJ, Méndez-Barbero N, Rotllán N, Escolà-Gil JC, Esteban V. **Impaired high-density lipoprotein function and endothelial barrier stability in severe anaphylaxis.**

J Allergy Clin Immunol. 2024. PMID:38718948. IF:11,40. JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY.

Contreras N, Escolar Peña A, Delgado Dolset MI, Fernández P, Obeso D, Izquierdo E, Cuervo HG, Cumplido JA, Múgica V, Cisneros C, Angulo Parreño S, Barbas C, Blanco C, Carrillo T, Barber D, Villaseñor A, Escribese MM. **Multimic Integration Analysis for Monitoring Severe Asthma Treated With Mepolizumab or Omalizumab.** Allergy. 2024. PMID:39692160. IF:12,60. ALLERGY.

Garrido Romero M, Pazos F, Sánchez Martínez E, Benito C, Gómez Ruiz JÁ, Borrego Yaniz G, Bowes C, Broll H, Caminero A, Caro E, Chagoyen M, Chemaly M, Fernández Dumont A, Gisavi H, Gkrintzali G, Khare S, Margolles A, Márquez A, Martín J, Merten C, Montilla A, Muñoz Labrador A, Novoa J, Paraskevopoulos K, Payen C, Withers H, Ruas Madiedo P, Ruiz L, Sanz Y, Jiménez Saiz R, Moreno FJ. **Relevance of gut microbiome research in food safety assessment.** Gut Microbes. 2024. PMID:39360551. IF:12,20. GUT MICROBES.

Cuadrado C, Arribas C, Sanchiz A, Pedrosa MM, Gamboa P, Betancor D, Blanco C, Cabanillas B, Linacero R. **Effects of enzymatic hydrolysis combined with pressurized heating on tree nut allergenicity.** Food Chem. 2024. PMID:38692238. IF:8,50. FOOD CHEMISTRY.

García-Cuesta EM, Martínez P, Selvaraju K, Ulltjärn G, Gómez Pozo AM, D'Agostino G, Gardeta S, Quijada-Freire A, Blanco Gabella P, Roca C, Hoyo DD, Jiménez-Saiz R, García-Rubia A, Soler Palacios B, Lucas P, Ayala-Bueno R, Santander Acerete N, Carrasco Y, Oscar Sorzano C, Martínez A, Campillo NE, Jensen LD, Rodríguez Frade JM, Santiago C, Mellado M. **Allosteric modulation of the CXCR4:CXCL12 axis by targeting receptor nanoclustering via the TMV-TMVI domain.** Elife. 2024. PMID:39248648. IF:6,40. ELIFE.

González Fernández J, Ullate L, Fernández Figares V, Rodero M, Daschner A, Cuéllar C. **Serum IgA contributes to the comprehension of Anisakis simplex associated chronic urticaria.** Int. Immunopharmacol. 2024. PMID:38330800. IF:4,80. INTERNATIONAL IMMUNOPHARMACOLOGY.

Núñez-Borque E, Rodríguez Del Rio P, Di Paolo V, Fernández-Bravo S, Galardi A, Bazire R, Ibáñez-Sandín MD, Benito-Martín A, Di Giannatale A, Esteban V. **Increased miR-21-3p levels in extracellular vesicles of children with food anaphylaxis.** Pediatr Allergy Immunol. 2024. PMID:39250225. IF:4,30. PEDIATRIC ALLERGY AND IMMUNOLOGY.

EFSA Panel on Genetically Modified Organisms (GMO); Mullins E, Bresson JL, Dewhurst IC, Epstein MM, Firbank LG, Guerche P, Hejatkó J, Moreno FJ, Naegeli H, Nogué F, Rostoks N, Sánchez Serrano JJ, Savoini G, Veromann E, Veronesi F, Cocconcelli PS, Glandorf D, Herman L, Jimenez Saiz R, Ruiz Garcia L, Aguilera Entrena J, Gennaro A, Schoonjans R, Kagkli DM, Dalmay T. **New developments in biotechnology applied to microorganisms.** EFSA J. 2024. PMID:39040572. IF:3,30. EFSA JOURNAL.

GROUP 15



María Dolores Ibáñez Sandín
Head of group

GROUP MEMBERS

Escudero Díez, Carmelo
Rodríguez del Río, Pablo
Sánchez García, Silvia

RESEARCH INTEREST

The department has several lines of research, previous, current and future projects are displayed below:

1. Food immunotherapy:

- 1.1 Safety: ILO clinical trial ongoing. Sponsor: HNJ
- 1.2 Efficacy: ComplTO clinical trial, start 2025. Sponsor: HNJ, FIS PI24_01770
- 1.3 Mechanisms of peanut immunotherapy: oral microbiota study. Sponsor: La Princesa Hospital and McMaster University, Canada
- 1.4 In peanut allergy: Phase III clinical trial. Sponsor: Novartis (industry) and VITESSE clinical trial. Sponsor: DBV (industry)

2. Anaphylaxis Study:

- 2.1 Participants in the Anaphylaxis and miRNA Study: FIS Contract PI18/00348, completed
- 2.2 Participants in the BANA Study, branch of FIS Contract PI21/00158, analysis phase
- 2.3 Participants in the Anaphylaxis vs. non-anaphylactic allergy Study: Contract PI24/00360, ongoing

3. Microbiota, metabolomic and Allergy:

- 3.1 Intestinal Microbiota in Milk Allergy: FIS PI17/01087. PI: MD Ibáñez. Completed
- 3.2 BIOPAL Study, PI20/01366; PI: MD Ibáñez. Under Analysis
- 3.3 Diseño de una nueva estrategia diagnóstica para identificar endotipos de Síndrome de Enterocolitis Inducida por Proteínas de la Dieta (FPIES), basado en la biología de sistemas: Contract requested in the AES2025, PI25/01583

4. Patient Perspective on Aeroallergen Immunotherapy

- 4.1 International CHOICE Project: Under Analysis. Lead Group Members
- 4.2 NAVIGAIT Project: Partial funding achieved, waiting for requested grant approval. Project Leaders

5. Severe Asthma:

- 5.1 Severe Asthma Unit Database Generation Project
- 5.2 Clinical Trial in Severe Asthma and Biologic Treatment (Tezepelumab): Horizon Trial
- 5.3 Clinical Trial in Severe Asthma and Biologic Treatment (Dupilumab)

MAJOR GRANTS

PI24/01770: Comparativa entre dos pautas de inmunoterapia oral con alimentos en niños alérgicos a leche y huevo para mejorar la eficiencia del tratamiento e identificar biomarcadores de respuesta. Estudio ComplTO. Co-IP: María Dolores Ibáñez Sandín y Pablo Rodríguez del Río

RD24/0007/0037: Red de Enfermedades Inflamatorias del Instituto Carlos III; RICORS. Líder de grupo: Pablo Rodríguez del Río.

PUBLICATIONS

Lo R, Groetch M, Brooks J, Anderson E, Rodríguez Del Río P, Anagnostou A. **The Multiple Facets of Cow's Milk Allergy**. J Allergy Clin Immunol Pract. 2024. PMID:39515520. JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY: IN PRACTICE.

Nuñez-Borque E, Rodríguez Del Río P, Di Paolo V, Fernández-Bravo S, Galardi A, Bazire R, Ibáñez-Sandín MD, Benito-Martín A, Di Giannatale A, Esteban V. **Increased miR-21-3p levels in extracellular vesicles of children with food anaphylaxis**. Pediatr Allergy Immunol. 35. [9] 2024. PMID:39250225. IF:4,30. DOI:10.1111/pai.14241. PEDIATRIC ALLERGY AND IMMUNOLOGY.

Fernandez-Bravo S, Canyelles M, Martín-Blázquez A, Borrás C, Nuñez-Borque E, Palacio-García L, Rodríguez Del Río P, Betancor D, Gómez-López A, Sabaté Brescó M, Laguna JJ, Méndez-Barbero N, Rotllan N, Escolà-Gil JC, Esteban V. **Impaired high-density lipoprotein function and endothelial barrier stability in severe anaphylaxis**. J Allergy Clin Immunol. 2024. PMID:38718948. JOURNAL OF ALLERGY AND CLINICAL IMMUNOLOGY.

Fernández-Bravo S, Betancor D, Cuesta-Herranz J, Rodríguez Del Río P, Ibáñez-Sandín MD, Nuñez-Borque E, Esteban V. **Circulating serum profile of small non-coding RNAs in patients with anaphylaxis beyond microRNAs**. Front Allergy. 2024. PMID:38384772. FRONTIERS IN ALLERGY.

Protudjer JLP, Munblit D, Apfelbacher C, Marchisotto MJ, Cook EE, Capper I, Rodríguez Del Río P, Comberiat P. **COFAITH and COMFA: A Collective Roadmap for Past and Future Food Allergy Clinical Trials and Observational Research on Interventions**. Clin Exp Allergy. 2024. PMID:38894497. CLINICAL AND EXPERIMENTAL ALLERGY.

Rodríguez Del Río P, Álvaro-Lozano M, Arasi S, Bazire R, Escudero C, Patel N, Sandoval-Ruballos M, Vazquez-Ortiz M, Nowak-Węgrzyn A, Blümchen K, Dunn Galvin A, Deschildre A, Greenhawt M, Schnadt S, Riggioni C, Remington BC, Turner P, Fernandez Rivas M. **Evaluation of clinical outcomes of efficacy in food allergen immunotherapy trials, COFAITH EAACI task force**. Allergy. 2024. PMID:38263695. ALLERGY.

Zubeldia-Varela E, Ibáñez-Sandín MD, Gomez-Casado C, Pérez-Gordo M. **Allergy-associated biomarkers in early life identified by Omics techniques**. Front Allergy. 5. 2024. PMID:38464396. DOI:10.3389/falgy.2024.1359142. FRONTIERS IN ALLERGY.

Barker-Tejeda TC, Zubeldia-Varela E, Macías-Camero A, Alonso L, Martín-Antoniano IA, Rey-Stolle MF, Mera-Berriatua L, Bazire R, Cabrera-Freitag P, Shanmuganathan M, Britz-McKibbin P, Ubeda C, Francino MP, Barber D, Ibáñez-Sandín MD, Barbas C, Pérez-Gordo M, Villaseñor A. **Comparative characterization of the infant gut microbiome and their maternal lineage by a multi-omics approach**. Nat Commun. 15. [1] 2024. PMID: 38589361. DOI:10.1038/s41467-024-47182-y. NATURE COMMUNICATIONS.



Line 1.6

Inflammatory processes in nephrological diseases

GROUP 21



María Auxiliadora Bajo Rubio
Head of group



GROUP MEMBERS

Álvarez Chiva, Vicente
De Santos Wilhelmi, Antonio
Fernández Perpén, Antonio Carlos
Giorgi González, Martín Giovanni
Herráez Jiménez, Isabel
Núñez Sánchez, Almudena
Quiroga Gili, Borja
Ruano Suárez, Pablo
Salanova Villanueva, Laura
Sánchez González, María Carmen
Sánchez Horrillo, Ana



RESEARCH INTEREST

Peritoneal Dialysis (PD): Our main line of work is focused on the study of the mechanisms involved in the damage induced by PD on the peritoneal membrane. Also, we studied the influence of several

drugs (Paricalcitol, Tamoxifen, Roxiglitazone) in preventing and repairing damage to the peritoneal membrane. In the next years we will try to clarify which are the mechanisms responsible for the hyalinizing vascular disease, the role of alternatively activated macrophages in the progression of peritoneal damage and we will analyze the morphological and immunohistochemical findings in peritoneal biopsies from patients treated with conventional or biocompatible liquids. An ongoing project aims to design a microchip for early noninvasive diagnosis of mesothelial to mesenchymal transition in peritoneal membrane using the peritoneal effluent. Preliminary data have shown that peritoneal dialysis, in animals subjected to a cerebral ischemic damage, is able to decrease the cerebral damage induced by high glutamate levels. In collaboration with the Neurology Service we are conducting a clinical trial in patients to determine whether peritoneal dialysis can protect from ischemic brain damage in the acute phase of ischemic stroke.

Nutrition in Renal disease: We have studied the importance of exercise in proper nutrition and survival of patients with advanced chronic kidney disease and the effect of physical training. We have studied the introduction of new scores for nutritional assessment of renal patients and we intend to study the balance of myocytokines and its relation to muscle strength and functionality.

Alterations of Bone and Mineral Metabolism in Chronic Kidney Disease (CKD): FGF23 is a molecule involved in the metabolism of phosphorus but can be important as a marker of cardiovascular pathology and survival in renal disease. We have designed a clinical trial, which is already funded, to analyze the behavior of FGF23 and PTH fragments in patients with chronic kidney disease on peritoneal dialysis program treated with cinacalcet.

Down's Syndrome. We are developing a study to evaluate renal function in a large group of these patients followed regularly in a monographic consultation. The incidence of cardiovascular complications and bone mineral metabolism will also be studied.

Hepatorenal polycystosis of the adult. New drugs have been introduced in the last few years that have demonstrated, in preliminary trials, that they improve the prognosis of patients with polycystosis. We are trying to determine the mechanisms that significantly affect the progression of these patients towards renal failure, and implement measures to prevent this progression.



MAJOR GRANTS

Bajo Rubio, María Auxiliadora. RD21/0005/0018 - MARÍA AUXILIADORA BAJO RUBIO - RICORS. RD21/0005/0018. INSTITUTO SALUD CARLOS III. 2022-
Bajo Rubio, María Auxiliadora. RD24/0004/0028 - MARIA AUXILIADORA BAJO - RICORS - RENAL.RD24/0004/0028. INSTITUTO SALUD CARLOS III.



PUBLICATIONS

Ortiz Lejarazu R, Gili BQ, García AL. **Burden of COVID-19 variant omicron in immunocompromised patients in Spain: systematic review.** Med. Clin. 163. (7). 2024. PMID:38944615. IF: 2,60. DOI:10.1016/j.medcli.2024.04.009. MEDICINA CLÍNICA.

Quiroga B, Díez J. **The kidney-skeletal muscle-heart axis in chronic kidney disease: implications for myokines.** Nephrol. Dial. Transplant. 2024. PMID:39215443. IF:4,80. DOI:10.1093/ndt/gfae193. NEPHROLOGY DIALYSIS TRANSPLANTATION.

Llàcer P, Romero G, Trullàs JC, de la Espriella R, Cobo M, Quiroga B, Casado J, Slon Roblero MF, Morales Rull JL, Morgado JI, Ortiz A, Formiga F, Melendo Viu 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. 77. (7). 2024. PMID:38432324. DOI:10.1016/j.rec.2024.01.008. REVISTA ESPAÑOLA DE CARDIOLOGÍA.

Blasco M, Quiroga B, García Aznar JM, Torra R, Ortiz A, de Sequera P, Colaborativo GENSEN Grp. **Genetic study in young patients with chronic kidney disease stage G5 from unknown etiology. The GENSEN study design.** Nefrologia. 44. (4). 2024. PMID:39054238. IF:2,00. DOI:10.1016/j.nefro.2023.09.002. NEFROLOGÍA.

Marques Vidas M, Muñoz Rubio E, Quiroga B, Montejano R, Morales E, Candel FJ. **Strategies for prevention and treatment of SARS-COV-2 infection in patients with chronic kidney disease: Literature review.** Nefrologia (Engl Ed). 44. (2). 2024. PMID: 38575481. IF: 2,60. DOI:10.1016/j.nefro.2024.03.010. NEFROLOGÍA.

Blazquez Bermejo Z, Quiroga B, Casado J, de la Espriella R, Trullàs JC, Romero González G, Rubio Gracia J, Díez J, Núñez J, de Sequera P, Recio Mayoral A, Pérez Silvestre J, Cobo Marcos M. **Practical Approaches to the Management of Cardiorenal Disease beyond Congestion.** CardioRenal Med. 14. (1). 2024. PMID:38432220. IF: 2,40. DOI:10.1159/000538125. CARDIORENAL MEDICINE.

Vidas MM, Rubio EM, Quiroga B, Montejano R, Morales E, Candel FJ. **Strategies for prevention and treatment of SARS-COV-2 infection in patients with chronic kidney disease: Literature review.** Nefrologia. 44. (2). 2024. IF: 2,00. DOI:10.1016/j.nefro.2023.10.002. NEFROLOGÍA.

Quiroga B, Ortiz A, Núñez S, Kislikova M, Sanchidrián SG, Broseta JJ, Albines ZS, Cabrera BE, Viera YR, Santarelli DR, Villanueva LS, Rodríguez FL, Castellano BC, Cerezon MI, Rivas CPG, Aresté N, Gutiérrez BC, Gálvez AR, Pizá MC, Manzanos SB, Orient AS, Gayo LR, Berrio EM, Díaz MO, Catalán SB, García AP, Rojas MA, Barrios RHS, Zapatero H, Hidalgo GR et al. **Treatment of Chronic Heart Failure in Advanced Chronic Kidney Disease: The HAKA Multicenter Retrospective Real-World Study.** CardioRenal Med. 14. (1). 2024. PMID: 38513622. IF: 2,40. DOI: 10.1159/000538030. CARDIORENAL MEDICINE.

Line 1.7

Inflammatory mechanisms in pulmonary diseases

GROUP 22



Julio Ancochea Bermúdez
Head of group



GROUP MEMBERS

Alonso Pérez, Tamara
Ávalos Pérez-Urria, Elena
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Chicot Llano, Marta
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García Pérez, Francisco Javier
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Gómez Punter, Rosa Mar
Marcos, María Celeste
Melero Moreno, Carlos
Peláez Laderas, Adrián
Pérez González, María Patricia
Reid McFarland, Jonathan James
Rodrigo García, María
Rubio Bueno, Pilar
Soriano Ortiz, Joan Bautista
Valenzuela, Claudia
Vázquez Espinosa, Emma



RESEARCH INTEREST

Inflammation and reparative process in lung diseases. Chronic obstructive pulmonary disease (COPD). Obstructive Sleep (OSA). Asthma. Idiopathic pulmonary fibrosis (IPF). Non-cystic fibrosis Bronchiectasis and Bronchiectasis related to cystic fibrosis. Immunopathogeny. Molecular diagnosis. Cellular diagnosis. New therapeutic approaches. New care models. COVID-19 and Post-COVID-19.

Pulmonary diseases are an important social and healthcare issue, related to their high prevalence and associated morbimortality. In recent years, our group has worked on different topics related to lung diseases, as it is reflected in our publications from studies carried out in collaboration with other research groups.

General objectives:

1. Promote research on lung diseases.
2. Promote quality of care in the therapeutic approach to patients with chronic lung diseases.
3. Promote transfer of lung disease research.
4. Create new research lines in coordination with other research groups.

Research interests:

The Pulmonology Department of La Princesa Hospital is part of the R+D Biomedicine Programme. HUP Con-SEPOC-CM: Inflammation and hypoxia: mechanisms of COPD and SAHS development and progression. Several active clinical trials will be developed during next years on different respiratory diseases (COPD, asthma, idiopathic pulmonary fibrosis, bronchiectasis and cystic fibrosis).

Additionally, persistent COVID is currently a new disease with a major impact on public health in Spanish society. In Spain, it is estimated that between 400,000 and 800,000 people suffer or will suffer from persistent COVID, as 10-16% of patients still have symptoms one

year after overcoming acute COVID. For this reason, our team has also been interested in studying the long-term sequelae of persistent COVID.

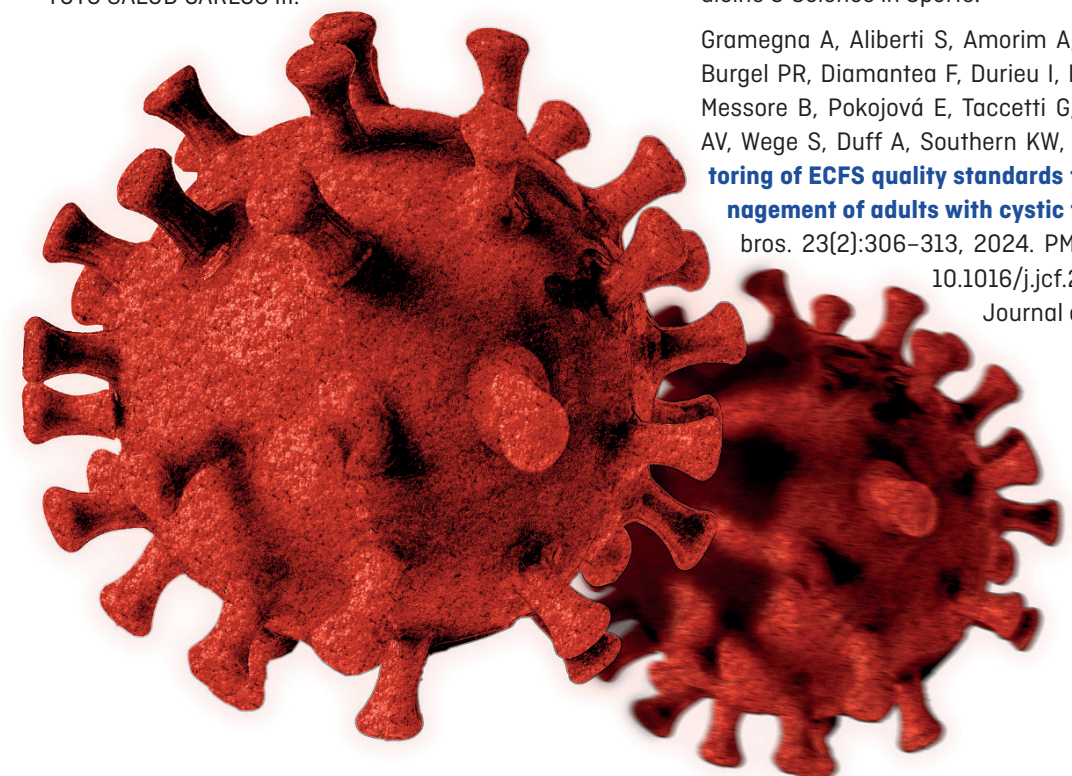
Several projects received grants from the Spanish Society of Respiratory Pathology (SEPAR) and other funding entities.



MAJOR GRANTS

Investigador Colaborador de Proyecto de Investigación en Salud Instituto de Salud Carlos III (Proyecto PI24/01865). Título: "Implicación del eje PSGL-1/P-selectin en la patogénesis del lupus y la esclerodermia y posible contribución de PSGL-1 y sus ligandos al desarrollo de neumonía intersticial e hipertensión pulmonar asociadas a ellas". Instituto de Investigación Biomédica Hospital Universitario de La Princesa.

Soriano Ortiz, Joan Bautista. unCoVer: Unravelling Data for Rapid Evidence-Based Response to COVID-19. UE. UNCOVER.101016216. EUROPEAN COMMISSION. 2020-Landete Rodríguez, Pedro. Evaluación del papel de GDF15 como biomarcador predictivo del riesgo cardiometabólico y la respuesta al tratamiento en pacientes con apnea obstructiva del sueño.PI.23/01905. INSTITUTO SALUD CARLOS III.



PUBLICATIONS

Delgado-Wicke P, Fernández de Córdoba-Oñate S, Roy-Vallejo E, Alegría-Carrasco E, Rodríguez-Serrano DA, Lamana A, Montes N, Nicolao-Gómez A, Carracedo-Rodríguez R, Marcos-Jiménez A, Díaz-Fernández P, Galván-Román JM, Rabes-Rodríguez L, Sanz-Alba M, Álvarez-Rodríguez J, Villa-Martí A, Rodríguez-Franco C, Villapalos-García G, Zubiaur P, Abad-Santos F, de Los Santos I, Gomariz RP, García-Vicuña R, Muñoz-Calleja C, González-Álvaro I, Fernández-Ruiz E; PREDINMUN-COVID Group. **Genetic variants regulating the immune response improve the prediction of COVID-19 severity provided by clinical variables.** Sci. Rep. 14(1):20728, 2024. PMID: 39237611. DOI: 10.1038/s41598-024-71476-2. IF: —. Scientific Reports.

Sosa-Pedreschi A, Donadio MVF, Iturriaga-Ramírez T, Yvert T, Pérez-Salazar F, Santiago-Dorrego C, Barceló-Guido O, Sanz-Santiago V, Girón R, Punter RMG, Rubio-Alonso M, Pérez-Ruiz M. **Effects of a remotely supervised resistance training program on muscle strength and body composition in adults with cystic fibrosis: Randomized controlled trial.** Scand. J. Med. Sci. Sports. 34(1):e14564, 2024. PMID: 38268067. DOI: 10.1111/sms.14564. IF: —. Scandinavian Journal of Medicine & Science in Sports.

Gramegna A, Aliberti S, Amorim A, Blasi F, Bourke S, Burgel PR, Diamantea F, Durieu I, Fila L, Moreno RMG, Messori B, Pokojová E, Taccetti G, Verhulst S, Dugac AV, Wege S, Duff A, Southern KW, Castellani C. **Monitoring of ECFS quality standards for the clinical management of adults with cystic fibrosis.** J. Cyst. Fibros. 23(2):306-313, 2024. PMID: 37949745. DOI: 10.1016/j.jcf.2023.11.001. IF: —. Journal of Cystic Fibrosis.

Line 1.7 Inflammatory mechanisms in pulmonary diseases

San Antonio E, Silván J, Sevilla-Montero J, González-Sánchez E, Muñoz-Callejas A, Sánchez-Abad I, Ramos-Manzano A, Muñoz-Calleja C, González-Alvaro I, Tomero EG, García-Pérez J et al. **PSGL-1, ADAM8, and Selectins as potential biomarkers in the diagnostic process of Systemic Lupus Erythematosus and Systemic Sclerosis: an observational study.** Front. Immunol. 15:1403104, 2024. DOI: 10.3389/fimmu.2024.1403104. IF: —. Frontiers in Immunology.

Muñoz-Callejas A, Sánchez-Abad I, Ramos-Manzano A, San Antonio E, González-Sánchez E, Silván J, González-Tajuelo R, González-Alvaro I, García-Pérez J et al. **Regulation of monocyte apoptosis and DNA extrusion in monocyte extracellular traps by PSGL-1: Relevance in systemic lupus erythematosus.** Transl. Res. 274:10–20, 2024. IF: —. Translational Research.

Contreras N, Escolar Peña A, Delgado Dolset MI, Fernández P, Obeso D, Izquierdo E, Cuervo HG, Cumplido JA, Múgica V, Cisneros C, Angulo Parreño S, Barbas C, Blanco C, Carrillo T, Barber D, Villaseñor A, Escribese MM. **Multimic Integration Analysis for Monitoring Severe Asthma Treated With Mepolizumab or Omalizumab.** Allergy. 2024. PMID: 39692160. DOI: 10.1111/all.16434. IF: 12,60. Allergy. ALLERGY.

Carnicer Pont D, Fu MRL, Castellano Y, Tigova O, Driezen P, Quah ACK, Kaai SC, Soriano JB, Vardavas CI, Fong GT, Fernández E. **Incidence and Determinants of COVID-19 Among People Who Smoke (2018-2021): Findings From the ITC EUREST-PLUS Spain Surveys.** Arch. Bronconeumol. 60(11), 2024. PMID: 38944617. DOI: 10.1016/j.arbres.2024.05.037. IF: 8,70. Archivos de Bronconeumología.

Navas Moreno V, Sebastian Valles F, Rodríguez Laval V, Knott Torcal C, Marazuela M, de la Blanca NS, Martín JAA, Girón RM, Sampedro Núñez MA. **Impact of CFTR modulator therapy on body composition as assessed by thoracic computed tomography: A follow-up study.** Nutrition. 123, 2024. PMID: 38621324. DOI: 10.1016/j.nut.2024.112425. IF: 3,20. Nutrition.

Martínez Fleita P, Marcos MC, Jimenez Carretero D, Galván Román JM, Girón Moreno RM, Calero García AA, Arcos García A, Martín Gayo E, De La Fuente H, Esparcia Pinedo L, Aspa J, Ancochea J, Alfranca A, Sánchez Madrid F. **Imbalance of SARS-CoV-2-specific CCR6+ and CXCR3+ CD4+ T cells and IFN-γ+ CD8+ T cells in patients with Long-COVID.** Clin. Immunol. 264, 2024. PMID: 38825071. DOI: 10.1016/j.clim.2024.110267. IF: 4,50. Clinical Immunology.

Tsakalov I, Sánchez Cerrillo I, Rajas O, Avalos E, Iturricastillo G, Esparcia L, Buzón MJ, Genescà M, Scagnetti C, Popova O, Martín Cofreces N, Calvet Mirabent M, Marcos Jiménez A, Martínez Fleita P, Delgado Arévalo C, De los Santos I, Muñoz Calleja C, Calzada MJ, Álvaro IG, Palacios Calvo J, Alfranca A, Ancochea J, Sánchez Madrid F, Martín Gayo E. **NFκB and NLRP3/NLRP4 inflammasomes regulate differentiation, activation and functional properties of monocytes in response to distinct SARS-CoV-2 proteins.** Nat. Commun. 15(1), 2024. PMID: 38453949. DOI: 10.1038/s41467-024-46322-8. IF: 14,70. Nature Communications.

Cottin V, Valenzuela C. **C-reactive protein as a candidate biomarker in fibrotic interstitial lung disease.** Respirology. 29(3), 2024. PMID: 38296837. DOI: 10.1111/resp.14666. IF: 6,60. Respirology.

Martínez Fleita P, Vicente Rabaneda EF, Triguero Martínez A, Roy Vallejo E, Uriarte Ecenarro M, Gutiérrez Rodríguez F, Quiroga Colina P, Romero Robles A, Montes N, García Castañeda N, Mejía Abril GP, García Vadillo JA, Llorente Cubas I, Villagrasa JR, López Matencio JMS, Ancochea J, Urzainqui A, Esparcia Pinedo L, Alfranca A, De La Fuente H, García Vicuña R, Sánchez Madrid F, González Álvaro I, Castañeda S. **Beneficial effect of temporary methotrexate interruption on B and T cell responses upon SARS-CoV-2 vaccination in patients with rheumatoid arthritis or psoriatic arthritis.** npj Vaccines. 9(1), 2024. PMID: 38291047. DOI: 10.1038/s41541-024-00805-3. IF: 6,90. npj Vaccines.

Lozano Iturbe V, Blanco Agudín N, Vázquez Espinosa E, Fernández Vega I, Merayo Lloves J, Vázquez F, Girón RM, Quirós LM, Boussios S. **The Binding of Pseudomonas aeruginosa to Cystic Fibrosis Bronchial Epithelial Model Cells Alters the Composition of the Exosomes They Produce Compared to Healthy Control Cells.** Int. J. Mol. Sci. 25(2), 2024. PMID: 38255969. DOI: 10.3390/ijms25020895. IF: 4,90. International Journal of Molecular Sciences.

Plaza V, Trigueros JA, Carretero JA, Arranz IO, Chicote JMV, Sánchez CA, Tomás JB, Serrano CC, Juncal LD, Domínguez Ortega J, Rivero JF, Campos JGS, Fernández EM, Martínez S, Lacomba JM, Quirce S; GEMAFORUM Task Force. **Use of Triple Therapy in Asthma: The GEMAFORUM V Task Force.** J. Investig. Allergol. Clin. Immunol. 34(4), 2024. PMID: 38334050. DOI: 10.18176/jiaci.0975. IF: 6,10. Journal of Investigational Allergology and Clinical Immunology.

Line 1.8 Inflammatory response in hepatic diseases

GROUP 24



Pedro Lorenzo Majano Rodríguez
Head of group



GROUP MEMBERS

Casabona Francés, Sergio
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Herranz Pérez, Raquel
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Molina Jiménez, Francisca
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Muñoz Codoceo, Rosa Ana
Pérez Fernández, Teresa
Santander Vaquero, Cecilio



RESEARCH INTEREST

MAIN:

Eosinophilic Esophagitis (EoE) is a chronic inflammatory disease of the esophagus with an immune-allergic basis. EoE is clinically characterized by symptoms of esophageal dysfunction, and histologically by an eosinophil-predominant inflammatory infiltrate. In the absence of treatment, the natural history of EoE consists in a progressive fibrous remodeling of the organ into the formation of strictures that reduce the esophageal caliber and aggravate the symptoms. Currently, endoscopic biopsies are the only reliable method to diagnose the disease and monitor the response to therapy.

In this project, we aim to analyze changes in the expression of genes and proteins in esophageal biopsies of adult patients with EoE, induced after being treated as recommended in European clinical practice guidelines, and compared with healthy subjects. Changes in the expression of mRNA (mRNAseq), proteins (proteomic) and in the secreted proteins (multiplexed Elisa) will be measured, and lymphocyte populations in both esophageal tissue and peripheral blood of EoE patients will be characterized (flow cytometry). Data obtained by these massive analysis techniques, together with markers of the progression of esophageal fibrosis and alteration in esophageal distensibility (as determined by EndoFLIP) will allow us selecting a series of candidate markers related to the presence of the disease, its inflammatory activity and fibrotic changes, as well as predicting response to treatment. As a final aim, we will try to define a set of biomarkers to be further studied in a larger cohort (validation).

SECONDARY:

Gastroesophageal reflux disease (GERD) is the most prevalent gastrointestinal disorder in industrialized countries. Key mechanisms of disease include abnor-

Line 1.8 Inflammatory response in hepatic diseases

maloesophagogastric junction structure and function, and impaired oesophageal clearance. Recent studies have challenged the traditional notion that reflux esophagitis develops only when esophageal surface epithelial cells are exposed to chemical injury from refluxed acid.

In this line, we wanted to characterize lymphocyte populations in both esophageal tissue and peripheral blood of GERD patients by multiplexed flow cytometry. Data obtained by these techniques will be related to the presence of the disease and its inflammatory activity.

MAJOR GRANTS

Laserna Mendieta, Emilio José. Identificación de polimorfismos genéticos en sangre predictivos de la respuesta al tratamiento con inhibidores de la bomba de protones en pacientes con esofagitis eosinofílica. PI21/00579. INSTITUTO SALUD CARLOS III. 2022-

Santander Vaquero, Cecilio. Alternativas mínimamente invasivas a la toma de biopsias en el esofagitis eosinofílica. PI24/00082. INSTITUTO SALUD CARLOS III.

PUBLICATIONS

Alcala Gonzalez LG, Alcedo J, Santander C, Suárez JF, Serra J. **Evaluation of Perceived Competence and Satisfaction in Neurogastroenterology and Motility Training During the Gastroenterology Fellowship in Spain.** Neurogastroenterol. Motil. 2024. PMID:39737846. DOI:10.1111/nmo.14985. IF:3,50. NEUROGASTROENTEROLOGY AND MOTILITY.

Lucendo AJ, Nantes Castillejo O, Straumann A, Biedermann L, Bredenoord AJ, Guagnozzi D, Blas Jhon L, Wiechowska Kozłowska A, Weidlich S, von Arnim U, Santander Vaquero C, Perelló A, Pérez Martínez I, Barrio J, Vieth M, Gouya G, Dellon ES. **Clinical Trial: Safety and Efficacy of a Novel Oesophageal Delivery System for Topical Corticosteroids Versus Placebo in the Treatment of Eosinophilic Oesophagitis.** Aliment. Pharmacol. Ther. 61(3). 2024. PMID:39676687. DOI:10.1111/apt.18443. IF:6,60. ALIMENTARY PHARMACOLOGY & THERAPEUTICS.

Laserna Mendieta EJ, Casabona Francés S, Amorena

E, Savarino EV, Pérez Martínez I, Blas Jhon L, Guardiola Arévalo A, Coletta M, Pellegatta G, Guagnozzi D, Barrio J, Perello A, Betoré E, Krarup AL, Votto M, Gutiérrez Junquera C, Naves JE, Oliva S, Sánchez Vegazo CT, Carrión S, de la Riva S, Espina Cadenas S, Fernández S, Llorente Barrio M, Pascual Lopez I, Masiques Mas ML, Honrubia López R, Dainese R, Garcia Morales N, Cobian J et al. **Sex-related differences in the presentation, management and response to treatment of eosinophilic esophagitis: Cross sectional analysis of EoE CONNECT registry.** United European Gastroenterol. J. 12(10). 2024. PMID:39513462. DOI:10.1002/ueg2.12699. IF:5,80. UNITED EUROPEAN GASTROENTEROLOGY JOURNAL.

Molina Jiménez F, Ugalde Triviño L, Arias González L, Armenteros E, Relaño Rupérez C, Casabona S, Moreno Monteagudo JA, Pérez Fernández MT, Martín Domínguez V, Fernández Pacheco J, Laserna Mendieta EJ, Muñoz Hernández P, García Martínez J, Muñoz J, Lucendo AJ, Santander C, Majano P. **Proton pump inhibitor effect on esophageal protein signature of eosinophilic esophagitis, prediction, and evaluation of treatment response.** Allergy. 79(12). 2024. PMID:39092539. DOI:10.1111/all.16261. IF:12,60. ALLERGY.

Stewart S, Seco Meseguer E, Diago Sempere E, Marín Candón A, Carmona M, Estébanez M, López Fernández LA, Imaz Iglesia I, Saiz MDG, Laserna Mendieta EJ, Peiró AM, Farré M, Rodríguez Jimenez C, Saiz Rodríguez M, Sanabria Cabrera J, Rosas Alonso R, Abad Santos F, Pedrosa L, Carcas AJ, García IG, Borobia AM, iPHARMGx Study Grp. **Phase IV adaptive randomised clinical trials evaluating efficacy and cost-efficacy of pre-emptive pharmacogenetic genotyping strategies in the Spanish National Health System: iPHARMGx Master Protocol and PREVESTATGx nested clinical trial.** BMJ OPEN. 14(11). 2024. PMID:39510769. DOI:10.1136/bmjopen-2024-089823. IF:2,40. BMJ OPEN.

Mendieta E JL, Dominguez VM, Lucendo IP, Cremades IG, Martínez RF, Malé TA, De Benito MAS, Santander C. **Detection capacity of small intestine bacterial or methanogen overgrowth by lactose and fructose breath testing in the adult population.** Adv. Lab. Med.-Av. Med. Lab. 5(3). 2024. PMID:39252801. DOI:10.1515/almed-2024-0115. ADVANCES IN LABORATORY MEDICINE-AVANCES EN MEDICINA DE LABORATORIO.

Navarro P, Feo Ortega S, Casabona Francés S, Gutiérrez Junquera C, Savarino EV, Amorena E, Fernández S, Pérez Martínez I, Oliva S, Barrio J, Masiques Mas ML, Guardiola Arévalo A, Guagnozzi D, Racca F, Betoré E, Votto M,

Rodríguez Sánchez A, Barrio ML, Blas Jhon L, Sánchez Vegazo CT, Garcia Morales N, Krarup AL, Dainese R, Martín Domínguez V, Garcia Díaz A, Maniero D, Santander C, Arias A, Laserna Mendieta EJ, Lucendo AJ. **Determinant factors for first-line treatment choice and effectiveness in pediatric eosinophilic esophagitis: an analysis of the EUREOS EoE CONNECT registry.** Eur. J. Pediatr. 183(8). 2024. PMID:38819501. DOI:10.1007/s00431-024-05618-z. IF:3,00. EUROPEAN JOURNAL OF PEDIATRICS.

Laserna Mendieta EJ, Navarro P, Casabona Francés S, Savarino EV, Amorena E, Pérez Martínez I, Guagnozzi D, Blas Jhon L, Betoré E, Guardiola Arévalo A, Pellegatta G, Krarup AL, Perello A, Barrio J, Gutiérrez Junquera C, Sánchez Vegazo CT, Fernández S, Naves JE, Oliva S, Rodríguez Oballe JA, Carrión S, Espina S, Barrio ML, Masiques Mas ML, Dainese R, Feo Ortega S, Martín Domínguez V, Fernández Pacheco J, Pérez Fernández MT, Ghisa M et al. **Swallowed topical corticosteroids for eosinophilic esophagitis: Utilization and real-world efficacy from the EoE CONNECT registry.** United European Gastroenterol. J. 12(5). 2024. PMID:38284792. DOI:10.1002/ueg2.12533. IF:5,80. UNITED EUROPEAN GASTROENTEROLOGY JOURNAL.

Cacho Navas C, López Pujante C, Reglero Real N, Colás Algora N, Cuervo A, Conesa JJ, Barroso S, de Rivas G, Ciordia S, Paradela A, D'Agostino G, Manzo C, Feito J, Andres G, Molina Jiménez F, Majano P, Correias I, Carazo JM, Nourshargh S, Huch M, Millán J. **ICAM-1 nanoclusters regulate hepatic epithelial cell polarity by leukocyte adhesion-independent control of apical actomyosin.** ELIFE. 12. 2024. PMID:38597186. DOI:10.7554/eLife.89261. IF:6,40. ELIFE.

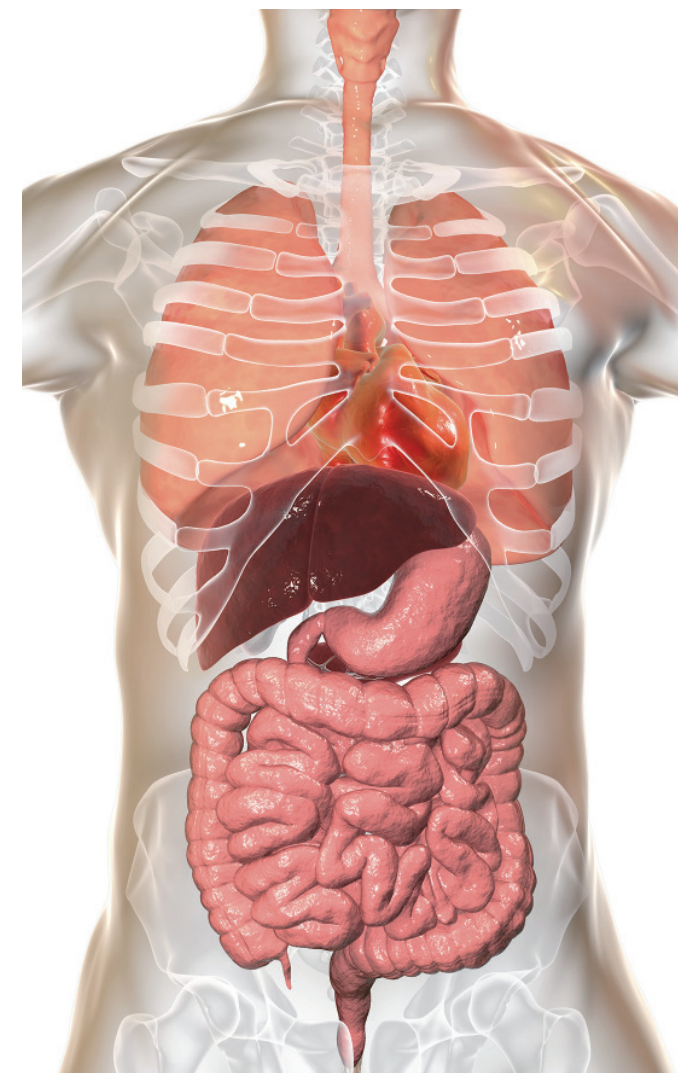
Ugalde Triviño L, Molina Jiménez F, Vázquez JH, Relaño Rupérez C, Arias González L, Casabona S, Pérez Fernández MT, Martín Domínguez V, Fernández Pacheco J, Lucendo AJ, Bernardo D, Santander C, Majano P. **Circulating immunome fingerprint in eosinophilic esophagitis is associated with clinical response to proton pump inhibitor treatment.** Front. Immunol. 15. 2024. PMID:38646544. DOI:10.3389/fimmu.2024.1374611. IF:5,70. FRONTIERS IN IMMUNOLOGY.

Soria Chacartegui P, Navares Gómez M, Molina Jiménez F, Laserna Mendieta EJ, Arias González L, Majano P, Casabona S, Lucendo AJ, Abad Santos F, Santander C, Zubiaur P. **Impact of STAT6 Variants on the Response to Proton Pump Inhibitors and Comorbidities in Patients with Eosinophilic Esophagitis.** Int. J. Mol. Sci. 25(7).

2024. PMID:38612496. DOI:10.3390/ijms25073685. IF:4,90. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES.

Sánchez MAL, de los Ríos CC, Vaquero CS. **Achalasia: diagnostic delay and manometric characteristics with high-resolution solid-state and perfusion equipment.** Rev. Esp. Enferm. Dig. 116(11). 2024. PMID:38958154. DOI:10.17235/reed.2024.10181/2023. IF:2,70. REVISTA ESPAÑOLA DE ENFERMEDADES DIGESTIVAS.

Casabona Francés S, Sanz García A, Ortega GJ, Santander C, Perez Fernandez T, Majano P, Olalla JM, Juárez Tosina R, Mueller R, Attwood S, Lucendo A. **A New Method to Evaluate Lower Esophageal Distension Capacity in Eosinophilic Esophagitis by Using Functional Lumen Imaging Probe (EndoFLIP™).** Diagnostics. 14(2). 2024. PMID:38275466. DOI: 10.3390/diagnostics14020218. IF:3,00. DIAGNOSTICS.



GROUP 23



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RESEARCH INTEREST

During the last years our research group has been particularly focused on identifying non-invasive prognostic biomarkers of chronic liver disease (CLD) progression to cirrhosis and hepatocellular carcinoma (HCC). HCC is the second leading cause of cancer death worldwide and has a high mortality rate because it is only diagnosed in advanced stages, at which available treatments are no longer effective. Therefore, new tools that improve the diagnosis and treatment of HCC patients are needed.

The altered expression of angiogenic and fibrogenic-related factors during the course of CLD to HCC may provide a valuable tool for the non-invasive assessment of liver fibrosis, key for clinical decision-making. Among other clinical and demographic variables, we found that peripheral levels of angiopoietins significantly co-

related with hepatic fibrosis in patients with chronic hepatitis C (CHC). Such finding allowed us to develop a novel index for non-invasive evaluation of liver fibrosis, AngioScore, which was further validated in an independent series of patients. In addition, our group reported a significant increment of TIE2-expressing monocytes (TEMs) in the peripheral blood of patients with CHC. Monocytes, essential precursors of antigen-presenting cells, notably contribute to the pathogenesis of chronic inflammatory diseases and cancer. We proposed that chronic expansion of TEMs, which are characterized by their marked proangiogenic properties and notable immunosuppressive nature, might prevent proper immune response and promote mechanisms that cause liver damage. The expression of the angiopoietin receptor Tie2 in the surface of this subtype of monocytes might serve as useful "tag" for the non-invasive monitoring of CLD progression in a simple blood test. Moreover, we believe that a more in depth understanding of TEM regulation can lead to important therapeutic advances. Interestingly, in the meantime, other authors described that TEMs might work as a useful cellular diagnostic and prognostic biomarker for HCC.

Furthermore, we have also characterized the significance of certain genetic variants of HDACs and other angiogenic factors, receptors and mediators, in relation to fibrosis progression.

Therapeutic options and diagnostic procedures in hepatology have quickly advanced during the last decade, in particular, the management of viral hepatitis. Hepatitis C has become a curable disease with a sustained 99% response using direct-acting antiviral treatments.

With the increasing number of individuals with diabetes and obesity, non-alcoholic fatty liver disease (NAFLD) is becoming increasingly prevalent, affecting more than one-quarter of adults in the world.

In addition to liver cancer, we have other research lines:

- Actions for micro-elimination of HCV infection.
- Interaction between DAA for Chronic Hepatitis C infection and hepatocellular carcinoma
- Non invasive evaluation of non alcoholic fatty liver disease.
- Chronic cholestatic liver disease: Primary Sclerosing Cholangitis and Primary Biliary Cholangitis.



PUBLICATIONS

Ampuero J, Lucena A, Berenguer M, Hernández Guerra M, Molina E, Gómez Camarero J, Valdivia C, Gómez E, Casado M, Alvarez Navascuez C, Jorquera F, García Buey L, Díaz González A, Morillas R, García Retortillo M, Sousa JM, Pérez Medrano I, Simón MA, Martínez J, Arenas J, Londoño MC, Olveira A, Fernández Rodríguez C, ColHai Registry. **Predictive factors for decompensating events in cirrhotic patients with primary biliary cholangitis under different lines of therapy.** Hepatology. 80(4), 2024. PMID: 38447019. DOI: 10.1097/HEP.0000000000000826. IF: 12,90. HEPATOLOGY.

De Vincentis A, Ampuero J, Terracciani F, D'Amato D, Gerussi A, Cristoferi L, Cazzagon N, Bonaiuto E, Floreani A, Calvaruso V, Cadamuro L, Degasperi E, Morgando A, Vanni E, Lleo A, Colapietro F, Alvaro D, Castellana A, Labanca S, Viganò M, Distefano M, Palitti VP, Ricci C, De Matthaeis N, Marziani M, Gómez Domínguez E, Montero JL, Molina E, García Buey L, Casado M et al. **Development and Validation of a Scoring System to Predict Response to Obeticholic Acid in Primary Biliary Cholangitis.** Clin. Gastroenterol. Hepatol. 22(10), 2024. PMID: 38782175. DOI: 10.1016/j.cgh.2024.05.008. IF: 11,60. Clinical Gastroenterology and Hepatology.

Semmler G, López SA, Pons M, Lens S, Dajti E, Griemsmann M, Zanetto A, Burghart L, Hametner Schreil S, Hartl L, Manzano M, Rodríguez Tajés S, Zana-ga P, Schwarz M, Gutiérrez ML, Jachs M, Pocurull A, Polo B, Ecker D, Mateos B, Izquierdo S, Real Y, Balcar L, Carbonell Asins JA, Gschwandler M, Russo FP, Azzaroli F, Maasoumy B, Reiberger T, Fornis X et al. **Long-term outcome and risk stratification in compensated advanced chronic liver disease after HCV-cure.** Hepatology. 2024. PMID: 39079088. DOI: 10.1097/HEP.0000000000001005. IF: 12,90. HEPATOLOGY.

Semmler G, López SA, Pons M, Lens S, Dajti E, Griemsmann M, Zanetto A, Burghart L, Hametner

Schreil S, Hartl L, Manzano M, Rodríguez Tajés S, Zana-ga P, Schwarz M, Gutiérrez ML, Jachs M, Pocurull A, Polo B, Ecker D, Mateos B, Izquierdo S, Real Y, Ahumada A, Bauer DJM, Mauz JB, Casanova Cabral M, Gschwandler M, Russo FP, Azzaroli F, Maasoumy B et al. **Post-treatment LSM rather than change during treatment predicts decompensation in patients with cACLD after HCV cure.** J. Hepatol. 81(1), 2024. PMID: 38521170. DOI: 10.1016/j.jhep.2024.03.015. IF: 26,80. JOURNAL OF HEPATOLOGY.

Benito BM, Pintor VG, del Val LD, García Buey L. **Complete tumor response after concomitant treatment with lenvatinib and radioembolization with Yttrio-90 of advanced stage hepatocarcinoma.** Gastroenterol. Hepatol. 47(6), 2024. PMID: 37742831. DOI: 10.1016/j.gastrohep.2023.09.005. IF: 2,20.

Gómez E, Montero JL, Molina E, García Buey L, Casado M, Fuentes J, Simón MA, Díaz González A, Jorquera F, Morillas RM, Presa J, Berenguer M, Conde MI, Olveira A, Macedo G, Garrido I, Hernández Guerra M, Olivas I, Rodríguez Taje S, Londoño M, Sousa JM, Ampuero J, Romero González E, González Padilla S, Escudero García D, Carvalho A, Santos A, Gutiérrez ML, Pérez Fernández E, Aburruza L et al. **Longitudinal outcomes of obeticholic acid therapy in ursodiol-nonresponsive primary biliary cholangitis: Stratifying the impact of add-on fibrates in real-world practice.** Aliment. Pharmacol. Ther. 59(12), 2024. PMID: 38690746. DOI: 10.1111/apt.18004. IF: 6,60. ALIMENTARY PHARMACOLOGY & THERAPEUTICS.

Fernández-García CE, Gallego-Galiana J, Solís-Muñoz PA, Del Pozo-Maroto E, Domínguez-Alcón L, Tobar-Izquierdo M, Sáez A, Rodríguez de Cía J, Magaña-Sánchez A, Real-Martínez Y, García-Buey L. **Hospital-based screening outperforms primary care screening as a means of achieving hepatitis C virus micro-elimination.** Infect Dis Now. 54(2), 2024. PMID: 38309646. DOI: 10.1016/j.idnow.2024.104855. IF: 3,50. INFECTIOUS DISEASES NOW.

Line 1.9

Mechanisms and mediators of endocrine diseases

GROUP 25



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RESEARCH INTEREST

Our current and future work involves different research fields in endocrine diseases. In the last years we have discovered that patients with AITD present altered populations of regulatory T cells (Treg), augmented Th17 cells, a reduced number of Tr1 regulatory cells and abnormalities in NK cell subset levels [Endocrine 2016 51(3):478-89; J Clin Endocrinol Metab. 2017 Feb 1; 102(2):672-680; J Clin Endocrinol Metab. 2018 103: 3359 -3367; J Clin Endocrinol Metab., 2020, Vol. 105, No. 11, 1 -11], and the description of alterations in Tr1 lymphocytes in patients with type 2 diabetes mellitus [J Endocrinol Invest. 2024 Jan 6. doi: 10.1007/s40618-023-02250-w].

The group's leaders also participated as principal investigators in a collaborative project with the departments of Immunology, Rheumatology and Dermatology of Hospital La Princesa in the study of immunoregulatory molecules and miRNAs in different immune-mediated inflammatory diseases (IMID). We have investigated new predictive biomarkers (immuno-regulatory molecules) of IMID severity and responsiveness to biological therapies in different IMIDs including rheumatoid arthritis, psoriasis, inflammatory bowel disease and AITD (BIOIMID Project-PIE13/00041, Journal of Autoimmunity 111 [2020] 102472). In these projects, we have developed novel analytical approaches using exosomes and microvesicles as targets containing these relevant biomarkers. We have demonstrated that microvesicles may have a relevant role in AITD as modulators of the immune response, mainly through the inhibition of Treg cell differentiation and the induction of Th17 cells [J Clin Endocrinol Metab. 2015 Dec;100(12):E1531-9]. Furthermore, we have identified a 5-miRNA signature that could be an independent risk factor for developing AITD and for predisposition to a worse prognosis in Graves' Disease (GD) patients [J Clin Endocrinol Metab. 2018 Mar 1;103(3):1139-1150]. By integrating miRNA and mRNA data we have observed, for the first time, the important role of genes involved in

cilia regulation in the etiopathogenesis of AITD [EBio-Medicine. 2019 Dec;50:329-342]. Furthermore, we have discovered the importance of the role of HDAC9 on immune regulation [J Clin Endocrinol Metab. 2021 Oct 21;106(11):3213-3227] and the EMT process in AITD [Int J Mol Sci. 2023 Feb 8;24(4):3359. doi: 10.3390/ijms24043359]. The group also has a strong collaborative record with specialists of thyroid disorders including Drs. Mercedes Robledo (Centro Nacional de Investigaciones Oncológicas [CNIO]), Pilar Santisteban and Susana Alemany (Instituto de Investigaciones Biomédicas Alberto Sols [IIBM]) in pathophysiology in projects from Programas de Actividades de I+D de grupos de la Comunidad de Madrid [S2010/BMD-2328 TIRONET-CM and TIRONET2 B2017/BMD3724] [J Clin Endocrinol Metab. 2018 Mar 1;103(3):1139-1150 and EBioMedicine. 2019 Dec;50:329-34; J Clin Endocrinol Metab. 2021 Oct 21;106(11):3213-3227]. Recently, the group characterized thyroid tissue from AITD samples using spatial transcriptomics. Key findings include the identification of a novel CD74/MIF-expressing thyrocyte subpopulation, damaged thyrocytes in Hashimoto's thyroiditis, fibroblasts enriched in Graves' disease and Hashimoto thyroiditis, and diaphragmatic-fenestrated capillaries (PLVAP+) in GD [Nature Communications 15, 5895, 2024; Int J Mol Sci. 2023;24(4):3359].

In regard of the coronavirus pandemic we have documented cases of concurrent presentation of SARS-CoV-2 infection and GD [J Endocrinol Invest. 2021 Feb;44(2):387-388; Rev Endocr Metab Disord. 2020 Dec;21(4):495-507 and Rev Endocr Metab Disord. 2021 Jul 31:1-14.]. In this line we have recently obtained another grant from Comunidad de Madrid (iTIRONET P2022/BMD7379) together with M. Robledo and Fátima Al-Shahrour (from CNIC) and Hospital Ramon y Cajal (P. Valderrabano). This consortium provides the translational implementation of the basic research in AITD, resulting in approval of research projects, publications, exchange researcher programs and predoctoral & postdoctoral scholarships.

The group's second line of research is aimed to the

study of thyroid eye disease (TED), also known as Graves' ophthalmopathy. TED is an autoimmune disease that often occurs as a secondary manifestation of Graves' disease, affecting to the thyroid gland. It is characterized by ocular symptoms such as exophthalmos, eyelid retraction, conjunctival edema and various visual function defects, which in severe cases can impair the visual function. Recently, Dr. Martínez Hernández was awarded with the SEEN Fellowship for Clinical Research in General Endocrinology and Metabolism. It is a multicenter project coordinated by the Hospital de La Princesa involving professionals from 8 different hospitals across 4 geographical nodes. Our aim is to gather a comprehensive collection of patient samples in order to search for biomarkers and predictors of the clinical involvement.

The third line of study is the search of novel biomarkers of diagnosis and aggressiveness that could have a role in the proliferation and metastatic capacity of neuroendocrine tumours. In line with this research, we have found that PD-1 expression is detected in a small but significant proportion of gastroenteropancreatic neuroendocrine tumors (GEP-NETs) and that the presence of this receptor is significantly associated to increased malignancy [Scientific Reports (2018) 8:17812]. Furthermore, we have confirmed that mechanisms that increase nutrient uptake, such as the aminoacid transporters LAT-1 and GLUT-1, are increased in GEP-NETs, which might be related to their proliferation and metastatic capacity [Cancers 2020, 12, 2968]. We have also evaluated whether the body composition could be used to as a predictor for poor prognosis in these patients. We found that loss in normal-density muscle and increase in low-density muscle during follow-up are independently associated with an increase in mortality [Cancers 2022, 14:5189.10.3390/cancers14215189], also concluding that nutritional management during the follow-up should be mandatory for these patients.

The group is also part of the CIBERER (clinical group GCV14/ER/12) working on pituitary tumours. Our group also leads the Spanish Molecular Registry of Pituitary

Adenomas (REMAH) with 1,400 registered patients. This strategy allows for comparative and relational analysis between the molecular profile of the different types of adenoma and the clinical phenotype of patients, which may provide a better understanding of the condition and potentially help in treatment selection. Regarding this research line, we also closely participated in a recently obtained fellowship of personalized medicine from the ISCIII-PMP program (ACROMICS project PMP22/00021, funded by ISCIII). This project is coordinated by Dr. Manel Puig from Germans Trias i Pujol Research Institute and has national collaborators with extensive experience in acromegaly including our group in Madrid, Dra. Susan Webb from Barcelona (Institut de Recerca de l'Hospital Sant Pau), Dr. Ignacio Bernabeu and Dra Clara Alvarez from Santiago de Compostela (Health Research Institute of Santiago de Compostela), Dr. Antonio Picó from Alicante (Health and Biomedical Research Institute of Alicante), Dr. Elias Delgado from Asturias (Health Research Institute of the Principality of Asturias), Dr. G. Serra from Balearic Islands (Son Espases University Hospital) and Dr. Cristina Lamas from Albacete (Albacete University Hospital Complex). In this project, we collaborate with the Bioinformatic department (Dra.Fátima Sánchez Cabo) of the National Center for Cardiovascular Research (CNIC, Madrid). In turn, this same project will include its data in the national platform IMPaCT-Data, in the area of predictive medicine. This translational research consortium aims to develop new tools to provide personalized diagnosis and treatment to people suffering from pituitary tumours. This knowledge will allow us to better understand this condition and adopt more appropriate decisions on the treatment and follow-up of patients with pituitary tumours.

Moreover, our group has recently discovered a novel diagnostic marker for aggressive tumour behavior prediction in pituitary tumours. A European patent has been requested for this biomarker as a method for diagnosis and prognosis (EP22382079): "In vitro method for the diagnosis and/or prognosis of pituitary neuroendocrine tumours". Inventors: Rebeca Martínez Hernández and Mónica Marazuela (main inventors), Ana Serrano, Miguel Sampedro, Ancor Sanz. Registration date: 31/01/2022. Rights holder entity: Universidad Autónoma de Madrid / Instituto Investigación La Princesa.

Our research group has developed a line of investigation over the past two focused in the assessment of big data analysis on the settlement of diabetic and nutritional diseases. Firstly, projects have been developed to personalize the management of type 1 diabetes from a clinical perspective, exploring factors such as socioeconomic status, harmful habits, environment, and

chronic complications in relation to glucose metrics provided by advanced technologies such as continuous glucose monitoring. In parallel, we investigate acute complications, such as diabetic ketoacidosis, and expand our research focus to diabetes induced by oncological therapies, such as alpelisib. This comprehensive approach aims to optimize therapeutic strategies tailored to the individual characteristics of patients, promoting a more effective and equitable management of diabetes. Recently, we have published some articles (BMC Med. 2024, PMID: 38273326; Endocr Pract. 2024 Apr;30(4):372-379.PMID: 38307457; Acta Diabetol. 2024 Mar;61(3):343-350. PMID: 37930420; Endocrinol Diabetes Nutr (Engl Ed). 2023 Oct;70(8):548-555.PMID: 37858412) and a grant for new the development of new technologies on diabetes have been awarded to our center by the Spanish Society of diabetes on 2024.



MAJOR GRANTS

Marazuela Azpíroz,Mónica. INFRAESTRUCTURAS SINGULAR 2022: Plataforma de Imagen de Súper-Resolución Espacial y Temporal (ISRET): tecnología STED y multifotón combinada con microscopía de fluorescencia confocal avanzada.IFCS22/00014.INSTITUTO SALUD CARLOS III.2022-

Marazuela Azpíroz,Mónica;Martínez Hernández,Rebeca."Arquitectura molecular en enfermedades autoinmunes tiroideas mediante transcriptómica espacial".PI22/Q1404.INSTITUTO SALUD CARLOS III.2023-



PUBLICATIONS

Sebastian Valles F, Martinez Alfonso J, Navas Moreno V, Arranz Martin JA, Tapia Sanchiz MS, Raposo López JJ, Sampedro Nuñez MA, Martínez Vizcaino V, Marazuela M. **Influence of smoking on glycaemic control in individuals with type 1 diabetes using flash glucose monitoring and its mediating role in the relationship between socioeconomic status and glycaemic control.** J. Diabetes Metab. Disord. 24(1), 2024. PMID: 39697858. DOI: 10.1007/s40200-024-01535-y. IF: —. Journal of Diabetes and Metabolic Disorders.

Araujo Castro M, Fano MP, González Boillos M, Pascual Corrales E, Ramírez PP, Rojas Marcos PM, García Cano A, Ruiz Sanchez JG, Vicente A, Gómez Hoyos E, Casterás A, Puig Perez A, Sanz IG, Recasens M, San Millan RB, César MJP, Guardiola PD, Perdomo C, Manjón Miguélez L, Román AR, Lázaro CR, Recio JM, Morales Ruiz M, Calatayud M, López NJ, Meneses D, Nuñez MS, Ribas

EM, Sánchez AS, Diaz CG et al. **Influence of smoking on cardiometabolic profile and surgical outcomes in patients with primary aldosteronism: a cohort study.** Eur. J. Endocrinol. 191(6), 2024. PMID: 39556770. DOI: 10.1093/ajem/ajae143. IF: 5.30. European Journal of Endocrinology.

Sebastian Valles F, Tapia Sanchiz MS, Navas Moreno V, Lopez Ruano M, Martínez Otero C, Carrillo López E, La Ganga CS, Raposo López JJ, Amar S, González Castañar S, Teleki AV, del Arco C, Arranz Martín JA, Marazuela M. **Chronic treatment with SGLT-2 inhibitors is associated with ICU admission and disease severity in patients with diabetic ketoacidosis: a propensity score-matched cohort study.** Intern. Emerg. Med. 2024. PMID: 39556290. DOI: 10.1007/s11739-024-03813-2. IF: 3.20. Internal and Emergency Medicine.

Sánchez Gutiérrez R, Martínez Hernández R, Serrano Somavilla A, Sampedro Nuñez M, Mendoza Pérez A, de Nova JLM, Vitales Noyola M, González Amaro R, Marazuela M. **Analysis of T follicular and T peripheral helper lymphocytes in autoimmune thyroid disease.** Endocrine. 86(2), 2024. PMID: 38878190. DOI: 10.1007/s12020-024-03686-7. IF: 3.00. Endocrine.

La Ganga CS, García Sanz I, López EC, Navas Moreno V, Marazuela M, Gancedo Quintana A, Marín Campos C, Carraro R, Sebastián Valles F. **Equitable Access, Lasting Results: The Influence of Socioeconomic Environment on Bariatric Surgery Outcomes.** Obes. Surg. 35(1), 2024. PMID: 39466525. DOI: 10.1007/s11695-024-07529-2. IF: 2.90. Obesity Surgery.

Moreno VN, Valles FS, Vargas ML, Marín BH, López EC, Marazuela M, de Nova JLM. **Neoadjuvant Treatment in Locally Advanced Thyroid Carcinoma.** J. Clin. Med. 13(19), 2024. PMID: 39407830. DOI: 10.3390/jcm13195769. IF: 3.00. Journal of Clinical Medicine.

Sebastian Valles F, Fernández Moreno MJ, García Sanz I, Gómez NFP, Navas Moreno V, Sampedro Nuñez MA, Marazuela M. **The Influence of Remnant Cholesterol on Cardiovascular Risk and Mortality in Patients with Non-Functional Adrenal Incidentalomas and Mild Autonomous Cortisol Secretion: A Retrospective Cohort Study.** J. Clin. Med. 13(19), 2024. PMID: 39408007. DOI: 10.3390/jcm13195947. IF: 3.00. Journal of Clinical Medicine.

Araujo Castro M, Fano MP, González Boillos M, Pascual Corrales E, Rojas Marcos PM, García Cano A, Ruiz Sanchez JG, Vicente A, Gómez Hoyos E, Casterás A, Puig Pérez A, Sanz IG, Recasens M, San Millan RB, César MJ, Guardiola PD, Perdomo CM, Manjón Miguélez L, Román AR, Lázaro CR, Recio JM, Morales Ruiz M, Calatayud M, López NJ, Meneses D, Nuñez MS, Ribas EM, Sánchez AS,

Diaz CG, Lamas C et al. **Impact of primary aldosteronism on kidney function: results from the SPAIN-ALDO registry.** J. Hypertens. 42(10), 2024. PMID: 39051487. DOI: 10.1097/HJH.0000000000003813. IF: 3.30. Journal of Hypertension.

Gonzalez Avila C, Garcia Azorin D, Minguez Olaondo A, Rubio Flores L, Lamas R, Nieves Castellanos C, Lopez Bravo A, Munoz Vendrell A, Campoy S, Sebastian Valles F, Quintas S. **Visual snow syndrome in patients with migraine: widening the clinical spectrum of the syndrome with permanent and episodic manifestations.** Neurol. Sci. 45(9), 2024. PMID: 38536549. DOI: 10.1007/s10072-024-07483-y. IF: 2.70. Neurological Sciences. PMID:38536549. IF:2.70. DOI:10.1007/s10072-024-07483-y. NEUROLOGICAL SCIENCES.

Enríquez AJ, Rabat Restrepo JM, Vilchez López FJ, Tenorio Jiménez C, García Almeida JM, Rocamora JAI, Pereira Cunill JL, Ramírez MJM, Molina Puerta MJ, Soria JBM, Rebollo Pérez MI, Oliveira G, García Luna PP. **Practical Guidelines by the Andalusian Group for Nutrition Reflection and Investigation (GARIN) on Nutritional Management of Patients with Chronic Obstructive Pulmonary Disease: A Review.** Nutrients. 16(18). 2024. PMID:39339705. DOI:10.3390/nu16183105. IF:4.80. Nutrients.

Collada Carrasco J, Gómez León N, Castillo Morales V, Lumbreras Fernández B, Castañeda S, Rodríguez Laval V. **Role and potential of 18F-fluorodeoxyglucose-positron emission tomography-computed tomography in large-vessel vasculitis: a comprehensive review.** Front. Med. 11. 2024. PMID:39170047. DOI:10.3389/fmed.2024.1432865. IF:3,10. Frontiers in Medicine.

Sebastian Valles F, Martinez Alfonso J, Martin JAA, Jimenez Díaz J, Alday IH, Navas Moreno V, Armenta Joya T, García MDF, Gómez GLR, Hierro JG, Lobariñas LEL, González Avila C, de Icaya PM, Martínez Vizcaino V, Marazuela M, Sampedro Nuñez MA. **Time above range and no coefficient of variation is associated with diabetic retinopathy in individuals with type 1 diabetes and glycated hemoglobin within target.** Acta Diabetol. 2024. PMID:39105807. DOI:10.1007/s00592-024-02347-5. IF:3,10. Acta Diabetologica.

Martínez Hernández R, de la Blanca NS, Sacristán Gómez P, Serrano Somavilla A, de Nova JLM, Cabo FS, Heyn H, Sampedro Nuñez M, Marazuela M. **Unraveling the molecular architecture of autoimmune thyroid diseases at spatial resolution.** Nat. Commun. 15(1). 2024. PMID:39003267. DOI:10.1038/s41467-024-50192-5. IF:14,70. Nature Communications.

Navas Moreno V, Sebastian Valles F, Rodríguez Laval V, Knott Torcal C, Marazuela M, de la Blanca NS, Martín JAA, Girón RM, Sampedro Nuñez MA. **Impact of CFTR**

modulator therapy on body composition as assessed by thoracic computed tomography: A follow-up study. Nutrition. 123. 2024. PMID:38621324. DOI:10.1016/j.nut.2024.112425. IF:3,20. Nutrition.

Marazuela M, Martínez Hernández R, Marques Pamies M, Biagetti B, Araujo Castro M, Puig Domingo M. **Predictors of biochemical response to somatostatin receptor ligands in acromegaly.** Best Pract. Res. Clin. Endoc. Metab. 38(4). 2024. DOI:10.1016/j.beem.2024.101893. IF:6,10. Best Practice & Research Clinical Endocrinology & Metabolism.

Araujo Castro M, Biagetti B, Torre EM, Novoa Testa I, Cordido F, Pascual Corrales E, Berrocal VR, Guerrero Pérez F, Vicente A, Hualpa JCP, García Centeno R, González Fernández L, García MDO, Echarri AI, Rodríguez MDM, Novo Rodríguez C, Calatayud M, Villar Taibo R, Bernabéu I, Alvarez Escola C, Valderrama PB, Tenorio Jiménez C, Galiana PA, Venegas E, González Molero I, Iglesias P, Blanco Carrera C, De Lara FVO, Novoa PD, Mezquita EL et al. **Pegvisomant and pasireotide in PRL and GH co-secreting vs GH-secreting Pit-NETs.** Endocr.-Relat. Cancer. 31(7). 2024. PMID:38713182. DOI:10.1530/ERC-24-0043. IF:4,10. Endocrine-Related Cancer.

Sebastian Valles F. **Personalized medicine in type 1 diabetes: The influence of socioeconomic context.** Endocrinol. Diabetes Nutr. 71(6). 2024. PMID:38910080. DOI:10.1016/j.endien.2024.05.001. IF:1,80. Endocrinología, Diabetes y Nutrición.

Knott Torcal C, de la Blanca NS, Serrano Somavilla A, Hernández RM, Sampedro Núñez M, Ruiz Rosso B, Jiménez Blanco S, González Amaro R, González Baranda L, Garcimartin A, Marazuela M. **Quantitative analysis of Tr1 lymphocytes in patients with type 2 diabetes mellitus.** J. Endocrinol. Invest. 47(6). 2024. PMID:38183564. DOI:10.1007/s40618-023-02250-w. IF:3,90. Journal of Endocrinological Investigation.

Ruiz Grao MC, Díez Fernández A, Mesas AE, Martínez Vizcaíno V, Sequí Domínguez I, Sebastián Valles F, Garrido Miguel M. **Trends in the Incidence of Type 1 Diabetes in European Children and Adolescents from 1994 to 2022: A Systematic Review and Meta-Analysis.** Pediatr. Diabetes. 2024. DOI:10.1155/2024/2338922. IF:3,90. Pediatric Diabetes.

Martínez Hernández R, Serrano Somavilla A, Fernández Contreras R, Sánchez Guerrero C, de la Blanca NS, Sacristán Gómez P, Sebastian Valles F, Sampedro Núñez M, Fraga J, Calatayud M, Vicente A, García Casasola G, Sanz García A, Araujo Castro M, Ruz Caracuel I, Puig Domingo M, Marazuela M. **Primary Cilia as a Tumor Marker in Pituitary Neuroendocrine Tumors.** Mod. Pathol. 37(5). 2024. PMID:38508520. DOI:10.1016/j.modpat.2024.100475. IF:7,10. Modern Pathology.

Villanueva LS, Suárez PR, Blanco SJ. **Levothyroxin intoxication; role of extracorporeal techniques.** Nefrología. 44(2). 2024. PMID:38553376. DOI:10.1016/j.nefro.2024.03.014. IF:2,00. Nefrología.

Sebastian Valles F, Martin JAA, Martinez Alfonso J, Jiménez Díaz J, Alday IH, Moreno VN, Joya TA, García MDF, Gómez GLR, Hierro JG, Lobarinas LFL, de Icaya PM,

Sampedro Núñez MA, Martínez Vizcaíno V, Marazuela M. **Effect of Christmas Holidays on Type 1 Diabetes Mellitus in Users of Glucose Flash Systems.** Endocr. Pract. 30(4). 2024. PMID:38307457. DOI:10.1016/j.eprac.2024.01.011. IF:3,70. Endocrine Practice.

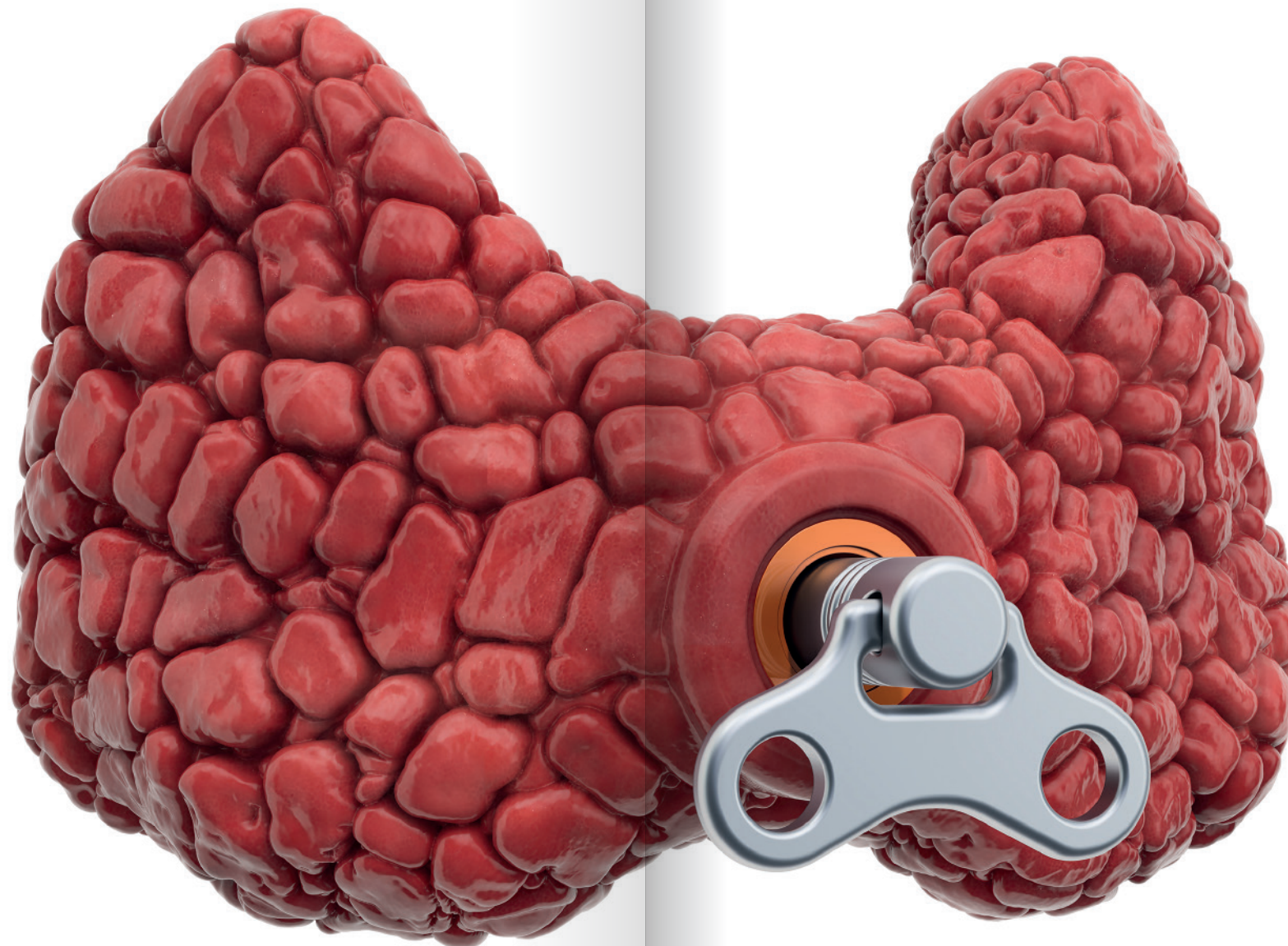
Araujo Castro M, Biagetti B, Torre EM, Novoa Testa I, Cordido F, Corrales EP, Berrocal VR, Guerrero Pérez F, Vicente A, Percovich JC, Centeno RG, González L, García MDO, Echarri AI, Rodríguez MDM, Novo Rodríguez C, Calatayud M, Villar R, Bernabéu I, Alvarez Escola C, Valderrama PB, Tenorio Jiménez C, Galiana PA, Moreno EV, Molero IG, Iglesias P, Blanco C, De Lara FVO, de Miguel P, Mezquita EL et al. **Differences Between GH- and PRL-Cosecreting and GH-Secreting Pituitary Adenomas: a Series of 604 Cases.** J. Clin. Endocrinol. Metab. 109(12). 2024. PMID:38436926. DOI:10.1210/clinem/dgae126. IF:5,00. Journal of Clinical Endocrinology & Metabolism.

Araujo Castro M, Parra P, Rojas Marcos PM, Fano MP, Boillos M, Pascual Corrales E, Cano AMG, Ruiz Sanchez JG, Delgado AV, Hoyos EG, Ferreira R, Sanz IG, Sala MR, Millan RBS, Cesar MJP, Guardiola PD, Perdomo CM, Manjon Miguélez L, Centeno RG, Román AR, Gimeno PG, Lazaro CR, Morales Ruiz M, Calatayud M, Collao SAF, Meneses D, Nuñez MS, Quesada VE, Ribas EM, Sánchez AS et al. **Differences in the clinical and hormonal presentation of patients with familial and sporadic primary aldosteronism.** Front. Endocrinol. 15. 2024. PMID:38495792. DOI:10.3389/fendo.2024.1336306. IF:3,90. Frontiers in Endocrinology.

Sebastian Valles F, Martínez Alfonso J, Martin JAA, Jiménez Díaz J, Alday IH, Navas Moreno V, Joya TA, García MDF, Gómez GLR, Hierro JG, Lobarinas LEL, de Icaya PM, Sampedro Núñez MA, Martínez Vizcaíno V, Marazuela M. **Impact of socioeconomic status on chronic control and complications of type 1 diabetes mellitus in users of glucose flash systems: a follow-up study.** BMC Med. 22(1). 2024. PMID:38273326. DOI:10.1186/s12916-024-03254-w. IF:7,00. BMC Medicine.

Ramirez PP, Rojas Marcos PM, Fano MP, Gonzalez Boillos M, Pascual Corrales E, Cano AMG, Ruiz Sanchez JG, Delgado AV, Hoyos EG, Ferreira R, Sanz IG, Sala MR, San Millan RB, Cesar MJP, Guardiola PD, Perdomo CM, Manjon Miguélez L, Roman AR, Lazaro CR, Morales Ruiz M, Calatayud M, Collao SAF, Meneses D, Sampedro Nunez MA, Ribas EM, Sanchez AS, Diaz CG, Lamas C, Guerrero Vazquez R, Tous MD et al. **Renin as a Biomarker to Guide Medical Treatment in Primary Aldosteronism Patients. Findings from the SPAIN-ALDO Registry.** High Blood Press. Cardiovasc. Prevent. 31(1). 2024. PMID:38225508. DOI:10.1007/s40292-023-00618-w. IF: —. High Blood Pressure & Cardiovascular Prevention.

Sebastian Valles F, Martinez Alfonso J, Martin JAA, Jimenez Diaz J, Alday IH, Navas Moreno V, Joya TA, Garcia MDF, Gómez GLR, Lobarinas LEL, de Icaya PM, Sampedro Nunez MA, Martinez Vizcaino V, Marazuela M. **Scans per day as predictors of optimal glycemic control in people with type 1 diabetes mellitus using flash glucose monitoring: what number of scans per day should raise a red flag?** Acta Diabetol. 61(3). 2024. DOI:10.1007/s00592-023-02204-x. IF:3,80. Acta Diabetologica.



Line 1.10 • Children's development (obesity and growth)

GROUP 26



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Head of group



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RESEARCH INTEREST

How the genetic make-up of an individual interacts with the early maternal/neonatal and postnatal environments to culminate in obesity and its secondary complications, is being studied with both clinical and basic approaches. Genetic studies are performed to identify mutations in genes involved in monogenic obesity, to identify new candidate genes and to analyze polygenic and epigenetic causes of obesity. Diverse new candidate genes have been identified and are being fur-

ther investigated, as well as the interaction genotype/phenotype and ethnic influences. Metabolomic studies are underway to better understand the processes involved in the development of insulin resistance and type 2 diabetes in obese children. Metabolites that may be involved in this process have been identified and will be further studied. In addition, it appears that this process may differ between males and females even prepubertally and this will be further explored. We have recently identified a new monogenic cause of pathological human growth that courses with skeletal abnormalities. The underlying cause is due to affectation of the insulin-like growth factor (IGF) system and this new syndrome will be thoroughly analyzed and new concepts of the physiological functioning of the IGF system pursued.

Animal models are employed to analyze how poor maternal and/or neonatal nutrition, stress or changes in specific hormones during neonatal life affect adult metabolism, with special attention focused on the differential responses of males and females. Studies analyzing the effect of increased central leptin levels on insulin signaling in the CNS and adipose tissue demonstrate a relationship between insulin resistance, hypothalamic inflammation and energy homeostasis. Hypothalamic glial cells are a main focus of investigation for their newly recognized role in metabolic control. We have shown them to respond to weight gain and metabolic hormones such as leptin. Current interest includes analysis of glial responses to specific nutrients and how this could influence the metabolic outcome to weight gain. The implications of weight gain and abnormal circulating levels of leptin and insulin have also been implicated in increased susceptibility to neurodegenerative diseases, with this susceptibility being different between males and females. Future studies are planned to determine the role of astrocytes in mediating the protective and/or detrimental responses to high fat diet intake on neurodegeneration.



MAJOR GRANTS

Barrios Sabador, Vicente; Martos Moreno, Gabriel Ángel. "IDENTIFICACION DE PREDICTORES DE EXITO DE DISTINTAS ESTRATEGIAS NUTRICIONALES EN ADOLESCENTES CON OBESIDAD Y SU APLICABILIDAD ANTE VARIANTES

Line 1.11 • Metabolic syndrome and vascular risk

GROUP 5



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Rey Fernández, Esther
Rodríguez de Cía, Javier
Sáez Sáez, Alicia

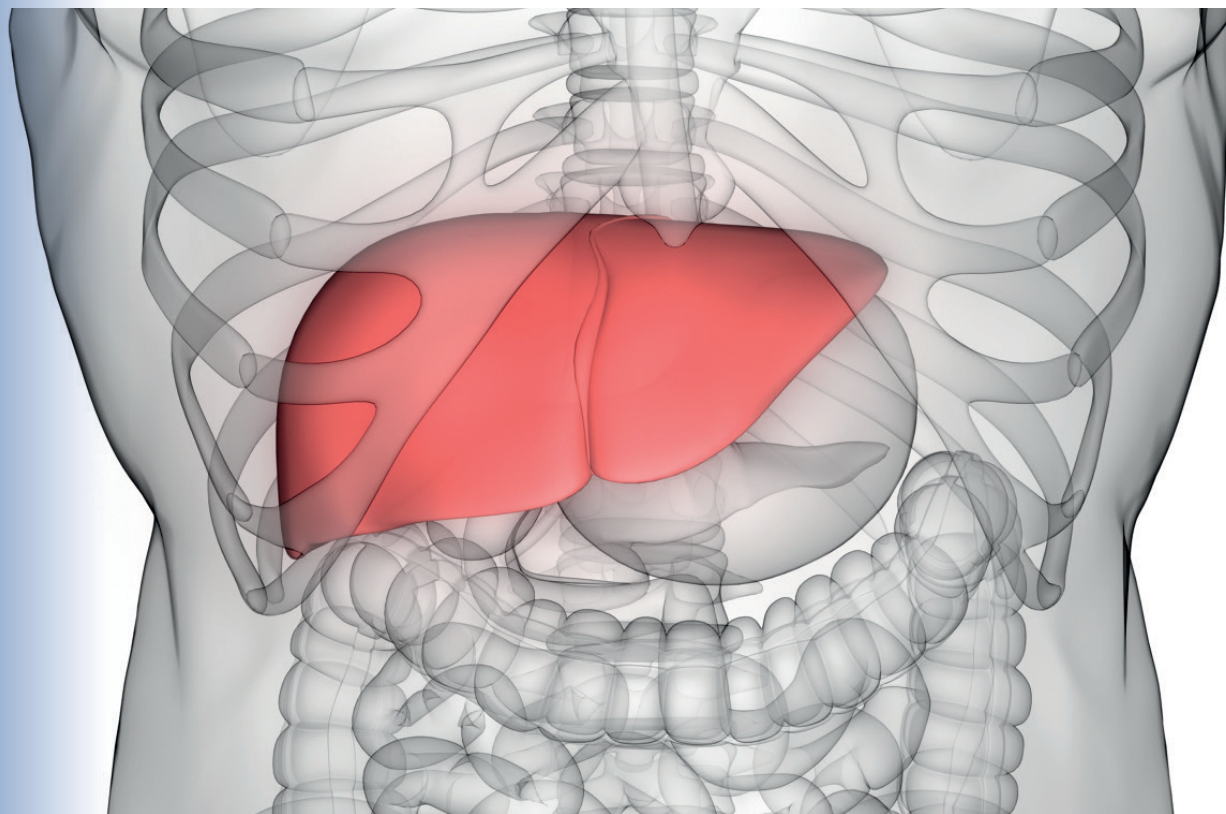


RESEARCH INTEREST

Nonalcoholic fatty liver disease (NAFLD) is an increasingly common chronic liver disease around the world with a diverse histopathological spectrum ranging from simple steatosis without significant inflammation to steatohepatitis (NASH) with varying stages of fibrosis and, ultimately, cirrhosis and hepatocellular carcinoma. It is well known that NAFLD occurs more frequently in obese and diabetics, being currently considered as the hepatic manifestation of the metabolic syndrome. Although the molecular mechanisms involved in the pathogenesis of NAFLD and progression to NASH remain incompletely defined, most investigations indicate that insulin resistance plays a pivotal role in NAFLD setup. Since NASH is becoming one of the most frequent causes of cirrhosis and liver transplantation in the developed countries, it is crucial to identify populations at risk for NASH in order to prioritize the diagnostic and therapeutic interventions on those patients with an increased risk for liver disease progression.

Our group seek three main research lines for the next five years. 1) To unravel the molecular mechanisms involved in the pathogenesis of NASH searching for potential therapeutic targets. We are exploring the role of autophagy in the development of NASH. We recently reported that autophagic flux is impaired in hepatocytes from NASH patients and murine models of NASH and we are, therefore, proposing to investigate in the next future whether therapies aimed to restore the autophagic flux might prevent or attenuate the progression of NAFLD. We are also addressing the role of intermittent hypoxia in the pathogenesis of NAFLD by analyzing the expression levels of hypoxia-inducible factors 1 and 2 in liver biopsies and serum of NASH patients and murine models of NASH as well as the impact of hypoxia on the mitochondrial function in human hepatocytes under experimental conditions of lipid overload. 2) Identification of biomarkers able to be used for noninvasive diagnosis of NASH. We have shown that genetic variants of

Line 1.11 Metabolic syndrome and vascular risk



SLC2A1 are associated with NAFLD and that circulating levels of soluble CD36 is an independent factor associated with advanced steatosis in NAFLD but not in patients with chronic hepatitis C virus (HCV) infection. More recently, we have reported that the combination of ultrasound and HOMA score is useful for noninvasive diagnosis of patients with NASH. We are now pursuing diagnostic tools based on ELISA multiplex using proteins of pathogenic relevance in chronic liver diseases. 3) Impact of the new direct-acting antivirals on carbohydrate and lipid metabolism in patients with chronic hepatitis C treated with these highly effective antiviral drugs: Implications for the cardiovascular morbidity and mortality. It is well known that chronic HCV infection is associated with insulin resistance and type 2 diabetes mellitus together with alterations in hepatic lipid metabolism. The discovery of new direct-acting antiviral agents has become a huge advance in the treatment of

HCV infection. Among them, sofosbuvir and other new antivirals in combination with ribavirin has improved considerably the sustained virological response of HCV infection. However, little is known about their effects on carbohydrate and lipid metabolic profiles in patients treated with these new direct-acting agents and their potential mechanistic actions. On that basis, we propose to determine the effects of sofosbuvir and other direct-acting antivirals on HCV-induced metabolic complications such as insulin resistance, hyperglycemia and dyslipidemia. Moreover, the impact of therapy with sofosbuvir and other related agents on metabolic disturbances induced by the impairment of autophagic flux in HCV infection will be analyzed. In summary, we believe that our lines of investigation could shed light, in the next future, on key aspects for the pathogenesis and therapy of NAFLD and other chronic liver diseases as well as for the noninvasive diagnosis of NASH.



PUBLICATIONS

La Ganga CS, García Sanz I, López EC, Navas Moreno V, Marazuela M, Gancedo Quintana A, Marín Campos C, Carraro R, Sebastián Valles F. **Equitable Access, Lasting Results: The Influence of Socioeconomic Environment on Bariatric Surgery Outcomes.** *Obes. Surg.* 35. (1). 2024. PMID:39466525. IF:2,90. DOI:10.1007/s11695-024-07529-2. OBESITY SURGERY.

Aroca Esteban J, Souza Neto FV, Aguilar Latorre C, Tribaldo Torralbo A, González López P, Ruiz Simón R, Alvarez Villareal M, Ballesteros S, de Ceniga MV, Landete P, González Rodríguez A, Martín Ventura JL, de las Heras N, Escribano O, Gómez Hernández A. **Potential protective role of let-7d-5p in atherosclerosis progression reducing the inflammatory pathway regulated by NF- κ B and vascular smooth muscle cells proliferation.** *Biochim. Biophys. Acta-Mol. Basis Dis.* 1870. (7). 2024. PMID:38945455. IF:4,20. DOI:10.1016/j.bbdis.2024.167327. BIOCHIMICA ET BIOPHYSICA ACTA-MOLECULAR BASIS OF DISEASE.

Rada P, Carceller-López E, Hitos AB, Gómez-Santos B, Fernández-Hernández C, Rey E, Pose-Utrilla J, García-Monzón C, González-Rodríguez Á, Sabio G, García A, Aspichueta P, Iglesias T, Valverde ÁM. **Protein kinase D2 modulates hepatic insulin sensitivity in male mice.** *Mol Metab.* 90. 2024. PMID:39401614. IF:7,00. DOI:10.1016/j.molmet.2024.102045. MOLECULAR METABOLISM.

Gallego-Durán R, Ampuero J, Maya-Miles D, Pastor-Ramírez H, Montero-Vallejo R, Rivera-Esteban J, Álvarez-Amor L, Pareja MJ, Rico MC, Millán R, Robles-Frías MJ, Aller R, Rojas Á, Muñoz-Hernández R, Gil-Gómez A, Gato S, García-Lozano M, Arias-Loste MT, Abad J, Calleja JL, Andrade RJ, Crespo J, González-Rodríguez Á, García-Monzón C, Andreola F, Pericás JM, Jalan R, Martín-Bermudo F, Romero-Gómez M. **Fibroblast growth factor 21 is a hepatokine involved in MASLD progression.** *United European Gastroenterol J.* 12. (8). 2024. PMID:38894596. IF:5,80. DOI:10.1002/ueg2.12534.

UNITED EUROPEAN GASTROENTEROLOGY JOURNAL.

Brea R, Casanova N, Alvarez-Lucena C, Fuertes-Agudo M, Luque-Tevar M, Cucarella C, Capitani MC, Marinocchi MV, Fusini ME, Lahoz A, Noguerols ML, Fraile J, Ronco MT, Boscá L, González-Rodríguez Á, García-Monzón C, Martín-Sanz P, Casado M, Francés DE. **Beneficial effects of hepatic cyclooxygenase-2 expression against cholestatic injury after common bile duct ligation in mice.** *Liver Int.* 44. (9) 2024. PMID:38847511. IF:6,00. DOI:10.1111/liv.16004. LIVER INTERNATIONAL.

Ampuero J, Aller R, Gallego-Durán R, Crespo J, Calleja JL, García-Monzón C, Gómez-Camarero J, Caballería J, Lo Iacono O, Ibañez L, García-Samaniego J, Albiellos A, Francés R, Fernández-Rodríguez C, Maya-Miles D, Diago M, Poca M, Andrade RJ, Latorre R, Jorquera F, Morillas RM, Escudero D, Hernández-Guerra M, Pareja-Megía MJ, Banales JM, Aspichueta P, Benlloch S, Rosales JM, Turnes J, Romero-Gómez M; HEPAmet Registry. **The biochemical pattern defines MASLD phenotypes linked to distinct histology and prognosis.** *J Gastroenterol.* 59. (7) 2024. PMID:38619600. IF:6,90. DOI:10.1007/s00535-024-02098-8. JOURNAL OF GASTROENTEROLOGY.

Marañón P, Rey E, Isaza SC, Wu H, Rada P, Choya-Foces C, Martínez-Ruiz A, Martín MÁ, Ramos S, García-Monzón C, Cubero FJ, Valverde ÁM, González-Rodríguez Á. **Inhibition of ALK3-mediated signalling pathway protects against acetaminophen-induced liver injury.** *Redox Biol.* 71. 2024. PMID:38401290. IF:10,70. DOI:10.1016/j.redox.2024.103088. REDOX BIOLOGY.

Fernández-García CE, Gallego-Galiana J, Solís-Muñoz PA, Del Pozo-Maroto E, Domínguez-Alcón L, Tobar-Izquierdo M, Sáez A, Rodríguez de Cía J, Magaña-Sánchez A, Real-Martínez Y, García-Buey L, González-Moreno L, Caldas-Álvarez M, Cardeñoso-Domingo LM, González-Gamarra A, Salvador-Calvo A, González-Rodríguez Á, García-Monzón C. **Hospital-based screening outperforms primary care screening as a means of achieving hepatitis C virus micro-elimination.** *Infect Dis Now.* 54. (2) 2024. PMID:38309646. IF:2,90. DOI:10.1016/j.idnow.2024.104855. INFECTIOUS DISEASES NOW.

Area 2 Translational neuroscience

- Line 2.1** Neuropharmacology and neuroprotection
- Line 2.3** Clinical pharmacology and pharmacogenetics
- Line 2.4** Diagnostic and therapeutic advances in affective disorders
- Line 2.5** Neurosurgery of epilepsy
- Line 2.6** Cerebrovascular diseases

Line 2.1

Neuropharmacology and neuroprotection

GROUP 16



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Sigüero Gómez, Carlota
Tortosa Binacua, Elena
Viqueira Díaz-Alejo, Lucía



RESEARCH INTEREST

Neurodegenerative disorders like Alzheimer's disease, Parkinson's disease, amyotrophic lateral sclerosis and stroke represent an appalling cost, both in financial and human terms. Treatments for neurodegenerative diseases are destined to become the most significant health challenge for this generation. To date, no therapeutic strategy has proven effective and millions have been invested in therapeutic trials that have failed. There is therefore an urgent and pressing need to identify novel therapeutic strategies that might protect or rescue vulnerable neurons in these dreadful diseases. In this context, our main research lines are:

1. Identification of therapeutic targets to develop new drugs for neurodegeneration. We are particularly interested in understanding how oxidative stress, neuroinflammation and changes in the autophagic flux participate in neurodegeneration, in order to develop pharmacological interventions to regulate these pathological conditions.
2. Development of in vitro and in vivo preclinical models that better mimic the human neurodegenerative disease. Availability of preclinical models that better represent the human disease will greatly improve translation of preclinical results to human disease.
3. Search of novel therapeutic strategies for neurodegeneration based on medicinal chemistry, combination therapy and drug repurposing. Since oxidative stress, neuroinflammation and impairment of autophagy have been implicated in neurodegeneration, impacting on several of these processes with multitarget compounds or combination of drugs with complementary mechanisms of action is sought, to have better therapeutic profile than just impacting on a single target. For example, Nrf2 inducers combined with scavenger effect, the inhibition of several enzymes related to neurological disorders and agonist of the nicotinic acetylcholine receptors are currently being developed in our group.



PUBLICATIONS

Rojo AI, Buttari B, Cadenas S, Carlos AR, Cuadrado A, Falcão AS, López MG, Georgiev MI, Grochot Przekzek A, Gumeni S, Jimenez Villegas J, Horbanczuk JO, Konu O, Lastres Becker I, Levonen AL, Maksimova V, Michaeloudes C, Mihaylova LV, Mickael ME, Milisav I, Miova B, Rada P, Santos M, Seabra MC, Strac DS, Tenreiro S, Trougakos IP, Dinkova Kostova AT. **Model organisms for investigating the functional involvement of NRF2 in non-communicable diseases**. Redox Biol. 79. PMID: 39709790. DOI: 10.1016/j.redox.2024.103464. Redox biology.

Torres Rufas M, Vicente Rabaneda EF, Carde-

ño L, Gutierrez A, Bong DA, Valero Martínez C, López Matencio JMS, García Vicuña R, González Gay MA, González Alvaro I, Castañeda S. **Effectiveness and Safety of the COVID-19 Vaccine in Patients with Rheumatoid Arthritis in a Real-World Setting**. Vaccines. 12. (6). 2024. PMID:38932401. IF:5,20. DOI: 10.3390/vaccines12060672. Vaccines.

Martínez Fleita P, Vicente Rabaneda EF, Triguero Martínez A, Roy Vallejo E, Uriarte Ecenarro M, Gutierrez Rodríguez F, Quiroga Colina P, Romero Robles A, Montes N, García Castaneda N, Mejía Abril GP, García Vadiello JA, Llorente Cubas I, Villagrasa JR, López Matencio JMS, Ancochea J, Urzainqui A, Esparcia Pinedo L, Alfranca A, De La Fuente H, García Vicuña R, Sánchez Madrid F, González Alvaro I, Castaneda S. **Beneficial effect of temporary methotrexate interruption on B and T cell responses upon SARS-CoV-2 vaccination in patients with rheumatoid arthritis or psoriatic arthritis**. npj Vaccines. 9. (1). 2024. PMID:38291047. IF:6,90. DOI:10.1038/s41541-024-00805-3. npj Vaccines.



GROUP 41



Javier Egea Maíquez
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RESEARCH INTEREST

Acute brain injuries, such as stroke and traumatic brain injury, account for 10% of deaths and are the leading cause of disability worldwide (GBD 2013 Mortality and Causes of Death Collaborators, 2015). The pathophysiology of acute brain injuries is complex and multifactorial and, currently, it is difficult to treat pharmacologically and represent an unmet need at clinical level. In recent years, inflammatory processes (pronounced in this type of pathologies) have become the main agents that contribute to aggravate acute brain injuries and, therefore, have become very promising therapeutic targets. Our group focuses on studying the role of inflammation and immunity in the pathogenesis of these diseases. Specifically, we study the mechanisms that control the activation of the innate immune system and its application to the search for new therapeutic targets and new prognostic / diagnostic biomarkers in stroke, traumatic brain injury and neurodegenerative diseases.

1. Study of the mechanisms that control the activation of the innate immune system. Inflammasomes are multi-protein molecular platforms involved in the activation of caspase-1. After activation of caspase-1, interleukins pro-IL-1 β and pro-IL-18 are processed and released to initiate the inflammatory process. NLRP3 is the only NOD receptor (NLR, NOD-like receptors) that responds to both danger-associated molecular patterns (DAMPs) and pathogen-associated molecular patterns (PAMPs). NLRP3 is activated in response to a wide variety of infectious stimuli or cellular stress caused by different signs of sterile danger, such as high concentrations of extracellular ATP, oxidative stress, and β -amyloid aggregates. Our main work focuses on studying the transduction of the signals that

activate inflammation and, specifically, the participation of mitochondria in this process.

2. Search for new therapeutic targets to treat acute brain injuries.

The mechanisms studied in line 1 are validated in "in vitro" and "in vivo" models of cerebral ischemia (transient middle cerebral artery occlusion, tMCAO; hemorrhagic stroke) and traumatic brain injury (closed head injury model).

3. Search for new diagnostic/prognostic biomarkers of inflammatory origin. We study the potential role of new biomarkers in samples of traumatic brain injury and stroke patients (ischemic and hemorrhagic) patients and we try to validate them using the models described in line 2.



MAJOR GRANTS

La proteína amiloide sérica A1 como nueva diana molecular para la detección del daño secundario, pronóstico y tratamiento del traumatismo craneoencefálico". PI22/00362. INSTITUTO SALUD CARLOS III. 2023-2025. PI: Egea Maíquez, Francisco Javier.

Red de Investigación Cooperativa Orientadas al Resultado en Salud (RICORS)-ICTUS. Acción Estratégica en Salud, ISCIII. RD21/0006/0009. 2022-2024. PI: J. Vivancos. Role: Collaborator Researcher.

Caracterización de la comunicación intercelular entre los componentes de la unidad neurovascular y el sistema inmunológico para proteger la barrera hematoencefálica. CONSOLIDACIÓN INVESTIGADORA 2023. CNS2023-145023. AGENCIA ESTATAL DE INVESTIGACION. PI: Egea Maíquez, Francisco Javier.



PUBLICATIONS

García-Caballero C, Guerrero-Hue M, Vallejo-Mudarra M, Palomino Antolin A, Decouty-Pérez C, Sánchez-Mendoza LM, Villalba JM, González-Reyes JA, Opazo-Ríos L, Vázquez-Carballo C, Herencia C, Leiva-Cepas F, Cortegano I, Andrés B, Egido J, Egea J, Moreno JA. **Nox4 is involved in acute kidney injury associated to intravascular hemolysis**. Free Radic Biol Med. 2024; 225: 430-444. DOI:10.1016/j.freeradbiomed.2024.10.283. FREE RADICAL BIOLOGY AND MEDICINE.

Choya-Foces C, Navarro E, Ríos CL, López MG, Egea J, Hernansanz-Agustín P, Martínez-Ruiz A. **The mitochondrial Na⁺/Ca²⁺ exchanger NCLX is implied in the activation of hypoxia-inducible factors**. Redox Biol. 2024; 77: 103364. DOI:10.1016/j.redox.2024.103364. REDOX BIOLOGY.

Valencia I, Lumpuy Castillo J, Magalhaes G, Sánchez Ferrer CF, Lorenzo Ó, Peiró C. **Mechanisms of endothelial activation, hypercoagulation and thrombosis in COVID-19: a link with diabetes mellitus**. Cardiovasc Diabetol. 23(1), 2024. PMID:38378550. DOI:10.1186/s12933-023-02097-8. IF:8,50. CARDIOVASCULAR DIABETOLOGY.

Line 2.3

Clinical pharmacology and pharmacogenetics

GROUP 32



Francisco Abad Santos
Head of group



GROUP MEMBERS

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Navares Gómez, Marcos
Novalbos Reina, Jesús Miguel
Ochoa Mazarro, María Dolores
Ovejero Benito, María del Carmen
Parra Garces, Raúl Miguel
Pérez Hernández, Concepción
Rodríguez López, Andrea
Román Martínez, Irene
Román Martínez, Manuel
Sánchez Jiménez, Patricia
Soria Chacartegui, Paula
Villapalos García, Gonzalo
Vizcaino Rodríguez, Paula
Zubiaur Precioso, Pablo



RESEARCH INTEREST

The aim of the research conducted by this group is to increase pharmacogenetic, pharmacokinetic and pharmacodynamic knowledge of drugs in order to predict patients' response in terms of effectiveness and safety.

Our group has extensive experience in conducting phase I, II and III clinical trials. We have a clinical trials unit (UECHUP), with capacity for 18 subjects on the 7th floor of the Hospital Universitario de La Princesa. The clinical trials conducted include phase I clinical trials (e.g. bioequivalence or first in human trials), and clinical trials in patients to evaluate the effectiveness of new drugs, in collaboration with various specialists at the hospital and with primary care. Our group conducts more than 20 clinical trials each year, and this number is expected to increase due to demand from the pharmaceutical industry. Last year, several clinical trials on the COVID-19 vaccine were conducted in our unit.

The group's research focuses mainly on the pharmacogenetics of several drugs prescribed for the treatment of various diseases, so that eventually this knowledge could help physicians to prescribe the best treatment for each patient in a personalised way. In 2020, 311 patients benefited from pharmacogenetic testing. We have also implemented pharmacogenetic testing through OpenArray, using a customised chip that can simultaneously analyse 120 SNPs located in 43 different genes. This technology has enabled us to significantly increase our portfolio of pharmacogenetic tests available to support physicians in prescribing medicines. Seven funded projects were active in 2020. In addition to projects funded in previous years, Francisco Abad Santos received new funding in 2020 (ICI20/00131) to evaluate a pharmacogenetics-guided tramadol prescribing strategy. Another important line of research focuses on therapeutic drug monitoring, mainly for antipsychotics and tyrosine kinase inhibitors.



MAJOR GRANTS

Abad Santos, Francisco. PLATAFORMA IS-CIII DE SOPORTE PARA LA INVESTIGACION CLINICA. PT23/00060. INSTITUTO SALUD CARLOS III.2024-

Abad Santos, Francisco. "Utilidad la farmacogenética para mejorar la prescripción de estatinas en atención primaria y especializada". PI22/01647.INSTITUTO SALUD CARLOS III.2023-

Abad Santos, Francisco. PMP22/00139 - MEDICINA PERSONALIZADA DE PRECISIÓN: "EVALUACIÓN DE UNA PROPUESTA DE IMPLEMENTACIÓN DE FARMACOGENÉTICA EN EL SISTEMA NACIONAL DE SALUD PARA SALUD MENTAL Y CARDIOVASCULAR [BIOFRAM22]". PMP22/00139. INSTITUTO SALUD CARLOS III.2023-

Abad Santos, Francisco. "Desarrollo de un nuevo fármaco para tratar el prurito psoriásico". Proyectos en colaboración público-privada 2021. CPP2021-008824. AGENCIA ESTATAL DE INVESTIGACION.2022-

Torres Díaz, Cristina Virginia; Ovejero Benito, María del Carmen. CARACTERIZACIÓN PROFUNDA DE LA ZONA EPILEPTÓGENA DE PACIENTES CON EPILEPSIA FÁRMACORRESISTENTE: DESCIFRANDO EL PAPEL DE LAS CÉLULAS TETRAPLOIDES NEURALES.PI20/01391. INSTITUTO SALUD CARLOS III.2021-

Abad Santos, Francisco. Ensayo clínico aleatorizado para evaluar la utilidad del genotipado de CYP2D6 para mejorar la eficacia y la seguridad del tramadol en el tratamiento del dolor postoperatorio agudo. ICI20/00131. INSTITUTO SALUD CARLOS III. 2021-



PUBLICATIONS

Lopez Saavedra J, Abad Santos F. **Cost-effectiveness of pharmacogenetic screening in the management of major depressive disorder in the Spanish Healthcare System.** J. Affect. Disord. 365. 2024. PMID:39187185. IF:4,90. DOI:10.1016/j.jad.2024.08.154. JOURNAL OF AFFECTIVE DISORDERS.

Stewart S, Seco Meseguer E, Diago Sempere E, Marín Candón A, Carmona M, Estébanez M, López Fernández LA, Imaz Iglesia I, Saiz MDG, Laserna Mendieta EJ, Peiró AM, Farré M, Rodriguez Jimenez C, Saiz Rodríguez M, Sanabria Cabrera J, Rosas Alonso R, Abad Santos F, Pedrosa L, Carcas AJ, García IG, Borobia AM, iPHARMGx Study Grp. **Phase IV adaptive randomised clinical trials evaluating efficacy and cost-efficacy of pre-emptive pharmacogenetic genotyping strategies in the Spanish National Health System: iPHARMGx**

Master Protocol and PREVESTATGx nested clinical trial. BMJ OPEN. 14. [11]. 2024. PMID:39510769. IF:2,40. DOI:10.1136/bmjopen-2024-089823. BMJ OPEN.

González Iglesias E, Ochoa D, Navares Gómez M, Zubiaur P, Aldama M, de la Torre T, Ríos Rodríguez MD, Soria Chacartegui P, Rodríguez Lopez A, Abad Santos F, Novalbos J. **Evaluation of the role of metabolizing enzymes and transporter variants in ezetimibe pharmacokinetics.** Front. Pharmacol. 15. 2024. PMID:39484171. IF:4,40. DOI:10.3389/fphar.2024.1414059. Frontiers in Pharmacology.

Zubiaur P, Rodríguez Antona C, Boone EC, Daly AK, Tsermpini EE, Khasawneh LQ, Sangkuhl K, Duconge J, Botton MR, Savieo J, Nofziger C, Whirl Carrillo M, Klein TE, Gaedigk A. **PharmVar GeneFocus: CYP4F2.** Clin. Pharmacol. Ther. 116. [4]. 2024. PMID:39135485. IF:6,30. DOI:10.1002/cpt.3405. CLINICAL PHARMACOLOGY & THERAPEUTICS.

Robinson, KM, Eum, S, Desta, Z, Tyndale, RF, Gaedigk, A, Crist, RC, Haidar, CE, Myers, AL, Samer, CF, Somogyi, AA, Zubiaur, P, Iwuchukwu, OF, Whirl Carrillo, M, Klein, TE, Caudle, KE, Donnelly, RS, Kharasch, ED. **Clinical Pharmacogenetics Implementation Consortium Guideline for CYP2B6 Genotype and Methadone Therapy.** Clin. Pharmacol. Ther.116. [4]:2024. PMID: 38863207. IF: 6,30. DOI: 10.1002/cpt.3338.

Gaedigk A, Turner AJ, Moyer AM, Zubiaur P, Boone EC, Wang WY, Broeckel U, Kalman L. **Characterization of Reference Materials for DPYD A GeT-RM Collaborative Project.** J. Mol. Diagn. 26. [10]. 2024. PMID:39032822. IF:3,40. DOI:10.1016/j.jmoldx.2024.06.004. JOURNAL OF MOLECULAR DIAGNOSTICS.

Abbes H, Zubiaur P, Soria Chacartegui P, de la Torre T, Villapalos García G, Candau C, Rodríguez Lopez A, González Iglesias E, Aldama M, Navares Gomez M, Omezzine A, Ochoa D, Abad Santos F. **SLC01B1 and ABCG2 genotype-informed phenotypes are related to variation in ramipril exposure.** Basic Clin. Pharmacol. Toxicol. 135. [3]. 2024. PMID:39011815. IF:2,70. DOI:10.1111/bcpt.14046. BASIC & CLINICAL PHARMACOLOGY & TOXICOLOGY.

González Iglesias, E, Abad Santos, F. **Update on the PriME-PGx initiative: evolution of pharmacogenetics in daily clinical practice.** Pharmacogenomics25. [8-9]:2024. PMID: 39115196. IF: 1,90. DOI: 10.1080/14622416.2024.2375188.

Ferguson M, Schwarz TF, Núñez SA, Rodríguez García J, Mital M, Zala C, Schmitt B, Toursarkissian N, Mazarro DO, Grosskopf J, Voors Pette C, Mehta H, Hailemariam HA, de Heusch M, Salaun B, Damaso S, David MP, Des-

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camps D, Hill J, Vandermeulen C, OA ADJ 018 Study RS-VGrp. **Noninferior Immunogenicity and Consistent Safety of Respiratory Syncytial Virus Prefusion F Protein Vaccine in Adults 50-59 Years Compared to =60 Years of Age.** Clin. Infect. Dis. 79. [4]. 2024. PMID:39099093. IF:8,20. DOI:10.1093/cid/ciae364. CLINICAL INFECTIOUS DISEASES.

Soria Chacartegui P, Cendoya Ramiro P, González Iglesias E, Martín Vilchez S, Rodríguez Lopez A, Mejía Abril G, Román M, Luquero Bueno S, Ochoa D, Abad Santos F. **Genetic Variation in CYP2D6, UGT1A4, SL-C6A2 and SLC01B1 Alters the Pharmacokinetics and Safety of Mirabegron.** Pharmaceutics. 16. [8]. 2024. PMID:39204422. IF:4,90. DOI:10.3390/pharmaceutics16081077. Pharmaceutics.

Butrón Bris B, Llamas Velasco M, Ovejero Benito MC, Santos Juanes J, Martínez López A, Ruiz Villaverde R, Roustán G, Baniandrés O, Izu Belloso R, de la Cueva P, Sahuquillo Torralba A, González Quesada A, Vilarrosa Rull E, Pujol Montcusi J, García Martínez J, Navares M, Palomar Moreno I, Novalbos J, Abad Santos F, Daudén E, De La Fuente H. **Genetic polymorphisms to identify patients with an optimal response to tildrakizumab in psoriasis patients from real-life clinical practice.** Exp. Dermatol. 33. [8]. 2024. PMID:39081053. IF:3,50. DOI:10.1111/exd.15152. EXPERIMENTAL DERMATOLOGY.

Pieren M, Gutiérrez Solana AA, Arbós RMA, Boyle GW, Davila M, Davy M, Gitzinger M, Husband L, Martínez MS, Mazarro DO, Pefani E, Penman SL, Remuiñán MJ, Vlasakakis G, Zeitlinger M, Dale GE. **First-in-human study of alpipectir (BVL-GSK098), a novel potent anti-TB drug.** J. Antimicrob. Chemother. 79. [6]. 2024. PMID:38656557. IF:3,90. DOI:10.1093/jac/dkac107. JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY.

González Iglesias E, Ochoa D, Román M, Soria Chacartegui P, Martín Vilchez S, Navares Gómez M, de Miguel A, Zubiaur P, Rodríguez Lopez A, Abad Santos F, Novalbos J. **Genetic variation in UGT1A1 is not associated with altered liver biochemical parameters in healthy volunteers participating in bioequivalence trials.** Front. Pharmacol. 15. 2024. PMID:38766628. IF:4,40. DOI:10.3389/fphar.2024.1389968. Frontiers in Pharmacology.

Soria Chacartegui P, Navares Gómez M, Molina Jiménez F, Laserna Mendieta EJ, Arias González L, Majano P, Casabona S, Lucendo AJ, Abad Santos F, Santander C, Zubiaur P. **Impact of STAT6 Variants on the Response to Proton Pump Inhibitors and Comorbidities in Patients with Eosinophilic Esophagitis.** Int. J. Mol. Sci. 25. [7]. 2024. PMID:38612496. IF:4,90. DOI:10.3390/ijms25073685. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES.

Abad Santos F, Alino SF, Borobia AM, García Martín E, Gasó P, Maroñas O, Agúndez JAG. **Developments in pharmacogenetics, pharmacogenomics, and personalized medicine.** Pharmacol. Res. 200. 2024. PMID:38199278. IF:9,10. DOI:10.1016/j.phrs.2024.107061. PHARMACOLOGICAL RESEARCH.

Martínez Fleta P, Vicente Rabaneda EF, Triguero Martínez A, Roy Vallejo E, Uriarte Ecenarro M, Gutiérrez Rodríguez F, Quiroga Colina P, Romero Robles A, Montes N, García Castaneda N, Mejía Abril GP, García Vadillo JA, Llorente Cubas I, Villagrasa JR, López Matencio JMS, Ancochea J, Urzainqui A, Esparcia Pinedo L, Alfranca A, De La Fuente H, García Vicuna R, Sanchez Madrid F, Gonzalez Alvaro I, Castaneda S. **Beneficial effect of temporary methotrexate interruption on B and T cell responses upon SARS-CoV-2 vaccination in patients with rheumatoid arthritis or psoriatic arthritis.** npj Vaccines. 9. [1]. 2024. PMID:38291047. IF:6,90. DOI:10.1038/s41541-024-00805-3. npj Vaccines.

Rodríguez Lopez A, Mejía Abril G, Zubiaur P, Calleja S, Román M, Abad Santos F, Ochoa D. **Use of Exposure Data to Establish Causality in Drug-Adverse Event Relationships: An Example with Desvenlafaxine.** Pharmaceutics. 17. [1]. 2024. PMID:38256902. IF:4,30. DOI:10.3390/ph17010069. Pharmaceutics.

Casajús A, Zubiaur P, Alday E, Soria Chacartegui P, Saiz Rodríguez M, Gutiérrez L, Aragones C, Campodónico D, Gómez Fernández A, Navares Gómez M, Villapalos García G, Mejía Abril G, Ochoa D, Abad Santos F. **Impact of CYP2D6 and CYP2B6 phenotypes on the response to tramadol in patients with acute post-surgical pain.** CTS-Clin. Transl. Sci. 17. [1]. 2024. PMID:38140786. IF:3,10. DOI:10.1111/cts.13698. CTS-CLINICAL AND TRANSLATIONAL SCIENCE.

Line 2.4 Diagnostic and therapeutic advances in affective disorders

GROUP 33



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Leal Leturia, Itziar
López García, María Pilar
Martínez Cano, Herminio
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Morillo Cuadrado, Daniel Vicente
Ortiz-Tallo Moya, Ana
Rodríguez McGreevy, Kerry
Sánchez Carro, Yolanda
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Vieira Campos, Alba



RESEARCH INTEREST

Our team has been devoted to researching the nosology of mental disorders, the epidemiology of mental disorders in general population, the study of the efficacy and efficiency of clinical interventions in affective disorders and the assessment of the health status, quality of life and well-being by means of analysing large populations data.

On the one hand, in 2017 we have maintained some projects and research lines: we have sustained our collaboration with the WHO and have contributed to the revision of the International Classification of Diseases 11th edition (ICD-11). Furthermore, we have intended to contribute to the promotion of mental health not only at a European level but also in Low and middle income countries (LAMICs) and focused in improvement of health systems. We have participated in an international project (EMERALD project) funded by the EU aimed to enhance mental health in LAMICs by means of improvement of all the systems related to health care.

Following H2020 strategic plan, we have consolidated our research line on active aging and wellbeing. We have been working in the project ATHLOS - Ageing Trajectories of Health: Longitudinal Opportunities and Synergies, and PATHWAYS - Participation To Healthy Workplaces And inclusive Strategies in the Work Sector. In addition, we have been conducting a multi-approach study for the identification of the available interventions for targeting psychosocial difficulties in major depression (meta-analyses and expert consultation) (MARATONE project).

Additionally, we have maintained our interest in the study of the environmental and genetic risk factors for the development of psychotic episodes (AGES-CM project).

On the other hand, we have been working on several new research projects:

- 1) "Trajectories on mental health, physical health and functioning: Third wave survey of a Spanish cohort

Line 2.4 Diagnostic and therapeutic advances in affective disorders

of the adult population", which is aimed to carry out a third time point assessment to know trajectories of health in ageing people as well as recruiting new people to make generational comparisons.

- 2) "CIBERSAM cohorts about FEP cases and controls", which is aimed to create a common cohort from different existing cohorts with first episode patients and controls, and follow-up the common cohort at 5, 10 and 15 years.
- 3) "Emotional fluctuation in daily life. Ecological analysis of depressive symptomatology in the general population" which is aimed to analyse the mood fluctuations throughout the day in a general population sample using mobile Apps.
- 4) "European Welfare Models and Mental Wellbeing in Final Years of Life", which is addressed to gather information on the components of wellbeing and welfare in people older than 80 years.
- 5) "Peripheral oxidative stress and inflammatory markers in Major Depressive Disorder", focuses on finding biological markers in Major Depressive Disorder.
- 6) "Metabolic Dysfunctions associated with Pharmacological Treatment of Schizophrenia (TREATMENT)" in which we evaluate how short-term antipsychotic drug responses impact long-term metabolic control to identify and validate biomarkers with clinically predictive value for targeting drug induced metabolic dysfunctions.
- 7) "Psychiatric Ratings using Intermediate Stratified Markers (PRISM)", whose overall objective is to develop a quantitative biological approach to the understanding and classification of the endophenotypes that contribute to neuropsychiatric diseases, to accelerate the discovery and development of better treatments for patients with Alzheimer and Schizophrenia.



MAJOR GRANTS

López García, María Pilar. Estudio de los mecanismos inflamatorios y cerebrales y del efecto clínico y cognitivo de un programa de ejercicio físico en depresión mayor mediante un ensayo clínico longitudinal aleatorizado. PI23/00549. INSTITUTO SALUD CARLOS III.2024-

Ayuso Mateos, José Luis. "Envejecimiento y salud mental en España: quinta evaluación de una cohorte poblacional adulta". PI22/00340. INSTITUTO SALUD CARLOS III.2023-



PUBLICATIONS

Domènech Abella J, Muntaner C, Rodeiro J, Gabarrell Pascuet A, Haro JM, Ayuso Mateos JL, Miret M, Olaya B. **The association of material deprivation with major depressive disorder and the role of loneliness and social support: A cross-sectional study.** J. Affect. Disord. 368. 2025. PMID:39278471. IF:4,90. DOI:10.1016/j.jad.2024.09.071. JOURNAL OF AFFECTIVE DISORDERS.

Fajardo C, Sciacchitano S, Pozo Prados AM, Izquierdo A, Orosa Duarte A, Delgado Parada E, Ayuso Mateos JL, Torio I. **Has psychiatric emergency care changed after the COVID-19 pandemic? A retrospective study in a tertiary hospital in Madrid, Spain.** Eur. J. Psychiatr. 39. (1). 2025. IF:2,50. DOI:10.1016/j.ejpsy.2024.100281. EUROPEAN JOURNAL OF PSYCHIATRY.

Purgato M, Bartucz M, Turrini G, Compri B, Prina E, Pantania F, Kucukozkan E, Zubachova A, Mnahoncak M, Cavojská K, Koval O, Lupea G, Klymchuk V, Maximets N, Mediavilla R, Ayuso Mateos J, Sijbrandij M, van der Ven E, Frankova I, Barbui C. **Assessing local service providers' needs for scaling up MHPSS interventions for Ukrainian refugees: Insights from Poland, Slovakia, and Romania.** Camb. Prism. Glob. Ment. Health. 11. 2024. IF:3,30. DOI:10.1017/gmh.2024.113; 10.1017/gmh.2024.113.pr2; 10.1017/gmh.2024.113.pr3; 10.1017/gmh.2024.113.pr4; 10.1017/gmh.2024.113.pr5; 10.1017/gmh.2024.113.pr6. CAMBRIDGE PRISMS-GLOBAL MENTAL HEALTH.

Francia L, Mediavilla R, Choi LY, Ayuso Mateos JL, De Giorgi R. **Prevalence of Antidepressant Prescriptions for Community-Dwelling Adults Diagnosed with Depressive Disorder in the UK: A Systematic Review.** Psychiatr. Q. 95. (4). 2024. PMID:39347894. IF:2,70. DOI:10.1007/s1126-024-10093-8. PSYCHIATRIC QUARTERLY.

Castelletti C, Ogunlayi F, Miret M, Lara E, Oyeboode. **Demographic and socio-economic inequalities in subjective wellbeing: analysis of repeated cross-sectional health surveys in England 2010-2019.** J. Public Health. 46. (4). 2024. PMID:39327858. IF:3,60. DOI:10.1093/pubmed/fdae247. JOURNAL OF PUBLIC HEALTH.

Braak S, Penninx BWJH, Su TJ, Pijnenburg Y, Nijland D, Campos AV, de la Torre Luque A, Saris IMJ, Reus LM, Beckenstrom AC, Malik A, Dawson GR, Marston H, Alvarez Linera J, Ayuso Mateos JLL, Arango C, van der Wee N, Kas MJ, Aghajani M. **Social dysfunction relates to shifts within socioaffective brain systems among Schizophrenia and Alzheimer's disease patients.** Eur.

Neuropsychopharmacol. 86. 2024. PMID:38909542. IF:6,10. DOI:10.1016/j.euroneuro.2024.05.004. EUROPEAN NEUROPSYCHOPHARMACOLOGY.

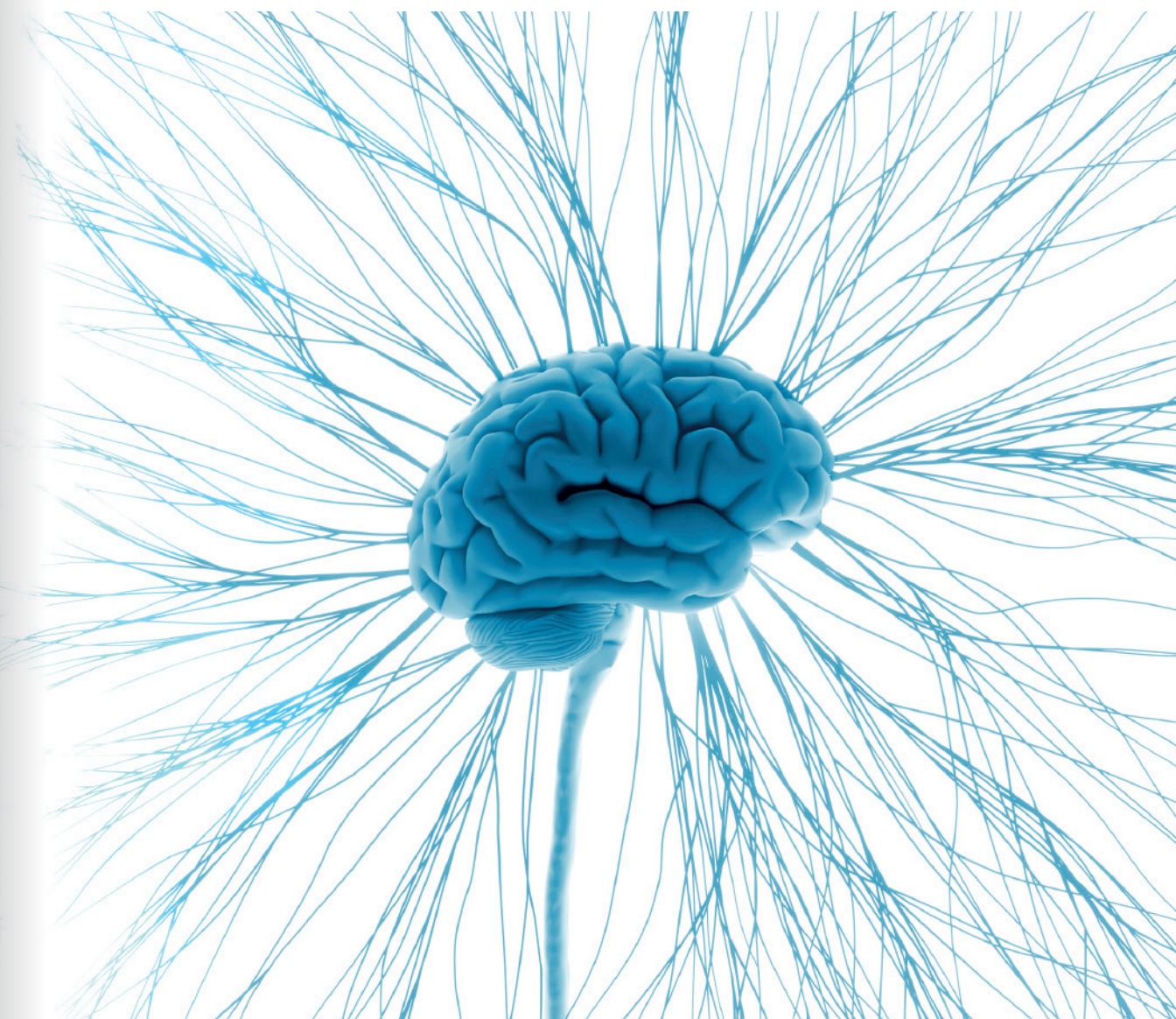
Ostergaard FG, Penninx BWJH, Das N, Arango C, van der Wee N, Rossum IWW, Ayuso Mateos JL, Dawson GR, Marston H, Kas MJH. **The aperiodic exponent of neural activity varies with vigilance state in mice and men.** PLoS One. 19. (8). 2024. PMID:39121107. IF:2,90. DOI:10.1371/journal.pone.0301406. PLoS one.

Francia L, De Giorgi R, Lara E, del Castellar, BD, Castelletti C, Rodríguez Prada C, Domènech Abella J, Olaya B, Haro JM, Mateos JLA. **Treatment coverage for depression in the general Spanish population and the impact of the Covid-19 pandemic (vol 10, e32594, 2024).** Heliyon10. (14):2024. PMID: 39156592. IF: 3,40. DOI: 10.1016/j.heliyon.2024.e34571.

Brauer M, Roth GA, Aravkin AY, Zheng P, Abate KH,

Abate YH, Abbafati C, Abbasgholizadeh R, Abbasi MA, Abbasian M, Abbasifard M, Abbasi Kangevari M, ElHafeez SA, Abd Elsalam S, Abdi P, Abdollahi M, Abdoun M, Abdulah DM, Abdullahi A, Abebe M, Abedi A, Abedi A, Abegaz TM, Zuñiga RAA, Abiodun O, Abiso TL, Aboagye RG, Abolhassani H, Abouzid M, Aboye GB et al. **Global burden and strength of evidence for 88 risk factors in 204 countries and 811 subnational locations, 1990-2021: a systematic analysis for the Global Burden of Disease Study 2021.** LANCET. 403. (10440). 2024. PMID:38762324. IF:98,40. DOI:10.1016/S0140-6736(24)00933-4. LANCET.

Castelletti C, Dolz Del Castellar B, Miret M, Mercier H, Lara E. **Loneliness and Subjective Wellbeing During the Covid-19 Pandemic: A Systematic Review.** J PSYCHOL. 158. (6). 2024. PMID:38466316. IF:2,20. DOI:10.1080/00223980.2024.2319172. J PSYCHOL.



Line 2.5 • Neurosurgery of epilepsy

GROUP 34



Jesús Pastor Gómez
Head of group



GROUP MEMBERS

Carvajal Molina, Fernando
Díaz Tomás, Eva de
García Navarrete, Eduardo
Luque Cárdenas, Cecilia
Martín, Esmeralda Rocío
Martín Plasencia, Pilar
Meilán Paz, María Luisa
Navas García, Marta
Pintor Zamora, Miguel
Pulido Rivas, Paloma
Torres Díaz, Cristina Virginia
Vega Zelaya, Lorena Carolina
Wix Ramos, Rybel



RESEARCH INTEREST

Epilepsy, movement disorders and some psychiatric pathologies are among the main targets for functional neurosurgery. They share several properties that make them interesting for our research line.

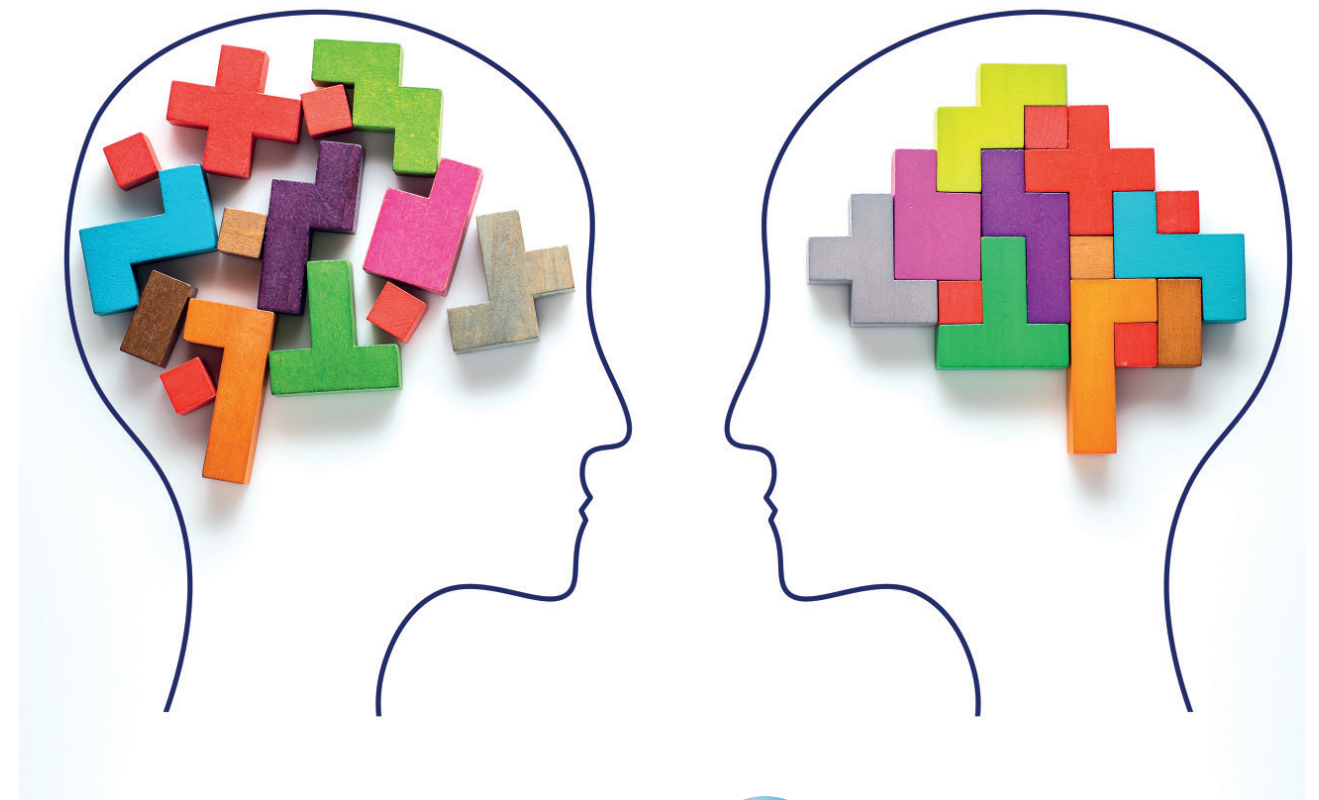
Drug-resistant epilepsy affects 20-30% of patients suffering epilepsy worldwide. One of the most efficacious treatments is surgery, including resective techniques and neuromodulation in different forms. Presurgical evaluation usually requires the use of very deep studies (e.g. morphological and functional MRI) or invasive techniques (intracranial electrodes), which are also used during treatment (electrocorticographic recordings or extracellular recordings for Deep Brain Stimulation -DBS). In the same way, several pathologies affecting basal ganglia need different ancillary tests to characterize the illness (genetic, nuclear medicine, morphological MRI) and to carry out the treatment (DBS).

Altogether, this set of human illness offers a unique opportunity to study the underlying pathophysiological processes. Understanding these processes is the first step to its rational treatment

Our research line is integrated by clinical researchers which are part of national reference units for the treatment of refractory epilepsy and surgical treatment of movement disorders. Therefore, our scientific interests include all aspects around functional neurosurgery and, especially, epilepsy and basal ganglia pathologies.

The topics we are working on include the following:

- a) Identification of basal ganglia subnuclei by extracellular recording.



- b) Physiopathology of somatosensory thalamus, by means of somatosensory evoked potentials, electrically elicited.
- c) Connectivity in epilepsy. To do that, we are studying diffusion tensor imaging and fractional anisotropy, as well as electrophysiological recordings acquired by means of scalp or intracranial recordings.
- d) Genetics and epi-genetics in epilepsy.
- e) Quantified EEG (qEEG) to use as biomarker for different pathologies. Among those fields specially targeted by this technique are patients in Intensive Care Units and neurological and psychiatric illness.
- f) Cortico-cortical connectivity, especially for language function.



MAJOR GRANTS

Pastor Gómez, Jesús. RESPUESTA DIFERENCIAL A LA MÚSICA EN PACIENTES CRÍTICOS CON SEDO-ANALGESIA. PI23/00393. INSTITUTO SALUD CARLOS III. 2024-

Torres Díaz, Cristina Virginia; Ovejero Benito, María del Carmen. CARACTERIZACIÓN PROFUNDA DE LA ZONA EPILEPTÓGENA DE PACIENTES CON EPILEPSIA FÁRMACORRESISTENTE: DESCIFRANDO EL PAPEL DE LAS CÉLULAS TETRAPLOIDES NEURALES. PI20/01391. INSTITUTO SALUD CARLOS III. 2021-

Line 2.6

Cerebrovascular diseases

GROUP 35



José Aurelio Vivancos Mora
Head of group



GROUP MEMBERS

Aguirre Hernández, Clara
Alonso Maroto, Jaime
Carreras Rodríguez, Teresa
Fernández Alén, José Antonio
Fernández Lázaro, Iris
Gago Veiga, Ana Beatriz
González García, Beatriz
González Martínez, Alicia
Heredia Rodríguez, Patricia
López Manzanares, Lydia
Meca Lallana, Virginia
Mora Pérez, Noemí
Nombela Merchán, Florentino
Ramos Martín, Carmen
Reig Roselló, Gemma
Sobrado Sanz, Mónica
Toledo Heras, María de
Trillo Senín, Santiago
Vázquez Doce, Aránzazu
Vega Villar, Juan
Ximénez-Carrillo Rico, Álvaro
Zapata Wainberg, Gustavo Enrique



RESEARCH INTEREST

Stroke and Cerebrovascular Diseases

1. Predictive models in stroke for the search of diagnostic and prognostic markers:
Application of machine learning techniques and search for plasma and clinical scale biomarkers.
2. Acute phase treatments: Interventional neuro-radiology and emerging therapies.
Strategies to improve the selection of patient candidates
3. Neuroprotection: Biomolecular markers of ischemia and new therapeutic targets and strategies
4. Primary and secondary stroke prevention: Detection of atrial fibrillation using a new
ECG monitoring device based on biomedical textiles (wearables). Identification of risk profiles.
5. Population-based health services delivery / stroke code system
6. Telemedicine

Movement Disorders

- Parkinson disease in young patients
- Parkinson disease. Follow-up and control helped by new technologies

Cephalaeas

- Study of the response variables to botulinum toxin and anti- CGRP monoclonal antibodies.
- Glutamate and headaches
- Non-invasive outpatient monitoring of biometric and biophysical variables as a method for prediction of migraine crises

Cognitive impairment and dementia

- Detection of early Alzheimer's disease and search for new therapeutic targets.
- Language disorders of neurodegenerative origin
- Management of behaviour alteration in the context of patients with dementia

Multiple Sclerosis

- Outcome markers and new therapies
- Immunopathogenesis of multiple sclerosis and monoclonal antibody therapies.
- Therapeutic compliance of first line disease-modifying therapies in patients with multiple sclerosis

Epilepsy

- Drug-refractory epilepsy
- Genetic alterations in refractory epilepsy
- Non-convulsive epileptic status
- Neuroimaging in the emergency epileptic patient

Neuromuscular diseases

- Immunopathogenesis of myasthenia gravis



MAJOR GRANTS

Reig Roselló, Gemma; Vivancos Mora, José Aurelio. "Modelo de predicción con técnicas de aprendizaje automático (Machine Learning) del pronóstico y de las complicaciones intrahospitalarias del ictus en su fase aguda".PI22/01454. INSTITUTO SALUD CARLOS III. 2023-

Gago Veiga, Ana Beatriz. PMP22/00158 - MEDICINA PERSONALIZADA DE PRECISIÓN: PREDIMIGRAINE: Medicina de precisión para prevenir la cronificación de la migraña a través de la predicción de las crisis de dolor y de la respuesta al tratamiento con anticuerpos anti-CGRP utilizando estrategias multi-ómicas.PMP22/00158. INSTITUTO SALUD CARLOS III. 2023-

Fernández Alén, José Antonio. "Dispositivo implantable para el tratamiento de tumores cerebrales mediante campos eléctricos". LÍNEAS ESTRATÉGICAS 2022. PLEC2022-009308. AGENCIA ESTATAL DE INVESTIGACION. 2022-

Vivancos Mora, José Aurelio. RD21/0006/0009 - JOSE AURELIO VIVANCOS - RICORS - ICTUS.RD21/0006/0009. INSTITUTO SALUD CARLOS III. 2022-

González Martínez, Alicia. EXTRA-MIG: Análisis multimodal de vesículas extracelulares y resonancia magnética cerebral como biomarcadores en migraña. Implicación diagnóstica y terapéutica. PI24/01085. INSTITUTO SALUD CARLOS III.

Vivancos Mora, José Aurelio. RD24/0009/0032 - JOSÉ VIVANCOS MORA- RICORS - ICTUS. RD24/0009/0032. INSTITUTO SALUD CARLOS III.



PUBLICATIONS

Rodríguez Pardo J, García Castro J, Gómez Escalonilla C, García Torres A, García Pastor A, Vivancos Mora J, Fernández Ferro J, Cruz Culebras A, Carneado Ruiz J, Granja López J, Estebas Armas C, Lorenzo Diéguez M, González Sarmiento R, García Yu R, Alvarez Muelas A, Navas Vinagre I, Osés Lara M, Iglesias Mohe-dano A, Santos L, de la Rosa C, de Lecinaña MA, Díez Tejedor E, Ruiz Ares G, Rigual R, de Celis E, Hervás Testal C, Casado Fernández L, González Martín L, Navía P, Fernandez Prieto A et al. **Burden of incidental cerebral aneurysms on lifestyle and quality of life: a survey of patients in expectant management (the SPICE Study)**. J. NeuroInterventional Surg. 2024. PMID:39567189. DOI:10.1136/jnis-2024-022459. IF:4,50. Journal of NeuroInterventional Surgery.

Pérez Mato M, Dopico Lopez A, Akkoc Y, López Amoedo S, Correa Paz C, Candamo Lourido M, Iglesias Rey R, López Arias E, da Silva Candal A, Bravo SB, Chantada Vázquez MD, Arias S, Santamaría Cadavid M, Estany Gestal A, Zaghmi A, Gauthier MA, Gutierrez Fernandez M, Martin A, Llop J, Rodríguez C, Almeida A, Migliavacca M, Polo E, Pelaz B, Gozuacik D, El Yamani N, SenGupta T, Run-dén Pran E, Vivancos J, Castellanos M et al. **Preclinical validation of human recombinant glutamate-oxaloacetate transaminase for the treatment of acute is-**

chemic stroke. iScience. 27(11). 2024. PMID:39524351. DOI:10.1016/j.isci.2024.111108. IF:4,60. iScience.

Gonzalez Martinez A, Ray JC, Haghdoust F, Ashraf U, Cerrahoglu Sirin T, Dantes MC, Gosalia H, Hwang H, Kim JM, Lange KS, Jennysdotter Olofsgård F, Caronna E, Pozo Rosich P, International Headache Academy of the International Headache Society (IHS-iHEAD). **Time and headache: Insights into timing processes in primary headache disorders for diagnosis, underlying pathophysiology and treatment implications.** Cephalalgia. 44(11). 2024. PMID:39558611.

DOI:10.1177/03331024241297652. IF:5,00. Cephalalgia.

Fernández Bermejo E, Planchuelo Gómez A, Quintas S, Gonzalez Martinez A, García Azorín D, Sierra Mencía A, Guerrero AL, Santos Lasasosa S, Navarro Pérez MP, González García N, Díaz Terán J, Gago Veiga AB. **Evaluation of the burden of migraine on the partner's lifestyle.** Neurologia. 39(9). 2024. DOI:10.1016/j.nrl.2022.12.003. IF:2,90. Neurología.

Tiu V, Duraes J, Di Lorenzo F, Vashchenko N, Gonzalez Martinez A, Accorroni A, Carvalho V, Sferruzza G, Cuffaro L. **Perceived discrepancies in neurosonology training and certification across Europe: a RRFS/EAN survey.** Front. Neurol. 15. 2024. PMID:39534267. DOI:10.3389/fneur.2024.1464946. IF:2,70. Frontiers in Neurology.

Gago Veiga AB, Lopez Alcaide N, Quintas S, Lázaro IF, Casas Limón J, Calle C, Latorre G, González García N, Porta Etessam J, Rodríguez Vico J, Jaimes A, García AG, García Azorín D, Guerrero Peral AL, Sierra A, Ros AL, Sánchez Soblechero A, Díaz Teran J, Membrilla JA, Treviño C, Gonzalez Martinez A. **Evaluation of the concomitant use of prophylactic treatments in patients with migraine under anti-calcitonin gene-related peptide therapies: The PREVENAC study.** Eur. J. Neurol. 31(5). 2024. PMID:38323742. DOI:10.1111/ene.16215. IF:4,50. European Journal of Neurology.

García Azorín D, Martínez Badillo C, Muñiz JC, Gago Veiga AB, Sánchez NM, González Quintanilla V, Porta Etessam J, Sierra Mencía A, Gonzalez Garcia N, González Osorio Y, Polanco Fernandez M, Recio García A, Nieto RB, Guerrero Peral AL. CandeSpartan Study: **Candesartan Spanish Response-prediction and Tolerability study in migraine.** Cephalalgia. 44(4). 2024. PMID:38663908. DOI:10.1177/03331024241248833. IF:5,00. Cephalalgia.

del Rincón CR, Gonzalez Martinez A, Quintas S, García Azorín D, Lázaro IF, Guerrero Peral AL, Osorio YG, Santos Lasasosa S, Oria CG, Rodríguez NS, Díez FI, Iñiguez AE, Luque SG, Huerta Villanueva M, Díaz SC, Muñoz Vendrell A, Ros AL, Sánchez Soblechero A, Juanes FV, Kortazar Zubizarreta I, Echeverría A, Rodríguez Vico J, Sánchez AJ, García AG, Sánchez Mateos NM, Belvis R, Pérez MPN, García Monco JC, Escudero MRA, Montes N et al. **RE-START: Exploring the effectiveness of anti-calcitonin gene-related peptide resumption after discontinuation in migraine.** Eur. J. Neurol. 31(4). 2024. PMID:38270379. DOI:10.1111/ene.16203. IF:4,50.

European Journal of Neurology.

Vera A, Cecconi A, Ximénez-Carrillo Á, Ramos C, Martínez-Vives P, Lopez-Melgar B, Sanz-García A, Ortega G, Aguirre C, Montes Á, Vivancos J, Jiménez-Borreguero LJ, Alfonso F; DECRYTORING study investigators. **Left Atrial Strain Predicts Stroke Recurrence and Death in Patients With Cryptogenic Stroke.** Am. J. Cardiol. 210:51-57. 2024. Epub 2023 Oct 25. PMID:37898159. DOI:10.1016/j.amjcard.2023.10.001. IF:2,30. American Journal of Cardiology.

Sánchez-Rodríguez C, Gago-Veiga AB, García-Azorín D, Guerrero-Peral AL, Gonzalez-Martinez A. **Potential Predictors of Response to CGRP Monoclonal Antibodies in Chronic Migraine: Real-World Data.** Curr. Pain Headache Rep. 28(12):1265-1272. 2024. Epub 2023 Oct 24. PMID:37874459. DOI:10.1007/s11916-023-01183-6. IF:3,20. Current Pain and Headache Reports.

Gonzalez-Martinez A, Sanz-García A, García-Azorín D, Rodríguez-Vico J, Jaimes A, Gómez García A, Casas-Limón J, Díaz de Terán J, Sastre-Real M, Membrilla J, Latorre G, Calle de Miguel C, Gil Luque S, Trevino-Peinado C, Quintas S, Heredia P, Echavarría-Iñiguez A, Guerrero-Peral Á, Sierra Á, González-García N, Porta-Etessam J, Gago-Veiga AB. **Effectiveness, tolerability, and response predictors of preventive anti-CGRP mAbs for migraine in patients over 65 years old: a multicenter real-world case-control study.** Pain Med. 25(3):194-202. 2024. PMID:37847661. DOI:10.1093/pm/pnad141. IF:2,90. Pain Medicine.

Gonzalez-Martinez A, Muro I, Quintas S, Chaparro M, Gisbert JP, Sanz-García A, Casanova MJ, Rubín de Célix C, Vivancos J, Gago-Veiga AB. **Headache in patients with inflammatory bowel disease: Migraine prevalence according to the Migraine Screening-Questionnaire (MS-Q) and headache characteristics.** Gastroenterol. Hepatol. 47(1):63-71. 2024. Epub 2023 May 5. PMID:37149259. DOI:10.1016/j.gastrohep.2023.05.001. IF:2,20. Gastroenterología y Hepatología.

Romero Del Rincón C, Claramonte-Clausell B, Aguirre C, Domiguez-Gallego M, Meca-Lallana V, Belenguer Benavides A. **Observational study of gadolinium-enhancing lesions in MRI in patients with multiple sclerosis from the Spanish Mediterranean coast: Seasonal variability and relationship with climatic factors.** Mult. Scler. Relat. Disord. 92:106164. 2024. Epub 2024 Nov 10. PMID:39571217. DOI:10.1016/j.msard.2024.106164. IF:2,90. Multiple Sclerosis and Related Disorders.

Area 3 Advanced therapies and individualized medicine

- Line 3.1** Prognostic and predictor markers in autoimmune diseases
- Line 3.2** Esophagogastrintestinal inflammatory diseases
- Line 3.3** Progenitors and cell therapy
- Line 3.4** Advanced therapies in oncohematology
- Line 3.5** Biological, cellular and molecular monitoring in oncohematology
- Line 3.6** New diagnostic and therapeutic advances in cardiovascular diseases
- Line 3.7** New therapies in infectious pathologies
- Line 3.8** Individualized medicine in solid tumors

Line 3.1

Prognostic and predictor markers in autoimmune diseases

GROUP 36



Isidoro González Álvaro
Head of group



GROUP MEMBERS

Ahijón Lana, María
Calvo García, Alberto
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Clemente Garulo, Daniel
Dueñas Ochoa, Marina
García Vadillo, Jesús Alberto
García de Vicuña Pinedo, Rosario
Gómez León, María de las Nieves
Llorente Cubas, Irene María
López Robledillo, Juan Carlos
Montes Casado, Nuria
Ortiz García, Ana María
Pardines Ortiz, Marisa
Quiroga Colina, Patricia
Ramírez Herraiz, Esther
Tomero Muriel, Eva Gloria
Triguero Martínez, Ana
Uriarte Ecenarro, Miren
Valero Martínez, Cristina
Vicente Rabaneda, Esther Francisca



RESEARCH INTEREST

The main goal for our group is personalized medicine in the field of autoimmune/inflammatory rheumatic disorders (mainly rheumatoid arthritis, spondyloarthritis including psoriatic arthritis, systemic lupus erythematosus, giant cell arteritis and scleroderma). Our efforts are focused on providing new knowledge about two unmet needs for rheumatologists: severity biomarkers and predictors of response to disease modifying anti-rheumatic drugs, either synthetic or biological.

To achieve these objectives, we are involved in different strategies: a) To consolidate our collaborations both at a local, national and international levels. Regarding the first, we maintain our commitment with BioIMID collection in the IIS-Princesa Biobank in close collaboration with Dermatology and other Services. This collection also allows to maintain an intense collaborative effort with groups of the Network of Inflammatory Diseases (REI; RD24/0007), which belongs to the RICORS program of the ISCIII. In addition, our early arthritis cohorts (rheumatoid and psoriatic arthritis, as well as axial spondyloarthritis) are also the basis of our own research but also collaborations with other rheumatology groups, but also other specialities in REI. Finally, we also participate in the SPIDERR European project that focus on developing tools able to identify those patients who can reach the highest benefit of getting a fast access to a personalized rheumatologic treatment; b) To incorporate gender and social determinants of health into biomarker research so that including intersectionality we can understand better the clinical utility of biomarkers; c) We are trying to foster patient engagement in our research projects so we can get them closer to citizen needs, including improvement of treatment adherence; and d) to move from discovery of new biomarkers to the validation of those previously described and deepen into the study of their clinical utility, so we can implement them in our National Health Service.

As a result of the intense activity of the group, some of its members have been called to participate in the elaboration of several documents establishing consensus guidelines for the rational use of biological therapies or imaging techniques in which the establishment of proper cost/benefit ratio is of great importance in the current economic situation.

Despite it is five years since the COVID-19 outbreak, our group continues focused on two main research lines: a) A very interesting line focused on genetic variants in immunoregulatory molecules that can explain variability in the clinical response to SARS-CoV2 infection, that can be transferred to other respiratory viruses; and b) to develop strategies that can improve response to COVID-19 vaccination in patients treated with immune-modulatory drugs that usually presents a decreased response to vaccines. Currently, we are able to apply the knowledge obtained during the COVID-19 vaccination to other virological vaccines.

For the next years, our efforts will continue to focus on discovering and validating biomarkers that may allow to more efficiently treat patients with immune mediated inflammatory disorders.



MAJOR GRANTS

González Álvaro, Isidoro. Biomarcadores que contribuyen a optimizar la ventana de oportunidad en pacientes con artritis de reciente comienzo. PI21/00526. INSTITUTO SALUD CARLOS III. 2022-

Castañeda Sanz, Santos. Impacto de la suspensión temporal del metotrexato sobre la respuesta inmune humoral y celular a la vacuna Covid-19 en pacientes con artritis reumatoide. Estudio aleatorizado. PI21/01474. INSTITUTO SALUD CARLOS III. 2022-

González Álvaro, Isidoro. RD21/0002/0027 - ISIDORO GONZALEZ - RICORS - RED DE ENFERMEDADES INFLAMATORIAS. RD21/0002/0027. INSTITUTO SALUD CARLOS III. 2022-2024

González Álvaro, Isidoro. SPIDERR - Stratification Precision allowing Improved Decision making with Enhanced Real world data for patients with Rheumatic complaints. UE.SPIDERR. EUROPEAN COMMISSION. 2023-2027

PMP22/00101. Eficacia, seguridad y coste-efectividad de un modelo predictivo de remisión persistente basado en biomarcadores en pacientes con artritis reumatoide sometidos a optimización de terapia biológica (REMRABIT-plus). Coordinadores: Francisco Blanco García y Luis Rodríguez Rodríguez. IP local: Isidoro González Álvaro.



PUBLICATIONS

Blanco R, Aldasoro V, Maiz O, Melero R, Romero Yuste S, de Miguel E, Ferraz Amaro I, Lopez Gutierrez F, Castaneda S, Loricera J, **Tocilizumab in Giant Cell Arteritis Spanish Collaborative Group. Tocilizumab in cranial and extracranial giant cell arteritis: a national multicentre study of 471 cases.** Rheumatology. 2024. DOI:10.1093/rheumatology/keae666. IF: 4,70. RHEUMATOLOGY.

Narváez J, Domínguez M, Galíndez E, Mendizábal J, Abasolo L, Lluch J, Loricera J, Garrido N, Castañeda S, Moya P, Larena C, Estrada P, Galisteo C, Frutos AR, Sanjuan FO, Salman T, Rocha MV, Iñiguez CL, González MG, Blanco R, ARTESER Project Collaborative Grp. **Sustained drug-free remission in giant cell arteritis.** Rheumatology. 2024. PMID:39589919. DOI:10.1093/rheumatology/keae644. IF: 4,70. RHEUMATOLOGY.

González Gay MÁ, Castañeda S, Ferraz Amaro I. **Managing Giant Cell Arteritis With Tocilizumab: Relapses and Adverse Events.** J. Rheumatol. PMID:39681371. DOI:10.3899/jrheum.2024-1204. J. RHEUMATOL.

González Gay MÁ, Heras Recuero E, Blázquez Sánchez T, Caraballo Salazar C, Rengifo García F, Castañeda S, Martín J, Marquez A, Largo R. **Genetics of vasculitis.** Best Pract. Res. Clin. Rheumatol. 38(4). 2024. PMID:38955656. DOI:10.1016/j.berh.2024.101969. IF: 4,50. BEST PRACTICE & RESEARCH IN CLINICAL RHEUMATOLOGY.

Muñoz Callejas A, Sánchez Abad I, Ramos Manzano A, San Antonio E, González Sánchez E, Silván J, González Tajuelo R, González Alvaro I, García Perez J, Tomero EG, García Vicuña R, Vicente Rabaneda EF, Castañeda S, Urzainqui A. **Regulation of monocyte apoptosis and DNA extrusion in monocyte extracellular traps by PSGL-1: Relevance in systemic lupus erythematosus.** Transl. Res. 274. 2024. PMID:39182668. DOI:10.1016/j.trsl.2024.08.005. IF: 6,40. TRANSLATIONAL RESEARCH.

Osorio Chávez JS, Martínez López D, Alvarez Reguera C, Portilla V, Cifrián JM, Castañeda S, Ferraz Amaro I, Blanco R. **Epidemiology of Latent Tuberculosis in Rheumatic Immune-Mediated Inflammatory Diseases-Study of 1117 Patients and Descriptive Literature Review.** J. Clin. Med. 13(24). 2024. DOI:10.3390/jcm13247546. IF: 3,00. Journal of clinical medicine.

Castañeda S, Quiroga Colina P, Floranes P, Uriarte Ecenarro M, Valero Martínez C, Vicente Rabaneda EF, González Gay MA. **IgA Vasculitis (Henoch-Schönlein Purpura): An Update on Treatment.** J. Clin. Med. 13(21). 2024. PMID:39518760. DOI:10.3390/jcm13216621. IF: 3,00. Journal of clinical medicine.

Line 3.1 Prognostic and predictor markers in autoimmune diseases

García Porrúa C, Heras Recuero E, Blázquez Sánchez T, Torres Roselló A, Castañeda S, González Gay MÁ. **Traditional and Emerging Strategies for Managing Polymyalgia Rheumatica: Insights into New Treatments.** J. Clin. Med. 13[21]. 2024. PMID:39518631. DOI:10.3390/jcm13216492. IF: 3,00. Journal of clinical medicine.

Álvaro Gracia Álvaro JM, Díaz Del Campo Fontecha P, Andréu Sánchez JL, Balsa Criado A, Cáliz R, Castrejón Fernández I, Corominas H, Gómez Puerta JA, Manrique Arijá S, Mena Vázquez N, Ortiz García A, Plasencia Rodríguez C, Silva Fernández L, Tornero Molina J. **Update of the Consensus Statement of the Spanish Society of Rheumatology on the use of biological and synthetic targeted therapies in rheumatoid arthritis.** Reumatol Clin [Engl Ed]. 20[8]. 2024. PMID:39341701. DOI:10.1016/j.reumae.2024.09.002. Reumatología Clínica.

López Maraver M, Serrano Combarro A, Atienza Mateo B, del Val N, Casafont Sole I, Melero Gonzalez RB, Pérez Linaza A, Gutiérrez JC, Mena Vázquez N, Vegas Revenaga N, Domínguez Casas L, Martos JL, Ginés CAP, Morondo CD, Albaladejo LP, Sánchez RL, Canabal MGM, Brandy García AM, Viejo PL, Bonilla G, Maiz Alonso O, Carrasco Cubero C, Bufort MG, Moreno M, Urruticoechea Arana A, Ordóñez Palau S, González Montagut C, Serret EG, De Aberasturi JRDJ, Morillo FL et al. **Subcutaneous vs intravenous abatacept in rheumatoid arthritis-Interstitial lung disease. National multicentre study of 397 patients.** Semin. Arthritis Rheum. 68. 2024. PMID:39067148. DOI:10.1016/j.semarthrit.2024.152517. IF: 4,60. SEMINARS IN ARTHRITIS AND RHEUMATISM.

Estrada P, Domínguez Alvaro M, Melero González RB, de Miguel E, Silva Díaz M, Valero JA, González I, Sánchez Martín J, Narváez J, Galíndez E, Mendizábal J, Iñiguez Ubiaga CL, Rodríguez L, Loricera J, Muñoz A, Moya Alvarado P, Moran Álvarez P, Navarro Ángeles VA, Galisteo C, Castañeda S, Blanco R, ARTESER Project Collaborative Grp. **18F-FDG-PET/CT Scan for Detection of Large Vessel Involvement in Giant Cell Arteritis: Arteser Spanish Registry.** J. Clin. Med. 13[20]. 2024. PMID:39458165. DOI:10.3390/jcm13206215. IF: 3,00. Journal of clinical medicine.

Antón J, Mosquera JM, Calzada J, Iglesias E, Zacarías A, Olivé A, Bittermann V, Lorenzo TR, Remesal A, Quintana Ortega C, Nuño L, Robles Marhuenda A, de Inocencio J, Martín López M, Carreira PE, Brandy García AM, Holgado S, Camacho Lovillo M, Ruiz Román A, Clemente D, Narváez J, Campos J, Sánchez Manubens J, Bernabéu P, Graña J, Vargas C, Ortiz Santamaría V, Castañeda S, de Yébenes MJG, Carmona L. **Similarities and differences between systemic juvenile idiopathic arthritis and adult-onset Still's disease: a multicenter Spanish study.** Rheumatol. Int. 44[12]. 2024. PMID:39311913. DOI:10.1007/s00296-024-05658-6. IF: 3,20. RHEUMATOLOGY INTERNATIONAL.

Triguero Martínez A, Pardines M, Montes N, Ortiz AM, de la Iglesia Cedeira A, Valero Martínez C, Martín J, González Álvaro I, Castañeda S, Lamana A. **Genetic Variants in RANK and OPG Could Influence Disease Severity and Bone Remodeling in Patients with Early Arthritis.** Life-Basel. 14[9]. 2024. PMID:39337893. DOI:10.3390/life14091109. IF: 3,20. LIFE-BASEL.

González Gay MÁ, Heras Recuero E, Blázquez Sánchez T, Caraballo Salazar C, Rengifo García F, Castañeda S, Largo R. **Broadening the clinical spectrum of giant cell arteritis: from the classic cranial to the predominantly extracranial pattern of the disease.** Expert Rev Clin Immunol. 20[9]. 2024. PMID:38757894. DOI:10.1080/1744666X.2024.2356741. IF: 3,90. Expert Review of Clinical Immunology.

Herrero Morant A, Martín Varillas JL, Alvarez Reguera C, Sánchez Bilbao L, Martínez López D, Suárez Amorín G, Fernández Ramón R, Ferraz Amaro I, Castañeda S, Hernández JL, Blanco R. **Epidemiology of Neuro-Behçet's Disease in Northern Spain 1999–2019: A Population-Based Study.** J. Clin. Med. 13[17]. 2024. PMID:39274483. DOI:10.3390/jcm13175270. IF: 3,00. Journal of clinical medicine.

García Giralte N, Ovejero D, Grinberg D, Nagues X, Castañeda S, Balcells S, Rabionet R. **Assessing the contribution of genes involved in monogenic bone disorders to the etiology of atypical femoral fractures.** Hum. Genomics. 18[1]. 2024. PMID:39148098. DOI:10.1186/s40246-024-00652-2. IF: 3,80. HUMAN GENOMICS.

Collada Carrasco J, Gómez León N, Castillo Morales V, Lumbreras Fernández B, Castañeda S, Rodríguez Laval V. **Role and potential of 18F-fluorodeoxyglucose-positron emission tomography-computed tomography in large-vessel vasculitis: a comprehensive review.** Front. Med. 11. 2024. PMID:39170047. DOI:10.3389/fmed.2024.1432865. IF: 3,10. Frontiers in Medicine.

San Antonio E, Silván J, Sevilla Montero J, González Sánchez E, Muñoz Callejas A, Sánchez Abad I, Ramos Manzano A, Muñoz Calleja C, González Álvaro I, Tomero EG, García Pérez J, García Vicuña R, Vicente Rabaneda EF, Castañeda S, Urzainqui A. **PSGL-1, ADAM8, and selectins as potential biomarkers in the diagnostic process of systemic lupus erythematosus and systemic sclerosis: an observational study.** Front. Immunol. 15. 2024. PMID:39100683. DOI:10.3389/fimmu.2024.1403104. IF: 5,70. Frontiers in immunology.

Heras Recuero E, Blázquez Sánchez T, Landaeta Kancev LC, Martínez de Bourio Allona M, Torres Roselló A, Rengifo García F, Caraballo Salazar C, Largo R, Castañeda S, González Gay MÁ. **Positron Emission Tomography/Computed Tomography in Polymyalgia Rheumatica: When and for What—A Critical Review.** Diagnostics. 14[14]. 2024. PMID:39061676. DOI:10.3390/diagnostics14141539. IF: 3,00. Diagnostics.

Loricera J, Tofade T, Prieto Peña D, Romero Yuste S, de Miguel E, Riveros Frutos A, Ferraz Amaro I, Labrador E, Maiz O, Becerra E, Narváez J, Galíndez Agirreagoikoa E, González Fernández I, Urruticoechea Arana A, Ramos Calvo Á, López Gutiérrez F, Castañeda S, Unizony S, Blanco R. **Effectiveness of janus kinase inhibitors in relapsing giant cell arteritis in real-world clinical practice and review of the literature.** Arthritis Res Ther. 26[1]. 2024. PMID:38840219. DOI:10.1186/s13075-024-03314-9. IF: 4,40. ARTHRITIS RESEARCH & THERAPY.

Domínguez Casas LC, Lasa Teja C, Ferraz Amaro I, Castañeda S, Blanco R. **Increased Risk of Herpes Zoster in Rheumatoid Arthritis Not Only Due to JAK Inhibitors—Study of 392 Patients from Single University Center.** J. Clin. Med. 13[11]. 2024. PMID:38892832. DOI:10.3390/jcm13111321. IF: 3,00. Journal of clinical medicine.

Torres Rufas M, Vicente Rabaneda EF, Cardeñoso L, Gutiérrez A, Bong DA, Valero Martínez C, López Matencio JMS, García Vicuña R, González Gay MA, González Álvaro I, Castañeda S. **Effectiveness and Safety of the COVID-19 Vaccine in Patients with Rheumatoid Arthritis in a Real-World Setting.** Vaccines. 12[6]. 2024. PMID:38932401. DOI:10.3390/vaccines12060672. IF: 5,20. Vaccines.

La Borda JPY, Castañeda S, Sánchez Alonso F, Plaza Z, García Gómez C, Ferraz Amaro I, Erausquin C, Valls García R, Fábregas MD, Delgado Frías E, Mas AJ, Gonzalez Juanatey C, Llorca J, González Gay MA, CARMA Project Collaborative Grp. **Combined use of QRISK3 and SCORE2 increases identification of ankylosing spondylitis patients at high cardiovascular risk: Results from the CARMA Project cohort after 7.5 years of follow-up.** Semin. Arthritis Rheum. 66. 2024. PMID:38555727. DOI:10.1016/j.semarthrit.2024.152442. IF: 4,60. SEMINARS IN ARTHRITIS AND RHEUMATISM.

Borrego Yaniz G, Ortiz Fernández L, Madrid Paredes A, Kerick M, Hernández Rodríguez J, Mackie SL, Vaglio A, Castañeda S, Solans R, Mestre Torres J, Khalidi N, Langford CA, Ytterberg S, Beretta L, Govoni M, Emmi G, Cimmino MA, Witte T, Neumann T, Holle J, Schönauf V, Pugno. **Risk loci involved in giant cell arteritis susceptibility: a genome-wide association study.** Lancet Rheumatol. 6[6]. 2024. PMID:38734017. DOI:10.1016/S2468-2667(24)00064-X. IF: 15,00. Lancet Rheumatology.

Calvo García A, Herráiz ER, Cubas IML, De Dios BV, González JB, Baladrón AM, García Vicuña R. **The Real-World Effectiveness, Persistence, Adherence, and Safety of Janus Kinase Inhibitor Baricitinib in Rheumatoid Arthritis: A Long-Term Study.** J. Clin. Med. 13[9]. 2024. PMID:38731045. DOI:10.3390/jcm13092517. IF: 3,00. Journal of clinical medicine.

Rua Figueroa I, García de Yébenes MJ, Martínez Barrio J, Galindo Izquierdo M, Calvo Alén J, Fernández Nebro A, Menor Almagro R, Carmona L, Tejera Segura B, Tomero E, Freire González M, Sangüesa C, Horcada L, Blanco R, Uriarte Itzazelaia E, Narváez J, Rosas Gómez de Salazar JC, Gómez Sabater S, Morales CM, Andreu JL, Segarra VT, Aurrecoechea E, Perez A, Nóvoa Medina J, Salgado E, Lozano Rivas N, Montilla C, Ruiz Lucea E, Arevalo M, Iñiguez C et al. **SLESIS-R: an improved score for prediction of serious infection in patients with systemic lupus erythematosus based on the RELESER prospective cohort.** Lupus Sci. Med. 11[1]. 2024. PMID:38589223. DOI:10.1136/lupus-2023-001096. IF: 3,70. LUPUS SCIENCE & MEDICINE.

González Gay MA, Heras Recuero E, Blázquez Sánchez T, Castañeda S, Largo R. **Leflunomide as a therapeutic alternative to methotrexate as a glucocorticoid-sparing agent in polymyalgia rheumatica.** Rheumatol. Adv. Pract. 8[2]. 2024. PMID:38650634. DOI:10.1093/rap/rkae047. Rheumatology Advances in Practice.

González Gay MÁ, Castañeda S, Ferraz Amaro I. **Metabolic Syndrome: A Predisposing Factor for Rheumatoid Arthritis.** J. Rheumatol. 51[4]. 2024. PMID:38302172. DOI:10.3899/jrheum.2023-1210. IF: 3,60. Journal of Rheumatology.

Castañeda S, Ceballos CN, Jaeger JU, Benadiba CD, Martín EG, Díaz Guerra GM, Álvarez Galovich L. **Management of Vertebral Fragility Fracture in Older People: Recommendations from a Spanish Consensus of Experts.** Geriatrics. 9[2]. 2024. PMID:38525741. DOI:10.3390/geriatrics9020024. Geriatrics.

La Borda JPY, Castañeda S, Heras Recuero E, Sánchez Alonso F, Plaza Z, Gómez CG, Ferraz Amaro I, Sánchez Costa JT, Sánchez González OC, Turrión Nieves AI, Pérez Alcalá A, Pérez García C, González Juanatey C, Llorca J, González Gay MA, CARMA Project Collaborative Grp. **Use of risk chart algorithms for the identification of**

Line 3.1 Prognostic and predictor markers in autoimmune diseases

psoriatic arthritis patients at high risk for cardiovascular disease: findings derived from the project CARMA cohort after a 7.5-year follow-up period. RMD Open. 10(2). 2024. PMID:38631846. DOI:10.1136/rmdopen-2024-004207. IF: 5,10. RMD Open.

del Rincón CR, González Martínez A, Quintas S, García Azorín D, Lázaro IF, Guerrero Peral AL, Osorio YG, Santos Lasasosa S, Oria CG, Rodríguez NS, Díez FI, Iñiguez AE, Luque SG, Huerta Villanueva M, Díaz SC, Muñoz Vendrell A, Ros AL, Sánchez Soblechero A, Juanes FV, Kortazar Zubizarreta I, Echeverría A, Rodríguez Vico J, Sánchez AJ, García AG, Sánchez Mateos NM, Belvis R, Pérez MPN, García Moncá JC, Escudero MRA, Montes N et al. **RE-START: Exploring the effectiveness of anti-calcitonin gene-related peptide resumption after discontinuation in migraine.** Eur. J. Neurol. 31(4). 2024. PMID:38270379. DOI:10.1111/ene.16203. IF: 4,50. European Journal of Neurology.

Aterido A, López Lasanta M, Blanco F, Juan Mas A, García Vivar ML, Erra A, Pérez García C, Sánchez Fernández SA, Sanmartí R, Fernández Nebro A, Alperi López M, Tornero J, Ortiz AM, Fernández Cid CM, Palau N, Pan WJ, Byrne Steele M, Starenki D, Weber D, Rodríguez Núñez I, Han J, Myers RM, Marsal S, Julià A. **Seven-chain adaptive immune receptor repertoire analysis in rheumatoid arthritis reveals novel features associated with disease and clinically relevant phenotypes.** Genome Biol. 25(1). 2024. PMID:38468286. DOI:10.1186/s13059-024-03210-0. IF: 10,10. Genome Biology.

Fernández Lozano D, Hernández Rodríguez I, Narváez J, Domínguez Álvaro M, De Miguel E, Silva Díaz M, Belzunegui JM, Morales CM, Sánchez J, Galíndez Agirregoikoa E, Aldaroso V, Abasolo L, Loricera J, Garrido Puñal N, Alvarado PM, Larena C, Navarro VA, Calvet J, Casafont Solé I, Ortiz Sanjuán F, Monte TCS, Castañeda S, Blanco R, ARTESER Project Collaborative Grp. **Incidence and clinical manifestations of giant cell arteritis in Spain: results of the ARTESER register.** RMD Open. 10(1). 2024. PMID:38531620. DOI:10.1136/rmdopen-2023-003824. IF: 5,10. RMD Open.

Molina Collada J, Domínguez Álvaro M, Melero González RB, Fernández E, Silva Díaz M, Valero JA, González I, Martín JS, Narváez J, Calvo I, Mendizábal J, Alcázar LA, Loricera J, Ruiz Román A, Moya P, Cabañas MT, Estrada P, Prado Galbarro FJ, Castañeda S, Blanco R, ARTESER Project Collaborative Grp. **Visual manifesta-**

tions in giant cell arteritis: identification of risk factors from the ARTESER Registry. Rheumatology. 2024. PMID:38244610. DOI:10.1093/rheumatology/keae042. IF: 4,70. Rheumatology.

Valero Martínez C, Castillo Morales V, Gómez León N, Hernández Pérez I, Vicente Rabaneda EF, Uriarte M, Castañeda S. **Application of Nuclear Medicine Techniques in Musculoskeletal Infection: Current Trends and Future Prospects.** J. Clin. Med. 13(4). 2024. PMID:38398371. DOI:10.3390/jcm13041058. IF: 3,00. Journal of clinical medicine.

Martínez Fleta P, Vicente Rabaneda EF, Triguero Martínez A, Roy Vallejo E, Uriarte Ecenarro M, Gutiérrez Rodríguez F, Quiroga Colina P, Romero Robles A, Montes N, García Castañeda N, Mejía Abril GP, García Vadillo JA, Llorente Cubas I, Villagrasa JR, López Matencio JMS, Ancochea J, Urzainqui A, Esparcia Pinedo L, Alfranca A, De La Fuente H, García Vicuña R, Sánchez Madrid F, González Álvaro I, Castañeda S. **Beneficial effect of temporary methotrexate interruption on B and T cell responses upon SARS-CoV-2 vaccination in patients with rheumatoid arthritis or psoriatic arthritis.** npj Vaccines. 9(1). 2024. PMID:38291047. DOI:10.1038/s41541-024-00805-3. IF: 6,90. npj Vaccines.

Rodríguez Laval V, Lumbreras Fernández B, Aguado Bueno B, Gómez León N. **Imaging of Multiple Myeloma: Present and Future.** J. Clin. Med. 13(1). 2024. PMID:38202271. DOI:10.3390/jcm13010264. IF: 3,00. Journal of clinical medicine.

Atienza Mateo B, Fernández Díaz C, Vicente Rabaneda EF, Melero González RB, Ortiz Sanjuán F, Casafont Solé I, Rodríguez García SC, Ferraz Amaro I, Castañeda S, Blanco R, Spanish Collaborative Grp. **Abatacept in usual and in non-specific interstitial pneumonia associated with rheumatoid arthritis.** Eur. J. Intern. Med. 119. 2024. PMID:37673775. DOI:10.1016/j.ejim.2023.08.025. IF: 5,90. European Journal of Internal Medicine.

García AG, del Arco C, Fernández DL, Frías Vargas M, Guillán M, Méndez Bailón M, Grinspan MR, Aguado Castaño AC, Maya JF, González GL, Castañeda S. **Executive summary on the optimization of the multidisciplinary and integrated approach to polymyalgia rheumatica and giant cell arteritis in Madrid region.** Rev. Clin. Esp. 224(1). 2024. PMID:38142973. DOI:10.1016/j.rce.2023.11.008. IF: 2,30. Revista Clínica Española.

GROUP 37



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GROUP MEMBERS

Argila Fernández-Durán, Diego de Collado Rodríguez, María Teresa Crespo Martín, Olga Chicharro Manso, Pablo Delgado Jiménez, Yolanda Fuente Flores, Hortensia de la Gallo Gutiérrez, Elena García García, María Carmen Llamas Velasco, María del Mar Martos Cabrera, María Luisa Muñoz Aceituno, Ester Muñoz Hernández, Patricia Navarro Tejedor, Raquel Reolid Pérez, Alejandra Rodríguez Jiménez, Pedro Antonio Sánchez García, Inés Sánchez Pérez, Abilio Javier Santamaría Domínguez, Cristina Fernández Manzano, Milagros



RESEARCH INTEREST

The investigation activity of the Group at present and for the following years is focused on:

- 1) Immune-mediated inflammatory diseases (IMID), particularly including psoriasis, atopic dermatitis and hidradenitis. The main lines of investigation are: a) Immunoregulatory molecules as biomarkers predicting response to biological therapies and disea-

se severity in IMIDs. These are a group of diseases that display inflammation as a major pathogenic mechanism. Their long-term impact has been alleviated by the implementation of biological therapy. Despite the growing knowledge on the etiopathogenesis of these diseases and the marked improvement in their management represented by biologic therapy, markers of the severity of the disease or to predict whether patients will be refractory to treatment are lacking. We are searching for new predictive biomarkers of IMID severity and responsiveness to biologics; b) Gene Expression Profile in patients with IMIDs c) Epigenetic biomarkers as predictors of therapeutic response to biologic drugs in psoriasis; d) Immunoregulatory molecules and their therapeutic potential. We investigate the possible role of GADD45, ICOSL, TSP-1, and galectins in the immunopathogenesis of psoriasis, and the possibility of finding new therapeutic targets for the treatment of this disease; e) Survival analysis of conventional systemic therapies and biologics in psoriasis; f) Identification of Copy-Number Variants associated with the risk of developing psoriasis and psoriatic arthritis, using a genome-wide analysis approach; g) Study of optimization strategies [dose reduction, increase of the administration interval] in the treatment of moderate-to-severe psoriasis with systemic agents; h) Regulation of CXCL12 and RAPTOR by novel miRNAs and their role during the inflammatory process in Psoriasis; i) Integrative study of systemic inflammation in chronic inflammatory skin diseases and its association with cardiovascular disease.

- 2) Eczematous dermatitis. Study on the prevalence of allergens as responsible for allergic contact dermatitis in the Spanish population
- 3) Connective Tissue Diseases. Determination of the association of myositis-specific autoantibodies and myositis-associated autoantibodies with clinically amyopathic dermatomyositis.
- 4) Photobiology. Studies on epidemiology, clinical phenotypes, and photobiology of solar urticaria



MAJOR GRANTS

Cibrián Vera, Danay; Llamas Velasco, María del Mar. "Proteínas transportadoras de amino ácidos como nuevas dianas terapéuticas en las enfermedades inflamatorias de la piel". PI22/01842. INSTITUTO SALUD CARLOS III. 2023-

Daudén Tello, Esteban; de la Fuente Flores, Hortensia.

Line 3.1 Prognostic and predictor markers in autoimmune diseases

Estudio integrativo de la inflamación sistémica en Dermatitis Atópica e Hidradenitis Suppurativa y su asociación con la enfermedad cardiovascular. PI21/01583. INSTITUTO SALUD CARLOS III. 2022-



PUBLICATIONS

Berenguer Ruiz S, Muñoz Hernández P, Martos Cabera L, Rodríguez Jiménez P. **Merkel cell carcinoma with lymph node involvement: a case with spontaneous remission after biopsy.** Int. J. Dermatol. 2024. PMID: 39654388. DOI: 10.1111/ijd.17601. IF: 3,50. INTERNATIONAL JOURNAL OF DERMATOLOGY.

Molina Jiménez F, Ugalde Triviño L, Arias González L, Armenteros E, Relaño Rupérez C, Casabona S, Moreno Monteagudo JA, Pérez Fernández MT, Martín Domínguez V, Fernández Pacheco J, Laserna Mendieta EJ, Muñoz Hernández P, García Martínez J, Muñoz J, Lucendo AJ, Santander C, Majano P. **Proton pump inhibitor effect on esophageal protein signature of eosinophilic esophagitis, prediction, and evaluation of treatment response.** Allergy. 79(12). 2024. PMID: 39092539. DOI: 10.1111/all.16261. IF: 12,60. ALLERGY.

Sahuquillo Torralba A, Mansilla Polo M, Pujol Marco C, Llamas Velasco M, Rull EV, Villaverde RR, Ferran M, Pitarch G, Lopez A, Beltran E, Urruticoechea Arana A, Riera Monroig J, Alsina M, Vidal D, Romero IB, Notario J, Carrascosa JM, Gonzalez Delgado V, Mollet J, Ribera M, Gallardo F. **Certolizumab pegol effectiveness, survival and safety in patients with psoriasis: A multicenter retrospective analysis in daily clinical practice by the Spanish Psoriasis Group.** Int. J. Dermatol. 63(12). 2024. PMID: 38736107. DOI: 10.1111/ijd.17238. IF: 3,50. INTERNATIONAL JOURNAL OF DERMATOLOGY.

Chiricozzi A, Coscarella G, Puig L, Vender R, Yeung JS, Carrascosa JM, Piaserico S, Gisondi P, Lynde C, Ferreira P, Bastos PM, Dauden E, Leite L, Valerio J, del Alcazar Viladomiu E, Vilarrasa E, Llamas Velasco M, Alessandri Bonetti M, Messina F, Bruni M, Di Brizzi EV, Ricceri F, Niddegger A, Hugo J, Mufti A, Daponte AI, Teixeira L, Balato A, Romanelli M, Prignano F et al. **Age affects drug survival rates of interleukin (IL)-17 and IL-23 inhibitors in patients with plaque psoriasis: Results from a retrospective, multicentric, multi-country, cohort study.** J. Eur. Acad. Dermatol. Venereol. 38(11). 2024. PMID: 38860729. DOI: 10.1111/jdv.20143. IF: 8,40. JOURNAL OF THE EUROPEAN ACADEMY OF DERMATOLOGY AND VENEREOLOGY.

Chicharro P, Munera Campos M, Zaragoza Ninet V, Giménez Arnau A, González

Pérez R, Miquel FJ, Córdoba Guijarro S, Sanz Sánchez T, Ruiz González I, Silvestre Salvador JF, Serra Baldrich E, Borrego L, Pastor Nieto MA, de Frutos FJO, Mercader García P, Heras Mendaza F, Fernández Redondo V, Rodríguez Serna M, Hervella García M, Carrascosa JM, Gallego Descalzo MA, García Doval I, Sánchez Pérez J. **Allergic contact dermatitis in adults with and without atopic dermatitis: Evaluation of the Spanish Contact Dermatitis Registry (REIDAC).** Contact Dermatitis. 91(5). 2024. PMID: 39138883. DOI: 10.1111/cod.14672. IF: 4,80. CONTACT DERMATITIS.

Pesqué D, Planella Fontanillas N, Borrego L, Sanz Sánchez T, Zaragoza Ninet V, Serra Baldrich E, Miquel FJ, Silvestre Salvador JF, Córdoba Guijarro S, Sánchez Gil A, Mercader García P, Navarro Triviño FJ, Ortiz Frutos FJ, Tous Romero F, Rodríguez Serna M, Melé Ninot G, Barrabés Torrella C, Ruiz González I, Pastor Nieto MA, Carrascosa Carrillo JM, Gómez Fuente E, Sánchez Guillén P, Sánchez Pérez J, Pereyra Rodríguez JJ, Gatica Ortega ME, González Pérez R, Pujol RM, Descalzo MAG, García Doval I, Giménez Arnau AM. **Patch test results to the Spanish baseline patch test series according to age groups: A multicentric prospective study from 2019 to 2023.** Contact Dermatitis. 92(2). 2024. PMID: 39394969. DOI: 10.1111/cod.14702. IF: 4,80. CONTACT DERMATITIS.



Line 3.2 Esophagogaastrointestinal inflammatory diseases

GROUP 38



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RESEARCH INTEREST

The Group's research lines are organized as follows:

1. Inflammatory Bowel Disease (IBD)

1.1. Understanding the mechanisms underlying IBD, based on systems biology and supported by omics technologies

- Identification of new therapeutic targets in IBD.
- Identification of proteins (serum, extracellular serum vesicles and urine) with potential as biomarkers in IBD.
- Determination of immunoregulatory molecules as predictors of IBD severity and prognosis.
- Characterization of biomarkers by proteomics at diagnosis (PI16/01296, FI17/00143, PI19/01034).
- Analysis of the metabolome in serum and urine (PI16/01296, FI17/00143, PI19/01034).
- Metagenomic analysis of fecal microbiota (PI19/01034, CD19/00247).
- Analysis of the effect of immunomodulatory peptides secreted by the gut microbiota on mucosal dendritic cells in IBD.
- Transcriptomics from intestinal biopsies as markers.

1.2. Epidemiology in IBD

- Evaluation of the incidence of IBD in Spain (PI16/01296, FI17/00143).
- International collaborative efforts to describe the epidemiology of IBD and the costs derived from its management.

1.3. Real world evidence studies to produce knowledge about the effectiveness, safety and use of therapeutic agents in IBD.

- International and national leadership on real world evidence studies.
- International collaborations in real world evidence studies.

Line 3.2 Esophagogastrintestinal inflammatory diseases

1.4. Strategies for patient selection and optimization of treatment in patients with IBD.

- Switching to biosimilar drugs.
- Identification of biomarkers of response to treatment with biological drugs and tofacitinib in IBD using a multi-omic and cytometry approach [PI18/00622, intramural CIBEREHD project, PI24/00159].
- Comparative study of the immunomodulatory effect of the combination of biological drugs in inflammatory bowel disease [COMBINE] [PI22/01069, CD23/00075, FI23/00071].

1.5. Strategies for advanced therapies cycling in IBD

- Discontinuation of anti-TNF drugs in IBD patients [PI15/00560, PI24/00141].
- Identification of predictive biomarkers of relapse after discontinuation of anti-TNF therapy in IBD patients.
- Coordination of international initiatives on treatment cycling.

1.6. Safety of IBD treatments

- Safety during pregnancy and lactation (coordination of the national registry DUMBO [ICI19/0083]).
- Risk of thromboembolic events in patients treated with JAK inhibitors [PI21/01086].

2. Helicobacter pylori infection

- Implementation Science and evaluation of clinical practice: evidence-based recommendations on real routine practice.
- International coordination of the European Registry on Helicobacter pylori management, a prospective study of clinical practice including >80,000 patients from 300 hospitals of 40 European countries.
- International coordination of the World Registry on Helicobacter pylori management, including hundreds of hospitals from the 5 continents.
- Primary Care: Surveys on practitioners, evaluation of clinical registries and development of dissemination programs.
- Prevalence, transmission, resistance, and socio-sanitary factors of infection.



MAJOR GRANTS

Pérez Gisbert, Francisco Javier. TOGAS - TOWARDS GASTRIC CANCER SCREENING IMPLEMENTATION IN THE EUROPEAN UNION. UE. TOGAS.101101252. EUROPEAN COMMISSION. 2023-

Chaparro Sánchez, María. "Estudio comparativo del efecto inmunomodulador de la combinación de fármacos

biológicos en la enfermedad inflamatoria intestinal [COMBINE]"PI22/01069. INSTITUTO SALUD CARLOS III. 2023-

Pérez Gisbert, Francisco Javier. AIDA - An artificially intelligent diagnostic assistant for gastric inflammation. UE.AIDA.101095359. EUROPEAN COMMISSION. 2022-

Pérez Gisbert, Francisco Javier. Riesgo trombótico en pacientes con colitis ulcerosa en tratamiento con inhibidores JAK: efecto sobre la función plaquetaria y la cascada de coagulación. PI21/01086. INSTITUTO SALUD CARLOS III. 2022-



PUBLICATIONS

Armuzzi, A, Vermeire, S, Chaparro, M, Biedermann, P, Brown, R, Mcstravick, M, Meyer, M, Schreiber, S. **Effectiveness and Treatment Persistence of Vedolizumab Compared to Anti-Tumour Necrosis Factor-α in Patients With Crohn's Disease: A Systematic Literature Review and Meta-Analysis.** United European Gastroenterol. J.2024. PMID: 39707930. IF: 5,80. DOI: 10.1002/ueg2.12705.

Segura PS, Gomollón F, Casas D, Iborra M, Vela M, Fernández Clotet A, Muñoz R, de la Filia IG, Prada MG, Rosique JAF, García MJ, de Francisco R, Arias L, Barrio J, Guerra I, Ponferrada A, Gisbert JP, Carrillo Palau M, Calvet X, Márquez Mosquera L, Gros B, Cañete F, Monfort D, Domínguez REM, Roncero O, Laredo V, Montoro M, Muñoz C, López Cauce B, Lorente R et al. **Psoriasis induced by antiTNF therapy in inflammatory bowel disease: Therapeutic management and evolution of both diseases in a nationwide cohort study.** Dig. Liver Dis. 56. (12). 2024. PMID:38876834. IF:4,00. DOI:10.1016/j.dld.2024.05.021. DIGESTIVE AND LIVER DISEASE.

Aguas M, Del Hoyo J, Vicente R, Barreiro de Acosta M, Melcarne L, Hernandez Camba A, Madero L, Arroyo MT, Sicilia B, Chaparro M, Martin Arranz MD, Pajares R, Mesonero F, Mañosa M, Martinez P, Chacón S, Tosca J, Marín S, Sanroman L, Calvo M, Monfort D, Saiz E, Zabana Y, Guerra I, Varela P, Baydal V, Faubel R, Corsino P, Porto Silva S, Brunet E et al. **Telemonitoring of Active Inflammatory Bowel Disease Using theApp TECCU:Short-Term Results of a Multicenter Trial of GETECCU.** J. Med. Internet Res. 26. 2024. PMID:39189160. IF:5,80. DOI:10.2196/60966. JOURNAL OF MEDICAL INTERNET RESEARCH.

Goren I, Boldes OF, Boldes T, Knyazev O, Kagramanova A, Limdi JK, Liu E, Sethi Arora K, Holvoet T, Eder P, Bezzio C, Saibeni S, Vernero M, Alimenti E, Chaparro M, Gisbert JP, Orfanoudaki E, Koutroubakis IE, Pugliese D, Cuccia G, Suarez CC, Ribaldone DG, Veisman I, Sharif K, Aratari A, Papi C, Mylonas I, Mantzaris GJ, Truyens M, Ortega TL et al. **Post-Discharge Outcomes of Elderly Patients Hos-**

pitalized for Inflammatory Bowel Disease Flare Complicated by Clostridioides difficile Infection. J. Crohns Colitis. 2024. PMID:39435855. IF:8,30. DOI:10.1093/ecco-jcc/jjae161. JOURNAL OF CROHNS & COLITIS.

Chaparro, M, Gisbert, JP. **Editorial: Effectiveness and Safety of Ustekinumab in Ulcerative Colitis-Where We Are Now in Real Life. Authors' Reply.** Aliment. Pharmacol. Ther.60. (10):2024. PMID: 39370870. IF: 6,60. DOI: 10.1111/apt.18316.

Benito BM, Nyssen OP, Gisbert JP. **Efficacy and Safety of Vonoprazan in Dual/Triple/Quadruple Regimens Both in First-Line and Rescue Therapy for Helicobacter pylori Eradication: A Systematic Review With Meta-Analysis.** Helicobacter. 29. (6). 2024. PMID:39533409. IF:4,30. DOI:10.1111/hel.13148. Helicobacter.

Medel Jara P, Placencia DR, Fuentes Lopez E, Corsi O, Latorre G, Anton R, Jimenez E, Miralles Marco A, Caballero C, Boggino H, Cantero D, Barros R, Santos Antunes J, Diez M, Quinones LA, Riquelme E, Rollan A, Cerpa LC, Valdes I, Nyssen OP, Moreira L, Gisbert JP, Camargo MC, Ortiz Olvera N, Leon Takahashi AM, Ruiz Garcia E, Fernandez Figueroa EA, Garrido M, Owen GI, Cervantes A et al. **Quadruple therapies show a higher eradication rate compared to standard triple therapy for Helicobacter pylori infection within the LEGACy consortium. A multicenter observational study in European and Latin American countries.** United European Gastroenterol. J. 12. (9). 2024. PMID:39090833. IF:5,80. DOI:10.1002/ueg2.12605. UNITED EUROPEAN GASTROENTEROLOGY JOURNAL.

D'Amico F, Massimino L, Palmieri G, Buono AD, Gabbadini R, Caron B, Moreira P, Silva I, Bosca Watts M, Innocenti T, Dragoni G, Bezzio C, Zilli A, Furfaro F, Saibeni S, Chaparro M, Garcia MJ, Michalopoulos G, Viazis N, Mantzaris GJ, Ellul P, Gisbert JP, Magro F, Peyrin Biroulet L, Armuzzi A, Ungaro F, Danese S, Fiorino G, Allocca M. **An international multicentre study of Switching from Intravenous to subcutaneous infliximab and vedolizumab in inflammatory bowel diseases: The TIME study.** Eur. J. Clin. Invest. 54. (11). 2024. PMID:38979834. IF:4,40. DOI:10.1111/eci.14283. EUROPEAN JOURNAL OF CLINICAL INVESTIGATION.

Chaparro M, Hermida S, Acosta D, Fernandez Clotet A, Acosta MBD, Martinez AH, Arroyo M, Bosca Watts MM, Palomares MTDL, Menchen L, Cadilla JM, Leo Carnere-ro E, Villafranca CM, Sierra Ausin M, Gonzalez Lama Y, Riestra S, Rumbeu PS, Tapia MJC, de la Filia IG, Vicente R, Ceballos D, Villarroya RP, de la Piscina PR, Martin Arranz MD, Ramos L, Ruiz Cerulla A, Martinez Perez TD, Amelivia ES, Calvet X, Huguet JM et al. **Long-term benefit of ustekinumab in ulcerative colitis in clinical practice: ULISES study.** Aliment. Pharmacol. Ther. 60. (10).

2024. PMID:39287363. IF:6,60. DOI:10.1111/apt.18230. ALIMENTARY PHARMACOLOGY & THERAPEUTICS.

Casanova MJ, Caballol B, García MJ, Mesonero F, de Célix CR, Suárez Alvarez P, Ferreiro Iglesias R, Martín Rodríguez MDM, de Francisco R, Varela Trastoy P, Bastida G, Carrillo Palau M, Núñez Ortiz A, Ramírez de la Piscina P, Ceballos D, Hervías Cruz D, Muñoz Pérez R, Velayos B, Bermejo F, Busquets D, Cabacino M, Camo Monterde P, Marín Jiménez I, Muñoz C, de la Peña Negro LC, Sierra Moros E, Barrio J, Brunet Mas E, Bujanda L, Cañete F et al. **Persistence, effectiveness and safety of ustekinumab and vedolizumab therapy for complex perianal fistula in Crohn's disease: The HEAL study from GETECCU.** Dig. Liver Dis. 56. (11). 2024. PMID:38839456. IF:4,00. DOI:10.1016/j.dld.2024.05.009. DIGESTIVE AND LIVER DISEASE.

Sousa P, Gisbert JP, Julsgaard M, Selinger CP, Chaparro M. **Navigating Reproductive Care in Patients With Inflammatory Bowel Disease: A Comprehensive Review.** J. Crohns Colitis. 18. (Supplement_2). 2024. PMID:39475080. IF:8,30. DOI:10.1093/ecco-jcc/jjae048. JOURNAL OF CROHNS & COLITIS.

Olmedo L, Calvet X, Gené E, Bordin DS, Voynovan I, Castro Fernandez M, Pabón Carrasco M, Keco Huerga A, Perez Aisa A, Lucendo AJ, Rodrigo L, Sarsenbaeva AS, Khlinov IB, Fadieienco G, Zaytsev O, Lanas A, Martínez Domínguez SJ, Alfaro E, Jonaitis L, Núñez O, Pellicano R, Hernández L, Gridnyev O, Kupcinskis J, Gasbarrini A, Boltin D, Niv Y, Babayeva G, Marcos Pinto R, Tepes B et al. **Evolution of the use, effectiveness and safety of bismuth-containing quadruple therapy for Helicobacter pylori infection between 2013 and 2021: results from the European registry on H. pylori management (Hp-EuReg).** Gut. 2024. PMID:39461739. IF:23,00. DOI:10.1136/gutjnl-2024-332804. Gut.

Danese S, Panés J, Dubinsky M, Guo X, Yndestad A, Schreiber S, Chaparro M. **Review: Risk Stratification of Patients With Ulcerative Colitis for Treatment With Tofacitinib.** Crohns Colitis 360. 6. (4). 2024. PMID:39372098. DOI:10.1093/crocol/otae049. Crohns & Colitis 360.

Deza DC, Gomara ABJ, Biota EC, Beltrán B, Domènech E, Casbas AG, Mañosa M, Zabana Y, Alfaro LR, Romero EV, González EG, Siciliak B, Laredo V, Escriche MJA, Velázquez LM, Ferreiro Iglesias R, Pérez AP, Calafat M, Iturria SR, Yudego IM, Nieto YB, Mateo SG, Gisbert JP, Lidón RV, Arias L, Alfambra E, Borao ABD, González EP, Roche PC, Arregui MV et al. **A booster dose of SARS-COV-2 vaccine improves suboptimal seroconversion rates in patients with inflammatory bowel disease. Results of a prospective multicenter study of GETECCU (VACOVIEII study).** Gastroenterol. Hepatol. 47. (8). 2024. PMID:38007154. IF:2,20. DOI:10.1016/j.gastro-hep.2023.11.004. Gastroenterología y Hepatología.

Line 3.2 Esophagogastrintestinal inflammatory diseases

Armuzzi A, Rubin DT, Schreiber S, Panés J, Fellmann M, Bartolome L, Gruben D, Goetsch M, Bhattacharjee A, Chaparro M, Dubinsky MC. **Health-Related Quality of Life Outcomes With Etrasimod Treatment in Patients With Ulcerative Colitis: A Post Hoc Analysis of Data From ELEVATE UC 52 and ELEVATE UC 12.** *Inflamm. Bowel Dis.* 2024. PMID:39326009. IF:4,50. DOI:10.1093/ibd/izae229. INFLAMMATORY BOWEL DISEASES.

Ferreiro Iglesias R, Silva SP, Marín S, Casanova MJ, Mañosa M, González Muñoz C, de Francisco R, Caballol B, Arias L, Piqueras M, Zabana Y, Rivero M, Calvet X, Mesonero F, Trastoy PV, Nistal RB, Perosanz RG, Vega P, Gonzalez Vivo M, Iborra M, Bermejo F, Madero L, Rodríguez Lago I, Gonzalez MR, Vera I, Díaz AP, Vela M, Medina LT, Van Domselaar M, Gomollón F et al. **Need for therapeutic escalation in patients with refractory ulcerative proctitis: Results from the PROCU study of the ENEIDA registry.** *Aliment. Pharmacol. Ther.* 60. (5). 2024. PMID:38943230. IF:6,60. DOI:10.1111/apt.18133. ALIMENTARY PHARMACOLOGY & THERAPEUTICS.

Gordon H, Minozzi S, Kopylov U, Verstockt B, Chaparro M, Buskens C, Warusavitarne J, Agrawal M, Allocca M, Atreya R, Battat R, Bettenworth D, Bislenghi G, Brown SR, Burisch J, Casanova MJ, Czuber Dochan W, de Groof J, El Hussuna A, Ellul P, Fidalgo C, Fiorino G, Gisbert JP, Sabino JG, Hanzel J, Holubar S, Iacucci M, Iqbal N, Kapizioni C, Karmiris K et al. **ECCO Guidelines on Therapeutics in Crohn's Disease: Medical Treatment.** *J. Crohns Colitis.* 18. (10). 2024. PMID:38877997. IF:8,30. DOI:10.1093/ecco-jcc/jjae091. JOURNAL OF CROHNS & COLITIS.

Adamina M, Minozzi S, Warusavitarne J, Buskens CJ, Chaparro M, Verstockt B, Kopylov U, Yanai H, Vavricka SR, Sigall Boneh R, Sica GS, Reenaers C, Peros G, Papa-michael K, Noor N, Moran GW, Maaser C, Luglio G, Kotze PG, Kobayashi T, Karmiris K, Kapizioni C, Iqbal N, Iacucci M, Holubar S, Hanzel J, Sabino JG, Gisbert JP, Fiorino G, Fidalgo C et al. **ECCO Guidelines on Therapeutics in Crohn's Disease: Surgical Treatment.** *J. Crohns Colitis.* 18. (10). 2024. PMID:38878002. IF:8,30. DOI:10.1093/ecco-jcc/jjae089. JOURNAL OF CROHNS & COLITIS.

Fantini MC, Fiorino G, Colli A, Laharie D, Armuzzi A, Caprioli FA, Gisbert JP, Kirshgesner J, Macaluso FS, Magro F, Ghosh S, PRACTICE IBD study group. **Pragmatic Trial Design to Compare Real-world Effectiveness of Different Treatments for Inflammatory Bowel Diseases: The PRACTICE-IBD European Consensus.** *J. Crohns Colitis.* 18. (8). 2024. PMID:38367197. IF:8,30. DOI:10.1093/ecco-jcc/jjae026. JOURNAL OF CROHNS & COLITIS.

Gisbert JP, Schreiber S, Siegel CA, Magro F, Jus A, Whitchello C, Michaels Igboke C, Heidenreich S, Oortwijn A, Vermeire S. **Benefit-Risk Trade-offs and Patient Preferences for Therapy Selection in Ulcerative Colitis: a Multicountry Preference Study.** *Inflamm. Bowel*

Dis. 2024. PMID:39126434. IF:4,50. DOI:10.1093/ibd/izae162. INFLAMMATORY BOWEL DISEASES.

Gisbert JP, Chaparro M. **Common Mistakes in Managing Patients with Inflammatory Bowel Disease.** *J. Clin. Med.* 13. (16):2024. PMID: 39200937. IF: 3,00. DOI: 10.3390/jcm13164795.

Moreno LO, Chaparro M, Gisbert JP. **Long Non-Coding RNAs and Their Potential Role as Biomarkers in Inflammatory Bowel Disease.** *Int. J. Mol. Sci.* 25. (16). 2024. PMID:39201494. IF:4,90. DOI:10.3390/ijms25168808. INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES.

Dragoni G, Innocenti T, Amiot A, Castiglione F, Melotti L, Festa S, Savarino EV, Truysens M, Argyriou K, Noviello D, Molnar T, Bouillon V, Bezzio C, Eder P, Fernandes S, Kagramanova A, Armuzzi A, Oliveira R, Viola A, Ribaldone DG, Drygiannakis I, Viganò C, Calella F, Gravina AG, Pugliese D, Chaparro M, Ellul P, Vieujeun S, Milla M, Caprioli F et al. **Rates of Adverse Events in Patients With Ulcerative Colitis Undergoing Colectomy During Treatment With Tofacitinib vs Biologics: A Multicenter Observational Study.** *Am. J. Gastroenterol.* 119. (8). 2024. PMID:38305302. IF:8,00. DOI:10.14309/ajg.0000000000002676. AMERICAN JOURNAL OF GASTROENTEROLOGY.

Deza DC, Gomara ABJ, Biota EC, Beltrán B, Domènech E, Casbas AG, Mañosa M, Zabana Y, Alfaro LR, Romero EV, González EG, Sicilia B, Laredo V, Escriche MJA, Velázquez LM, Ferreiro Iglesias R, Pérez AP, Calafat M, Iturria SR, Yudego IM, Nieto YB, Mateo SG, Gisbert JP, Lidón RV, Arias L, Alfambra E, Borao ABD, González EP, Roche PC, Arregui MV et al. **Impact of mesalazine on the response to COVID-19 vaccination in patients with inflammatory bowel disease: Results of a prospective multicentre study of GETECCU (VACOVII study).** *Gastroenterol. Hepatol.* 47. (7). 2024. PMID:38219960. IF:2,20. DOI:10.1016/j.gastrohep.2023.12.012. Gastroenterología y Hepatología.

García, MJ, Gisbert, JP, Chaparro, M. **Letter: Third-line therapy in acute severe ulcerative colitis, exploring the uncertainty and unanswered questions-Authors' reply.** *Aliment. Pharmacol. Ther.* 60. (2):2024. PMID: 38845358. IF: 6,60. DOI: 10.1111/apt.18104.

Martínez Domínguez SJ, Nyssen OP, Lanas A, Alfaro E, Jonaitis L, Mahmudov U, Voynovan I, Gülüstan B, Rodrigo L, Fiorini G, Perez Aisa A, Tejedor Tejada J, Tepes B, Vologzanina L, Mammadov E, Lerang F, Oglu QFRV, Bakulina NV, Abdulkhakov R, Tatiana I, Butler TJ, Sarsenbaeva AS, Bumane R, Lucendo AJ, Romano M, Bujanda L, Abdulkhakov SR, Zaytsev O, Pabón Carrasco M, Keco Huerga A et al. **Indications of *Helicobacter pylori* Eradication Treatment and Its Influence on Prescriptions and Effectiveness (Hp-EuReg).** *Helicobacter.*

29. (4). 2024. PMID:39001621. IF:4,30. DOI:10.1111/hel.13111. *Helicobacter.*

Huguet JM, Ferrer Barceló L, Suárez P, Barcelo Cerda S, Sempere J, Saracino IM, Fiorini G, Vaira D, Perez Aisa A, Jonaitis L, Tepes B, Castro Fernandez M, Pabon Carrasco M, Keco Huerga A, Voynovan I, Lucendo AJ, Lanas A, Martinez Dominguez SJ, Almajano EA, Rodrigo L, Vologzanina L, Bordin DS, Gasbarrini A, Babayeva G, Lerang F, Leja M, Kupcinskis J, Rokkas T, Marcos Pinto R, Mestrovic A et al. **Role of compliance in *Helicobacter pylori* eradication treatment: Results of the European Registry on *H. pylori* management.** *United European Gastroenterol. J.* 12. (6). 2024. PMID:38685613. IF:5,80. DOI:10.1002/ueg2.12569. UNITED EUROPEAN GASTROENTEROLOGY JOURNAL.

González Muñoz C, Calafat M, Gisbert JP, Iglesias E, Minguez M, Sicilia B, Aceituno M, Gomollón F, Calvet X, Ricart E, De Castro L, Rivero M, Mesonero F, Márquez L, Nos P, Rodriguez Pescador A, Guardiola J, García Sepulcre M, García López S, Lorente Poyatos RH, Alba C, Sánchez Ocaña R, Vera I, Madero L, Riestra S, Navarro Llavat M, Pérez Calle JL, Camps B, Van Domselaar M, Lucendo AJ et al. **Influence of familial forms of inflammatory bowel disease on the use of immunosuppressants, biological agents, and surgery in the era of biological therapies. Results from the ENEIDA project.** *Postgrad. Med. J.* 2024. PMID:38913019. IF:3,60. DOI:10.1093/postmj/qgae076. POSTGRADUATE MEDICAL JOURNAL.

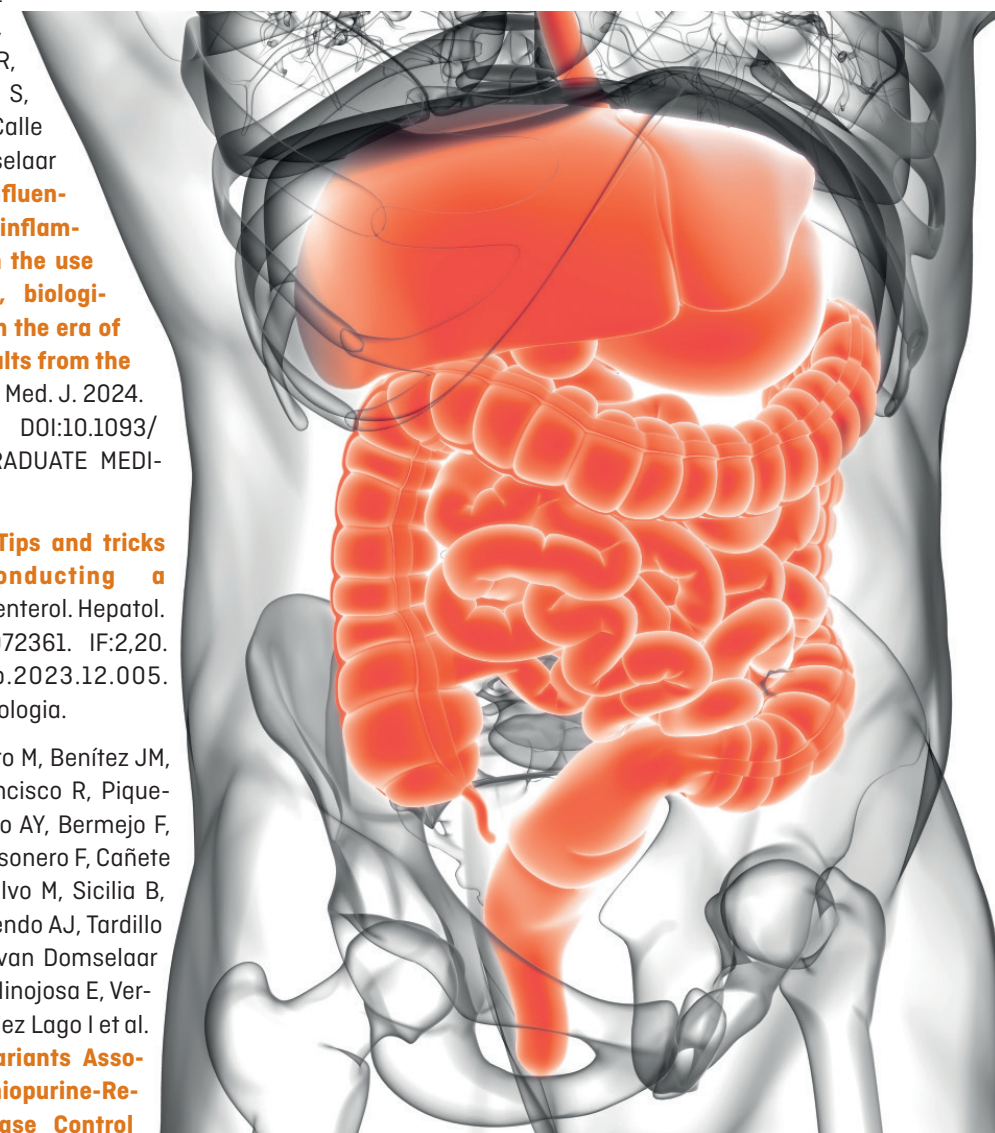
Gisbert JP, Chaparro M. **Tips and tricks for successfully conducting a multicenter study.** *Gastroenterol. Hepatol.* 47. (6). 2024. PMID:38072361. IF:2,20. DOI:10.1016/j.gastrohep.2023.12.005. Gastroenterología y Hepatología.

Guerra I, Barros F, Chaparro M, Benítez JM, Martín Arranz MD, de Francisco R, Piqueras M, de Castro L, Carbajo AY, Bermejo F, Minguez M, Gutiérrez A, Mesonero F, Cañete F, González Muñoz C, Calvo M, Sicilia B, Alfambra E, Rivero M, Lucendo AJ, Tardillo CA, Almela P, Bujanda L, van Domselaar M, Ramos L, Sánchez MF, Hinojosa E, Verdejo C, Gimenez A, Rodríguez Lago I et al. **Evaluation of Genetic Variants Associated with the Risk of Thiopurine-Related Pancreatitis: A Case Control**

Study from ENEIDA Registry. *Dig. Dis.* 42. (3). 2024. PMID:38452742. IF:2,00. DOI:10.1159/000537782. DIGESTIVE DISEASES.

Allocca M, Catalano G, Savarino EV, Chaparro M, Levartovsky A, Michalopoulos G, Viazis N, Fousekis FS, Psistakis A, Noviello D, do Nascimento CN, Caron B, Kitsou V, Bamias G, García MJ, Zacharopoulou E, Foteinogiannopoulou K, D'Amico F, Koutroubakis I, Ellul P, Tzouvala M, Peyrin Biroulet L, Torres J, Caprioli F, Karmiris K, Theodoropoulou A, Katsanos KH, Christodoulou DK, Mantzaris GJ, Kopylov U et al. **Comparison between tofacitinib and ustekinumab as a third-line therapy in refractory ulcerative colitis: A multicenter international study.** *United European Gastroenterol. J.* 12. (5). 2024. PMID:38419274. IF:5,80. DOI:10.1002/ueg2.12492. UNITED EUROPEAN GASTROENTEROLOGY JOURNAL.

García, MJ, Gisbert, JP, Chaparro, M. **Editorial: Sequencing rescue therapy for acute severe ulcerative colitis-Ready for revision? Authors' reply.** *Aliment. Phar-*



Line 3.2 Esophagogastrintestinal inflammatory diseases

macol. Ther.59. [10]:2024. PMID: 38652775. IF: 6,60. DOI: 10.1111/apt.17993.

Luzko I, Nyssen O P, Moreira L, Gisbert JP. **Safety profile of Helicobacter pylori eradication treatments: literature review and updated data of the European Registry on Helicobacter pylori management (Hp-EuReg).** Expert Opin. Drug Saf. 23. [5]. 2024. PMID:38557327. IF:3,00. DOI:10.1080/14740338.2024.2338245. Expert Opinion On Drug Safety.

García MJ, Riestra S, Amiot A, Julsgaard M, de la Fila IG, Calafat M, Aguas M, de la Pena L, Roig C, Caballol B, Casanova MJ, Farkas K, Boysen T, Bujanda L, Cuaran C, Dobru D, Fousekis F, Gargallo Puyuelo CJ, Savarino E, Calvet X, Huguet JM, Kupcinskas L, López Cardona J, Raine T, van Oostrom J, Gisbert JP, Chaparro M. **Effectiveness and safety of a third-line rescue treatment for acute severe ulcerative colitis refractory to infliximab or ciclosporin (REASUC study).** Aliment. Pharmacol. Ther. 59. [10]. 2024. PMID:38445785. IF:6,60. DOI:10.1111/apt.17938. ALIMENTARY PHARMACOLOGY & THERAPEUTICS.

Rokkas T, Gisbert JP, Ekmektzoglou K, Dassopoulos T, Niv Y, O'Morain C. **Comparative maintenance performance of all biologic agents and small molecules in ulcerative colitis: a network meta-analysis.** Eur. J. Gastroenterol. Hepatol. 36. [5]. 2024. PMID:38477863. IF:2,59. DOI:10.1097/MEG.0000000000002751. EUROPEAN JOURNAL OF GASTROENTEROLOGY & HEPATOLOGY.

Salazar J, García Planella E, Fernández Clotet A, Esteve M, Gisbert JP, Busquets D, Lucendo A, Márquez L, Guardiola J, Martín Arranz MD, Iglesias E, Monfort D, Villoria A, Cañete F, Bell O, Ricart E, Zabana Y, Chaparro M, Domènech E, Gordillo J, ENEIDA Registry GETECCU. **Genetic biomarkers of methotrexate response and safety in Crohn's disease: Data from the Spanish ENEIDA registry.** Br. J. Clin. Pharmacol. 90. [5]. 2024. PMID:38369687. IF:3,10. DOI:10.1111/bcp.16017. British journal of clinical pharmacology.

Gómez Labrador C, Ricart E, Iborra M, Iglesias E, Martín Arranz MD, de Castro L, De Francisco R, García Alonso FJ, Sanahuja A, Gargallo Puyuelo CJ, Mesonero F, Casanova MJ, Mañosa M, Rivero M, Calvo M, Sierra Ausin M, González Muñoz C, Calvet X, García López S, Guardiola J, García LA, Márquez Mosquera L, Gutiérrez A, Zabana Y, Navarro Llavat M, Poyatos RL, Piqueras M, Torrealba L, Bermejo F, Ponferrada Díaz A et al. **Trends in Targeted Therapy Usage in Inflammatory Bowel Disease: TRENDY Study of ENEIDA.** Pharmaceutics. 16. [5]. 2024. PMID:38794292. IF:4,90. DOI:10.3390/pharmaceutics16050629. Pharmaceutics.

Chaparro, M, Ceballos, D, Vicente, R, Gisbert, JP. **Experience of Tofacitinib Use in Pregnancy in Patients with Ulcerative Colitis.** Clin. Drug Invest.44. [4]:2024. PMID:

38499915. IF: 2,90. DOI: 10.1007/s40261-024-01353-3. Bujanda L, Nyssen OP, Ramos J, Bordin DS, Tepes B, Perez Aisa A, Pavoni M, Castro Fernandez M, Lerang F, Leja M, Rodrigo L, Rokkas T, Kupcinskas J, Jonaitis L, Shvets O, Gasbarrini A, Simsek H, Phull PS, Buzás GM, Machado JC, Boltin D, Boyanova L, Tonkic A, Marlicz W, Venerito M, Vologzanina L, Fadieienko GD, Fiorini G, Resina E, Muñoz R et al. **Effectiveness of Helicobacter pylori Treatments According to Antibiotic Resistance.** Am. J. Gastroenterol. 119. [4]. 2024. PMID:37983769. IF:8,00. DOI:10.14309/ajg.0000000000002600. AMERICAN JOURNAL OF GASTROENTEROLOGY.

Bastón Rey I, Rodríguez Lago I, Luque AM, Caballol B, Soutullo Castiñeiras C, Bravo A, Castaño A, Gros B, Bernal L, Diz Lois MT, Alonso Galan H, Canete F, Castro B, Perez Galindo P, Gonzalez Munoz C, El Hajra I, Martínez Montiel P, Alonso Abreu I, Mesonero F, González Vivo M, Peries L, Martín Arranz E, Abril C, Marín Jiménez I, Baltar R, Vicuña M, Moreno N, Brunet E, de Célix CR, Fajardo I et al. **The Natural History of Patients With Pre-Existing and De Novo Inflammatory Bowel Disease After Solid Organ Transplantation: EITOS Study of GETECCU.** Inflamm. Bowel Dis. 31. [1]. 2024. PMID:38518109. IF:4,50. DOI:10.1093/ibd/izae041. INFLAMMATORY BOWEL DISEASES.

Rivière P, Li Wai Suen C, Chaparro M, De Cruz P, Spinelli A, Laharie D. **Acute severe ulcerative colitis management: unanswered questions and latest insights.** Lancet Gastroenterol Hepatol. 9. [3]. 2024. PMID:38340753. IF:30,90. DOI:10.1016/S2468-1253(23)00313-8. LANCET GASTROENTEROLOGY & HEPATOLOGY.

Marcos, NM, Arribas, BN, Navarro, GM, Salvanés, FR, Belinchón, PL, Gisbert, JP. **Efficacy and safety of proactive drug monitoring in inflammatory bowel disease treated with anti-TNF agents: A systematic review and meta-analysis.** Dig. Liver Dis.56. [3]:2024. PMID: 37422409. IF: 4,00. DOI: 10.1016/j.dld.2023.06.028.

Martín Cardona A, Horta D, Florez Diez P, Vela M, Mesonero F, Belinchón CR, García MJ, Masnou H, Peña Negro LD, Ferrer CS, Casanova MJ, Duran MO, Peña E, Calvet X, Fernández Prada SJ, González Muñoz C, Piqueras M, Rodríguez Lago I, Sainz E, Bas Cutrina F, Marcos NM, Ojeda A, Orts B, Sicilia B, García AC, Domènech E, Esteve M, ENEIDA registry GETECCU. **Safety and effectiveness of direct-acting antiviral drugs in the treatment of hepatitis C in patients with inflammatory bowel disease.** Dig. Liver Dis. 56. [3]. 2024. PMID:37770282. IF:4,00. DOI:10.1016/j.dld.2023.09.004. DIGESTIVE AND LIVER DISEASE.

Spencer, EA, Dubinsky, MC, Kamm, MA, Chaparro, M, Gionchetti, P, Rizzello, F, Gisbert, JP, Wright, EK, Schulberg, JD, Hamilton, AL, McGovern, DPB, Dervieux, T.

Poor prognostic factors of pharmacokinetic origin predict outcomes in inflammatory bowel disease patients treated with anti-tumor necrosis factor-α (vol 15, 1342477, 2024). Front. Immunol.15. 2024. PMID: 38476224. IF: 5,70. DOI: 10.3389/fimmu.2024.1383704.

Geldof J, Truyens M, Hanssens M, Van Gucht E, Holvoet T, Elorza A, Bouillon V, Barros S, Martins V, Argyriou K, Potamianos S, Diculescu M, Stroie T, Bossuyt P, Moens A, Theodoraki E, Koutroubakis IE, Pedro J, Fernandes S, Nikolaou P, Karmiris K, Baert FJ, Ferreiro Iglesias R, Peeters H, Claeys S, Casanova MJ, Eder P, Porter RJ, Arnott I, Karakan T et al. **Prophylactic Versus Endoscopy-driven Treatment of Crohn's Postoperative Recurrence: A Retrospective, Multicentric, European Study [PORCSE Study].** J. Crohns Colitis. 18. [8]. 2024. PMID:38243807. IF:8,30. DOI:10.1093/ecco-jcc/jjae011. JOURNAL OF CROHNS & COLITIS.

Benito, BM, Gisbert, JP, Fraile, LJGF, Blandino, AB, Chaparro, M. **Sexually transmitted infections as a differential diagnosis of inflammatory bowel disease.** Gastroenterol. Hepatol.47. [2]:2024. PMID: 37150250. IF: 2,20. DOI: 10.1016/j.gastrohep.2023.03.009.

Nyssen OP, Martínez B, Mégraud F, Savarino V, Fallo- ne CA, Bazzoli F, Gisbert JP. **Sequential versus Standard Triple Therapy for First-Line Helicobacter pylori Eradication: An Update.** Antibiotics-Basel. 13. [2]. 2024. PMID:38391522. IF:4,30. DOI:10.3390/antibiotics13020136. ANTIBIOTICS-BASEL.

Spencer EA, Dubinsky MC, Kamm MA, Chaparro M, Gionchetti P, Rizzello F, Gisbert JP, Wright EK, Schulberg JD, Hamilton AL, McGovern DPB, Dervieux T. **Poor prognostic factors of pharmacokinetic origin predict outcomes in inflammatory bowel disease patients treated with anti-tumor necrosis factor-α.** Front. Immunol. 15. 2024. PMID:38476237. IF:5,70. DOI:10.3389/fimmu.2024.1342477. Frontiers in immunology.

Calafat M, Torres P, Tosca Cuquerella J, Sánchez Aldehuelo R, Rivero M, Iborra M, González Vivo M, Vera I, de Castro L, Bujanda L, Barreiro de Acosta M, González Muñoz C, Calvet X, Benítez JM, Llorente Barrio M, Surís G, Cañete F, Arias García L, Monfort D, Castaño García A, García Alonso FJ, Huguet JM, Marín Jiménez I, Lorente R, Martín Cardona A, Ferrer JA, Camo P, Gisbert JP, Pajares R, Gomollón F et al. **Clinical and treatment outcomes of a second subcutaneous or intravenous anti-TNF in patients with ulcerative colitis treated with two consecutive anti-TNF agents: data from the ENEIDA registry.** Ther. Adv. Gastroenterol. 17. 2024. PMID:38187926. IF:3,90. DOI:10.1177/17562848231221713. THERAPEUTIC ADVANCES IN GASTROENTEROLOGY.

Mesonero F, Zabana Y, Fernández Clotet A, Leo Car-

nerero E, Caballol B, Núñez Ortiz A, García MJ, Bertolletti F, Mínguez A, Surís G, Casis B, Ferreiro Iglesias R, Calafat M, Jiménez I, Miranda Bautista J, Lamuela LJ, Fajardo I, Torrealba L, Nájera R, Saiz Chumillas RM, González I, Vicuña M, García Morales N, Gutiérrez A, López García A, Benítez JM, de Célix CR, Tejido C, Brunet E, Hernández Camba A et al. **Effectiveness and safety of azathioprine for inflammatory pouch disorders: results from the RESERVO study of GETECCU.** Ther. Adv. Gastroenterol. 17. 2024. PMID:38445247. IF:3,90. DOI:10.1177/17562848241234476. THERAPEUTIC ADVANCES IN GASTROENTEROLOGY.

González-Martínez A, Muro García I, Quintas S, Chaparro M, Gisbert JP, Sanz A, Casanova MJ, Rubín de Célix C, Vivancos J, Gago-Veiga AB. **Headache in patients with inflammatory bowel disease: Migraine prevalence according to the Migraine Screening-Questionnaire (MS-Q) and headache characteristics.** Gastroenterol. Hepatol. 47(1), 2024: 63–71. PMID: 37149259. DOI: 10.1016/j.gastrohep.2023.05.001. IF: 2.2. Gastroenterología y Hepatología.

Pugliese D, Privitera G, Gisbert JP, Chaparro M. **New drugs for the treatment of IBD during conception, pregnancy, and lactation.** Dig. Liver Dis. 56, 2024: 235–241. Digestive and Liver Disease.

García MJ, Rivero M, Fernández-Clotet A, de Francisco R, Sicilia B, Mesonero F, de Castro ML, Casanova MJ, Bertolletti F, García Alonso FJ, López-García A, Vicente R, Calvet X, Barreiro-de Acosta M, Ferrer Rosique J, Varela Trastoy P, Nuñez A, Ricart E, Riestra S, Arias García L, Rodríguez M, Arranz L, Pajares R, Mena R, Calafat M, Camo P, Bermejo F, Ponferrada A, Madrigal RE, Llaó J, Sesé E, Sánchez E, Pineda Mariño JR, González Muñoz C, Carbajo López AY, Julián BA, Villoria Ferrer A, Bastón I, Jara L, Almela P, Codesido L, de la Maza S, Leal C, Caballol B, Pérez-Martínez I, Vinuesa Campo R, Domènech E, Chaparro M, Gisbert JP. **Comparative study of the effectiveness of vedolizumab versus ustekinumab after anti-TNF failure in Crohn's disease (VERSUS-CD): data from the ENEIDA registry.** J. Crohns Colitis. 18(1), 2024: 65–74. Journal of Crohn's and Colitis.

Pabón-Carrasco M, Keco-Huerga A, Castro-Fernández M, Saracino IM, Fiorini G, Vaira D, Pérez-Aisa A, Tepes B, Jonaitis L, Voynovan I, Lucendo AJ, Lanás A, Martínez-Domínguez SJ, Alfaro E, Rodrigo L, Vologzanina L, Brglez Jurecic N, Denkovski M, Bujanda L, Abdulkhakov RA, Huguet JM, Fernández Salazar L, Alcaide N, Velayos B, Sarsenbaeva AS, Zaytsev O, Ilchishina T, Barrio J, Bakulin I, Perona M, Alekseenko S, Romano M, Gravina AG, Núñez O, Gómez Rodríguez BJ, Ledro-Cano D, Pellicano R, Bogomolov P, Domínguez-Cajal M, Almela P, Gomez-Camarero J, Bordin DS, Gasbarrini A, Kupcinskas J, Cano-Català A, Moreira L, Nyssen OP, Mégraud F,

Line 3.2 Esophagogastrintestinal inflammatory diseases

O'Morain C, Gisbert JP. **Role of proton pump inhibitors dosage and duration in *Helicobacter pylori* eradication treatment: results from the European registry on *H. pylori* management (Hp-EuReg)**. United Eur. Gastroenterol. J. 12(1), 2024: 122–138. United European Gastroenterology Journal.

Aldars-García L, Gil-Redondo R, Embade N, Riestra S, Rivero M, Gutiérrez A, Rodríguez I, Fernández L, Ceballos D, Benítez JM, Aguas M, Barreiro-de Acosta M, Bermejo F, Casanova MJ, Lorente R, Ber Y, Ginard D, Esteve M, Garre A, Sanz-García A, Lozano JJ, Millet O, Gisbert JP (shared senior author), Chaparro M. **Serum and urine metabolomic profiling of newly diagnosed treatment-naïve inflammatory bowel disease patients**. Inflamm. Bowel Dis. 30, 2024: 167–182. Inflammatory Bowel Diseases.

Jonaitis P, Kupcinskas J, Gisbert JP, Jonaitis L. **Helicobacter pylori Eradication Treatment in Older Patients**. Drugs Aging. 41, 2024: 141–151. Drugs & Aging.

Gisbert JP, Parody-Rúa E, Chaparro M. **Efficacy, effectiveness, and safety of ustekinumab for the treatment of ulcerative colitis: a systematic review**. Inflamm. Bowel Dis. 30, 2024: 292–302. Inflammatory Bowel Diseases.

Malfertheiner P, Megraud F, Rokkas T, Gisbert JP. **Empiric use of standard triple therapy in *Helicobacter pylori* eradication does not require readjustment in the clarithromycin resistance cut-off point**. Gut. 73, 2024: 708–709. Gut.

Wright EK, Chaparro M, Gionchetti P, Hamilton AL, Schulberg J, Gisbert JP, Valerii MC, Rizzello F, De Cruz P, Panetta JC, Everts-van der wind A, Kamm MA, Dervieux T. **Adalimumab Clearance, Rather Than Trough Level, May Have Greatest Relevance to Crohn's Disease Therapeutic Outcomes Assessed Clinically and Endoscopically**. J. Crohn's and Colitis. 18, 2024: 212–222. Journal of Crohn's and Colitis.

ten Bokkel Huinink S, Thomassen D, Steyerberg EW, Casanova MJ, Bouguen G, Mak JWY, Molnár T, Lobo AJ, Seidelin JB, Amiot A, D'Haens G, Rivière P, Guidi L, Bor R, Lin WC, Peyrin-Biroulet L, Gisbert JP, van der Woude CJ, de Vries AC. **Discontinuation of Anti-Tumour Necrosis Factor Therapy in Patients with Perianal Fistulizing Crohn's Disease: Individual Participant Data Meta-Analysis of 309 patients from 12 studies**. J. Crohn's and Colitis. 18, 2024: 134–143. Journal of Crohn's and Colitis.

Gisbert JP, Chaparro M. **De-escalation of biological treatment in inflammatory bowel disease: A comprehensive review**. J. Crohn's and Colitis. 18, 2024: 642–658. Journal of Crohn's and Colitis.

Casas Deza D, Polo Cuadro C, de Francisco R, Vela González M, Bermejo F, Blanco I, de la Serna A, Bujanda L, Bernal L, Rueda García JL, Gargallo-Puyuelo CJ, Fuentes-Valenzuela E, Castro B, Guardiola J, Ladrón G, Suria C, Sáez Fuster J, Gisbert JP, Sicilia B, Gomez R, Muñoz Vilafranca C, Barreiro-De Acosta M, Peña E, Castillo Pradillo M, Cerrillo E, Calvet X, Manceñido N, Monfort i Miquel D, Marín S, Roig C, Marce A, Ramírez de Piscina P, Betoré E, Martín-Cardona A, Teller M, Alonso Abreu I, Maroto N, Frago S, Gardeazabal D, Pérez-Martínez I, Feblés González AD, Barrero S, Taxonera C, García de la Filia I, Ezkurra-Altuna A, Madero L, Martín-Arranz MD, Gomollón F, Domènech E, García-López S. **Initial management of intraabdominal abscesses and preventive strategies for abscess recurrence in penetrating Crohn's disease: a national multicenter study based on ENEIDA registry**. J. Crohn's and Colitis. 18, 2024: 578–588. Journal of Crohn's and Colitis.

Vale FF, HpGP Research Network, Roberts RJ, Kobayashi I, Camargo MC, Rabkin CS. **Gene content, phage cycle regulation and prophage inactivation disclosed by prophage genomics in the *Helicobacter pylori* genome project**. Gut Microbes. 16, 2024: 2379440. Gut Microbes.

Křivinka J, Kunovský L, Vaculová J, Král J, Hrubá S, Šembera Š, Tachecí I, Čavajdová P, Vašura A, Blaho M, Koňářková P, Evinová E, Langner J, Vacková Z, Tesaříková P, Friedlová N, Bauer P, Přidal D, Sychra P, Cano-Català A, Moreira L, Parra P, Mégraud F, O'Morain C, Nyssen OP, Gisbert JP. **First-line *Helicobacter pylori* empirical treatment in the Czech Republic (2019–2024) – initial insights from the European registry on *H. pylori* management (Hp-EuReg)**. Gastroent. Hepatol. J. 78, 2024: 319–327. Gastroenterología y Hepatología.

Gargallo-Puyuelo CJ, Ricart E, Iglesias E, de Francisco R, Gisbert JP, Taxonera C, Mañosa M, Peris MA, Navarrete-Muñoz EM, Sanahuja A, Guardiola J, Mesonero F, Tirado MR, Barrio J, Mendoza IV, de Castro Parga L, García-Planella E, Calvet X, Martín Arranz MD, García S, Sicilia B, Carpio D, Domènech E, Gomollón F; ENEIDA registry of GETECCU. **Sex-related differences in the phenotype and course of inflammatory bowel disease: SEXEII study of ENEIDA**. Clin. Gastroenterol. Hepatol. 22, 2024: 2280–2290. Clinical Gastroenterology and Hepatology.

Babayeva GH, Mahmudov UR, Mammadov EE, Guliyev FV, Verdiyev EK, Machanov UR, Ibishev RF, Huseynov HM, Zalov ZS, Ismayilova SY, Hasanov RA, Ibrahimli HI, Cano-Català A, Parra P, Moreira L, Nyssen OP, Mégraud F, O'Morain C, Gisbert JP. . The Medicine and Science. 1, 2024: 55–65. The Medicine and Science.

Line 3.3 Progenitors and cell therapy

GROUP 39



Manuel Ramírez Orellana
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Sevilla Navarro, Julián

RESEARCH INTEREST

Although more than half of children and adolescents diagnosed with cancer survive, neoplasias remain the main cause of death from disease in these patients. Those with metastasis at any time during their evolution, who present genetic markers of poor prog-

nosis, or recurrent/refractory tumors, have a very negative prognosis. Our research group is convinced that translational research is the best strategy to provide solutions to these patients.

The team is a multidisciplinary group, with proven experience in the diagnosis and treatment of childhood cancer, the development of research projects in advanced therapies applied to refractory pediatric cancer, and implementation of clinical trials in pediatric oncology. In summary, it has know-how and previous expertise that ensure the impact of newly developed Advanced Therapies and individualized medicine to any child or adolescent with cancer in Spain.

The group is focused on the following lines of research:

- **Advanced Therapies:** We have designed, preclinically tested (10.18632/oncotarget.27401) and clinically translated a new antitumor treatment strategy: Celyvir, mesenchymal stem cells (MSCs) carrying an oncolytic adenovirus. The first clinical experience was a Compassionate Use Program authorized by the Spanish Medicines Agency (10.1038/cgt.2010.4 and 10.1016/j.canlet.2015.11.036). We have also finished the first academic clinical trial (NCT01844661; reported at 10.1016/j.ymthe.2020.01.019). This program is testing currently a new version of the ATMP in 3 independent trials: EudraCT 2019-001154-26; EudraCT 2020-004838-37, and NCT05047276. We are exploring other ATMP developments, mostly autologous MSCs, for pediatric diseases in Neurology (10.24966/SRDT-2060/100030 and 2021-003607-17) and orthopedics and traumatology (10.1007/s12094-017-1752-9).
- **Childhood leukemias:** The laboratory is one of the 2 reference laboratories of the Spanish Acute Leukemia Group, which centralizes and coordinates laboratories involved in the diagnosis and follow-up of children with the disease. We studied the process of resistance, especially in the central nervous system and found that the application of flow cytometry to CSF samples detected a subgroup of patients at high risk of relapse (10.1002/ajh.23407). In addition, the profile of chemokine receptors expressed by leukemic blasts and their signaling ability may have a role in relapses (10.1016/j.bcmd.2015.07.001). More recently we have further characterized anatomically and functionally leukemic infiltration of the CNS (10.1002/path.5510; 10.1182/blood.2021013506; 10.3324/haematol.2021.279383)

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and assessed mechanisms of childhood leukemogenesis in collaboration with Dr. Isidro Sánchez [10.1038/s41598-020-76206-y; 10.1158/0008-5472.CAN-21-3386; 10.1016/j.trecan.2022.06.012].

The team is a multidisciplinary group, with proven experience in the diagnosis and treatment of childhood cancer, and in developing research projects in advanced therapies applied to refractory pediatric cancer, and the development of clinical trials in pediatric oncology. It also has all the technical means and infrastructure, ensuring their implementation to the patients who tries to deal with potential impact for all children Advanced therapies and individualized medicine being treated in any of the pediatric oncology units in Spain.



MAJOR GRANTS

Rubio San Simón, Alba. Combinación secuencial de Alocelyvir con TILs activados para el Neuroblastoma Avanzado [ACTIVE].IC124/00081.INSTITUTO SALUD CARLOS III.

González Murillo, África. Estudio del perfil inmune y transcripcional de los linfocitos infiltrantes de tumor pediátricos como Medicamento de Terapia Avanzada. PI23/00703.INSTITUTO SALUD CARLOS III.2024-

Ramírez Orellana, Manuel. RD21/0017/0005 - MANUEL RAMIREZ ORELLANA - RICORS - RED TERAPIAS AVANZADAS.RD21/0017/0005.INSTITUTO SALUD CARLOS III.2022-2025.

Ramírez Orellana, Manuel; CANTARIN EXTREMERA, VERONICA. Phase I trial to assess the safety and clinical response of intra-arterial infusion of repeated doses of autologous mesenchymal cells in children and adolescents with autoimmune refractory epilepsies. IC120/00120.INSTITUTO SALUD CARLOS III.2021-



PUBLICATIONS

Fiuzza-Luces C, Valenzuela PL, Gálvez BG, Ramírez M, López-Soto A, Simpson RJ, Lucia A. **The effect of physical exercise on anticancer immunity.** Nat Rev Immunol. 2024;24:282-293. DOI: 10.1038/s41577-023-00943-0. Nature Reviews Immunology.

Iriondo J, Gómez A, Zubicaray J, García-Martínez J, Abad L, Matesanz C, Giménez R, Galán A, Sanz A, Sebastián E, González de Pablo J, de la Cruz A, Ramírez M, Sevilla J. **Optical Genome Mapping as a New Tool to Overcome Conventional Cytogenetics Limitations in Patients with Bone Marrow Failure.** Genes. 2024;15(5):559. DOI: 10.3390/genes15050559. Genes.

Bousquets-Muñoz P, Molina O, Varela I, Álvarez-Eguiluz Á, Fernández-Mateos J, Gómez A, Sánchez EG, Balbín M, Ruano D, Ramírez-Orellana M, Puente XS, Menéndez

P, Velasco-Hernandez T. **Backtracking NOM1::ETV6 fusion to neonatal pathogenesis of t(7;12)(q36;p13) infant AML.** Leukemia. 2024;38(8):1808-1812. DOI: 10.1038/s41375-024-02293-9. Leukemia.

Zubicaray J, Ivanova M, Iriondo J, García Martínez J, Muñoz-Viana R, Abad L, García-García L, González de Pablo J, Gálvez E, Sebastián E, Ramírez M, Madero L, Díaz MÁ, González-Murillo Á, Sevilla J. **Role of the mesenchymal stromal cells in bone marrow failure of Fanconi Anemia patients.** Front Cell Dev Biol. 2024;12:1286815. DOI: 10.3389/fcell.2024.1286815. Frontiers in Cell and Developmental Biology.

Jiménez-Reinoso A, Molero-Abraham M, Cirauqui C, Blanco B, Garrido-Martin EM, Nehme-Álvarez D, Domínguez-Alonso C, Ramírez-Fernández Á, Díez-Alonso L, Nuñez-Buiza Á, González-Murillo Á, Tobes R, Pareja E, Ramírez-Orellana M, Rodríguez-Peralto JL, Ferrer I, Zugazagoitia J, Paz-Ares L, Álvarez-Vallina L. **CD4+ tumor-infiltrating lymphocytes secreting T cell-engagers induce regression of autologous patient-derived non-small cell lung cancer xenografts.** Oncoimmunology. 2024;13(1):2392897. DOI: 10.1080/2162402X.2024.2392897. Oncoimmunology.

Pujol Manresa A, Buendía López S, Andión M, Herrero B, Lassaletta Á, Ramírez M, Ruano D, Hernández-Marqués C, Varo A, de Rojas T, Cortés Hernández M, Verdú-Amorós J, Martín Prado S, Artigas A, Redondo E, Ruiz Pato J, Herreros López P, Sevilla J, Madero L, Moreno L, Bautista Sirvent F, Rubio-San-Simón A. **Safety and outcome of children, adolescents and young adults participating in phase I/II clinical oncology trials: a 9-year center experience.** Front Pediatr. 2024;12:1423484. DOI: 10.3389/fped.2024.142348. Frontiers in Pediatrics.

Plaza-Florido A, Gálvez BG, López JA, Santos-Lozano A, Zazo S, Rincón-Castaneda C, Martín-Ruiz A, Lumberras J, Terron-Camero LC, López-Soto A, Andrés-León E, González-Murillo Á, Rojo F, Ramírez M, Lucia A, Fiuzza-Luces C. **Exercise and tumor proteome: Insights from a neuroblastoma model.** Physiol Genomics. 2024 Sep 23. DOI: 10.1152/physiolgenomics.00064.2024. Physiological Genomics.

Río P, Zubicaray J, Navarro S, Gálvez E, Sánchez-Domínguez R, Nicoletti E, Sebastián E, Rothe M, Pujol R, Bogliolo M, John-Neek P, Bastone AL, Schambach A, Wang W, Schmidt M, Larcher L, Segovia JC, Yáñez RM, Alberquilla O, Díez B, Fernández-García M, García-García L, Ramírez M, Galy A, Lefrere F, Cavazzana M, Leblanc T, García de Andoin N, López-Almaraz R, Catalá A, Barquinero J, Rodríguez-Perales S, Rao G, Surrallés J, Soulier J, Díaz-de-Heredia C, Schwartz JD, Sevilla J, Bueren JA; FANCOLEN-1 gene therapy investigators. **Haematopoietic gene therapy of non-conditioned patients with Fanconi anemia-A: results from open-label phase 1/2 (FANCOLEN-1) and long-term clinical trials.** Lancet. 2024. DOI: 10.1016/S0140-6736(24)01880-4. The Lancet.

Line 3.4 Advanced therapies in oncohematology

GROUP 44



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Vicuña Andrés, Isabel



RESEARCH INTEREST

The Group of Advanced Therapies in Hematology of the Research Institute at the Hospital de La Princesa has the mission of promoting clinical, epidemiological and translational research in hematologic benign and malignant diseases along with the use of peripheral blood and bone marrow cells as therapeutic source for therapies.

The scope of the group is broad, reflecting the variegated nature of each member's interests, and spans from genetic and molecular studies to the commitment in the use of new drugs in blood disorders and advanced therapeutic approaches including hematopoietic transplantation and cellular therapies as CART cells.

The Group has a differential interest in the following areas:

- Study of the efficacy and safety of new drugs with new mechanisms in hematologic malignancies and benign blood disorders
- Advanced therapies with CART cells (Chimeric Antigen Receptor-Lymphocytes) and other cellular therapies
- Immunological, molecular and genetic studies in hematologic malignancies.
- Analysis of new approaches to improve clinical results of stem cell transplantation including new source of donors as haploidentical or unrelated donors and new strategies to prevent graft vs host disease.
- Analysis of infectious complications in immunocompromised hematological patients
- Epidemiological studies of blood disorders mainly neoplasias: incidence, prevalence and mortality
- Analysis of hypercoagulability states and use of new anticoagulants for prevention and therapy.
- New strategies in apheresis and transfusion medicine

Dr Alegre Amor is the responsible of the Hematopoietic Transplant and CART and Advanced Therapies Program at La Princesa Hospital. Dr. Alegre and his Group has focused his clinical research in all the indicated areas

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participating in the last 5 years in numerous clinical trials in hematological neoplasias mainly Multiple Myeloma, Acute and Chronic Leukemias, Lymphomas and Myelodysplasias with new drugs. In the next 5 years, the targets are the continuation of these translational studies and also to participate in competitive calls with innovative projects in all the mentioned areas which could cover all the hematologic malignancies cared by our group. Being a reference Center designed by the Ministry of Health for CART therapies and member of the Spanish CERTERA Consortium Network we will develop clinical CART I trials for hematological and non-hematological disorder in our Hospital. Beside of this, other plans are to set studies of molecular genetics, immunotherapy, epidemiology, pharmacology, comorbidity, long term follow-up and quality of life of these complex diseases.

MAJOR GRANTS

Alegre Amor, Adrián. CONSORCIO ESTATAL EN RED PARA EL DESARROLLO DE MEDICAMENTOS DE TERAPIAS AVANZADAS (CERTERA). CERT22/00045. INSTITUTO SALUD CARLOS III.

Diseción del papel de las distintas subpoblaciones leucocitarias CCR7+ en la patogénesis de la leucemia linfocítica crónica y la enfermedad injerto contra huésped EXPEDIENTE- PI21/01803. Investigador principal: Cecilia Muñoz Calleja

PUBLICATIONS

Medina Herrera A, Vazquez I, Cuenca I, Rosa JM, Ariceta B, Jimenez C, Fernandez Mercado M, Larrazo MJ, Gutierrez NC, Fernandez Guijarro M, Gonzalez Calle V, Rodriguez Otero P, Oriol A, Rosiñol L, Alegre A, Escalante F, De La Rubia J, Teruel AI, De Arriba F, Hernandez MT, Lopez Jimenez J, Ocio EM, Puig N, Paiva B, Lahuerta JJ, Bladé J, San Miguel JF, Mateos MV, Martinez Lopez J, Calasanz MJ et al. **The genomic**

profiling of high-risk smoldering myeloma patients treated with an intensive strategy unveils potential markers of resistance and progression. Blood Cancer J. 14(1), 2024. PMID:38684670. DOI:10.1038/s41408-024-01053-3. IF:12,90. BLOOD CANCER JOURNAL.

Martinez López J, de la Cruz J, Gil Manso R, Yuste VJ, Aspa Cilleruelo JM, Escobar CE, Lopez Jimenez J, Duarte R, Yerovi CJ, Hernandez Rivas JA, Herraez R, Quiroz Cervantes K, Bustelos Rodriguez R, Benavente C, Barranco PM, Oteiro MB, Alegre A, Perez Oteyza J, Ruiz E, Marcheco Pupo EA, Cedillo A, Alvarez TD, Ramirez PG, Trillo RA, Herrera P, Casado MLB, Barea AA, De Bustamante JMM, Ortiz J, Robles MC et al. **COVID-19 Outcomes in Patients with Hematologic Malignancies in the Era of COVID-19 Vaccination and the Omicron Variant.** Cancers. 16(2), 2024. PMID:38254867. DOI:10.3390/cancers16020379. IF:4,50. CANCERS.

Rodríguez-Laval V, Lumbreras-Fernández B, Aguado-Bueno B, Gómez-León N. **Imaging of Multiple Myeloma: Present and Future.** J. Clin. Med. 13(1), 2024. DOI:10.3390/jcm13010264. JOURNAL OF CLINICAL MEDICINE.

Cieri N, Hooker N, Stromhaug K, Li L, Keating J, Diaz Fernandez P, de Soria VGG, Stevens J, Kfuri Rubens R, Shao YR, Kooshesh KA, Powell K, Ji HL, Hernandez GM, Abelin J, Klaeger S, Forman C, Clauser KR, Sarkizova S, Braun DA, Penter L, Kim HT, Lane WJ, Oliveira G, Kean LS, Li SQ, Livak KJ, Carr SA, Keskin DB, Munoz. **Systematic identification of minor histocompatibility antigens predicts outcomes of allogeneic hematopoietic cell transplantation.** Nat. Biotechnol. 2024. PMID:39169264. DOI:10.1038/s41587-024-02348-3. IF:33,10. NATURE BIOTECHNOLOGY.



Line 3.5 Biological, cellular and molecular monitoring in oncohematology

GROUP 45



Elena Fernández Ruiz
Head of group



GROUP MEMBERS

Alegria Carrasco, Estibaliz
Carracedo Rodríguez, María Rosa
Jaén Castaño, Marta



RESEARCH INTEREST

Chromosomal translocations and gene mutations are frequently associated with the aetiology of hematological neoplasms. The JAK family of non-receptor tyrosine kinases comprises four members (JAK1, JAK2, JAK3 and TYK2) which are involved in cytokine signaling on hematopoietic cells. These enzymes play a crucial role in the maintenance of normal haematopoiesis through the recruitment of downstream effectors of cell proliferation and survival. It has been reported that 10% of high risk acute lymphoblastic leukaemia (ALL) cases bear activated JAK2 mutations, and could

be candidates for therapeutic intervention with JAK2 inhibitors. ALL is the most common neoplasm developed in childhood, and although most cases respond to treatment, up to 20% relapse, thus reducing survival rates. Therefore, we analyzed high risk ALL-B samples using next generation sequencing to determine the prevalence of JAK family receptor mutations in the Spanish population. We found that mutations in TP53 and JAK2 are independent prognostic biomarkers in B-cell ALL. Furthermore, we provide evidence of naturally occurring catalytic loss-of-function TYK2 variants in response to type I IFN and reduced TYK2 expression in B-ALL patients.

Furthermore, it has been reported that Tyk2 deficiency in mice increases the susceptibility to develop Abelson-induced B lymphoid leukaemia/lymphoma linked to diminished cytotoxic capacity of CD8+ T, NK and NKT cells, due to decreased IFN-gamma production. Taken together, these data suggest that TYK2 deficiency in humans is clinically silent, but could predispose to tumour formation. Given the importance of maintaining an accurate immunological response for appropriate tumour surveillance, the role of cytokine receptors, JAK proteins and their target genes is highly relevant.

Our group focuses on the role of TYK2 in infection and neoplasia:

- 1) Studies of Tyk2-deficient mice led us to understand the role of this protein and the IFN-I signalling pathway in B cells. These investigations have revealed a novel interaction between TYK2 and the Toll-like receptor 7 (TLR7), which is essential for the correct establishment of splenic marginal zone cells. These cells are crucial for detecting circulating pathogens.
- 2) Determine the contribution of genotype and expression of genes involved in the IFN-I signalling pathway to the prediction of COVID-19 severity.

Line 3.5 Biological, cellular and molecular monitoring in oncohematology



MAJOR GRANTS

Fernández Ruiz, Elena. "Contribución de la variación genética en la Tirosina quinasa 2 (TYK2) a la infección y neoplasia". PI22/00428. INSTITUTO SALUD CARLOS III-FEDER.2023-2025

Fernández Ruiz, Elena. RETAR-A-COVID-CM Reprogramación de macrófagos como estrategia terapéutica frente a COVID-19 severo. P2022/BMD-7274. COMUNIDAD DE MADRID-FEDER. 2023-2026



PUBLICATIONS

Bodega-Mayor I, Delgado Wicke P, Arrabal A, Alegría Carrasco E, Nicolao Gómez A, Jaén Castaño M, Espadas C, Dopazo A, Vázquez de Luis E, Martín Gayo E, Gaspar ML, de Andrés B, Fernández Ruiz E. **Tyrosine kinase 2 modulates splenic B cells through type I IFN and TLR7 signaling**. Cell Mol Life Sci. 81, 2024:199. DOI:10.1007/s00018-024-05234-y. CELL AND MOLECULAR LIFE SCIENCES.

Delgado-Wicke P, Fernández de Córdoba-Oñate S, Roy-Vallejo E, Alegría-Carrasco E, Rodríguez-Serrano DA, Lamana A, Montes N, Nicolao-Gómez A, Carracedo-Rodríguez R, Marcos-Jiménez A,

Díaz-Fernández P, Galván-Román JM, Rabes-Rodríguez L, Sanz-Alba M, Álvarez-Rodríguez J, Villa-Martí A, Rodríguez-Franco C, Villapalos-García G, Zubiaur P, Abad-Santos F, de los Santos I, Gomariz RP, García-Vicuña R, Muñoz-Calleja C, González-Álvaro I, Fernández-Ruiz E. **Scientific Reports-Sci.Rep.** Sci. Rep. 14, 2024:20728. DOI:10.1038/s41598-024-71476-2. SCIENTIFIC REPORTS.

Ormazabal-Vélez A, Galbete-Jiménez A, Sánchez-Escamilla M, Marcos-Jiménez A, Fernández-Ruiz E, Salmon-ton-García J, Bermúdez Rodríguez A, Figuera Álvarez Á. **Importance of measurable residual disease in the outcome of adults with acute lymphoblastic leukemia after allogeneic stem cell transplantation: Long follow-up analysis from a single transplant center**. Med. Clin. (Barc.). 2024. DOI:10.1016/j.medcli.2024.09.023. MEDICINA CLÍNICA.

GROUP 46



Cecilia Muñoz Calleja
Head of group



GROUP MEMBERS

Andreu Martínez, Rosa María
Díaz Fernández, Paula
Marcos Jiménez, Ana María
Sevilla Montero, Javier



RESEARCH INTEREST

1. Immune biomarkers of outcome in hematopoietic transplantation.
2. Immunotherapy of lymphoproliferative syndromes, graft-versus-recipient disease and autoimmune diseases with anti-CCR7 antibodies.
3. Immune biomarkers of pneumonia outcome.



MAJOR GRANTS

Muñoz Calleja, Cecilia. "Estudio de la utilidad terapéutica de anticuerpos monoclonales frente a CCR7 y S100 en el tratamiento de la Esclerosis Múltiple." Proyectos en colaboración público-privada 2021.CPP2021-008532.AGENCIA ESTATAL DE INVESTIGACION.2022-

Muñoz Calleja, Cecilia. Diseción del papel de las distintas subpoblaciones leucocitarias CCR7+ en la patogénesis de la leucemia linfocítica crónica y la enfermedad de injerto contra huésped: utilidad diagnóstica y terapéutica.PI21/01803.INSTITUTO SALUD CARLOS III.2022-



PUBLICATIONS

Cieri N, Hooker N, Stromhaug K, Li L, Keating J, Diaz Fernandez P, de Soria VGG, Stevens J, Kfuri Rubens R, Shao YR, Kooshesh KA, Powell K, Ji HL, Hernandez GM, Abelin J, Klaeger S, Forman C, Clauser KR, Sarkizova S, Braun DA, Penfer L, Kim HT, Lane WJ, Oliveira G, Kean LS, Li SQ, Livak KJ, Carr SA, Keskin DB, Munoz-Calleja C et al. **Systematic identification of minor histocompatibility antigens predicts outcomes of allogeneic hematopoietic cell transplantation**. Nat. Biotechnol. 2024. PMID:39169264. IF:33,10. DOI:10.1038/s41587-024-02348-3. NATURE BIOTECHNOLOGY.

Delgado-Wicke P, Fernández de Córdoba-Oñate S, Roy-Vallejo E, Alegría-Carrasco E, Rodríguez-Serrano DA, Lamana A, Montes N, Nicolao-Gómez A, Carracedo-Rodríguez R, Marcos-Jiménez A, Díaz-Fernández P, Galván-Román JM, Rabes-Rodríguez L, Sanz-Alba M, Álvarez-Rodríguez J, Villa-Martí A, Rodríguez-Franco C, Villapalos-García G, Zubiaur P, Abad-Santos F, de Los Santos I, Gomariz RP, García-Vicuña R, Muñoz-Calleja C, González-Álvaro I, Fernández-Ruiz E; PREDINMUN-COVID Group. **Genetic variants regulating the immune response improve the prediction of COVID-19 severity provided by clinical variables**. Sci. Rep. 14. (1). 2024:20728. DOI:10.1038/s41598-024-71476-2. SCIENTIFIC REPORTS.

Alcántara HA, Kourani O, Marcos Jiménez A, Martínez Núñez P, Herranz Martín E, Fuentes P, Toribio ML, Muñoz Calleja C, Iglesias T, Campanero MR. **Glutathione overproduction mediates lymphoma initiating cells survival and has a sex-dependent effect on lymphomagenesis**. Cell Death Dis. 15. (7). 2024. PMID:39068166. IF:8,10. DOI:10.1038/s41419-024-06923-z. CELL DEATH AND DISEASE.

San Antonio E, Silván J, Sevilla Montero J, González Sánchez E, Muñoz Callejas A, Sánchez Abad I, Ramos Manzano A, Muñoz Calleja C, González Alvaro I, Tomero EG, García Pérez J, García Vicuña R, Vicente Rabaneda EF, Castañeda S, Urzainqui A. **PSGL-1, ADAM8, and selectins as potential biomarkers in the diagnostic process of systemic lupus erythematosus and systemic sclerosis: an observational study**. Front. Immunol. 15. 2024. PMID:39100683. IF:5,70. DOI:10.3389/fimmu.2024.1403104. FRONTIERS IN IMMUNOLOGY.

Tsukalov I, Sánchez Cerrillo I, Rajas O, Avalos E, Iturri-castillo G, Esparcia L, Buzón MJ, Genescà M, Scagnetti C, Popova O, Martín Cofreces N, Calvet Mirabent M, Marcos Jimenez A, Martínez Fleta P, Delgado Arévalo C, De los Santos I, Muñoz Calleja C, Calzada MJ, Álvaro IG, Palacios Calvo J, Alfranca A, Ancochea J, Sánchez Madrid F, Martín Gayo E. **NFkB and NLRP3/NLRP4 inflammasomes regulate differentiation, activation and functional properties of monocytes in response to distinct SARS-CoV-2 proteins**. Nat. Commun. 15. (1). 2024. PMID:38453949. IF:14,70. DOI:10.1038/s41467-024-46322-8. NATURE COMMUNICATIONS.

Line 3.6 • New diagnostic and therapeutic advances in cardiovascular diseases

GROUP 58



Fernando Alfonso Manterola
Head of group



GROUP MEMBERS

Bastante Valiente, Teresa
Benedicto Buendía, Amparo
Chávez Isaza, Stephanie
Cuesta Cuesta, Francisco Javier
del Val Martín, David
Díez Villanueva, Pablo
García Guimarães, Marcos Manuel
Reyes Copa, Guillermo
Rivero Crespo, Fernando
Salamanca Viloria, Jorge
Suárez Sipmann, Fernando



RESEARCH INTEREST

Intracoronary imaging is an area of intense clinical research for our group. As previously described, these techniques provide unique insights on the pathophysiology of stent failure but also of vulnerable coronary plaques (thin-cap fibroatheroma, plaque erosion, calcified coronary nodules). New technological

advancements on optical coherence tomography (OCT) and high-resolution intravascular ultrasound (IVUS) are currently being evaluated by our group. Moreover, we are developing different “translational” research initiatives with the group of Nanomaterials for Bio-imaging from the Material Physics Department of the Universidad Autónoma de Madrid, to develop bio-functionalized particles (gold-NanoShells) to target specific molecules on the arterial wall surface (molecular imaging).

Our group is collaborating and developing several translational research initiatives with the Department of Immunology of our center and the CNIC (Centro Nacional de Investigaciones Cardiovasculares). We are looking for molecules promoting the expression of anti-inflammatory transcription factors involved in the development of clinical and subclinical atherosclerosis. We are also searching for novel circulating microRNAs involved in the development of acute coronary syndromes and myocarditis.

Members of the group working in the Intensive Care Department are analyzing the pathophysiology and therapeutic alternatives in patients with acute respiratory distress. Likewise, research on optimal ventilation strategies in COVID-19 patients is currently ongoing.

Different research projects are also being promoted in the area of cardiac surgery including protocols on advanced hemodynamic support.

Another area of major research interest for our group is Spontaneous Coronary Artery Dissection (SCAD). SCAD represents a rare yet increasingly recognized cause of acute coronary syndrome. For the last 7 years our group has been leading (PI) the multicenter prospective Spanish Registry on SCAD under the auspices of the Spanish Society of Cardiology (SEC) and the association of Interventional Cardiology of SEC. All cases are reviewed in a centralized core-laboratory and events at clinical follow-up are adjudicated by an independent Clinical Events Committee. Currently 500 patients are included in this study, which represents one of the largest registries of this condition worldwide.

In the same lines, in 2021 we were awarded by the ECAM (Ensayo Clínico Aleatorizado Multicéntrico) grant from the Spanish Society of Cardiology (SEC), the largest award ever granted by the SEC, to randomized clinical trial. The BA-SCAD (Betablockers and Antiplatelet agents in patients with Spontaneous Coronary Artery Dissection) is a pragmatic, open-label, investigators’ promoted, randomized clinical trial, assessing the value of betablockers and antiplatelet drugs in this elusive clinical entity. A total of 60 Spanish University sites are participating in this large randomized clinical trial.



MAJOR GRANTS

Alfonso Manterola, Fernando; López Melgar, Beatriz. “Ecografía 3D carotídea y femoral en pacientes con cardiopatía isquémica precoz: caracterización y búsqueda de marcadores para pacientes y familiares. Estudio CAFEECOR.” PI.22/01414. INSTITUTO SALUD CARLOS III. 2023-

Suárez Sipmann, Fernando. INTELLILUNG: INTELLIGENT LUNG SUPPORT FOR MECHANICALLY VENTILATED PATIENTS IN THE INTENSIVE CARE UNIT. UE. INTELLILUNG.101057434. EUROPEAN COMMISSION. 2022-

Rivero Crespo, Fernando; Alfonso Manterola, Fernando. In vivo detection of activated coronary endothelium using optical coherence tomography (OCT) combined with functionalized optical contrast nanocomposites. FIS.19/00565. INSTITUTO SALUD CARLOS III. 2020-

Alfonso Manterola, Fernando. SECURE: SECONDARY PREVENTION OF CARDIOVASCULAR DISEASE IN THE ELDERLY TRIAL. UE. SECURE.633765. EUROPEAN COMMISSION. 2017-

Rivero Crespo, Fernando. Diagnóstico molecular de placa arterial vulnerable inflamatoria mediante tomografía de coherencia óptica combinada con nanocompuestos funcionalizados. PI24/01535. INSTITUTO SALUD CARLOS III.

Suárez Sipmann, Fernando. Búsqueda del mejor modo de selección de un nivel individualizado de presión positiva final espiratoria en pacientes con insuficiencia respiratoria aguda en ventilación mecánica: Estudio PEEP selector. PI24/01726. INSTITUTO SALUD CARLOS III.



PUBLICATIONS

Alfonso, F, Gómez Lara, J, Rivero, F. **Epinéphrine for Refractory No-Reflow During Percutaneous Coronary Interventions**. Am. J. Cardiol. 235. 2025. PMID: 39209241. IF: 2,30. DOI: 10.1016/j.amjcard.2024.08.023.

Uribarri A, Vazirani R, Delia MA, Tomasino M, Fernández Cordón C, Martín A, Blanco Ponce E, Salamanca J, Corbí Pascual M, Vedia O, Duran Cambra A, Becerra Muñoz VM, Lluch Requerey C, Raposeiras Roubin S, Guillén Marzo M, Lopez País J, Pérez Castellanos A, Mayordomo PS, Martínez Sellés M, Vila Sanjuán S, Ródenas Alesina E, Núñez Gil IJ, RETAKO Investigators. **Impact of mechanical circulatory support on outcomes in Takotsubo syndrome complicated by cardiogenic shock: Insights from the RETAKO registry**. Int. J. Cardiol. 419. 2025. PMID:39454688. IF:3,20. DOI:10.1016/j.ijcard.2024.132681. INTERNATIONAL JOURNAL OF CARDIOLOGY.

Marschall A, del Val D, Bastante T, Rivero F, Alfonso F. **A case report of late vessel occlusion presenting as ST-segment elevation myocardial infarction after drug-coating balloon treatment of in-stent restenosis**. Eur. Heart J.-Case Rep. 8. [12]. 2024. PMID:39659455. DOI:10.1093/ehjcr/ytae619. European Heart Journal-Case Reports.

Tomasino M, Núñez Gil IJ, Martínez Selles M, Vedia O, Corbí Pascual M, Salamanca J, Blanco Ponce E, Cordón CF, Almendro Delia M, Pérez Castellanos A, Martín García A, Vila Sanjuán S, Vazirani R, Duran Cambra A, Becerra Muñoz VM, Guillén Marzo M, Uribarri A. **Cardiogenic Shock Complicating Takotsubo Syndrome: Sex-Related Differences**. J. Am. Heart Assoc. 13. [23]. 2024. PMID:39611302. IF:5,00. DOI:10.1161/JAHA.124.036800. Journal of the American Heart Association.

Elbadawi A, Hamed M, Gad M, Elseidy SA, Barghout M, Jneid H, Mamas MA, Alfonso F, Elgendy IY. **Immediate Versus Staged Complete Revascularization for Patients With ST-Segment-Elevation Myocardial Infarction and Multivessel Disease: A Network Meta-Analysis of Randomized Trials**. J. Am. Heart Assoc. 13. [21]. 2024. PMID:39470060. IF:5,00. DOI:10.1161/JAHA.124.035535. Journal of the American Heart Association.

García Guimarães M, Sabaté M, Cruz González I, Valero E, Bastante T, Alfonso F, investigators of the Spanish Registry on Spontaneous Coronary Artery Dissection. **Cardiogenic Shock in Patients With Spontaneous Coronary Artery Dissection**. Am. J. Cardiol. 230. 2024. PMID:39182535. IF:2,30. DOI:10.1016/j.amjcard.2024.08.018. AMERICAN JOURNAL OF CARDIOLOGY.

del Val, D, Marschall, A, Bastante, T, Rivero, F, Cuesta, J, Alfonso, F. **Simultaneous Multiple Distinct Plaque Erosions Within a Single Coronary Artery**. JACC-Cardiovasc. Interv.17. [20]:2024. PMID: 39477648. IF: 11,70. DOI: 10.1016/j.jcin.2024.09.009.

Martínez Avial Silva, M, Díez Villanueva, P, Alfonso, F. **Familial aortic aneurysm: a case presentation**. Med. Clin.163. [7]:2024. PMID: 38926034. IF: 2,60. DOI: 10.1016/j.medcli.2024.03.029.

Line 3.6 New diagnostic and therapeutic advances in cardiovascular diseases

Vera A, Cecconi A, Martínez Vives P, López Melgar B, Olivera MJ, Hernández S, Rojas González A, Díez Villanueva P, Salamanca J, Caballero P, Jiménez Borreguero LJ, Alfonso F. **Usefulness of tissue tracking to differentiate tachycardia-induced cardiomyopathy from dilated cardiomyopathy in patients admitted for heart failure.** HEART VESSELS. 2024. PMID:39375197. IF:1.40. DOI:10.1007/s00380-024-02471-w. HEART AND VESSELS.

Alfonso, F, Guimara, MG, Bastante, T. **Specialized clinics for patients with spontaneous coronary artery dissection.** IJC Heart Vasc.54. 2024. PMID: 39290801. DOI: 10.1016/j.ijcha.2024.101504.

Alfonso, F, Cortese, B. **Is intravascular ultrasound needed to optimize drug-coated balloon angioplasty results?** Eur. Heart J.45. [42]:2024. PMID: 39319641. IF: 37,60. DOI: 10.1093/eurheartj/ehae621.

Almendro Delia M, López Flores L, Uribarri A, Vedia O, Blanco Ponce E, López Flores MD, Rivas García AP, Fernández Córdón C, Sionis A, Martín García AC, Vazirani R, Corbí Pascual M, Salamanca J, Pérez Castellanos A, Martínez M, Becerra VM, Aritza Conty D, López País J, Guillén Marzo M, Lluch Requerey C, García Rubira JC, Núñez Gil IJ, RETAKO Investigators. **Recovery of Left Ventricular Function and Long-Term Outcomes in Patients With Takotsubo.** J. Am. Coll. Cardiol. 84. [13]. 2024. PMID:39293882. IF:21,70. DOI:10.1016/j.jacc.2024.05.075. JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY.

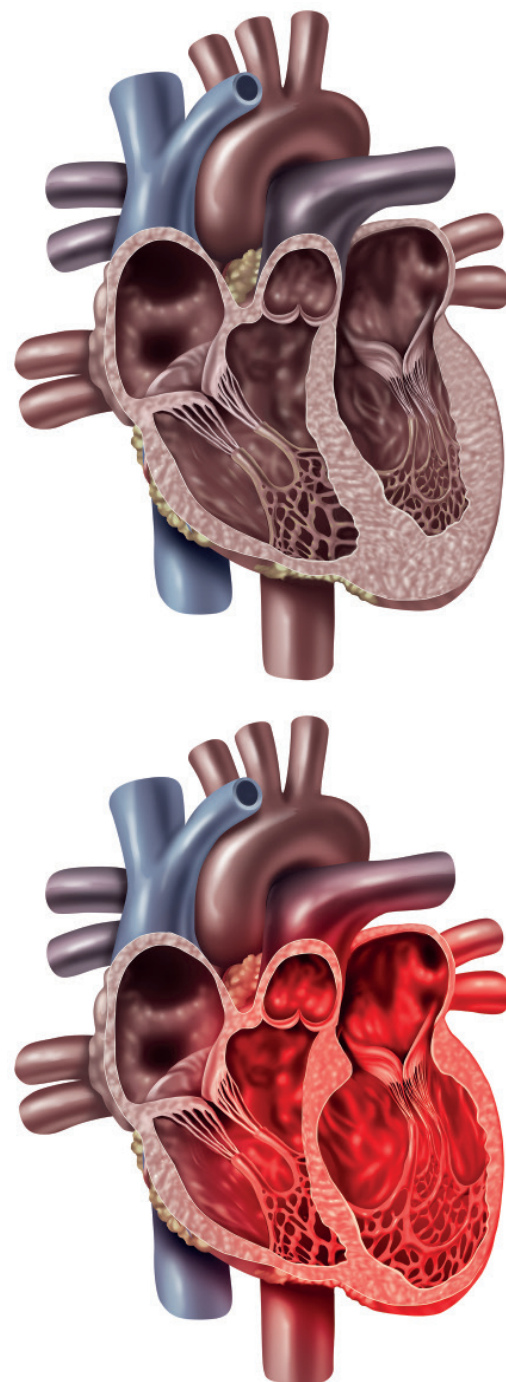
del Val D, Berta B, Roleder T, Malinowski K, Bastante T, Hermanides RS, Wojakowski W, Fabris E, Cuesta J, De Luca G, Rivero F, Alfonso F, Kedhi E. **Increased incidence of adverse events in diabetes mellitus patients with combined multiple vulnerable plaque features: new insights from the COMBINE OCT-FFR trial.** Eur. Heart J.-Cardiovasc. Imaging. 26. [1]. 2024. PMID:39138849. IF:6,70. DOI:10.1093/ehjci/jeae210. European Heart Journal-Cardiovascular Imaging.

Landmesser U, Ali ZA, Maehara A, Matsumura M, Shlofmitz RA, Guagliumi G, Price MJ, Hill JM, Akasaka T, Prati F, Bezerra HG, Wijns W, Leistner D, Canova P, Alfonso F, Fabbiochi F, Calligaris G, Oemrawsingh RM, Achenbach S, Trani C, Singh B, McGreevy RJ, McNutt RW, Ying SW, Buccola J, Stone GW. **Optical coherence tomography predictors of clinical outcomes after stent implantation: the ILUMIEN IV trial.** Eur. Heart J. 45. [43]. 2024. PMID:39196989. IF:37,60. DOI:10.1093/eurheartj/ehae521. EUROPEAN HEART JOURNAL.

Collet C, Munhoz D, Mizukami T, Sonck J, Matsuo H, Shinke T, Ando H, Ko B, Biscaglia S, Rivero F, Engstrom T, Arslani K, Leone AM, van Nunen LX, Fearon WF, Christiansen EH, Fournier S, Desta L, Yong A, Adjedj J, Escan-

ned J, Nakayama M, Eftekhari A, Zimmermann FM, Sakai K, Storozhenko T, da Costa BR, Campo G, West NEJ, De Potter T et al. **Influence of Pathophysiologic Patterns of Coronary Artery Disease on Immediate Percutaneous Coronary Intervention Outcomes.** Circulation. 150. [8]. 2024. PMID:38742491. IF:35,50. DOI:10.1161/CIRCULATIONAHA.124.069450. Circulation.

Del Val, D, Alfonso, F, Kedhi, E, Behalf Of The Combine Oct Ffr Trial Investigators,O. **Reply: Identifying vulnerable coronary atherosclerotic plaques: from theory to practice.** EuroIntervention20. [16]:2024. PMID: 39155762. IF: 7,60. DOI: 10.4244/EIJ-D-24-00594.



Ali ZA, Landmesser U, Maehara A, Shin D, Sakai K, Matsumura M, Shlofmitz RA, Leistner D, Canova P, Alfonso F, Fabbiochi F, Guagliumi G, Price MJ, Hill JM, Akasaka T, Prati F, Bezerra HG, Wijns W, McGreevy RJ, McNutt RW, Nie H, Phalakornkule K, Buccola J, Stone GW, ILUMIEN IV Investigators. **OCT-Guided vs Angiography-Guided Coronary Stent Implantation in Complex Lesions An ILUMIEN IV Substudy.** J. Am. Coll. Cardiol. 84. [4]. 2024. PMID:38759907. IF:21,70. DOI:10.1016/j.jacc.2024.04.037. JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY.

Sedhom R, Hamed M, Elbadawi A, Mohsen A, Swamy P, Athar A, Bharadwaj AS, Prasad V, Elgendy IY, Alfonso F. **Outcomes With Limus- vs PaclitaxelCoated Balloons for Percutaneous Coronary Intervention Meta-Analysis of Randomized Controlled Trials.** JACC-Cardiovasc. Interv. 17. [13]. 2024. PMID:38986653. IF:11,70. DOI:10.1016/j.jcin.2024.04.042. JACC-CARDIOVASCULAR INTERVENTIONS.

Vazirani R, Rodríguez González M, Castellano Martínez A, Andrés M, Uribarri A, Corbí Pascual M, Alfonso F, Blanco Ponce E, Lluch Requerey C, Fernández Córdón C, Almendro Delia M, Cruz OV, Núñez Gil IJ, RETAKO Investigators. **Pediatric takotsubo cardiomyopathy: A review and insights from a National Multicentric Registry.** Heart Fail. Rev. 29. [4]. 2024. PMID:38483658. IF:4,50. DOI:10.1007/s10741-024-10394-x. HEART FAILURE REVIEWS.

Vazirani R, Delia MA, Blanco Ponce E, Martín García AC, Fernández Córdón C, Uribarri A, Andrés M, Vedia O, Sionis A, Corbí Pascual M, Salamanca J, Pérez Castellanos A, Carmona JDM, Raposeiras Roubín S, Aritza Conty D, Lopez País J, Guillén Marzo M, Lluch Requerey C, Escudier JM, Martínez Sellés M, Núñez Gil IJ, RETAKO Investigators. **Renal impairment and outcome in Takotsubo syndrome: Insights from a national multicentric cohort.** Int. J. Cardiol. 405. 2024. PMID:38490270. IF:3,20. DOI:10.1016/j.ijcard.2024.131971. INTERNATIONAL JOURNAL OF CARDIOLOGY.

Giralt, JAS, Tusman, G, Wallin, M, Hallback, M, Lucendo AP, Galindo, MS, Santamaria, BA, Calzada, EP, Garcia, PG, Huerta, DR, Berlanga, AC, Suarez Sipmann, F. **Clinical validation of a capnodynamic method for measuring end-expiratory lung volume in critically ill patients (vol 28, 142, 2024).** Crit. Care28. [1]:2024. IF: 8,80. DOI: 10.1186/s13054-024-04984-2.

del Val D, Berta B, Roleder T, Malinowski K, Bastante T, Hermanides RS, Wojakowski W, Fabris E, Cuesta J, De Luca G, Rivero F, Alfonso F, Kedhi E. **Vulnerable plaque features and adverse events in patients with diabetes mellitus: a post hoc analysis of the COMBINE OCT-FFR trial.** Eu-

roIntervention. 20. [11]. 2024. PMID:38840580. IF:7,60. DOI:10.4244/EIJ-D-23-00628. EUROINTERVENTION.

Hamed M, Mohamed S, Mahmoud M, Kahan J, Mohsen A, Rahman F, Kayani W, Alfonso F, Brilakis ES, Elgendy IY, Mamas MA, Elbadawi A. **Intravascular Imaging-Guided Versus Coronary Angiography-Guided Complex PCI: A Meta-analysis of Randomized Controlled Trials.** Cardiol. Ther. 13. [2]. 2024. PMID:38630393. DOI:10.1007/s40119-024-00364-7. Cardiology And Therapy.

García Guimarães M, Bastante T, Del Val D, Fernández Rodríguez D, Guiberteau Díaz T, Salamanca J, Rivero F, Alfonso F. **Angiographic patterns in spontaneous coronary artery dissection: novel diagnostic insights.** Expert Rev. Cardiovasc. Ther. 22. [4-5]. 2024. PMID:38683109. DOI:10.1080/14779072.2024.2349103. Expert review of cardiovascular therapy.

Frances BS, Sans Roselló J, Brugaletta S, Cerrato E, Alfonso F, Gonzalo N, Amat Santos IJ, Fernández Peregrina E, Calderón AT, Varghese JJ, Garg M, García HM. **Impact of age on the outcomes of Takotsubo syndrome.** Cardiovasc. Revascularization Med. 61. 2024. PMID:37949720. DOI:10.1016/j.carrev.2023.10.018. CARDIOVASCULAR REVASCULARIZATION MEDICINE.

Cambor Blasco A, Nuñez Gil IJ, Cambra AD, Almendro Delia M, Ródenas Alesina E, Ferández Cordon C, Vedia O, Corbí Pascual M, Blanco Ponce E, Raposeiras Roubin S, Marzo MG, Flecha ASG, Acuña JMG, Salamanca J, Escudier Villa JM, Martín García AC, Tomasino M, Vazirani R, Perez Castellanos A, Uribarri A. **Prognostic Utility of Society for Cardiovascular Angiography and Interventions Shock Stage Approach for Classifying Cardiogenic Shock Severity in Takotsubo Syndrome.** J. Am. Heart Assoc. 13. [6]. 2024. PMID:38471832. IF:5,00. DOI:10.1161/JAHA.123.032951. Journal of the American Heart Association.

Liu K, Meng F, Nappi F, Alfonso F, Wang SX, Zheng S, Zhang HB. **Transcatheter aortic valve replacement in the treatment of bicuspid aortic stenosis with "down-size" interventional valves: procedural and mid-term follow-up.** J. Thorac. Dis. 16. [1]. 2024. PMID:38410558. IF:2,10. DOI:10.21037/jtd-23-1885. JOURNAL OF THORACIC DISEASE.

Ariza Solé A, Bermeo JA, Formiga F, Bueno H, Miñana G, Alegre O, Martí D, Martínez Sellés M, Domínguez Pérez L, Díez Villanueva P, Barrabés JA, Marín F, Villa A, Sanmartín M, Llibre C, Sionis A, Carol A, García Blas S, Gallardo MJM, Elízaga J, Gómez Blázquez I, Alfonso F, Del Blanco BG, Núñez J, Sanchis J. **Routine invasive strategy and frailty burden in non-ST-segment elevation acute myocardial infarction.** J. Geriatr. Cardiol. 21. [10]. 2024. PMID:39619358. IF:1,80. DOI:10.26599/1671-5411.2024.10.005. Journal of Geriatric Cardiology.

GROUP 48



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Cecconi Duca, Alberto
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Morán Merchante, Ignacio
Olivera Serrano, María José
Ortega Rabbione, Guillermo José
Pérez Romero, Miriam
Quirós, Bernaldo de
Santos Martín, Blanca



RESEARCH INTEREST

Our research work is developed in cardiovascular diagnostics technologies for clinical research, in coordination with physicists and basic scientists at La Princesa Hospital.

We are carrying out a research line in collaboration with physicist scientists at La Princesa Hospital focusing in machine learning of big data for the prediction of heart disease, based on an in-deep analysis of more than 250.000 ECGs raw data.

Another line of clinical research focuses on the characterization of the heart phenotype in patients with hypertrophic cardiomyopathy and its association with prognosis, by identifying new targets in cardiovascular imaging technology.



MAJOR GRANTS

Alfonso Manterola, Fernando; López Melgar, Beatriz. "Ecografía 3D carotídea y femoral en pacientes con cardiopatía isquémica precoz: caracterización y búsqueda de marcadores para pacientes y familiares. Estudio CAFEECOR." PI.22/01414. INSTITUTO SALUD CARLOS III. 2023-

Jiménez Borreguero, Luis Jesús. Validación de un nuevo método de predicción de fibrilación auricular para uso clínico en la prevención del ictus cardioembólico. DTS24/00150. INSTITUTO SALUD CARLOS III.



PUBLICATIONS

Vera A, Cecconi A, Martínez Vives P, López Melgar B, Olivera MJ, Hernández S, Rojas González A, Díez Villanueva P, Salamanca J, Caballero P, Jiménez Borreguero LJ, Alfonso F. **Usefulness of tissue tracking to differentiate tachycardia-induced cardiomyopathy from dilated cardiomyopathy in patients admitted for heart failure.** HEART VESSELS. 2024. PMID:39375197. IF:1,40. DOI:10.1007/s00380-024-02471-w. HEART AND VESSELS.

Casabona Francés S, Sanz García A, Ortega GJ, Santander C, Perez Fernandez T, Majano P, Olalla JM, Juárez Tosina R, Mueller R, Attwood S, Lucendo A. **A New Method to Evaluate Lower Esophageal Distension Capacity in Eosinophilic Esophagitis by Using Functional Lumen Imaging Probe (EndoFLIP™).** Diagnostics. 14. (2). 2024. PMID:38275466. IF:3,00. DOI:10.3390/diagnostics14020218. Diagnostics.

Salamanca J, García Guimaraes M, Sabaté M, Sanz Ruiz R, Macaya F, Roura G, Jimenez Kockar M, Nogales JM, Tizón Marcos H, Velazquez M, Veiga G, Gamarra A, Aguilar R, Jiménez Borreguero LJ, Díez Villanueva P, Bastante T, Núñez Gil I, Alfonso F. **Non-atherosclerotic acute cardiac syndromes: spontaneous coronary artery dissection and Takotsubo syndrome. Comparison of long-term clinical outcomes.** Coronary Artery Dis. 35. (1). 2024. PMID:37990625. IF:1,50. DOI:10.1097/MCA.0000000000001304. CORONARY ARTERY DISEASE.

GROUP 57



Carmen Suárez Fernández
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Aguilar Mulet, Juan Mariano
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Friera Reyes, Alfonsa
García Polo, Iluminada
Gil Martínez, Paloma María
Gullón Ojesto, Alejandra
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Roy Vallejo, Emilia
Ruiz-Giménez Arrieta, Nuria
Sánchez Moreno, Beatriz
Storch de Gracia Calvo, María Pilar
Vínuesa Sebastián, Mercedes
von Wernitz Teleki, Andrés



RESEARCH INTEREST

Cardiovascular diseases (CVD) are the main cause of mortality in developed countries. Their prevalence and incidence are increasing decade after decade. There is a great array of new cardiovascular drugs that target dyslipidaemia, arterial or venous thrombosis and diabetes, which can modify the natural history of these diseases.

In addition, age is also an important determinant of arterial and venous outcomes. However, research in usual clinical practice reveals a disproportionately low use of cardiovascular medications in elderly patients, who could otherwise benefit from their use, while, on the other hand, there is probably an excessive use of these medications in patients with cognitive impairment and/or short life expectancy. Altogether, there is not enough information about cardiovascular therapies in very elderly patients with multiple comorbidities/diseases, nor in other special populations (such as individuals with Down syndrome).

Against this background, the main research lines of our group are as follows:

- To evaluate and treat high cardiovascular risk patients and/or special populations (like elderly patients).
- To better treat patients with dyslipidemia and /or those with familial hypercholesterolemia.
- To better understand the mechanisms underlying heart failure and its decompensations
- To manage and prevent venous thromboembolic events
- To comprehend the underlying mechanisms of human cardiovascular protection models in adults with Down syndrome



MAJOR GRANTS

Real de Asúa Cruzat, Diego. ICOD: Improving Cognition in Down syndrome. UE. ICOD.899986. EUROPEAN COMMISSION. 2021-



PUBLICATIONS

Sebastian Valles F, Teleki ACV, Tapia Sanchiz MS, Navas Moreno V, Lopez Ruano M, Martinez Otero C, Carrillo López E, Sager La Ganga C, Raposo López JJ,

Line 3.6 New diagnostic and therapeutic advances in cardiovascular diseases

Amar S, Castañar SG, Arranz Martin JA, del Arco C, Marazuela M. **Factors associated with intensive care unit admission due to diabetic ketoacidosis in adults: a validated predictive model.** Acta Diabetol. 2024. PMID:39680130. IF:3,10. DOI:10.1007/s00592-024-02421-y. ACTA DIABETOLOGICA.

Díaz Lorenzo, I, Alonso Burgos, A, Reyes, AF, Blanco, REP, de Quiros, MDDb, Madueno, GG. **Current Role of CT Pulmonary Angiography in Pulmonary Embolism: A State-of-the-Art Review.** J. Imaging10. [12]:2024. PMID: 39728220. DOI: 10.3390/jimaging10120323.

Sebastian Valles F, Tapia Sanchiz MS, Navas Moreno V, Lopez Ruano M, Martínez Otero C, Carrillo López E, La Ganga CS, Raposo López JJ, Amar S, González Castañar S, Teleki AV, del Arco C, Arranz Martín JA, Marazuela M. **Chronic treatment with SGLT-2 inhibitors is associated with ICU admission and disease severity in patients with diabetic ketoacidosis: a propensity score-matched cohort study.** Intern. Emerg. Med. 2024. PMID:39556290. IF:3,20. DOI:10.1007/s11739-024-03813-2. Internal and Emergency Medicine.

Parra Caballero, P, Bustos Carpio, J, Cannata Ortiz, J. **Diabetes insipidus as presentation of hypothalamus and infundibulum involvement of mantle cell lymphoma relapse.** Med. Clin.PMID: 39327167. DOI: 10.1016/j.medcli.2024.05.030.

Jafarpour S, Banerjee AK, Khoshnood MM, Vogel BN, Boyd NK, Nguyen L, Partridge R, Santoro SL, Gombolay GY, Fisher KS, de Asua DR, del Ortega MC, Franklin C, Rafii MS, Santoro JD. **De novo variants in immune regulatory genes in Down syndrome regression disorder.** J. Neurol. 271. [8]. 2024. PMID:38909119. IF:4,80. DOI:10.1007/s00415-024-12521-y. JOURNAL OF NEUROLOGY.

Campillejo A, Gefaell Larrondo I, Ramos García V, Koatz D, Santos Alvarez A, Barrio Cortes J, Gómez Rueda S, Calderón Larrañaga A, Cifuentes P, Company Sancho C, Dominguez Coello S, García FJ, Garrido Elustondo S, de León BG, Ramón Vazquez J, Martín C, Suárez Fernández C, Parra Caballero P, Vicente Rabaneda EF, Quiroga Colina P, Ramírez Puerta AB, Ruíz López M, Tello Bernabé ME, Sanchez Gamborino E, Ugalde Abiega B, Vall Roqué H, Duarte Díaz A, Abt Sacks A, Hernandez Yumar A, Torres Castano A et al. **Implementation of a virtual community of practice to promote the empowerment of middle-aged people with multimorbidity: study protocol of a randomised controlled trial.** BMJ OPEN. 14. [5]. 2024. PMID:38803252. IF:2,40. DOI:10.1136/bmjopen-2024-084937. BMJ OPEN.

Aparicio P, Alonso Babarro A, Barba R, Moldenhauer F, Suárez C, de Asúa DR. **Analysis of the circumstances associated with death and predictors of mortality in Spanish adults with Down syndrome, 1997-2014.** J. Appl. Res. Intellect. Disabil. 37. [2]. 2024. PMID:38369309. IF:2,10. DOI:10.1111/jar.13187. JOURNAL OF APPLIED RESEARCH IN INTELLECTUAL DISABILITIES.

Oblitas CM, Demelo Rodríguez P, Alvarez Walther LA, Rubio Rivas M, Navarro Romero F, Galvañ VG, de Jorge Huerta L, Aizpuru EF, García GMG, Pérez JLB, Fontan PMP, Mora AA, Núñez JAV, Perea NR, Bruñén JM, Vallejo E, Perales Fraile I, Sánchez R, Castro JL, González ALM, García LFD, Espinar MA, Casas Rojo JM, Núñez Cortés JM, SEMI COVID Network 19. **Prognostic Value of D-dimer to Lymphocyte Ratio (DLR) in Hospitalized Coronavirus Disease 2019 (COVID-19) Patients: A Validation Study in a National Cohort.** VIRUSES-BASEL. 16. [3]. 2024. PMID:38543700. IF:3,80. DOI:10.3390/v16030335. VIRUSES-BASEL.

Méndez R, Figuerola A, Ramasco F, Chicot M, Pascual NF, García I, von Wernitz A, Zurita ND, Semiglia A, Pizarro A, Saez C, Rodríguez D. **Decrease in Mortality after the Implementation of a Hospital Model to Improve Performance in Sepsis Care: Princess Sepsis Code.** J. Pers. Med. 14. [2]. 2024. PMID:38392582. IF:3,00. DOI:10.3390/jpm14020149. Journal of Personalized Medicine.

Martínez Fleita P, Vicente Rabaneda EF, Triguero Martínez A, Roy Vallejo E, Uriarte Ecenarro M, Gutierrez Rodríguez F, Quiroga Colina P, Romero Robles A, Montes N, García Castaneda N, Mejía Abril GP, García Vadillo JA, Llorente Cubas I, Villagrasa JR, Lopez Matencio JMS, Ancochea J, Urzainqui A, Esparcia Pinedo L, Alfranca A, De La Fuente H, García Vicuna R, Sanchez Madrid F, Gonzalez Alvaro I, Castaneda S. **Beneficial effect of temporary methotrexate interruption on B and T cell responses upon SARS-CoV-2 vaccination in patients with rheumatoid arthritis or psoriatic arthritis.** npj Vaccines. 9. [1]. 2024. PMID:38291047. IF:6,90. DOI:10.1038/s41541-024-00805-3. npj Vaccines.

García AG, del Arco C, Fernández DL, Frías Vargas M, Guillán M, Méndez Bailón M, Grinspan MR, Aguado Castaño AC, Maya JF, González GL, Castañeda S. **Executive summary on the optimization of the multidisciplinary and integrated approach to polymyalgia rheumatica and giant cell arteritis in Madrid region.** Rev. Clin. Esp. 224. [1]. 2024. PMID:38142973. IF:2,30. DOI:10.1016/j.rce.2023.11.008. REVISTA CLINICA ESPANOLA.

GROUP 49



Blanca Novella Arribas
Head of group



GROUP MEMBERS

Cubillo Serna, Ana
Fernández Luque, María Jesús
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López González, Javier
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Sierra García, María Belén



RESEARCH INTEREST

Our research work is developed in cardiovascular diagnostics technologies for clinical research, in coordination with physicists and basic scientists at La Princesa Hospital.

We are carrying out a research line in collaboration with physicist scientists at La Princesa Hospital focusing in machine learning of big data for the prediction of heart disease, based on an in-deep analysis of more than 250.000 ECGs raw data.

Another line of clinical research focuses on the characterization of the heart phenotype in patients with hypertrophic cardiomyopathy and its association with prognosis, by identifying new targets in cardiovascular imaging technology.



MAJOR GRANTS

Novella Arribas, Blanca. Análisis de la efectividad de dos técnicas de evaluación de la extensión linfática en las pacientes con cáncer de endometrio. Modelo mixto de investigación con datos de la vida real e investigación cualitativa sobre valores y preferencias. PI24/01501. INSTITUTO SALUD CARLOS III.



PUBLICATIONS

Salamanca J, García Guimaraes M, Sabaté M, Sanz Ruiz R, Macaya F, Roura G, Jimenez Kockar M, Nogales JM, Tizón Marcos H, Velazquez M, Veiga G, Gamarra A, Aguilar R, Jiménez Borreguero LJ, Díez Villanueva P, Bastante T, Núñez Gil I, Alfonso F. **Non-atherosclerotic acute cardiac syndromes: spontaneous coronary artery dissection and Takotsubo syndrome. Comparison of long-term clinical outcomes.** Coronary Artery Dis. 35. [1]. 2024. PMID:37990625. IF:1,50. DOI:10.1097/MCA.0000000000001304. CORONARY ARTERY DISEASE.

Line 3.7 • New therapies in infectious pathologies

GROUP 50



Ignacio de los Santos Gil
Head of group



GROUP MEMBERS

Barrios Blandino, Ana María
Bautista Hernández, Azucena
Cámara de Llanza, Rafael de la
Ciudad Sañudo, Marianela
García-Fraile Fraile, Lucio Jesús
Gutiérrez Liarte, Ángela
Sáez Béjar, Carmen María



RESEARCH INTEREST

Our group has been working on the study of HIV infection for more than 20 years. We have participated in several clinical trials and international research projects. Currently, we continue working in the Research Network on AIDS (CoRIS) collecting data for epidemiological studies from HIV-infected patients who come to our clinic for the first time, and periodically sending blood samples to the Biobank Network of AIDS,

for virological and immunological studies. This project will keep going for years, and we will also continue collecting the data necessary for these studies.

We are also involved in clinical trials of new drugs and new therapeutic strategies for HIV, including the combination of two drugs Dolutegravir and lamivudine for naive and experienced patients, and the new maturation inhibitor in a very early phase. These trials began in 2019 and will last two years.

We expect to start a new clinical trial this year with a therapeutic vaccine for early treated HIV patients.

In addition, another field of interest, in which we have more than ten years of experience, is HIV / HCV co-infection. This aspect of HIV infection is currently having a major projection, due to the appearance of new drugs to treat hepatitis C, i.e direct antiviral agents. These drugs have revolutionized treatment achieving the greatest effectiveness until now (more than 95%) with few side effects. We are collaborating with the HEPA-VIR cohort of co-infected patients, along with various centres in the Spanish territory, where we have treated more than 600 patients so far. The study of new drugs in real life is very important because it can reveal side effects not seen before in clinical trials.

In this sense, and also in a multicentre group, we are studying the impact of sustained viral response in cardiovascular risk and inflammation markers, as well as its impact in appearance of liver cancer and cancer survival.



MAJOR GRANTS

de los Santos Gil, Ignacio. CB21/13/00107 - IGNACIO DE LOS SANTOS - CIBER EI21 I.3. SIDA e infecciones oportunistas.CB21/13/00107.INSTITUTO SALUD CARLOS III.2022-

RD12/0017/0011-IGNACIO DE LOS SANTOS- RED DE SIDA - RIS. (RD12/0017/00). Red.



PUBLICATIONS

Jerónimo A, Olmos C, Zulet P, Gómez Ramírez D, Anguita M, Castillo JC, Escrihuela Vidal F, Cuervo G, Calderón Parra J, Ramos A, Cabezón G, Rodríguez JA, Pulido P, de Miguel Alava M, Sáez C, López J, Vilacosta I, San Román JA. **Clinical characteristics and outcomes of aortic prosthetic valve endocarditis: comparison between transcatheter and surgical bioprostheses.** Infection. 52(6), 2024. PMID:38856806. DOI:10.1007/s15010-024-02302-0. IF:5,40. INFECTION.

Blanco JR, González Baeza A, Martínez Vicente A, Albendin Iglesias H, de la Torre J, Jarrin I, Gonzalez Cuello I, Cabello Clotet N, Barrios Blandino AM, Sanjoaquin Conde I, Montes Ramirez ML, Melus E, Pérez Esquerdo V, Tomas Jimenez C, Saumoy Linares M, Lopez Lirola AM, Hidalgo Tenorio C, Muelas Fernandez M, Galindo Puerto MJ, Abadía J, Manzanares E, Segundo Martin C, Fernandez Lopez MA, Barrios Vega M, De Miguel M, Olalla J, Grupo Estudio Gesida 12021. **Loneliness and social isolation in people with HIV aged ≥50 years. The No One Alone (NOA)-GeSIDA study conducted by the GeSIDA 12021 study group.** HIV Med. 2024. PMID:39578382. DOI:10.1111/hiv.13743. IF:2,80. HIV MEDICINE.

Martín Carmona J, Corma Gómez A, Téllez F, Arenga Barrios D, Serrano Fuentes M, Morano L, Corona Mata D, Lorite MNN, Vera Méndez FJ, Alados JC, Palacios R, De los Santos I, Geijo P, Imaz A, Merino D, Reus Bañuls SJ, Galindo MJ, López Ruz MA, Galera C, Pineda JA, Macías J, GEHEP Study 011Grp. **No Impact of Human Immunodeficiency Virus (HIV) Coinfection on Mortality in Patients With Hepatitis C Virus Infection After Sustained Virological Response.** Clin. Infect. Dis. 2024. PMID:39293030. DOI:10.1093/cid/ciae473. IF:8,20. CLINICAL INFECTIOUS DISEASES.

Ibañez AL, Pulido P, Díaz JL, de Miguel M, Cabezón G, Oña A, Zulet P, Jerónimo A, Gómez D, Pinilla García D, Olmos C, Sáez C, Pérez Serrano JB, Vilacosta I, Gómez Salvador I, San Román JA. **Native Valve Infective Endocarditis with Severe Regurgitation: What Matters Is Heart Failure.** J. Clin. Med. 13(20), 2024. PMID:39458178. DOI:10.3390/jcm13206222. IF:3,00. JOURNAL OF CLINICAL MEDICINE.

Martín Carbonero L, Gutierrez A, Bisbal O, Vergas J, González Baeza A, Martín CR, Vivancos MJ, Sanz J, Alvarez B, Palomar M, De los Santos I, Sepúlveda Crespo D, Resino S, Berenguer J, Cano Smith J, González García J, Ryan P. **Recently acquired hepatitis C: Epidemiological characteristics and treatment response in a large cohort of MSM living with HIV in Madrid.** Enferm. Infect. Microbiol. Clin. 42(8), 2024. DOI:10.1016/j.

eimc.2023.06.011. IF:2,60. ENFERMEDADES INFECCIOSAS Y MICROBIOLOGÍA CLÍNICA.

Hidalgo Tenorio C, Sequera S, Vivancos MJ, Vinuesa D, Collado A, de los Santos I, Sorni P, Cabello Clotet N, Montero M, Font CR, Terron A, Galindo MJ, Martínez O, Ryan P, Omar Mohamed M, Albendín Iglesias H, Javier R, López Ruz MA, Romero A, García Vallecillos C. **Bictegravir/emtricitabine/tenofovir alafenamide as first-line treatment in naïve HIV patients in a rapid-initiation model of care: BIC-NOW clinical trial.** Int. J. Antimicrob. Agents. 63(6), 2024. PMID:38574873. DOI:10.1016/j.ijantimicag.2024.107164. IF:4,90. INTERNATIONAL JOURNAL OF ANTIMICROBIAL AGENTS.

Tsukalov I, Sánchez Cerrillo I, Rajas O, Avalos E, Iturri-castillo G, Esparcia L, Buzón MJ, Genescà M, Scagnetti C, Popova O, Martín Cofreces N, Calvet Mirabent M, Marcos Jimenez A, Martínez Fleita P, Delgado Arévalo C, De los Santos I, Muñoz Calleja C, Calzada MJ, Álvaro IG, Palacios Calvo J, Alfranca A, Ancochea J, Sánchez Madrid F, Martín Gayo E. **NFκB and NLRP3/NLR4 inflammasomes regulate differentiation, activation and functional properties of monocytes in response to distinct SARS-CoV-2 proteins.** Nat. Commun. 15(1), 2024. PMID:38453949. DOI:10.1038/s41467-024-46322-8. IF:14,70. NATURE COMMUNICATIONS.

Berenguer J, Aldámiz Echevarría T, Hontañón V, Fanciulli C, Quereda C, Busca C, Domínguez L, Hernández C, Vergas J, Gaspar G, García Fraile LJ, Díez C, De Miguel M, Bellón JM, Bañares R, González García J. **Clinical outcomes and prognostic factors after HCV clearance with DAA in HIV/HCV coinfecting patients with advanced Fibrosis/Cirrhosis.** Hepatology. 2024. PMID:38452004. DOI:10.1097/HEP.0000000000000838. IF:12,90. HEPATOLOGY.

de Miguel M, Lopez J, Vilacosta I, Olmos C, Saez C, Cabezon G, Zulet P, Jeronimo A, Gomez D, Pulido P, Lozano A, Ona A, Gomez Salvador I, San Roman JA. **Clinical Profile and Prognosis of Patients with Left-Sided Infective Endocarditis with Surgical Indication Who Are Not Operated.** Microorganisms. 12(3), 2024. PMID:38543658. DOI:10.3390/microorganisms12030607. IF:4,10. MICROORGANISMS.

Troya J, Pousada G, Micán R, Galera C, Sanz J, De los Santos I, Dueñas C, Cabello N, Martín C, Galindo MJ, Garcinuño MA, Pedrero Tomé R, Buzón L. **Real-life data of immune recovery using bictegravir/emtricitabine/tenofovir alafenamide in virologically suppressed people living with HIV. Results at 48–96 weeks of RETROBIC Study.** J. Antimicrob. Chemother. 79(3), 2024. PMID:38267266. DOI:10.1093/jac/dkaf011. IF:3,90. JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY.

Line 3.7 New therapies in infectious pathologies

Corma Gómez A, Cabello A, Orviz E, Morante Ruiz M, Ayerdi O, Al Hayani A, Muñoz Gómez A, De los Santos I, Gómez Ayerbe C, Rodrigo D, Riestra SDR, Reus Bañuls S, Silva Klug A, Galindo MJ, Santos M, Serrano Fuentes M, Faro Míguez N, Pérez Camacho I, Corona Mata D, Morano L, López Ruz MA, Montero M, Anaya Baz B, Merino D, Castillo Navarro A, Pineda JA, Macías J. **Long or complicated mpox in patients with uncontrolled HIV infection.** J. Med. Virol. 96(3), 2024. PMID:38469884. DOI:10.1002/jmv.29511. IF:6,80. JOURNAL OF MEDICAL VIROLOGY.

Benito BM, Gisbert JP, Fraile LJGF, Blandino AB, Chaparro M. **Sexually transmitted infections as a differential diagnosis of inflammatory bowel disease.** Gastroenterol. Hepatol. 47(2), 2024. PMID:37150250. DOI:10.1016/j.gastrohep.2023.03.009. IF:2,20. GASTROENTEROLOGÍA Y HEPATOLOGÍA.

Matovelle P, Olivan Blázquez B, Magallón Botaya R, García Sangenis A, Monfà R, Morros R, Sanmartín AN, Mateos Nozal J, Bejar CS, Jiménez CR, Pérez EL, Llor C. **Antimicrobial Agent Use for Urinary Tract Infection in Long-Term Care Facilities in Spain: Results from a Retrospective Analytical Cohort Analysis.** Antibiotics-Basel. 13(2), 2024. PMID:38391537. DOI:10.3390/antibiotics13020152. IF:4,30. ANTIBIOTICS.

Robin C, Cordonnier C, Tridello G, Knelange N, Xhaard A, Chantepie S, Tanguy Schmidt A, Schouten HC, Yeshurun M, Rocha V, Srouf M, Kröger N, Ledoux MP, Dalgaard J, Thiebaut A, Giardino S, Calore E, Zuckerman T, Groll AH, Raida L, Avcin S, Vicent MG, Kaare A, Drozd Sokolowska J, Turlure P, Bretagne S, Mikulska M, de la Camara R, Cesar S, Styczynski J. **Pneumocystis Pneumonia After Allogeneic Hematopoietic Cell Transplantation: A Case-Control Study on Epidemiology and Risk Factors on Behalf of the Infectious Diseases Working Party of the European Society for Blood and Marrow Transplantation.** Transpl. Cell. Ther. 30(2), 2024. PMID:38007092. DOI:10.1016/j.jtct.2023.11.017. IF:3,60. TRANSPLANTATION AND CELLULAR THERAPY.

Piñana JL, Tridello G, Xhaard A, Wendel L, Montoro J, Vazquez L, Heras I, Ljungman P, Mikulska M, Salmennemi U, Perez A, Kröger N, Cornelissen J, Sala E, Martino R, Geurten C, Byrne J, Maertens J, Kerre T, Martin M, Pascual MJ, Yeshurun M, Finke J, Groll AH, Shaw PJ, Blijlevens N, Arcese W, Ganser A, Suarez Lledo M, Alzahrani M et al. **Upper and/or Lower Respiratory Tract Infection Caused by Human Metapneumovirus After Allogeneic Hematopoietic Stem Cell Transplantation.** J. Infect. Dis. 229(1), 2024. PMID:37440459. DOI:10.1093/infdis/jiad268. IF:5,00. JOURNAL OF INFECTIOUS DISEASES.

Griffin M, Eikema DJ, Verheggen I, Kulagin A, Tjon JM, Fattizzo B, Ingram W, Zaidi U, Desnica L, Giammarco S, Drozd Sokolowska J, Xicoy B, Patriarca A, Loschi M, Szmigielska Kaplon A, Beier F, Cignetti A, Drexler B, Gavrilaki E, Lanza F, Orvain C, Risitano AM, de la Camara R, De Latour RP. **SARS-CoV-2 vaccination in 361 non-transplanted patients with aplastic anemia and/or paroxysmal nocturnal hemoglobinuria.** Haematologica. 109(1), 2024. PMID:37584297. DOI:10.3324/haematol.2023.283863. IF:8,20. HAEMATOLOGICA.



GROUP 51



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Luquero Bueno, Sergio
Moreno Balsalobre, Ramón
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RESEARCH INTEREST

MicroRNAs (miRNAs) are a family of endogenous, small, noncoding RNA molecules that modulate physiological and pathological processes by post-transcriptional inhibition of gene expression. Recent studies have also begun to reveal that altered miRNA expression profiles may be associated with pathological processes within the lung and lead to the development of various pulmonary diseases, ranging from inflammatory diseases to lung cancers. Also miRNAs are pivotal to both adaptive and innate immunity, with regulatory effects on cell differentiation and immunological function.

miRNAs and community acquired pneumonia:

Community acquired pneumonia (CAP) is an infectious disease with high prevalence and great morbimortality rate. Numerous strategies have been studied to improve the prediction of CAP prognosis, and thus help in decision-making for the management of these patients. Regarding CAP pathophysiology, miRNAs can influence the development and function of immune cells by blocking the translation of key proteins such as transcription factors or intermediate molecules in cell receptor signalling cascades. In addition, some miRNAs have been identified as key players in modulating the immune response to severe bacterial infection, by controlling neutrophil activation and recruitment and the chemotactic signal that initiates the inflammatory process. Moreover, several studies have established the utility of circulating miRNAs in the diagnosis of sepsis and in various specific infections (e.g. HIV, viral hepatitis or tuberculosis). However, there is limited scientific literature on the usefulness of these molecules as prognosis markers in CAP.

We aim to explore the role of different miRNAs in CAP and their role in the regulation of the inflammatory response in CAP patients.

miRNAs and Lung cancer:

The search for a biomarker that enables optimizing the early diagnosis of lung cancer is a pending challenge. The adequate management of a potentially malignant solitary pulmonary nodule in early stages is especially important in fragile and elderly patients. It is also important to use non-aggressive techniques to obtain good quality samples of deep breath. Exhaled breath condensate (EBC) is a simple, non-aggressive technique that provides a biological sample where different markers can be determined.

Recent promising studies have analysed miRNA profiles in EBC as potential biomarkers for early diagnosis in lung cancer patients. We will focus our efforts on establishing the utility of miRNA determination in EBC samples as a first step in the building process of a molecular signature for EBC in lung cancer patients.



MAJOR GRANTS

Galván Román, José María. Modificación de los algoritmos diagnósticos en Cáncer de pulmón mediante el uso de ncRNAs en condensado de aire exhalado. PI24/00323. INSTITUTO SALUD CARLOS III.



PUBLICATIONS

Rogado J, Pozo F, Troule K, Pacheco M, Adrados M, Sánchez Torres J, Al Shahrour F, Aspa J, Alfranca A, Romero Laorden N, Colomer R. **The role of the CXCL12/CXCR4 axis in the immunotherapy of non-small cell lung cancer.** Clin. Transl. Oncol. 2024. PMID:39708256. IF:2,80. DOI:10.1007/s12094-024-03828-3. CLINICAL & TRANSLATIONAL ONCOLOGY.

Soria Chacartegui P, Cendoya Ramiro P, González Iglesias E, Martín Vilchez S, Rodríguez Lopez A, Mejía Abril G, Román M, Luquero Bueno S, Ochoa D, Abad Santos F. **Genetic Variation in CYP2D6, UGT1A4, SL-C6A2 and SLC01B1 Alters the Pharmacokinetics and Safety of Mirabegron.** Pharmaceutics. 16. (8). 2024. PMID:39204422. IF:4,90. DOI:10.3390/pharmaceutics16081077. Pharmaceutics.

Martínez Fleta P, Marcos MC, Jimenez Carretero D, Galván Román JM, Girón Moreno RM, Calero García

AA, Arcos García A, Martín Gayo E, De La Fuente H, Esparcia Pinedo L, Aspa J, Ancochea J, Alfranca A, Sánchez Madrid F. **Imbalance of SARS-CoV-2-specific CCR6+and CXCR3+CD4+T cells and IFN- γ +CD8+T cells in patients with Long-COVID.** Clin. Immunol. 264. 2024. PMID:38825071. IF:4,50. DOI:10.1016/j.clim.2024.110267. CLINICAL IMMUNOLOGY.

Tsakalov I, Sánchez Cerrillo I, Rajas O, Avalos E, Iturricastillo G, Esparcia L, Buzón MJ, Genescà M, Scagnetti C, Popova O, Martín Cofreces N, Calvet Mirabent M, Marcos Jimenez A, Martínez Fleta P, Delgado Arévalo C, De los Santos I, Muñoz Calleja C, Calzada MJ, Ivaro IG, Palacios Calvo J, Alfranca A, Ancochea J, Sánchez Madrid F, Martín Gayo E. **NF κ B and NLRP3/NLR4 inflammasomes regulate differentiation, activation and functional properties of monocytes in response to distinct SARS-CoV-2 proteins.** Nat. Commun. 15. (1). 2024. PMID:38453949. IF:14,70. DOI:10.1038/s41467-024-46322-8. Nature Communications.

GROUP 52



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Zurita Cruz, Nelly Daniela



RESEARCH INTEREST

A great interest in the role of human microbiome in health and disease exists due to the accessibility of high throughput sequencing methods. Several studies indicate that the human microbiome may contribute to the regulation of multiple neuro-chemical and neuro-metabolic pathways through a complex series of highly interactive and symbiotic host-microbiome signaling systems that mechanistically interconnect the gastrointestinal tract, skin, liver, and other organs with the central nervous system. Several studies suggest that the stomach contains an unexpected diversity of microorganisms but their relationship with *Helicobacter pylori*, and with other human diseases is not well established.

H. pylori infects 50% of the population worldwide and colonizes the gastric mucosa causing many gastroin-

testinal diseases such as severe gastritis, peptic ulcer disease, gastric cancer and gastric mucosa-associated lymphoid tissue (MALT) lymphoma. It is identified as a Group I carcinogen by the International Agency for Research on Cancer of the World Health Organization. Several treatment regimens have been used to eradicate this microorganism. Resistance to antibiotics is considered the main cause of treatment failure.

Since the beginning of SARS-CoV-2 (Severe Acute Respiratory Syndrome Coronavirus-2) pandemic, a large quantity of studies has been performed to develop and validate real-time PCR (RT-PCR) techniques capable of providing an accurate diagnosis in respiratory samples. However, SARS-CoV-2 has also been detected in other types of samples such as blood. Assessment of commercial RT-PCR techniques in serum and plasma samples has been one of the aims of our group, which has provided satisfactory results. We performed a multidisciplinary study to assess detection of SARS-CoV-2 viremia as a marker to identify patients who are at risk of developing severe COVID-19 and mortality.

The detection of antimicrobial resistance in various clinically important bacteria, with participation in national and international studies, has been a field of interest over the years, with the application of new molecular methods for resistance detection.

This group includes members of the Microbiology Department with interest in diagnosis and treatment of several infectious diseases caused by pathogens such as fungi, *Mycobacterium* spp or CMV, as well as in infections in cystic fibrosis patients. Different members of the group have increasing participation in various hospital working groups such as the sepsis code, the PROA program, and different committees.

The main lines of research are: (1) Study of the human microbiome in different areas of the body (gastric, esophageal, respiratory or intestinal) and its relationship with *H. pylori* infection and other human diseases with potential therapeutic applications. (2) Detection of antimicrobial resistance in various clinically important bacteria (including *H. pylori*, among others) through national and international studies, and application of molecular methods. (3) Study of the in vitro activity of wine phenolic compounds against *H. pylori*. (4) Determination of the role of Non-Tuberculous *Mycobacteria* on the development of several diseases. (5) Detection of SARS-CoV-2 viremia as a marker to identify patients who are at risk of developing severe COVID-19 and mortality.

Line 3.7 New therapies in infectious pathologies



PUBLICATIONS

Martín Carbonero L, Gutierrez A, Bisbal O, Vergas J, González Baeza A, Martín CR, Vivancos MJ, Sanz J, Alvarez B, Palomar M, De los Santos I, Sepúlveda Crespo D, Resino S, Berenguer J, Cano Smith J, González García J, Ryan P. **Recently acquired hepatitis C: Epidemiological characteristics and treatment response in a large cohort of MSM living with HIV in Madrid.** *Enferm. Infecc. Microbiol. Clin.* 42(8), 2024. DOI:10.1016/j.eimc.2023.06.011. IF:2,60. ENFERMEDADES INFECCIOSAS Y MICROBIOLOGÍA CLÍNICA.

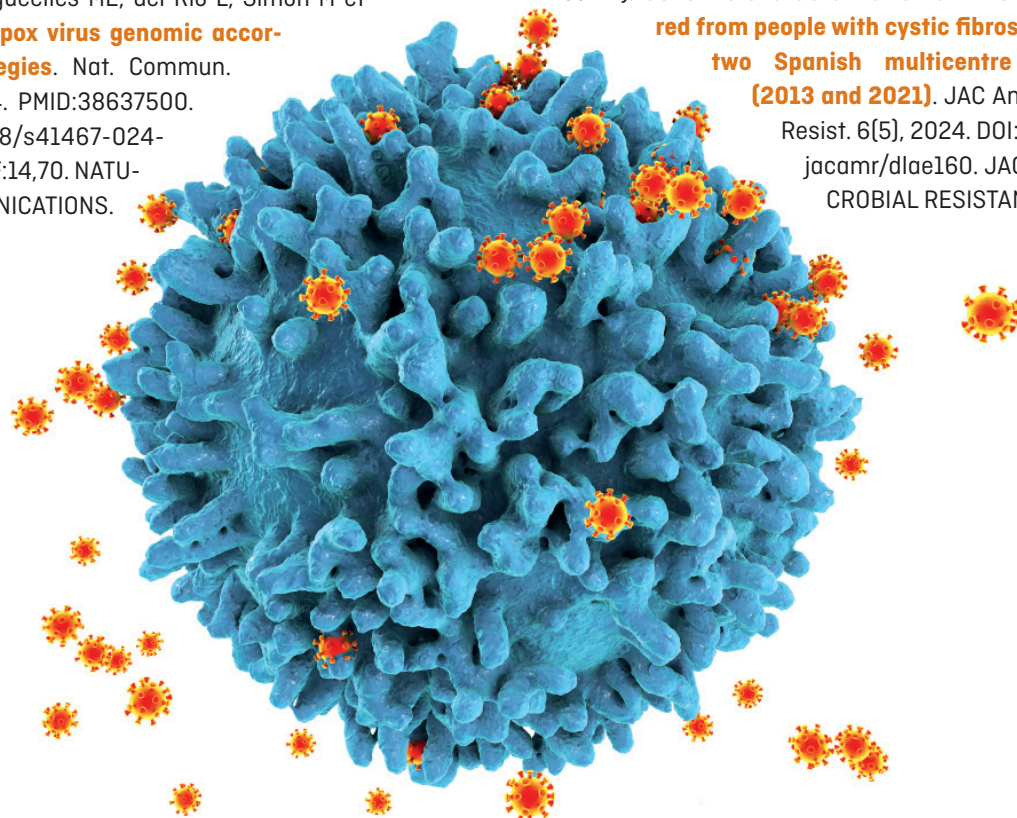
Torres Rufas M, Vicente Rabaneda EF, Cardeñoso L, Gutierrez A, Bong DA, Valero Martínez C, López Matencio JMS, García Vicuña R, González Gay MA, González Alvaro I, Castañeda S. **Effectiveness and Safety of the COVID-19 Vaccine in Patients with Rheumatoid Arthritis in a Real-World Setting.** *Vaccines.* 12(6), 2024. PMID:38932401. DOI:10.3390/vaccines12060672. IF:5,20. VACCINES.

Monzon S, Varona S, Negredo A, Vidal Freire S, Patiño Galindo JA, Ferressini Gerpe N, Zaballós A, Orviz E, Ayerdi O, Muñoz Gomez A, Delgado Iribarren A, Estrada V, García C, Molero F, Sanchez Mora P, Torres M, Vazquez A, Galán JC, Torres I, del Río MC, Merino Díaz L, Lopez M, Galar A, Cardenoso L, Gutierrez A, Loras C, Escribano I, Alvarez Argueelles ME, del Río L, Simon M et al. **Monkeypox virus genomic accession strategies.** *Nat. Commun.* 15(1), 2024. PMID:38637500. DOI:10.1038/s41467-024-46949-7. IF:14,70. NATURE COMMUNICATIONS.

Buenestado Serrano S, Martínez Lirola M, Herranz Martín M, Esteban J, Broncano Lavado A, Molero Salinas A, Sanz Pérez A, Blázquez J, Ruedas López A, Toro C, López Roa P, Domingo D, Zamarrón E, Serrano MJR, Muñoz P, Pérez Lago L, de Viedma DG. **Microevolution, reinfection and highly complex genomic diversity in patients with sequential isolates of Mycobacterium abscessus.** *Nat. Commun.* 15(1), 2024. PMID:38548737. DOI:10.1038/s41467-024-46552-w. IF:14,70. NATURE COMMUNICATIONS.

Delgado-Wicke P, Fernández de Córdoba-Oñate S, Roy-Vallejo E, Alegría-Carrasco E, Rodríguez-Serrano DA, Lamana A, Montes N, Nicolao-Gómez A, Carracedo-Rodríguez R, Marcos-Jiménez A, Díaz-Fernández P, Galván-Román JM, Rabes-Rodríguez L, Sanz-Alba M, Álvarez-Rodríguez J, Villa-Martí A, Rodríguez-Franco C, Villapalos-García G, Zubiaur P, Abad-Santos F, de los Santos I, Gomariz RP, García-Vicuña R, Muñoz-Calleja C, González-Álvaro I, Fernández-Ruiz E; PREDINMUN-COVID Group. **Genetic variants regulating the immune response improve the prediction of COVID-19 severity provided by clinical variables.** *Sci. Rep.* 14(1), 2024. DOI:10.1038/s41598-024-71476-2. SCIENTIFIC REPORTS.

Maruri-Aransasolo A, Hernández-García M, Barbero R, Michelena M, Pastor-Vivero MD, Mondejar-López P, Solé A, Cantón R, Caballero-Pérez JD; GEIFQ study group (Alarcón T). **Genomic characterization of MRSA recovered from people with cystic fibrosis during two Spanish multicentre studies (2013 and 2021).** *JAC Antimicrob. Resist.* 6(5), 2024. DOI:10.1093/jacamr/dlae160. JAC ANTIMICROBIAL RESISTANCE.



Line 3.8 Individualized medicine in solid tumors

GROUP 40



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Gómez Manzano, María Rocío
Guijarro Rojas, María Mercedes
Hernández Marín, Berta
Jareño Dorrego, Eugenia
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Torres Waldhaus, Natalia
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Viamontes Ugalde, Francisco Eduardo



RESEARCH INTEREST

Our line of clinical research is focused on the development of innovative cancer therapies. We have contributed to the clinical evaluation of neoadjuvant Pertuzumab, currently the standard of therapy in HER2+ breast cancer, or Neratinib in advanced HER2+ breast cancer. We have evaluated in phase I and phase II trials novel drugs such as Nintedanib or Dovitinib, and monoclonal antibodies such as Durvalumab. We have developed medical and surgical protocols for lung, breast and pancreatic cancers.

Our line of translational research is focused on the discovery of biomarkers for assessing the effects of anticancer immunotherapy and biomarkers of cancer, including an immunophenotype profile in patients with advanced cancer and the rare double amplification of FGFR-1 and CCND1 in breast cancer. By using a systems biology approach, we are clustering breast cancer into subtypes defined by biologic features that constitute therapeutic targets.

Line 3.8 Individualized medicine in solid tumors



MAJOR GRANTS

Romero Laorden, Nuria. CARACTERIZACIÓN EVOLUTIVA DEL FENOTIPO INMUNE EN CÁNCER DE PRÓSTATA METASTÁSICO. PI21/01111. INSTITUTO SALUD CARLOS III. 2022-

Colomer Bosch, Ramón. Un nuevo papel tumorogénico de la Sintasa de Ácidos Grasos relacionado con el compartimiento de células T tumorales. PI20/01458. INSTITUTO SALUD CARLOS III. 2021-2024.



PUBLICATIONS

Rogado J, Pozo F, Troule K, Pacheco M, Adrados M, Sánchez Torres J, Al Shahrour F, Aspa J, Alfranca A, Romero Laorden N, Colomer R. **The role of the CXCL12/CXCR4 axis in the immunotherapy of non-small cell lung cancer.** Clin. Transl. Oncol. 2024. PMID: 39708256. DOI: 10.1007/s12094-024-03828-3. IF: 2,80. Clinical & Translational Oncology.

Araujo Castro M, Fano MP, González Boillos M, Pascual Corrales E, Ramírez PP, Rojas Marcos PM, García Cano A, Ruiz Sánchez JG, Vicente A, Gómez Hoyos E, Casterás A, Puig Pérez A, Sanz IG, Recasens M, San Millán RB, César MJ, Guardiola PD, Perdomo C, Manjón Miguélez L, Román AR, Lázaro CR, Recio JM, Morales Ruiz M, Calatayud M, López NJ, Meneses D, Nuñez MS, Ribas EM, Sánchez AS, Díaz CG et al. **Influence of smoking on cardiometabolic profile and surgical outcomes in patients with primary aldosteronism: a cohort study.** Eur. J. Endocrinol. 191(6). 2024. PMID: 39556770. DOI: 10.1093/ajph/114.1.143. IF: 5,30. European Journal of Endocrinology.

Verhoeff K, Parente A, Wang YB, Wang NY, Wang ZC, Slezinski M, Hellmann A, Raffaelli M, Pennestri F, Sywak M, Papachristos AJ, Palazzo FF, Sung TY, Kim BC, Lee YM, Eatock F, Anderson H, Iacobone M, Dauksa A, Makay O, Turk Y, Atalay HB, van Dijkum EJM, Engelsman AF, Holscher I, Materazzi G, Rossi L, Becucci C, Shore SL, Fung C et al. **Outcomes for Patients with Obesity Undergoing Adrenalectomy for Pheochromocytoma: An International Multicenter Analysis.** Ann. Surg. Oncol. 2024. PMID: 39633172. DOI: 10.1245/s10434-024-16591-0. IF: 3,40. Annals of Surgical Oncology.

Teres LB, Santacruz CC, Bonito AC, Burdalo LD, Sanchez AR, Marcos EB, Septiem JG, Perez EM. **Early diverting stoma closure is feasible and safe: results from a before-and-after study on the implementation of an ear-**

ly closure protocol at a tertiary referral center. Tech. Coloproctology. 28(1). 2024. PMID: 38349559. DOI: 10.1007/s10151-023-02905-z. IF: 2,70. Techniques in Coloproctology.

Díaz Lorenzo I, Alonso Burgos A, Reyes AF, Blanco REP, de Quiros MDD, Madueno GG. **Current Role of CT Pulmonary Angiography in Pulmonary Embolism: A State-of-the-Art Review.** J. Imaging. 10(12). 2024. PMID: 39728220. DOI: 10.3390/jimaging10120323.

Manso LS, Alfranca A, Moreno Pérez I, Ruiz Vico M, Velasco C, Toquero P, Pacheco M, Zapatero A, Aldave D, Celada G, Albers E, de la Maza MDF, García J, Castro E, Olmos D, Colomer R, Romero Laorden N. **Immune profiling in prostate cancer: a guide for clinicians.** Front. Immunol. 15. 2024. PMID: 39635522. DOI: 10.3389/fimmu.2024.1398109. IF: 5,70. Frontiers in Immunology.

Chamorro Vega E, Calvo A, Fernández Pacheco M, Hernández Muniesa B, Romero Jiménez R, Casado Gómez A, Ramírez E, Morell A, Herrero N, Ubeda B, Ais Larisgoitia A, Lobato Matilla E, Muñoz A, Casado MA, Escudero Vilaplana V, Trabajo SACVINFA Grp. **Perceived quality of life by patients with immune-mediated inflammatory diseases treated with biological therapies. SACVINFA study.** Farm. Hosp. 48(6). 2024. PMID: 38789316. DOI: 10.1016/j.farma.2024.04.006. Farmacia Hospitalaria.

La Ganga CS, García Sanz I, López EC, Navas Moreno V, Marazuela M, Gancedo Quintana A, Marín Campos C, Carraro R, Sebastián Valles F. **Equitable Access, Lasting Results: The Influence of Socioeconomic Environment on Bariatric Surgery Outcomes.** Obes. Surg. 35(1). 2024. PMID: 39466525. DOI: 10.1007/s11695-024-07529-2. IF: 2,90. Obesity Surgery.

Moreno VN, Valles FS, Vargas ML, Marín BH, López EC, Marazuela M, de Nova JLM. **Neoadjuvant Treatment in Locally Advanced Thyroid Carcinoma.** J. Clin. Med. 13(19). 2024. PMID: 39407830. DOI: 10.3390/jcm13195769. IF: 3,00. Journal of Clinical Medicine.

Sebastián Valles F, Fernández Moreno MJ, García Sanz I, Gómez NFP, Navas Moreno V, Sampedro Núñez MA, Marazuela M. **The Influence of Remnant Cholesterol on Cardiovascular Risk and Mortality in Patients with Non-Functional Adrenal Incidentalomas and Mild Autonomous Cortisol Secretion: A Retrospective Cohort Study.** J. Clin. Med. 13(19). 2024. PMID: 39408007. DOI: 10.3390/jcm13195947. IF: 3,00. Journal of Clinical Medicine.

Coppola A, La Vaccara V, Farolfi T, Asbun HJ, Boggi U, Conlon K, Edwin B, Ferrone C, Jonas E, Kokudo N, Perez

EM, Sato S, Sparrelid E, Stauffer J, Zerbi A, Takemura N, Lai Q, Almeray T, Bernon M, Cammarata R, Djoumi Y, Gallagher T, Ghorbani P, Ginesini M, Hashimoto D, Kauffmann EF, Kleive D, Lluís N, González RM, Napoli N et al. **Preoperative carbohydrate antigen 19.9 level predicts lymph node metastasis in resectable adenocarcinoma of the head of the pancreas: a further plea for biological resectability criteria.** Int. J. Surg. 110(10). 2024. PMID: 37738016. DOI: 10.1097/JS9.0000000000000773. IF: 12,50. International Journal of Surgery.

Araujo Castro M, Fano MP, González Boillos M, Pascual Corrales E, Rojas Marcos PM, García Cano A, Ruiz Sánchez JG, Vicente A, Gómez Hoyos E, Casterás A, Puig Pérez A, Sanz IG, Recasens M, San Millán RB, César MJ, Guardiola PD, Perdomo CM, Manjón Miguélez L, Román AR, Lázaro CR, Recio JM, Morales Ruiz M, Calatayud M, López NJ, Meneses D, Nuñez MS, Ribas EM, Sánchez AS, Díaz CG, Lamas C et al. **Impact of primary aldosteronism on kidney function: results from the SPAIN-ALDO registry.** J. Hypertens. 42(10). 2024. PMID: 39051487. DOI: 10.1097/HJH.0000000000003813. IF: 3,30. Journal of Hypertension.

Heffernan JAJ, Esteban Rodríguez I, Vielh P. **Intraoperative cytology of CNS tumours: Challenges associated with an evolving landscape.** Cytopathology. 35(5). 2024. PMID: 38794802. DOI: 10.1111/cyt.13395. IF: 1,20. Cytopathology.

Bonito AC, Santacruz CC, Hernández YGD, Moya FG, Marcos EB, Sánchez AR, Septiem JG, Pérez EM. **Prospective study about the security and efficacy of treatment without antibiotic therapy of patients diagnosed with acute uncomplicated diverticulitis after launching a protocol at a tertiary hospital.** Cir. Espan. 102(9). 2024. PMID: 38821359. DOI: 10.1016/j.ciresp.2024.04.018. IF: 1,30. Cirugía Española.

Rueda AG, Taus A, Alvarez RA, Bernabé Caro R, Chara L, López Brea M, Vilà L, González MAS, Aldagán ADD, Herrera BE, Castro RL, Cabellós RA, Doménech M, Falagan S, Vega AM, Aguado C, Barba A, Ureña MTD, Isla D, Hernández LB, Pérez JLF, Juan Vidal O, Massuti B, Mielgo Rubio X, Ortega AL, Catot S, Dómine M, Escóin Pérez C, Navalón FG, Gil Bazo I et al. **The S-REAL study: Spanish real-world data on unresectable stage III NSCLC patients treated with durvalumab after chemoradiotherapy.** Clin. Transl. Oncol. 26(9). 2024. PMID: 38512450. DOI: 10.1007/s12094-024-03404-9. IF: 2,80. Clinical & Translational Oncology.

Tomero Sanz H, Jiménez Heffernan J, Fernández Cha-

cón M, Cristóbal García I, de la Cuesta R, González Cortijo L, López Cabrera M, Sandoval P. **Detection of Carcinoma-Associated Fibroblasts Derived from Mesothelial Cells via Mesothelial-to-Mesenchymal Transition in Primary Ovarian Carcinomas.** Cancers. 16(15). 2024. PMID: 39123425. DOI: 10.3390/cancers16152697. IF: 4,50. Cancers.

Doce AV, García FJD, Mena A, Ortiz Fernández L, Spottorno MP, Medina F, Maisonnobe P, Herrera A, García I, Juan García FJ, RELIEF investigators grp. **Assessment of pain relief after four botulinum toxin A injection cycles in patients with post-stroke lower limb spasticity: A prospective, observational study.** Rehabilitation. 58(3). 2024. PMID: 38795502. DOI: 10.1016/j.rh.2024.100856. Rehabilitación.

Rhaïem R, Duramé A, Primavesi F, Dorcaratto D, Syn N, Rodríguez AD, Dupré A, Piardi T, Fernández GB, Villaverde AP, Sanjuán JCR, Santiago RF, Fernández Moreno MC, Ferret G, Ben SL, Muñoz MAS, Perez Alonso AJ, Koh YX, Jones R, Martín Pérez E, Kianmanesh R, Di Martino M. **Critical appraisal of surgical margins according to KRAS status in liver resection for colorectal liver metastases: Should surgical strategy be influenced by tumor biology?** Surgery. 176(1). 2024. PMID: 38519408. DOI: 10.1016/j.surg.2024.02.008. IF: 3,20. Surgery.

Dauden E, Belinchón I, Colominas González E, Coto P, de la Cueva P, Gallardo F, Poveda JL, Ramírez E, Ros S, Ruiz Villaverde R, Comellas M, Lizán L. **Defining well-being in psoriasis: A Delphi consensus among healthcare professionals and patients.** Sci. Rep. 14(1). 2024. PMID: 38914574. DOI: 10.1038/s41598-024-64738-6. IF: 3,80. Scientific Reports.

Benito BM, Pintor VG, del Val LD, García Buey L. **Complete tumor response after concomitant treatment with lenvatinib and radioembolization with Yttrio-90 of advanced stage hepatocarcinoma.** Gastroenterol. Hepatol. 47(6). 2024. PMID: 37742831. DOI: 10.1016/j.gastrohep.2023.09.005. IF: 2,20. Gastroenterología y Hepatología.

Saúco MA, García Ramos R, Ramírez IL, García FC, Bueno JF, Martínez SM, García BG, Moya Martínez A, Santos García D. **Palliative care management in patients with Parkinson's disease and other movement disorders. National survey to neurologists.** Neurología. 39(5). 2024. DOI:10.1016/j.nrl.2021.09.008. IF:2,90. NEUROLOGIA.

Romero Laorden N, Lorente D, de Velasco G, Lozano R, Herrera B, Puente J, López PP, Medina A, Almagro E, Gonzalez Billalabeitia E, Villalá Guzmán JC, González

Line 3.8 Individualized medicine in solid tumors

Alba A, Borrega P, Laínez N, Fernández Freire A, Hernández A, Rodríguez Vida A, Chirivella I, Fernández Parra E, López Campos F, Pacheco MI, Morales Barreira R, Fernández O, Villatoro R, Luque R, Hernando S, Castellano DC, Castro E, Olmos D. **Prospective Assessment of Bone Metabolism Biomarkers and Survival in Metastatic Castration-resistant Prostate Cancer Patients Treated with Radium-223: The PRORADIUM Study.** Eur. Urol. Oncol. 7(3), 2024. PMID:37838555. DOI:10.1016/j.euo.2023.09.015. IF:8,30. European Urology Oncology.

Calvo García A, Herráiz ER, Cubas IML, De Dios BV, González JB, Baladrón AM, García Vicuña R. **The Real-World Effectiveness, Persistence, Adherence, and Safety of Janus Kinase Inhibitor Baricitinib in Rheumatoid Arthritis: A Long-Term Study.** J. Clin. Med. 13(9), 2024. PMID:38731045. DOI:10.3390/jcm13092517. IF:3,00. Journal of Clinical Medicine.

Olmos D, Lorente D, Alameda D, Cattrini C, Romero Laorden N, Lozano R, Lopez Casas PP, Jambrina A, Capone C, Vanden Broecke AM, Trevisan M, Van Sanden S, Juergens A, Herrera Imbroda B, Castro E. **Treatment patterns and outcomes in metastatic castration-resistant prostate cancer patients with and without somatic or germline alterations in homologous recombination repair genes.** Ann. Oncol. 35(5), 2024. PMID:38417742. DOI:10.1016/j.annonc.2024.01.011. IF:56,70. ANNALS OF ONCOLOGY.

Serradilla Martín M, Villodre C, Falgueras Verdaguer L, Zambudio Carroll N, Castell Gómez JT, Blas Laina JL, Borrego Estella V, Domingo Pozo C, García Plaza G, González Rodríguez FJ, Montalvá Orón EM, Moya Herrera A, Paterna López S, Suárez Muñoz MA, Alkorta Zuolaaga M, Blanco Fernández G, Dabàn Collado E, Gómez Bravo MA, Miota Llamas JI, Rotellar F, Sánchez Pérez B, Sanchez Cabus S, Pacheco Sanchez D, Rodríguez

Sanjuan JC, Varona Bosque MA, Carrión Alvarez L, de la Serna Esteban S, Dopazo C, Martín Pérez E, Martínez Cecilia D et al. **Feasibility and Short-Term Outcomes in Liver-First Approach: A Spanish Snapshot Study (the RENACI Project).** Cancers. 16(9), 2024. PMID:38730631. DOI:10.3390/cancers16091676. IF:4,50. CANCERS.

Borrás Blasco J, Ramírez Herráiz E, Navarro Ruiz A. **Integration of persistence in the 5P-medicine approach for age-related chronic diseases.** Int. J. Qual. Health Care. 36(2), 2024. PMID:38581657. DOI:10.1093/int-qhc/mzae026. IF:2,70. INTERNATIONAL JOURNAL FOR QUALITY IN HEALTH CARE.

Bonito AC, Santacruz CC, Pellino G, Miguel TF, Marcos EB, Sánchez AR, Septiem JG, Martín Pérez E. **Results of a national survey about the management of patients with acute uncomplicated diverticulitis.** Cir. Espan. 102(4), 2024. PMID:38341091. DOI:10.1016/j.ciresp.2023.11.009. IF:1,30. CIRUGIA ESPAÑOLA.

Pérez C, Ochoa D, Sánchez N, Ballesteros AI, Santidrián S, López I, Mondéjar R, Carnaval T, Villoria J, Colomer R. **Pain in Long-Term Cancer Survivors: Prevalence and Impact in a Cohort Composed Mostly of Breast Cancer Survivors.** Cancers. 16(8), 2024. PMID:38672663. DOI:10.3390/cancers16081581. IF:4,50. CANCERS.

González ML, Rueda PC, Sánchez OD, Guerra MB, Antigüedad AR, Baladrón AM, Ríos NB, Rovira A, Lallana VM, Benedito Palos L, Comellas M, Vilanova D, Echeto A, Pérez X, Oreja Guevara C. **Defining a standard set of health outcomes for patients with relapsing-remitting multiple sclerosis.** Mult. Scler. Relat. Disord. 84, 2024. PMID:38401203. DOI:10.1016/j.msard.2024.105501. IF:2,90. MULTIPLE SCLEROSIS AND RELATED DISORDERS.

Araujo Castro M, Sanz IG. **Pitfalls in the preoperative and postoperative workup of patients with primary aldosteronism.** Gland Surg. 13(3), 2024. PMID:38601279. DOI:10.21037/gs-23-482. IF:1,50. GLAND SURGERY.

Martín Serrano P, Alday Muñoz E, Planas Roca A, Martín Pérez ME. **Use of thoracic fluid content for prediction of fluid balance and postoperative pulmonary complications after major abdominal surgery: An observational study.** Rev. Esp. Anestesiología y Reanimación. 71(3), 2024. PMID:38452925. DOI:10.1016/j.redar.2023.08.004. REVISTA ESPAÑOLA DE ANESTESIOLOGÍA Y REANIMACIÓN.

Somacarrera SC, Rodríguez CA, del Val LD, Zufiria LO, Carnero PR. **Women in Radiology: A perspective from Spain.** Radiología. 66(2), 2024. PMID:38614529. DOI:10.1016/j.rx.2023.04.003. RADIOLOGIA.

Díaz JLR, Caldero SG, Rodríguez JR, Villaverde VC, de

Antonio DG, Tejerina E, Moreno LS, González MM, Rodríguez MM, Nallib IA, Gil ER, Villegas IA, Crespo MG, Angel RG, Salinas CS, Almánzar SF, Quilis AC, Perramon RS, Pont GG, Crespo IR, Grasa PG, Fernández JLG, Hefferman JAJ, Navarro JC, Rodríguez MP, Porcel JM. **Impact of Pleural Lavage Cytology Positivity on Early Recurrence After Surgery for Non-Small Cell Lung Cancer.** Arch. Bronconeumol. 60(3), 2024. PMID:38238188. DOI:10.1016/j.arbres.2023.12.001. IF:8,70. ARCHIVOS DE BRONCONEUMOLOGÍA.

Araujo Castro M, Parra P, Rojas Marcos PM, Fano MP, Boillos M, Pascual Corrales E, Cano AMG, Ruiz Sánchez JG, Delgado AV, Hoyos EG, Ferreira R, Sanz IG, Sala MR, Millán RBS, César MJP, Guardiola PD, Perdomo CM, Manjón Miguélez L, Centeno RG, Román AR, Gimeno PG, Lázaro CR, Morales Ruiz M, Calatayud M, Collao SAF, Meneses D, Nuñez MS, Quesada VE, Ribas EM, Sánchez AS et al. **Differences in the clinical and hormonal presentation of patients with familial and sporadic primary aldosteronism.** Front. Endocrinol. 15, 2024. PMID:38495792. DOI:10.3389/fendo.2024.1336306. IF:3,90. FRONTIERS IN ENDOCRINOLOGY.

Méndez R, Figuerola A, Ramasco F, Chicot M, Pascual NF, García I, von Wernitz A, Zurita ND, Semiglia A, Pizarro A, Saez C, Rodríguez D. **Decrease in Mortality after the Implementation of a Hospital Model to Improve Performance in Sepsis Care: Princess Sepsis Code.** J. Pers. Med. 14(2), 2024. PMID:38392582. DOI:10.3390/jpm14020149. IF:3,00. JOURNAL OF PERSONALIZED MEDICINE.

Toquero P, Mondejar R, Romero Laorden N, Méndez E, Castillo L, Marín BH, Donnay O, Colomer R. **Is Older Age an Independent Prognostic Factor of Survival in Metastatic Colorectal Cancer?** ONCOLOGY-BASEL. 102(9), 2024. PMID:38232719. DOI:10.1159/000535187. IF:2,50. ONCOLOGY.

Ramírez PP, Rojas Marcos PM, Fano MP, Gonzalez Boillos M, Pascual Corrales E, Cano AMG, Ruiz Sánchez JG, Delgado AV, Hoyos EG, Ferreira R, Sanz IG, Sala MR, San Millán RB, César MJP, Guardiola PD, Perdomo CM, Manjón Miguélez L, Román AR, Lázaro CR, Morales Ruiz M, Calatayud M, Collao SAF, Meneses D, Sampedro Nuñez MA, Ribas EM, Sánchez AS, Díaz CG, Lamas C, Guerrero Vázquez R, Tous MD et al. **Renin as a Biomarker to Guide Medical Treatment in Primary Aldosteronism Patients. Findings from the SPAIN-ALDO Registry.** High Blood Press. Cardiovasc. Prevent. 31(1), 2024. PMID:38225508. DOI:10.1007/s40292-023-00618-w. HIGH BLOOD PRESSURE & CARDIOVASCULAR PREVENTION.

GROUP 53



Almudena Zapatero Laborda
Head of group



GROUP MEMBERS

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Talaya Alarcón, María Sol



RESEARCH INTEREST

This group is focused on four research lines:

1) Identification of clinical and Biological Markers as risk and predictive factors in Prostate Cancer.

- Cooperative projects with Fundación Centro Nacional de Investigaciones Oncológicas (CNIO) to determine the prognostic value of expression of molecular markers in patients with high-risk localized prostate cancer (Ref CaPr-HLP-RT-01/ PI 197) and metastatic cancer (PROCURE platform).
- We have just completed a project in collaboration with HU Santiago de Compostela and HU

12 de Octubre, Madrid, about the prognostic and predictive role of CTCs in high-risk non-metastatic prostate cancer (CaPr-RTCTC-01/ PI 197). Results presented in abstract form in IJROBP 2019. Manuscript in preparation.

- IRONMAN-ES: "Estudio prospectivo observacional de parámetros clínicos y biomarcadores en cáncer de próstata avanzado en hospitales de España"; in collaboration with CNIO (co-sponsor).
- Collection of biological markers within the EORTC research project platform 1822 E2-RADlatE-OligoCare: A pragmatic observational cohort study to evaluate radical radiotherapy for oligo-metastatic cancer patients.

2) Advances in Prostate Cancer Treatment:

- A phase III clinical trial to determine the optimum duration of androgen deprivation alongside high-dose radiotherapy in localized intermediate and high-risk PCa patients ("Phase III Trial comparing Long-Term Versus Short-Term Androgen Deprivation Combined With High-Dose Radiotherapy For Localized Prostate Cancer: GICOR Protocol DART01/05". EudraCT 2005-000417-36 ClinicalTrials.gov, number NCT02175212). 5-year data reported in Lancet Oncol 2015 and In J Radiat Oncol Biol Phys 2016. Substudy analysis of prognostic and predictive value of Testosterone nadir is ongoing.
- Collaboration with the ICECaP Working Group, a multidisciplinary team of academic cancer researchers from the Dana-Farber Cancer Institute-Harvard Medical School:
 - "Intermediate Clinical Endpoints In Cancer Of The Prostate (ICECaP) Initiative", a Meta-analysis. Published in JCO 2017.
 - "Event-Free Survival, a PSA-Based Composite Endpoint, is Not a Surrogate for Overall Survival in Localized Prostate Cancer". Sent to publication.
- Participation in 6 Randomized Phase III clinical trials in several treatment and disease scenarios: localized-high risk prostate cancer, prostate cancer without metastasis with biochemical failure after radical treatment, in M0 castration resistant prostate cancer and in metastatic prostate cancer (MDV3100-14, MDV3100-13, JNJ-56021927, TALAPRO-2 [C3441021] EORTC 1333 and EORTC 1531).

3) High Technology and Innovation:

- Over the last 10 years we have actively worked in Intensity Modulated Radiation Treatment - Image Guided Radiotherapy (IMRT-IGRT) versus three-dimensional conformal radiotherapy (3DCRT): comparative results on patients treated in a single institution, which demonstrate the significant reduction in acute and late genitourinary and rectal toxicity in patients with prostate cancer treated with IMRT-IGRT. The results have been presented in international meetings and reported in indexed journals.
- Implementation of the new technology VMAT (Volumetric Modulated Arc Therapy) and Stereotactic Body Radiation Therapy for the treatment of localized and oligometastatic PCa
 - Design and implementation of a Phase II clinical trial: Dose Intensification With a Focal Boost to Dominant Intraprostatic Lesion Using Volumetric Modulated Arc Therapy / Image Guided Radiotherapy in Patients With Localized Prostate Cancer, Protocol ID: CaP-VMAT-DIL. ClinicalTrials.gov Identifier: NCT03030625. Active recruitment.
 - Participation in a Phase II clinical trial: Tratamiento de las Oligometástasis de Cancer de Prostata Mediante SBRT- Código SBRT-SG 05. NCT02192788

STAGE: Recruitment completed.

- Participation in a Phase II clinical trial EC/2018/0130PEACE V/STORM: A randomized phase II trial for the Salvage Treatment of OligoRecurrent nodal prostate cancer Metastases (STORM).PROMOTOR: Ghent University. GICOR

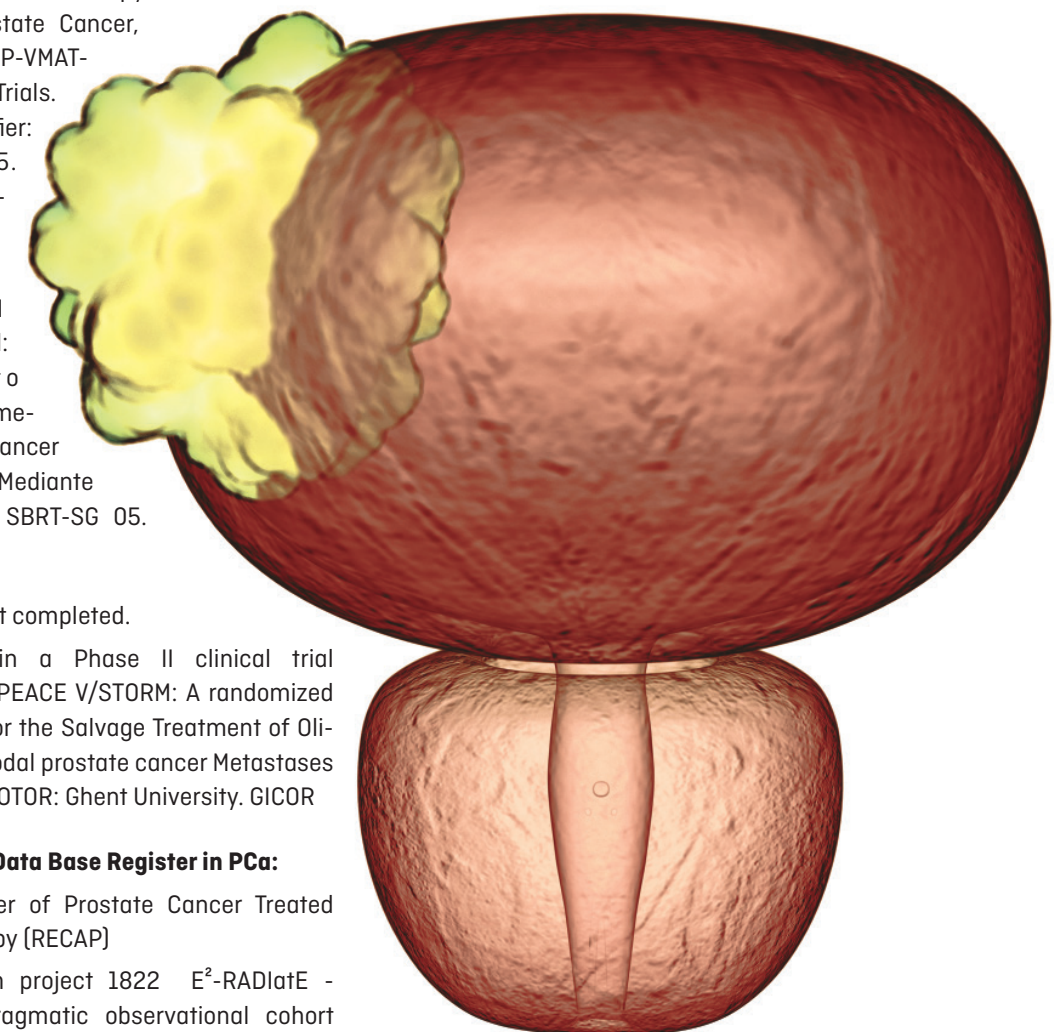
4) Multi-Institutional Data Base Register in PCa:

- National Register of Prostate Cancer Treated with Radiotherapy (RECAP)
- EORTC research project 1822 E²-RADlatE - OligoCare: A pragmatic observational cohort

study to evaluate radical radiotherapy for oligo-metastatic cancer patients. Activation phase

5) BLADDER CANCER- BLADDER SPARING PROGRAM

- Our team is one of the most active and successfully experienced groups in the conservative treatment of invasive bladder cancer. We continue to study the optimal sequence of treatment concerning tumor control, bladder preservation, quality of life and efficient delivery. The results have been presented in international meetings and reported in indexed journals.
- Collaboration- inclusion in clinical trial of Radio. Immunotherapy in this context. "Eficacia del atezolizumab con radioterapia concomitante en pacientes con cáncer de vejiga músculo-invasivo. "Code: SOGUG-2017-A-IEC(VEJ)-4EudraCT: 2018-004348-47





PUBLICATIONS

Rogado J, Pozo F, Troule K, Pacheco M, Adrados M, Sánchez Torres J, Al Shahrour F, Aspa J, Alfranca A, Romero Laorden N, Colomer R. **The role of the CXCL12/CXCR4 axis in the immunotherapy of non-small cell lung cancer.** Clin. Transl. Oncol. 2024. PMID:39708256. IF:2,80. DOI:10.1007/s12094-024-03828-3. CLINICAL & TRANSLATIONAL ONCOLOGY.

Manso, LS, Alfranca, A, Moreno Pérez, I, Ruiz Vico, M, Velasco, C, Toquero, P, Pacheco, M, Zapatero, A, Aldave, D, Celada, G, Albers, E, de la Maza, MDF, García, J, Castro, E, Olmos, D, Colomer, R, Romero Laorden, N. **Immuno-me profiling in prostate cancer: a guide for clinicians.** Front. Immunol.15. 2024. PMID: 39635522. IF: 5,70. DOI: 10.3389/fimmu.2024.1398109.

Borque Fernando A, Zapatero A, Manneh R, Alonso Gordoa T, Couñago F, Domínguez Esteban M, López Valcárcel M, Rodríguez Antolín A, Sala González N, Sanmamed N, Maroto P, Guard Invest Multidisciplinar Tumores Genitourinarios Grp. **Recommendations on the Treatment of Metastatic Hormone-Sensitive Prostate Cancer: Patient Selection.** Actas Urol. Esp. 48.

[9]. 2024. PMID:38740263. IF:1,20. DOI:10.1016/j.acuro.2024.03.002. Actas Urologicas Espanolas.

Conde Moreno AJ, López Campos F, Hervás A, Morillo V, Méndez A, Puertas MDM, Valero Albarrán J, Iturriaga AG, Rico M, Vázquez ML, Ots PMS, Perez Romasanta LA, Pastor J, Ibáñez C, Ferrer F, Zapatero A, García Blanco AS, Rodríguez A, Ferrer C. **A Phase II Trial of Stereotactic Body Radiation Therapy and Androgen Deprivation for Oligometastases in Prostate Cancer (SBRT-SG 05).** Pract. Radiat. Oncol. 14. [5]. 2024. PMID:38944806. IF:3,40. DOI:10.1016/j.prro.2024.04.022. Practical Radiation Oncology.

Kwak L, Ravi P, Armstrong JG, Beckendorf V, Chin JL, D'Amico AV, Dearnaley DP, Di Stasi SM, Gillissen S, Lukka H, Mottet N, Pommier P, Seiferheld W, Sydes MR, Tombal B, Zapatero A, Regan MM, Xie WL, Sweeney CJ. **Prognostic Impact of Prostate-Specific Antigen at 6 Months After Radiotherapy in Localized Prostate Cancer: An Individual Patient Data Analysis of Randomized Trials.** J. Clin. Oncol. 42. [18]. 2024. PMID:38471051. IF:42,10. DOI:10.1200/JCO.23.00762. JOURNAL OF CLINICAL ONCOLOGY.

Associated group 3

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RESEARCH INTEREST

1. Prosthetic joint infection
2. Long-term results in total hip arthroplasty
3. Hip fracture



PUBLICATIONS

Casajús A, Zubiaur P, Alday E, Soria Chacartegui P, Saiz Rodríguez M, Gutierrez L, Aragones C, Campodónico D, Gómez Fernández A, Navares Gómez M, Villapalos García G, Mejía Abril G, Ochoa D, Abad Santos F. **Impact of CYP2D6 and CYP2B6 phenotypes on the response to tramadol in patients with acute post-surgical pain.** CTS-Clin. Transl. Sci. 17. [1]. 2024. PMID:38140786. IF:3,10. DOI:10.1111/cts.13698. CTS-CLINICAL AND TRANSLATIONAL SCIENCE.

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