



ANNUAL SCIENTIFIC REPORT 2022

IDIBGI R Institut
d'Investigació
Biomèdica
de Girona
Dr. Josep Trueta



Published by: **IDIBGI**

Designer: **JUDITH VILADOMAT PUIGGROS/JOAN BAIXERAS MARÍN**

Printing: **PALAHÍ**

Cover figure: **Magnetic Resonance Image showing fiber connectivity between resting brain networks** (Carles Biarnés, Medical Imaging Research Group).

With the collaboration of:



Contents

ABOUT US

Director's Foreword	4
Organization	5
Board of Trustees	6
Executive Board	7
Scientific Advisory Board	8
Internal Scientific Committee	8
Research areas and groups	9
Staff	10

SCIENTIFIC OUTPUTS

Scientific publications	14
Knowledge transfer and innovation	22
Funding	25
Projects	27
Networks	30
Core facilities	32
Quality Seals	37

OUTREACH ACTIVITIES

Conferences, courses and seminars	39
Communication and public engagement	41
IDIBGI Friends	43

RESEARCH AREAS AND GROUPS

Cardiovascular and Respiratory	46
Medical Imaging	62
Mental Health	69
Metabolism and Inflammation	76
Neuroscience	105
Oncology and Haematology	115

Director's Foreword

In 2022, the Girona Biomedical Research Institute continued with its mission of promoting biomedical research and creating a suitable environment to transfer the results into clinical practice and the productive sector.

Once the COVID-19 was practically left behind, it was time to finish the actions of the current strategic plan, but above all, it was the time to look ahead and ask the whole IDIBGI community to think about the future challenges for the Institution and draw up the new strategic plan for the next five years. This new stage will go hand in hand with the substantial expansion of spaces thanks to the remodelling of 500 m² of new offices in Sant Ponç (Girona) to accommodate the clinical research management units, the Ethics Research Committee (CElm) and some research groups that need to be close to the Dr. Josep Trueta University Hospital. The other major space growth has begun in the Martí i Julià Health Park with the construction of a new wing attached to the M2 building, which should allow the growth of research and management spaces. These works were mostly carried out during the last six months of the year. For these projects, we had the funding contribution of the Government of Catalonia (Projecte Singulars), the Girona Provincial Council and a contribution from the Salt and Girona City Councils.

At the management level, participation in new competitive calls was enhanced, both in this country and internationally, having achieved significant results with a remarkable impact on the institution's budget. A cell sorter was funded by the Instituto de Salud Carlos III which will be purchased and installed during 2023. In terms of budgeting, it is also worth noting the €253.000 increase in the Government of Catalonia's annual contribution. Scientific publications achieved very remarkable quality indicators: there were fewer published but these were in more impactful journals. On the other hand, all scientific strategy actions continued to be oriented towards the objective of obtaining accreditation as an ISCIII Health Research Institute. Scientific and organizational policies continued to be defined, such as the spaces, patronage and operation policies of the UREC (clinical research unit). The IPR policies and support for the creation of spin-off companies were updated, and the equality plan was renewed. This year was also remarkable in that some research support units, as well as some research groups, were able to benefit from SEPE and AGAUR's INVESTIGO calls, which allowed the hiring of 14 new people for the next two years. Three emeritus researchers were also appointed and one of them was appointed IDIBGI Ombudsman. Finally, in accordance to the new Spanish employment law, 25 positions were announced for the stabilisation of temporary employment, both in the scientific and management departments.

One of the most remarkable events of 2022 was the launch of the Clinical Research Unit (UREC) which supports the clinical research of the Catalan Health Institute (ICS) and Health Assistance Institute (IAS) staff in order to boost their clinical research activity.

This year [2022] there has been very intensive work on the three clinical trials of the vaccine that the HIPRA company is developing against SarsCov2, as well as on the European RBDCOV project that the company is leading. The collaboration with HIPRA enabled us to establish a very good relationship with the company, which we aim to consolidate in the coming years, among others, through the strategic collaboration established to apply for NextGeneration funds.

In April, IDIBGI organised the first research day for residents, which was held in the Girona auditorium, with the collaboration of the education coordinators from Hospital Trueta, Hospital Santa Caterina and Primary care. This initiative aims to promote research among younger care professionals. 160 residents of the ICS, the IAS and Primary Care, attended. The internal seminars programme also started; these are held monthly with a large participation of the research community.

During 2022, two new research groups were created in the field of oncology, one of them led by a female researcher. With these new groups, IDIBGI currently has 22 research groups, of which 3 are led by female researchers. The Girona Talent Programme funded by DipSalut continued with two new fellows joining.

Another noteworthy event in 2022 was the resumption of all face-to-face outreach activities, including school visits, participation in outreach events for citizens, and the resumption of the third edition of the charity dinner for research, "Sopar dels Miralls", where more than 200 people attended. In addition, to help the public to read the IDIBGI acronym correctly, the institutional logo was redesigned.

All the results and actions included in this scientific report have a direct impact on the improvement of the health of our society, through the improvement of the diagnosis of the diseases we study, their treatments and their prevention. Probably this year [2022], the contribution with the greatest impact was the participation in the development of the new HIPRA vaccine which, logically, will have an immediate impact and, potentially, on the whole world population. IDIBGI's activity also contributes to creating direct and indirect jobs in the Girona area in scientific fields as well as in management.

From all perspectives, scientific and managerial, 2022 was a year of growth and continuous improvement that must continue to increase IDIBGI's profile nationally and internationally. In addition, the IDIBGI is actively participating in the decision-making bodies to build the new health campus in Girona.

Overall, then, 2022 was a very good year for IDIBGI. Congratulations and thanks to everybody!

Marga Nadal
IDIBGI Director

Organization

Marga Nadal, PhD
Director of IDIBGI

Anna Ribas
Managing Director

Montserrat Ferrer
Executive Assistant and Research Support
secretaria.direccio@idibgi.org
T. +34 872 987 087

RESEARCH SUPPORT STAFF

Clinical Ethics Committee (CEIM)	Projects	Communication
Marta Riera	Maria Gifre	Judith Viladomat
Doris Olaya	Mercè Manyós	
Statistical and data management	Imma Prats	Fundraising
Maria Buxó	Esther Aguilar	Ferran Pedró
Joan Martínez	Anna Revilla	
Biobank	Albert Verdaguer	Human Resources
Lluís Gallart		Sílvia Vilar
Clinical Research Units	Legal	Lídia Fauchs
Begoña Martín (UIC-ICO)	Nadina del Moral	Verònica Valle
Cristina Martínez (UREC)	Míriam Benítez	
Laboratories and operations	Ombudsperson	Occupational Health and Safety
Ester Quintana	Wifredo Ricart Engel	Israel Umbert
Innovation, Knowledge and Technology Transfer	Administration and Finance	IT
Albert Antolin	Mireia Flo	Xavier Vilanova
Queralt Farreras	Marta Mozo	Hicham Bouznakari
	Josep Pailolí	
	Júlia Gil	Conciergerie
	Ekram El Fachtali	Javier Pérez
		Núria Juanola

Board of trustees

EX OFICIO MEMBERS

PRESIDENT

Manel Balcells Díaz

Conseller de Salut, Generalitat de Catalunya.

1ST VICE-PRESIDENT

Joaquim Nadal Farreras

Conseller de Recerca i Universitats, Generalitat de Catalunya.

2ND VICE-PRESIDENT

Joaquim Salvi Mas

Rector, Universitat de Girona (UdG).

MEMBER

Joan Gómez Pallarès

Director General de Recerca, Departament de Recerca i Universitats, Generalitat de Catalunya.

DESIGNATED MEMBERS

For the Catalan Department of Health

Aina Plaza Tesias

Directora General de Planificació en Salut, Departament de Salut, Generalitat de Catalunya.

Miquel Carreras Massanet

Gerent de la Regió Sanitària Girona del Servei Català de la Salut, Departament de Salut, Generalitat de Catalunya.

Montserrat Llavayol Giralt

Subdirectora General de Recerca i Innovació en Salut, Departament de Salut, Generalitat de Catalunya.

For the Catalan Department of Research and Universities

Ioanna Font de Rubinat

Subdirectora General de Recerca, Departament de Recerca i Universitats, Generalitat de Catalunya.

Lluís Rovira Pato

Director de la Institució CERCA, Generalitat de Catalunya.

Xavier Aldeguer Manté

Director General de Societat del Coneixement, Transferència i Territori, Departament de Recerca i Universitats, Generalitat de Catalunya.

For the University of Girona Rectorate

Josep Maria Gómez Pallarès

Gerent, Universitat de Girona.

Josep Calbó Angrill

Vicerector de Projectes Estratègics, Universitat de Girona.

Maria Pla de Solà Morales

Vicerrectora de Recerca i Transferència del Coneixement, Universitat de Girona.

For the Catalan Health Institutions

Joaquim Casanova Lax

Gerent Territorial de l'Institut Català de la Salut Girona.

Glòria Padura Esnarriga

Directora de l'Hospital Universitari Dr. Josep Trueta.

Joan Profitós Tuset

President del Consell d'Administració de l'Institut d'Assistència Sanitària (IAS) Girona.

Margarita Garcia Martín

Adjunta a la Direcció General per a la gestió del coneixement, medicament, prevenció i recerca, Institut Català d'Oncologia (ICO).

SECRETARY

Mª Jesús Jiménez Hernández

Cap de l'àrea Jurídico Administrativa de la Direcció General de Recerca i Innovació en Salut.

Executive board

PRESIDENT

Aina Plaza Tesias

Directora general de Planificació en Salut, Departament de Salut, Generalitat de Catalunya.

MEMBERS

***For the Catalan Department
of Research and Universities*****Joan Gómez Pallarès**

Director general de Recerca, Departament de Recerca i Universitats, Generalitat de Catalunya.

Lluís Rovira Pato

Director de la Institució CERCA, Generalitat de Catalunya.

***For the University of Girona
Rectorate*****Josep Maria Gómez Pallarés**

Gerent, Universitat de Girona.

Josep Calbó Angrill

Vicerector de Projectes Estratègics, Universitat de Girona.

***For the Catalan Health
Institutions*****Joan Profitós Tuset**

President del Consell d'Administració de l'Institut d'Assistència Sanitària (IAS) Girona.

Joaquim Casanovas Lax

Gerent Territorial de l'Institut Català de la Salut Girona.

SECRETARY

Mª Jesús Jiménez Hernández

Cap de l'àrea Jurídico Administrativa de la Direcció General de Recerca i Innovació en Salut.

Scientific advisory board

CHAIR

Carlos Kase

Department of Neurology, Emory University School of Medicine,
Atlanta - USA

MEMBERS

Silva Arslanian

Pediatric Clinical & Translational Research Center Children's
Hospital of Pittsburgh, Pittsburgh - USA

Angelo Barbato

IRCCS- Istituto di Ricerche Farmacologiche Mario Negri,
Milano - Italy

Angel Carracedo

Genomic Medicine, University of Santiago de Compostela, Spain

Luis Martí-Bonmatí

Radiology department of the Hospital Quirón, Valencia, Spain

Walter A Rocca

Epidemiology and Neurology Department, Health Sciences,
Research Department, Neurology Mayo Clinic, Rochester,
Minnesota - USA

Marisol Soengas

Molecular Pathology Programme, Spanish National Cancer
Research Centre, Madrid - Spain

Internal scientific committee

CHAIR

Marga Nadal

IDIBGI Director

MEMBERS

Albert Antolín

Innovation

Judit Bassols

Metabolic and maternal-fetal

Ramon Brugada

Cardiovascular genetics

Jordi Cid

Mental health and addictions

Susanna Esteba

Neurodevelopmental disorders

José Manuel Fernández-Real

Nutrition, eumetabolism and health

David Gallardo

Haematology

Josep Garre

Aging, disability and health

Marina González

Nursery

Dolors Juvinyà

Health and healthcare

Rafel Marcos-Gragera

Descriptive epidemiology, genetics and cancer prevention

Begoña Martín

Clinical Research Unit

Javier Menéndez

Metabolism and cancer

Albert Miguela

Predoctoral researcher

Marta Mozo

Quality Compliance

Josep Puig

Medical Imaging

Lluís Ramió

Neurodegeneration and neuroinflammation

Rafel Ramos

Research in vascular health

Olga Tura

Respiratory

Montserrat Vendrell

Respiratory

Sílvia Vilar

Human Resources

SECRETARY

Anna Ribas

IDIBGI Manager (acting secretary)

Research areas and groups

IDIBGI is composed of 22 research groups organized in 6 different areas.

AREA 1

CARDIOVASCULAR AND RESPIRATORY

Cardiovascular genetics
Research in vascular health
Respiratory

AREA 2

MEDICAL IMAGING

Medical imaging

AREA 3

MENTAL HEALTH

Mental health and addictions
Neurodevelopmental disorders

AREA 4

METABOLISM AND INFLAMMATION

Digestive diseases and microbiota
Infections, sepsis and multiorgan dysfunction of the critically ill patient
Internal medicine
Metabolic and maternal-fetal
Nephrology
Nutrition, eumetabolism and health
Obesity and cardiovascular risk in children

AREA 5

NEUROSCIENCE

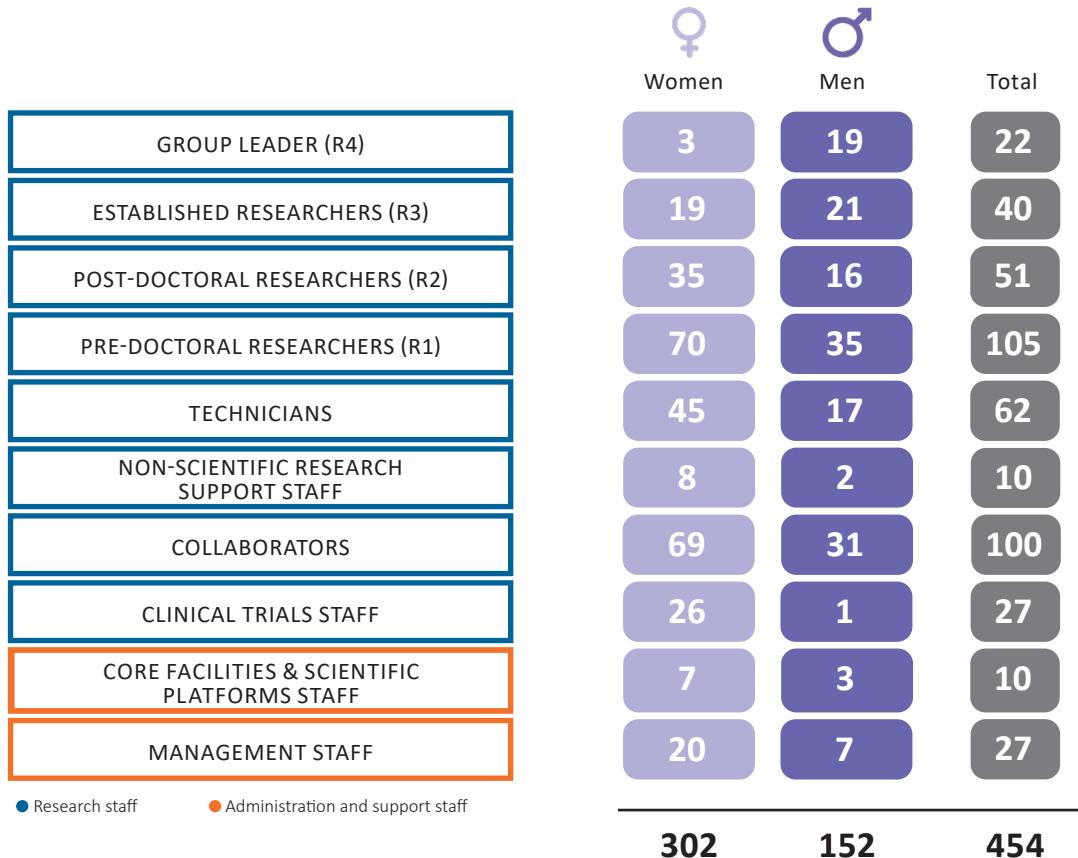
Cerebrovascular pathology
Neurodegeneration and neuroinflammation

AREA 6

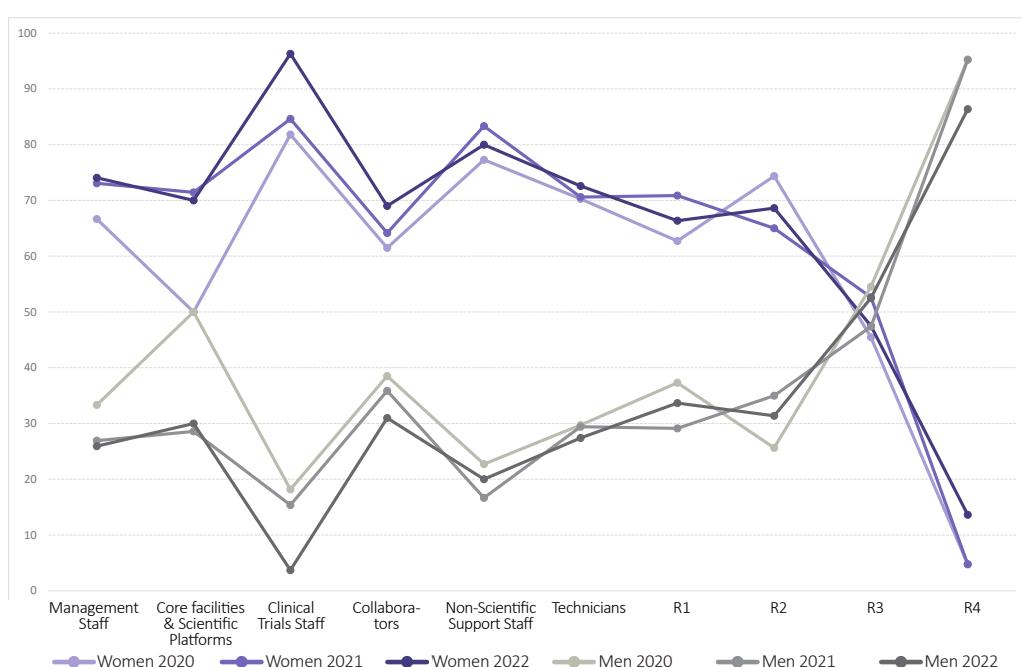
ONCO-HAEMATOLOGY

Chromosomal replication
Descriptive epidemiology, genetics and cancer prevention
General and digestive surgery
Haematology
Metabolism and cancer
Precision Oncology
Radiation Oncology and Medical Physics

Staff



DISTRIBUTION BY GENDER



RESEARCH STAFF FUNDED (IN FULL OR IN PART) THROUGH COMPETITIVE CALLS AND RESEARCH NETWORKS

POST-DOCTORAL RESEARCHERS (R4, R3, R2)	TOTAL
Contratos Miguel Servet - Instituto de Salud Carlos III	6
Contratos Sara Borrell - Instituto de Salud Carlos III	2
Redes de Investigación Cooperativa Orientadas a Resultados en Salud (RICORS) - Instituto de Salud Carlos III	1
Centro de Investigacion Biomédica en Red (CIBER) - Instituto de Salud Carlos III	3
Health Research - Fundació La Caixa	2
Ayudas para contratos Ramón y Cajal - Ministerio de Ciencia e Innovación	1
Programa Investigo de contratación de personas jóvenes demandantes de empleo en la realización de iniciativas de investigación e innovación (INVESTIGO) - AGAUR	1
Programa INTERREG V-A España-Francia-Andorra (POCTEFA) 2014-2020	1
European Centre for Disease Prevention and Control (ECDC HERA)	1
PRE-DOCTORAL RESEARCHERS (R1)	TOTAL
Ajuts per a la contractació de personal investigador predoctoral i en formació (FI) - AGAUR	2
Contratos Predoctoral de Formación en Investigación (PFIS) - Instituto de Salud Carlos III	6
Ayuda adicional contratos Miguel Servet - Instituto de Salud Carlos III	1
Programa d'impuls del talent i de l'ocupabilitat: Acció instrumental de formació de científics i tecnòlegs. Modalitat de Personal Investigador en Formació-PIF-Salut - PERIS	2
Redes de Investigación Cooperativa Orientadas a Resultados en Salud (RICORS) - Instituto de Salud Carlos III	1
Contratos Río Hortega - Instituto de Salud Carlos III	1
Marie Skłodowska-Curie Innovative Training Networks (ITN)	2
Health Research - Fundació La Caixa	2
Convocàtoria de la Fundació La Marató de TV3 per l'adjudicació d'ajudes econòmiques a projectes de recerca - Fundació La Marató	2
Horizon 2020	1

Active competitive calls in 2022.

TECHNICIANS	TOTAL
Horizon 2020	2
Innovative Medicines Initiative - Horizon 2020	2
Horizon Europe	8
Programa INTERREG V-A España-Francia-Andorra (POCTEFA) 2014-2020	2
EIT HEALTH - European Institute of Innovation and Technology	1
Programa d'impuls del talent i de l'ocupabilitat: Acció instrumental de formació de científics i tecnòlegs. Modalitat de personal de suport als grups de recerca - PERIS	1
Proyectos de investigación en salud. Modalidad proyectos de investigación en salud - Instituto de Salud Carlos III	3
Health Research - Fundació La Caixa	5
Convocatòria de la Fundació La Marató de TV3 per l'adjudicació d'ajudes econòmiques a projectes de recerca - Fundació La Marató	2
Programa operatiu de Catalunya 2014-2020 Convocatòria projectes d'especialització i competitivitat territorial (PECT) - Generalitat de Catalunya	3
Programa Investigo de contratación de personas jóvenes demandantes de empleo en la realización de iniciativas de investigación e innovación (INVESTIGO) - Servicio Público de Empleo Estatal	5
Programa Investigo de contratación de personas jóvenes demandantes de empleo en la realización de iniciativas de investigación e innovación (INVESTIGO) - AGAUR	4
Centro de Investigación Biomédica en Red (CIBER) - Instituto de Salud Carlos III	2
CORE FACILITIES & SCIENTIFIC PLATFORMS STAFF	TOTAL
Plataforma ISCIII: Biobancos y Biomodelos - Instituto de Salud Carlos III	2
Contractació en pràctiques de joves beneficiaris del programa de Garantia Juvenil a Catalunya - Servei Ocupació Catalunya	3
Programa Investigo de contratación de personas jóvenes demandantes de empleo en la realización de iniciativas de investigación e innovación (INVESTIGO) - Servicio Público de Empleo Estatal	1
MANAGEMENT STAFF	TOTAL
Programa Investigo de contratación de personas jóvenes demandantes de empleo en la realización de iniciativas de investigación e innovación (INVESTIGO) - AGAUR	1
Contractació en pràctiques de joves beneficiaris del programa de Garantia Juvenil a Catalunya - Servei Ocupació Catalunya	1
TOTAL	94

SCIENTIFIC OUTPUTS

Scientific publications

325
ORIGINAL
ARTICLES

23
REVIEWS

3
EDITORIALS

1
CLINICAL
GUIDELINES

6
CASE
REPORTS

10
LETTERS

TOTAL 368

Number: Total number of documents published in scholarly journals indexed in the Web of Science.

INDICATORS OF ORIGINAL ARTICLES

NUMBER	TOTAL IF	MEAN IF	%Q1	%D1
TOTAL	325	3428.14	10.5	60%

Original articles: Total number of documents published in scholarly journals indexed in the Web of Science.

Total IF: Accumulated impact factor (2020 Journal Citation Reports) of original publications.

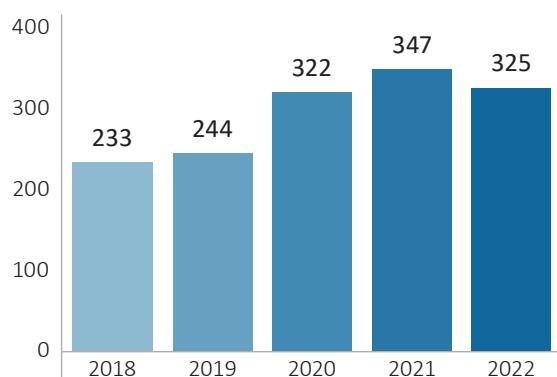
Mean IF: Mean impact factor (2020 Journal Citation Reports) of original publications.

%Q1: % of publications published in journals ranked in the first quartile (top 25%) of their category as ordered by the 2020 Journal Citation Reports.

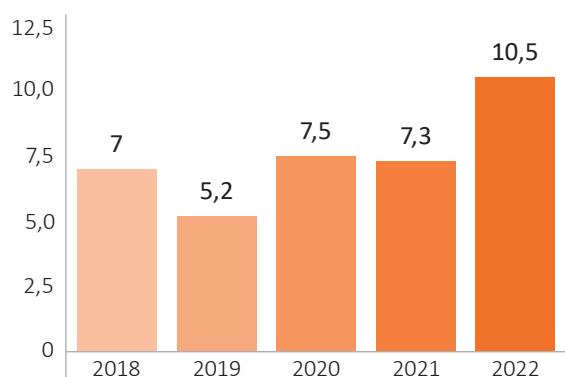
%D1: % of publications published in journals ranked in the first decile (top 10%) of their category as ordered by the 2020 Journal Citation Reports.

EVOLUTION OF NUMBER, MEAN IF, %Q1 AND %D1 OF ORIGINAL ARTICLES

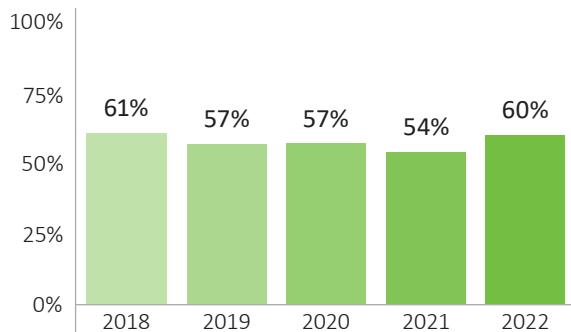
Number of original articles:



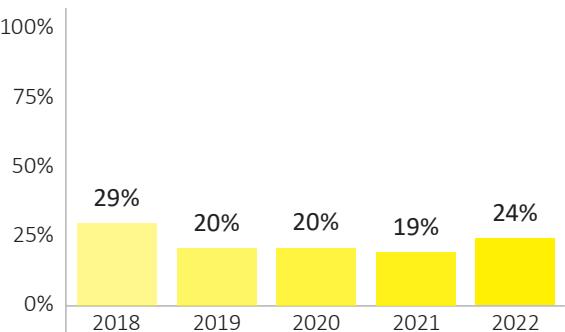
Mean IF:



%Q1:

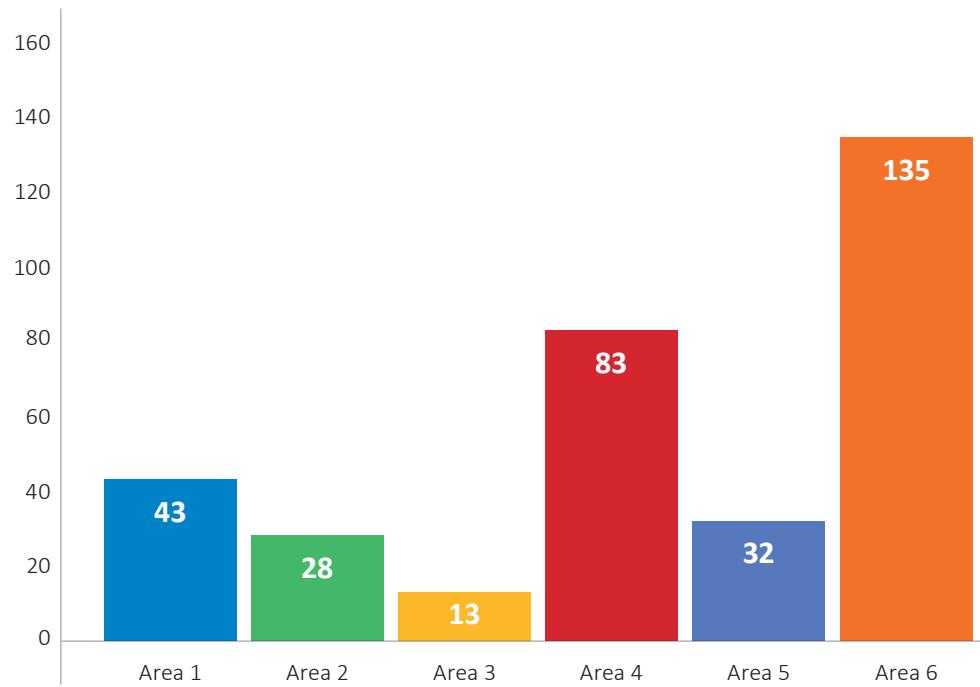


%D1:



NUMBER OF ORIGINAL ARTICLES PER AREA

AREA 1	Cardiovascular and Respiratory
AREA 2	Medical Imaging
AREA 3	Mental Health
AREA 4	Metabolism and Inflammation
AREA 5	Neuroscience
AREA 6	Onco-haematology



Publications resulting from collaboration between teams from different areas have been counted once for each area, so the sum of the articles per area is higher than the total.

ORIGINAL ARTICLES IN THE HIGHEST IMPACT FACTOR JOURNALS (IF>10)

71

JOURNAL	IF	TOTAL ORIGINAL ARTICLES
Lancet	202,73	2
JAMA-Journal of the American Medical Association	157,34	2
Nature Medicine	87,24	1
Lancet Oncology	54,43	3
Journal of Clinical Oncology	50,72	1
Lancet Gastroenterology & Hepatology	45,04	2
Lancet Diabetes & Endocrinology	44,87	1
Nature Genetics	41,31	1
Circulation	39,92	1
Lancet Global Health	38,93	1
Lancet Child & Adolescent Health	37,75	1
JAMA Oncology	33,01	1
Cell Metabolism	31,37	1
Cell Host & Microbiome	31,32	1
Journal of the American College of Cardiology	27,20	1
Eurosurveillance	21,29	1
Nature Metabolism	19,87	1
Journal of Clinical Investigation	19,46	1
Critical Care	19,33	2
British Journal of Sports Medicine	18,47	1
Nature Communications	17,69	2
Advanced Science	17,52	1
Microbiome	16,84	1
Arthritis & Rheumatology	15,48	1
Brain	15,26	1
JMIR Public Health and Surveillance	14,56	1

JOURNAL	IF	TOTAL ORIGINAL ARTICLES
Metabolism - Clinical and Experimental	13,93	1
Annals of surgery	13,79	1
Clinical Gastroenterology and Hepatology	13,58	1
International Journal of Surgery	13,40	5
Environment International	13,35	2
Journal of Sport and Health Science	13,08	1
Anaesthesia	12,89	1
Journal for ImmunoTherapy of Cancer	12,47	1
JNCI-Journal of the National Cancer Institute	11,82	1
Neurology	11,80	1
Neurology-Neuroimmunology & Neuroinflammation	11,36	1
Annals of Neurology	11,27	2
Psychiatry Research	11,23	1
ISME Journal	11,22	1
EBioMedicine	11,21	1
European Heart Journal-Cardiovascular Pharmacotherapy	11,18	1
British Journal of Dermatology	11,11	1
Biofabrication	11,06	1
Clinical Nuclear Medicine	10,78	1
Circulation-Heart Failure	10,45	1
Molecular Therapy-Nucleic Acids	10,18	2
Translational Research	10,17	1
Stroke	10,17	5
Journal of Crohns & Colitis	10,02	1
European Journal of Cancer	10,00	3
TOTAL		71

11

Number of original articles in
IF>10 journals with IDIBGI main
contribution

AUTHORS	TITLE	REFERENCE	IF	Q/D
Mayneris Perxachs, Jordi, Castells Nobau, Anna, Arnoriaga Rodriguez, Maria, Martin, Miquel , De La Vega-Correa, Lisset , Zapata, Cristina , Burokas, Aurelijus , Blasco Solà, Gerard, Coll Martinez, Clàudia, Escrichs, Anira , Biarnes Duran, Carles, Moreno Navarrete, Jose Maria, Puig Alcántara, Josep, Garre Olmo, Josep, Ramos Blanes, Rafel, Pedraza Gutiérrez, Salvador, Brugada Terradellas, Ramon, Vilanova Busquets, Joan Carles, Serena Leal, Joaquín, Gich Fullà, Jordi, Ramió Torrentà, Lluís, Pérez-Brocal, Vicente , Moya, Andrés , Pamplona, Reinald , Sol, Joaquim , Jové, Mariona , Ricart Engel, Wifredo, Portero-Otin, Manuel , Deco, Gustavo , Maldonado, Rafael , Fernández-Real Lemos, José Manuel	Microbiota alterations in proline metabolism impact depression	Cell Metab. 2022. 34. (5):p. 681-681	31,373	Q1/D1
Mayneris Perxachs, Jordi, Castells Nobau, Anna, Arnoriaga Rodriguez, Maria, Garre Olmo, Josep, Puig Alcántara, Josep, Ramos Blanes, Rafel, Martínez-Hernández, Francisco , Burokas, Aurelijus , Coll Martinez, Clàudia, Moreno Navarrete, Jose Maria, Zapata Tona, Cristina, Pedraza Gutiérrez, Salvador, Pérez-Brocal, Vicente , Ramió Torrentà, Lluís, Ricart Engel, Wifredo, Moya, Andrés , Martínez-García, Manuel , Maldonado, Rafael , Fernández-Real Lemos, José Manuel	Caudovirales bacteriophages are associated with improved executive function and memory in flies, mice, and humans	Cell Host Microbe. 2022. 30. (3):p. 340-340	31,316	Q1/D1
García-Blanco, Alejandra , Domingo-Rodriguez, Laura, Cabana-Domínguez, Judit , Fernández-Castillo, Noèlia, Pineda-Cirera, Laura , Mayneris Perxachs, Jordi, Burokas, Aurelijus , Espinosa-Carrasco, Jose , Arboleya, Silvia , Latorre Luque, Jessica, Stanton, Catherine , Cormand, Bru , Fernández-Real Lemos, José Manuel, Martín-García, Elena , Maldonado, Rafael	miRNA signatures associated with vulnerability to food addiction in mice and humans	J Clin Invest. 2022. 132. (10):e156281	19,456	Q1/D1
Lorencio Cardenas, Carolina, Yébenes, Juan Carlos, Vela, Emili , Clèries, Montserrat , Sirvent Calvera, Josep Maria, Fuster-Bertolín, Cristina , Reina, Clara , Rodríguez, Alejandro , Ruiz-Rodríguez, Juan Carlos , Trenado, Josep , Esteban Torné, Elisabeth	Trends in mortality in septic patients according to the different organ failure during 15 years	Crit. Care. 2022. 26. (1):p. 302-302	19,334	Q1/D2

AUTHORS	TITLE	REFERENCE	IF	Q/D1
Alves Cabratosa, Lia, Comas Cufí, Marc, Blanch Font, Jordi, Martí Lluch, Ruth, Ponjoan Thäns, Anna, Castro Guardiola, Antoni, Hurtado Ganoza, Abelardo, Perez Jaen, Ana, Rexach Fumaña, Maria, Faixedas Brunsoms, Delfi, Gispert Ametller, Maria Angels, Guell Cargol, Anna, Rodriguez Batista, Maria, Santaularia Font, Ferran, Orriols Martinez, Ramon, Bonnin Vilaplana, Marc, Calderon Lopez, Juan Carlos, Sabater Talaverano, Gladis, Queralt Moles, Francesc Xavier, Rodriguez Requejo, Sara, Avellana Revuelta, Esteve, Balló Peña, Elisabet, Fages Masmiquel, Ester, Sirvent Calvera, Josep Maria, Lorencio Cardenas, Carolina, Morales Pedrosa, Josep Miquel, Ortiz Ballujera, Patricia, Ramos Blanes, Rafel	Individuals With SARS-CoV-2 Infection During the First and Second Waves in Catalonia, Spain: Retrospective Observational Study Using Daily Updated Data	JMIR Public Health Surveill. 2022. 8. (1):e30006	14,557	Q1/D1
Planellas Gine, Pere, Marinello, Franco, Elorza, G, Golda, T , Farres Coll, Ramon, Espín-Basany, E, Enríquez-Navascués, J M , Kreisler, E , Cornejo Fernández, Lidia, Codina Cazador, Antoni	Extended Versus Standard Complete Mesocolon Excision in Sigmoid Colon Cancer A Multicenter Randomized Controlled Trial	Ann Surg. 2022. 275. (2):p. 271-280	13,787	Q1/D1
Mayneris Perxachs, Jordi, Arnoriaga Rodriguez, Maria, Garre Olmo, Josep, Puig Alcántara, Josep, Ramos Blanes, Rafel, Treliš, Maria , Burokas, Aurelijus , Coll Martinez, Clàudia, Zapata Tona, Cristina, Pedraza Gutiérrez, Salvador, Pérez-Brocá, Vicente , Ramió Torrentà, Lluís, Ricart Engel, Wifredo, Moya, Andrés, Jové, Mariona , Sol, Joaquim , Portero-Otin, Manuel, Pamplona, Reinald , Maldonado, Rafael , Fernández-Real Lemos, José Manuel	Presence of Blastocystis in gut microbiota is associated with cognitive traits and decreased executive function	ISME J. 2022. 16. (9):p. 2181-2197	11,217	Q1/D1
Latorre Luque, Jessica, Mayneris Perxachs, Jordi, Oliveras Cañellas, Núria, Ortega Delgado, Francisco José, Comas Vila, Ferran, Fernández-Real Lemos, José Manuel, Moreno Navarrete, Jose Maria	Cysteine dioxygenase type 1: A new player in adipose physiology and metabolic health	EBioMedicine. 2022. 86. p. 104302-104302	11,205	Q1/D2
Latorre Luque, Jessica, Ortega Delgado, Francisco José, Oliveras Cañellas, Núria, Comas Vila, Ferran, Lluch Balaña, Aina, Gavaldà-Navarro, Aleix , Morón-Ros, Samantha , Ricart Engel, Wifredo, Villarroya, Francesc , Giralt, Marta , Fernández-Real Lemos, José Manuel, Moreno Navarrete, Jose Maria	Specific adipose tissue Lbp gene knockdown prevents diet-induced body weight gain, impacting fat accretion-related gene and protein expression	Mol. Ther.-Nucl. Acids. 2022. 27. p. 870-879	10,183	Q1/D2
Latorre Luque, Jessica, Díaz-Trelles, Ramon , Comas Vila, Ferran, Gavaldà-Navarro, Aleix , Milbank, Edward , Dragano, Nathalia , Morón-Ros, Samantha, Mukthavaram, Rajesh , Ortega Delgado, Francisco José, Castells Nobau, Anna, Oliveras Cañellas, Núria, Ricart Engel, Wifredo, Karmali, Priya P , Tachikawa, Kiyoshi , Chivukula, Pad , Villarroya, Francesc , López, Miguel , Giralt, Marta , Fernández-Real Lemos, José Manuel, Moreno Navarrete, Jose Maria	Downregulation of hepatic lipopolysaccharide binding protein improves lipogenesis-induced liver lipid accumulation	Mol. Ther.-Nucl. Acids. 2022. 29. p. 599-613	10,183	Q1/D2
Poyatos Dorado, Paula, Luque Sanchez, Neus, Eizaguirre Anton, Saioa, Sabater Talaverano, Gladis, Sebastian Victoria, Laura, Francisco Albesa, Iria, Peracaula Domínguez, Míriam, Boixadé Difà, Mireia, Orriols Martinez, Ramon, Tura Ceide, Olga	Post-COVID-19 patients show an increased endothelial progenitor cell production	Transl. Res. 2022. 243. p. 14-20	10,171	Q1/D1

Articles ordered from highest to lowest impact factor.

DOCTORAL THESES

10

DOCTORAL THESES DEFENDED IN 2022

1



THESIS WITH INTERNATIONAL MENTION

THESIS AUTHOR	TITLE	DIRECTORS
María Arnoriaga Rodríguez	Cognitive function in obesity: interactions with the gut microbiome	Dr. José Manuel Fernández-Real Lemos Dr. Rémy Burcelin Dr. Wifredo Ricart
Alícia Carrera Boix	Valoració dels canvis que pateix la uretra durant l'embaràs objectivats per ecografia 2D i la relació d'aquests amb l'aparició d'incontinència d'orina en la gestació	Dr. Rafel Ramos Blanes Dr. Jordi Cassadó Garriga
Johana Diaz Santa	Caracterización de polimorfismos genéticos implicados con el metabolismo de la citarabina y asociación con la respuesta y toxicidad a la quimioterapia en pacientes con leucemia mieloide aguda de riesgo intermedio	Dr. David Gallardo Giralt
José María Martínez-Calcerrada	L'àcid úric, el greix perirenal i la mida renal com a nous marcadors de risc cardiovascular en població pediàtrica sana	Dra. Judit Bassols Dr. Abel López-Bermejo
Margarita Matas Serra	Cribatge i diagnòstic de la malaltia renal crònica en població adulta menor de 65 anys d'edat, de risc elevat, en l'àmbit de l'atenció primària de salut	Dr. Rafel Ramos Blanes Dra. Ruth Martí Lluch
Carles Muñoz Montplet	Impacte clínic del càcul de la dosi absorbida en radioteràpia externa mitjançant un nou algorisme basat en la solució de l'equació de Boltzmann	Dr. Joan Carles Vilanova Dr. Rafael Fuentes Raspall
Cristina Murcia Gubianas	Biomarcadors diagnòstics de disfunció miocàrdica associada a xoc sèptic: evaluació de la troponina T ultrasensible i de la hiperosmolalitat plasmàtica	Dra. Elisabeth Pinart Nadal Dr. Juan Carlos Yébenes
Nazly Yesenia Santos Carvajal	Estudio del impacto de UGT2B17 y PD-1 en el trasplante alogénico de progenitores hematopoyéticos a partir de donante emparentado HLA idéntico	Dr. David Gallardo Giralt
Agostina Stradella Trucco	Comprensión de las bases genéticas del cáncer hereditario	Dr. Conxi Lázaro García Dr. Joan Brunet i Vidal
Alicia Silvana Villavicencio Obando	Survival analysis of lymphoid neoplasms and impact of comorbidity in patients with chronic lymphocytic leukemia in Girona province: a population-based study	Dr. Rafael Marcos-Gragera Dr. Marc Saez Dra. Marta Solans

Knowledge transfer and innovation

CLINICAL GUIDELINES



NON-INDEXED	
<p>Granell Gil M,Murcia Anaya M,Sevilla S,Martínez Plumed R,Biosca Pérez E,Cózar Bernal F,Garutti I,Gallart L,Ubierna Ferreras B,Sukia Zilbeti I,Gálvez Muñoz C,Delgado Roel M,Mínguez L,Bermejo S,Valencia O,Real M,Unzueta C,Ferrando C,Sánchez F,González S,Ruiz Villén C,Lluch A,Hernández A,Hernández Beslmeisl J,<u>Vives M</u>,Vicente R. Clinical guide to perioperative management for videothoracoscopy lung resection (Section of Cardiac, Vascular and Thoracic Anesthesia, SEDAR; Spanish Society of Thoracic Surgery, SECT; Spanish Society of Physiotherapy).Rev Esp Anestesiol Reanim (Engl Ed). 2022. 69. (5):p. 266-301.</p> <p><u>Vives M</u>,Hernández A,Carmona P,Villen T,Borrat X,Sánchez E,Nagore D,González AD,Cuesta P,Serna M,Campo R,Bengoetxea U,Mercadal J,SEDAR and SEMES Clinical Intensive Care Ultrasound working G. Diploma on Basic Echocardiography training and competencies for Intensive Care and Emergency medicine: Consensus document of the Spanish Society of Anesthesiology and Critical Care (SEDAR) and the Spanish Society of Emergency Medicine (SEMES).Rev Esp Anestesiol Reanim (Engl Ed). 2022. 69. (7):p. 402-410.</p>	

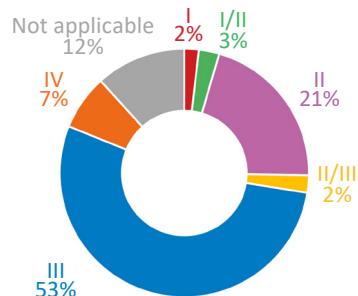
CLINICAL TRIALS

Clinical trials performed at the IDIBGI-associated hospitals are an example of translation and return to the patient, in terms of improved patient care and access to cutting-edge therapies or technologies.

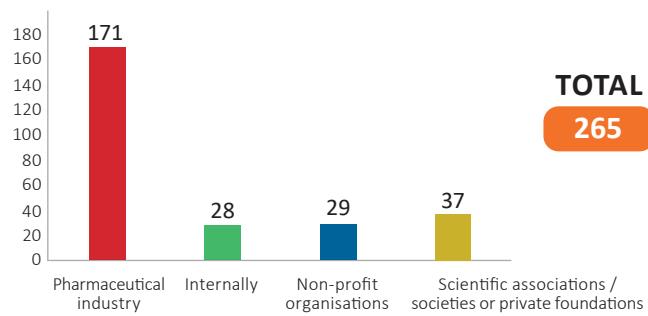
In 2022, 61 new clinical trials were opened and 265 clinical trials were active, all promoted either a) by the pharmaceutical industry, b) internally, c) by non-profit organizations or d) by scientific associations / societies or private foundations. As in previous years, most of the active trials correspond to phase III (54%) and most of the active trials are performed in the area of Onco-Haematology (55%).

The figures summarize the number of active clinical trials in 2022.

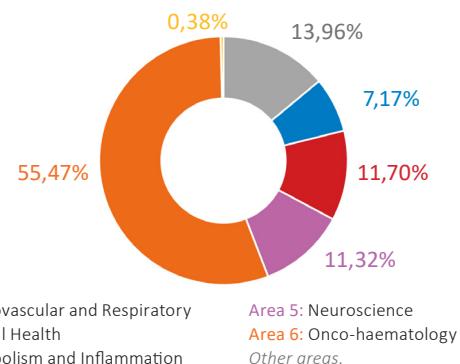
Active clinical trials by phase



Active clinical trials distributed by promotor



Active clinical trials by scientific areas



PATENTS AND LICENSE AGREEMENTS

The **number of patents or utility models (applied for, granted and licensed/transferred) currently managed by IDIBGI** is **14**, 1 of which is a utility model. The total number of active patent license agreements is 4.

During 2022, **3 new patent applications were filed**, all of them European patents (EP).



INNOVATIONS AT IDIBGI

Currently, **the number of innovations generated by IDIBGI**, which can be observed in daily clinical practice, is **5**:

- Girona Forced Inspiration Device (DIFGI).
- [TDApp](#), a tool to facilitate decision-making about ADHD treatment.
- [ODISEA](#) an app to coordinate assistance for acute myocardial infarction.
- [EM-Line!](#), a website for cognitive rehabilitation from home.
- [Gencardio](#), the Genetic Diagnostic Laboratory.

The **number of new follow-up reports on innovations under development by the IDIBGI** were **5** during 2022.

During 2022, IDIBGI has received 7 innovation collaborations proposals from outside companies.

SPIN-OFF PORTFOLIO

IDIBGI has founded **2 spin-offs** ([GoodGut](#) and Metabostem) since the foundation of the institute. Metabostem was active during the period 2016 to 2018. GoodGut was founded in 2014 and was purchased by the pharmaceutical company HIPRA in 2021.

Spin-off from IDIBGI researchers where IDIBGI has participated as shareholder:

GOODGUT

Dr. Mariona Serra / Dr. Xavier Aldeguer
<https://www.goodgut.eu>



GoodGut is a biotechnology spin-off that emerged from the IDIBGI Digestive Diseases and Microbiota research group led by Dr. Xavier Aldeguer and the Universitat de Girona (UdG). GoodGut is engaged in the research and development of non-invasive systems that support the diagnosis and treatment of digestive diseases based on intestinal microbiota as a determining factor. In September 2021, GoodGut was purchased by the pharmaceutical company HIPRA.

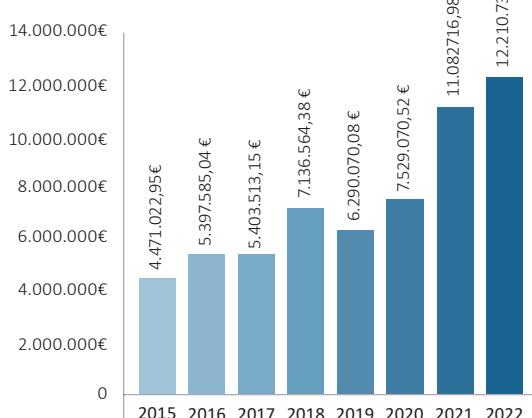
INNOVATION NETWORKS

IDIBGI belongs to several innovation networks, which are described in the Networks section (page 30):

- I4Kids Paediatric innovation hub
- Xarsmart network
- Tecsam network
- Redtransfer
- Itemas I3PT Node

Funding

ANNUAL BUDGET

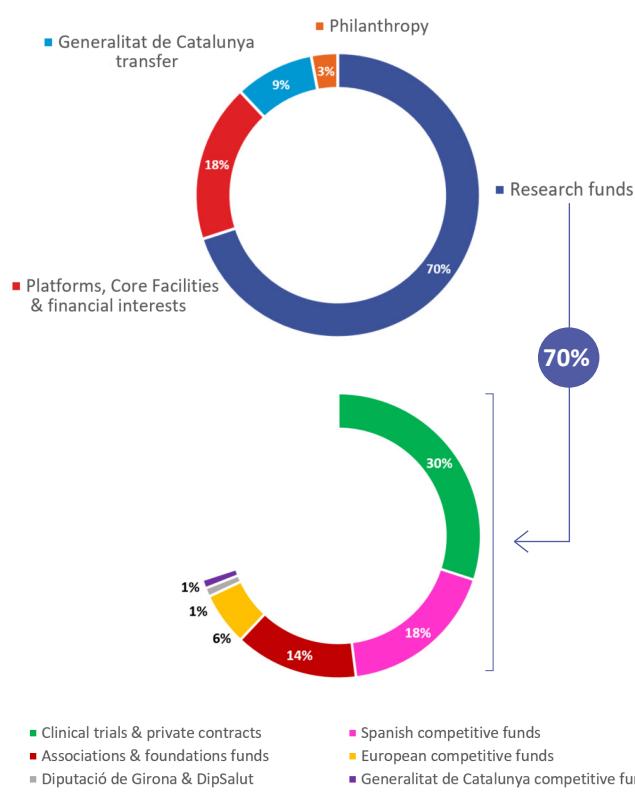


FUNDING ACCORDING TO GENDER

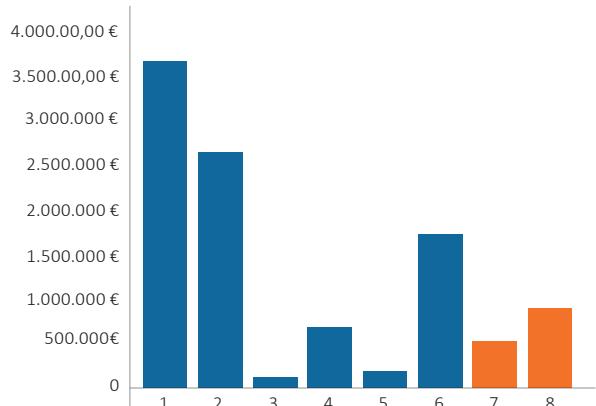
	WOMEN	MEN	TOTAL
Competitive	2.185.252,77 € 54,04%	1.858.634,81 € 45,96%	4.043.887,58 € 33,12%
Non Competitive	2.173.787,71 € 30,95%	4.849.070,40 € 69,05%	7.022.858,11 € 57,51%
Generalitat Transfer	1.143.990,00 €		1.143.990,00 € 9,37%
TOTAL			12.210.735,69 €

FUNDING SOURCES AND EXPENSES

FUNDING SOURCES



EXPENSES



- Projects**
- 1 Research Staff
 - 2 Research Consumables & external works
 - 3 Research Publications & academic training
 - 4 Research Travelling costs & others services
 - 5 Research Transfers to other public institutions
 - 6 Research Equipment

- Support**
- 7 Administration Running costs
 - 8 Administration & Research support Staff

BALANCE SHEET

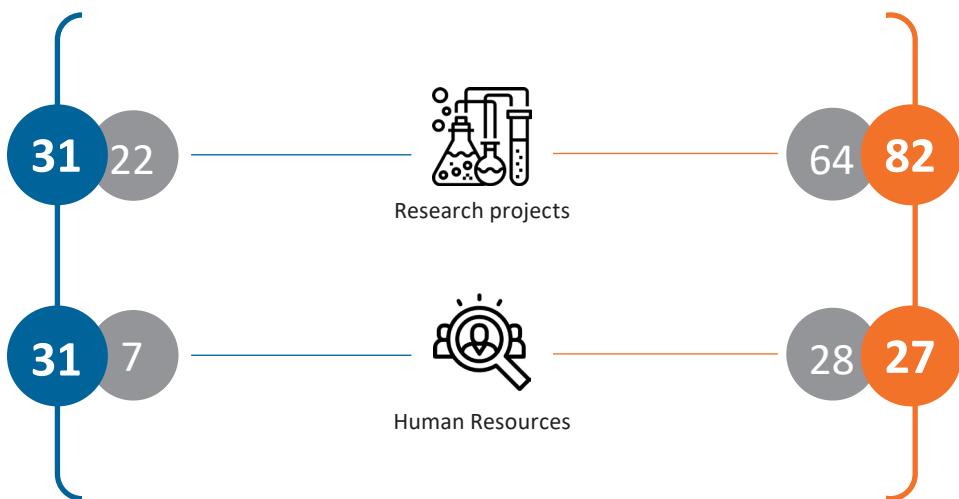
ASSETS	2022	2021
A) Non current assets	6.153.297,00 €	4.601.354,13 €
I. Intangible fixed assets	530.939,83 €	518.833,61 €
II. Tangible fixed assets	4.164.713,06 €	2.686.772,77 €
VI. Long term financial assets	1.457.644,11 €	1.395.747,75 €
B) Current assets	16.258.701,53 €	14.537.791,01 €
I. Assets held for sale	- €	- €
II. Inventory	648.419,95 €	404.739,82 €
III. Receivables	6.114.186,31 €	7.094.090,52 €
V. Short term financial assets	- €	3.200.840,00 €
VI. Prepaid expenses and accruals	23.256,69 €	4.108,47 €
VII. Cash	9.472.838,58 €	3.834.012,20 €
TOTAL ASSETS (A + B)	22.411.998,53 €	19.139.145,14 €
LIABILITIES AND EQUITY	2022	2021
A) Equity	5.038.285,73 €	4.415.592,95 €
A-1) Social fund and reserves	1.879.523,93 €	2.077.741,83 €
I. Social fund	113.320,83 €	113.320,83 €
IV. Previous years results/retained earnings	1.964.421,00 €	1.927.098,79 €
VI. Profit/(loss) for the year	- 198.217,90 €	37.322,21 €
A-3) Grants, donations and legacies	3.158.761,80 €	2.337.851,12 €
B) Non current liabilities	1.452.044,11 €	1.390.147,75 €
II. Long term debts	1.452.044,11 €	1.390.147,75 €
C) Current liabilities	15.921.668,69 €	13.333.404,44 €
II. Short term provisions	466.060,92 €	391.657,76 €
III. Short term debts	14.527.819,49 €	12.219.258,58 €
V. Short term payables	927.788,28 €	722.488,10 €
TOTAL LIABILITIES AND EQUITY (A + B + C)	22.411.998,53 €	19.139.145,14 €
PROFIT AND LOSS ACCOUNT	2022	2021
INCOME STATEMENT		
1. Income from activities/operations	8.655.288,86 €	7.642.887,18 €
2. Grants/subsidies granted	- 172.760,64 €	- 163.798,20 €
5. Supplies	- 2.538.744,11 €	- 2.369.064,61 €
6. Other operating income	418,19 €	0,00 €
7. Personnel expenses	- 4.694.669,24 €	- 3.975.787,62 €
8. Other operating expenses	- 1.167.267,06 €	- 1.040.507,34 €
9. Depreciation and amortization	- 481.833,50 €	- 446.812,54 €
10. Subsidies and others transferred to results	261.171,53 €	267.350,88 €
13. Other gains and losses	31.956,94 €	46.543,37 €
I) OPERATING RESULT (1+2+5+6+7+8+9+10+13)	- 106.439,03 €	- 39.188,88 €
14. Finance income	0,00 €	161.100,00 €
15. Finance costs	485,16 €	- 11.216,84 €
17. Exchange gains /losses)	- 2.295,78 €	- 2.562,41 €
18. Impairment (losses) on disposals of non current assets	- 43.661,30 €	0,00 €
II) FINANCE RESULT (14+15+17+18)	- 45.471,92 €	147.320,75 €
III) PROFIT /(LOSS) BEFORE TAX (I + II)	- 151.910,95 €	108.131,87 €
19. Income tax	- 46.306,95 €	- 70.809,66 €
IV) PROFIT /(LOSS) FOR THE YEAR (III + 19)	-198.217,90 €	37.322,21 €

Projects

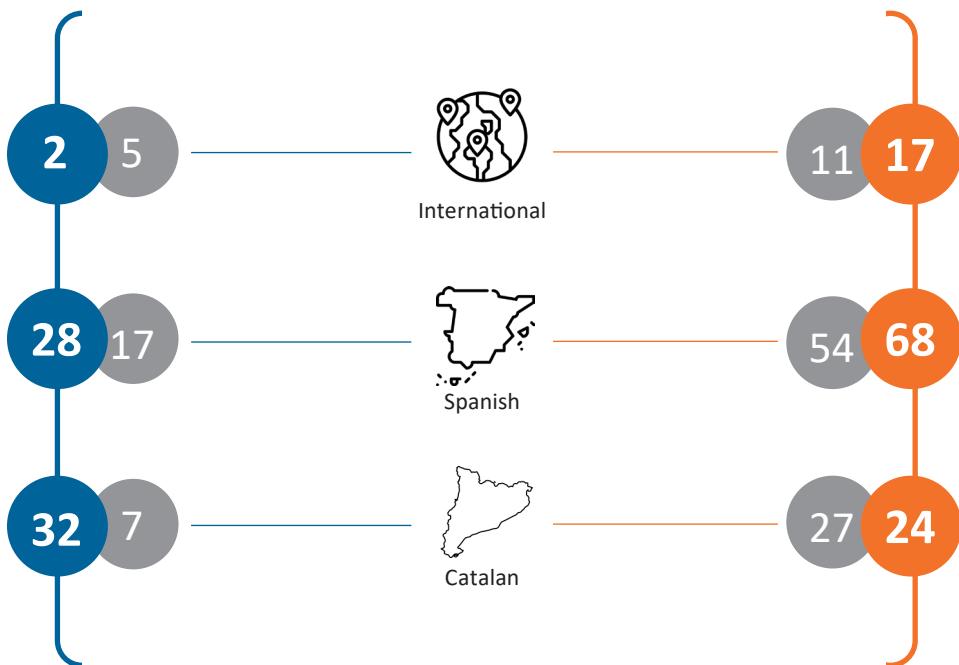
COMPETITIVE PROJECTS



TYPE OF FUNDING:



FUNDING ORIGIN:



INSTITUTIONAL PROJECTS

GO-HERO



<https://goherohealth.com>

Internationalization is a strategic and transversal goal of the IDIBGI, as outlined in the current IDIBGI's strategic plan.

Between 2019 and 2021, the International Projects Office, in collaboration with the respective units of the Biomedical Research Institutes of Tarragona (IISPV) and Lleida (IRBLleida), joined forces on the GO-HERO project (Health European Research Offices). The GO-HERO's consortium priorities were to:

- Reinforce international project departments.
- Design and implement a training plan for research internationalization.
- Increase the international visibility of the institutes.

The project concluded on December 2021; however, the three Institutes continued working together on disseminating EU calls and promoting collaborative projects and training initiatives.

Highlighted 2022 activities include:

- Organizing the Training Program To Prepare H2020 And Horizon Europe Proposals by Nikolaos Floratos.
- Publishing the monthly newsletter.

In addition, in 2022, the three centers collaborated to draft a new proposal aimed at extending the Go_HERO goals through a new project. This new proposal was encouraged after evaluating the results of the GO-HERO project. Some outcomes at IDIBGI include:

- Submitted proposals: increased from 12 (2018) to 18 (2021).
- Submitted coordinated proposals: from 5 (2018) to 11 (2021).
- Projects awarded: from 1 (2018) to 3 (2021).
- Budget achieved: from 150.000 € (2018) to 855.729 € (2021).

The PERIS GO-HERO project enabled the professionalisation of the international project offices and their technicians, resulting in the centers adopting a more focused approach to international funding. On the one hand, the search for funding opportunities was boosted through a coordinated newsletter and communication actions, and an individualised plan was drawn up for each research group, taking into account their specific needs and the calls foreseen.

INFRASTRUCTURES



IDIBGI was awarded with the call "Convocatoria de adquisición de equipamientos e infraestructuras científico-técnicas" of the Instituto de Salud Carlos III (ISCIII) (IFEQ22/00076) for the acquisition of a **cell sorting cytometer** with a total budget of 120.000,00€. This is an essential equipment for all biomedical research not present in any of the research entities in the Girona area. Therefore, this essential equipment will give service not only for the researchers of the IDIBGI but also for those of the University of Girona (UdG) associated with our institute and other research centers. This is a long-awaited infrastructure that will be of use to many research groups, and will be located in the IDIBGI M2 building.

INVESTIGO PROGRAMME

In 2022, the Investigo 2022 Programme, which is promoted by the European Union through Next Generation EU funds, enabled IDIBGI to hire a total of 14 young researchers. In Catalonia, the Investigo Programme was organized through two calls for proposals:

State Public Employment Service (SEPE)

Expedient number: 2022-C23.I01.P03.S0020-0000042

Eight positions were granted to the following teams:

- Obesity and Cardiovascular Risk in Children Research Group
- Metabolic and Maternal-Fetal Research Group
- Descriptive epidemiology, genetics and cancer prevention Research Group
- Respiratory Research Group
- Neurosciences Area
- Nutrition, Eumetabolism and Health Research Group
- Clinical Research Unit (ICS-IAS)
- Clinical Research Unit (ICO)

Agency for the Management of University and Research Grants (AGAUR)

Expedient number: 2022 INV-1 00001

Six positions were granted to the following teams:

- Metabolism and Cancer Research Group
- Digestive Diseases and Microbiota Research Group
- Cardiovascular Genetics Research Group
- Radioterapeutic Oncology and Medical Physics Research Group
- Research Support Staff - Innovation Unit
- Clinical Research Unit (ICO)

The Investigo Programme is designed to promote the recruitment of young individuals below the age of 30 in the research sector. The program offers grants to facilitate the employment of young professionals in various research-related roles such as researchers, research support staff, and other positions in R+D+i. Eligible applicants must be unemployed and registered as job seekers. This program at IDIBGI provides a valuable opportunity to foster scientific careers among young people, create new job opportunities within our institution, and maintain a commitment to pursuing excellence.

SINGULARS PROJECT

This year was the start of the expansion works of our facilities at the Martí i Julià Health Park, in Salt. The Generalitat de Catalunya government granted the Institute of Biomedical Research of Girona Doctor Josep Trueta (IDIBGI) a contribution of 642,000 euros under the call for Singular Projects ("Projectes Singulars") to co-finance the IDIBGI expansion project "*New research spaces for IDIBGI: rehabilitation and adaptation*" in the M2 building, located in the Martí i Julià Hospital Park in Salt.

This project is co-financed by the Departament de Recerca i Universitats de la Generalitat de Catalunya, in the framework of the call EMC/954/2019, of April 9, for the realization of singular institutional projects that enable the generation of research of excellence, the attraction of talent and the development of knowledge transfer and valorization activities, through the construction, acquisition, habilitation or substantial expansion of buildings for R&D infrastructures.

The project will add a wing to the Mancomunitat 2 (M2) building, increasing the current floor area by 485 m², reaching a total of 1,757 m². This extension will create common use spaces and research support staff, while the remaining space will be converted into laboratories. Notably, IDIBGI will gain an additional 338 m² of research space, accommodating two research groups, namely the Mental Health and Addictions group and the Medical Imaging group, which previously lacked space in the M2 building.

The expansion will include new facilities such as a dedicated culture room for primary cell cultures, a room for bacterial research, a Virtual Reality room for projects utilizing this technology, and a separate room for the Medical Imaging research group.

Networks

ISCIPI NETWORKS		
CIBER		
2 IDIBGI researchers are group leaders within CIBER networks:		
	CIBER-OBN Obesity and nutrition	1
	CIBER-CV Cardiovascular	1
RICORS		
2 IDIBGI researchers are group leaders within RICORS networks:		
	RICORS-ICTUS Cerebral Vascular Diseases	1
	Inflammatory Diseases Inflammation and immunopathology of organs and systems	1
ISCIPI BIOBANKS AND BIOMODELS PLATFORM		
	IDIBGI participates in the ISCIPI Biobanks and Biomodels Platform. Two platforms are included in the following units:	
	<ul style="list-style-type: none"> • Biobank Hub - IDIBGI Biobank • Animal Models Hub - IDIBGI <i>Drosophila</i> "Fly Room" 	

EIT HEALTH (EUROPEAN INSTITUTE OF INNOVATION AND TECHNOLOGY)



IDIBGI is an affiliated party of the Catalan Health Institute (*Institut Català de la Salut* - ICS), which is a core partner of EIT Health.

I4KIDS PEDIATRIC INNOVATION HUB



i4KIDS is a Paediatric Innovation Hub, coordinated by the Hospital Sant Joan de Déu, which has the challenge of identifying and supporting those innovation projects, within the field of paediatrics and maternity.

i4KIDS counts with the participation of 3 research group from IDIBGI:

- Maternal-Fetal Metabolic Research Group, led by Dr. Judit Bassols Casadevall
- Cardiovascular Genetics Group, led by Dr. Ramon Brugada
- Obesity and Cardiovascular Risk in Paediatrics Group, led by Dr. Abel López Bermejo

XARSMART NETWORK



XarSMART is a network coordinated by IDIBELL and financed by AGAUR, which aims to generate medical technologies and new companies, with the goal of increasing the transfer of high-level projects to the market.

Particularly focused on personalised precision medicine, medical devices and data science. XarSMART counts with the participation of the IDIBGI's research groups on Neurodegeneration and Neuroinflammation led by Dr. Lluís Ramió.

TECSAM NETWORK



TECSAM is a network coordinated by the Fundació Hospital Sant Joan de Déu and financed by AGAUR, which aims to accelerate valorisation and transfer of mental health and new technology discoveries to enhance quality

of life and ensure accessibility to treatments of people affected by mental health problems. TECSAM counts with the participation of the IDIBGI research group on Mental Health and addictions led by Dr. Jordi Cid.

CERCA GINYS



The CERCA GINYS project (2021-2022) has involved the following IDIBGI platforms: Biobank, Gencardio Diagnostics, *Drosophila* "Fly Room", MagPix Equipment.

NETWORK OF TUMOR BANKS OF CATALONIA (XBTC)



IDIBGI Biobank is part of the Network of Tumor Banks of Catalonia, which is managed through the "Pla Director d'Oncologia" from the Catalan Oncology Institute.

NETWORK OF CLINICAL RESEARCH MANAGEMENT ENTITIES (REGIC)



IDIBGI is part of the REGIC, the Network of Clinical Research Management Entities.

GIRONA REGION INNOVATION IN HEALTH NETWORK



IDIBGI is member of the Xarxa Innovació en Salut Comarques Gironines (Girona Region Network for Innovation in Health). The network gathers the main Girona region healthcare providers. Its mission is to become a reference in R+D+i, especially in the health and social sectors, promoting innovation and collaborative projects among the 13 entities that are part of it.

REDTRANSFER



IDIBGI is a member of the RedTransfer network. RedTransfer is a non-profit association of professionals in research transfer, innovation and management.

ITEMAS ISCIII



Plataforma de dinamización e innovación de las capacidades industriales del Sistema Nacional de Salud

IDIBGI is an ITEMAS adhered centre of the Institut d'Investigació i Innovació Parc Taulí (I3PT), one of the 18 ITEMAS nodes distributed throughout Spain. The Platform for Dynamization and Innovation of the industrial capacities of the National Health System and its effective transfer to the productive sector (ITEMAS) is one of the platforms of the Carlos III Health Institute (ISCIII) to support R+D+i in Biomedicine and Health Sciences.

Core facilities

IDIBGI has core facilities to provide technical services to all researchers.

Some of these have been involved in the CERCA GINYS project during 2021-2022, which is a platform that aims to create a map of scientific infrastructures belonging to different CERCA centres and also to promote their access for other CERCA centres or external costumers.

IDIBGI PLATFORMS

- Statistical Unit
- Clinical Research Unit - ICS / IAS
- Clinical Research Unit - ICO
- Biobank
- Gencardio Diagnostics
- *Drosophila* "Fly Room"
- MagPix Equipment



OTHER IDIBGI FACILITIES

- Cytometry and Cell Sorting
- Ultracentrifugation
- Cell Culture Labs

STATISTICAL UNIT

idibgi.org/serveis/unitat-dassessorament-estadistic-i-metodologic
estadistica@idibgi.org

Maria Buxó Pujolràs, PhD
Head of Unit

People working at the platform: 2 (W: 1 / M: 1)

The IDIBGI's Statistical Unit is dedicated to providing comprehensive support in methodological and statistical issues for biomedical research projects. By offering a range of services and expertise, the Statistical Unit aims to bolster and enhance the quality of biomedical research carried out in the institution.

Some of the key services provided by the unit include:

- **Methodological Support:** provide guidance and support in study design tailored to the specific research questions and objectives, determine optimal sample sizes and provide specific description of statistical methods and techniques.
- **Statistical Analysis:** offers statistical analysis services which include assistance in data cleaning, hypothesis testing and regressions analysis.
- **Results Interpretation and Reporting:** provide guidance and interpreting complex statistical analysis and assist in preparing clear and concise reports.

By offering these services, the unit aim to empower researchers in conducting high-quality biomedical research, ensuring robust study design, accurate data analysis, and meaningful interpretation of the results.

IDIBGI'S Statistical Unit activities in 2022 was:

TYPE OF SERVICE			
METHODOLOGICAL SUPPORT	STATISTICAL ANALYSIS	RESULTS INTERPRETATION AND REPORTING	TOTAL
19 (17%)	65 (58%)	28 (25%)	112 (100%)

CLINICAL RESEARCH UNIT ICS/IAS (UREC)

idibgi.org/en/serveis/unitat-assaigs-clinics/unitat-de-recerca-clinica-ics-ias
urec@idibgi.org

Joaquin Serena Leal, MD, PhD
 Scientific director

Cristina Martinez Merchan
 Coordinator

People working at the platform: 14 (W: 13 / M: 1)

The Clinical Research Unit is currently made up of a Scientific Director, a Unit Coordinator, clinical trial coordinators, specialised nurses and a date entries. This team is responsible for all activities, from the start-up of a study to its completion, offering quality support to achieve clinical research excellence.

The IDIBGI Clinical Research Unit was created with the aim of optimising and promoting clinical research, both that promoted by the pharmaceutical industry and that carried out at the institution itself. The objective is to advise the researcher in the planning of projects from both the methodological and regulatory point of view and to support their execution. On the other hand, it also aims to be a useful and transparent tool for patients so that they can know at all times what research is being carried out in our centres and how to participate in it. All clinical research carried out by the Clinical Research Unit must also have the approval of the Ethics Committee of Research with Medicines (CEIM) or the ICS/IAS Technical Office for Clinical Research and Clinical Trials.

SERVICE	NEW CLINICAL TRIALS	ACTIVE CLINICAL TRIALS
Nephrology	1	2
Endocrinology	0	3
Pneumology	0	1
Urology	1	3
Anesthesia	0	1
Internal Medicine	2	4
UNIEM/UTM	1	13
Pediatrics	1	1
Neurology	1	4
Emergency Room	1	1
Traumatology	0	1
Digestive	1	5
TOTAL	9	39



CLINICAL RESEARCH UNIT ICO (UIC)

idibgi.org/serveis/unitat-assaigs-clinics/unitat-dinvestigacio-clinica-uic-ico
uicgirona@idibgi.org

Begoña Martin Castillo, PharmD, PhD
 Head of Unit

People working at the platform: 16 (W: 15 / M: 1)

The Clinical Research Unit (UIC) at ICO Girona is a structure that evaluates and carries out research with patients at the center. In this framework, the UIC-ICO follows a series of previous internal rules to guarantee the scientific interest of clinical trials, in addition to complying with the requirements established by current legislation and with the rules of good clinical practice.

Its mission is to develop quality clinical research at the centre to improve the treatment of cancer patients.

Functions and services:

- Cooperate independently with patient research
- Advice and support researchers
- Clinical trials management (start-up, quality and development of studies)
- Evaluation of studies
- Standardize clinical trial processes
- Generate own lines of research, which takes the form of:
 - Health services research of the clinical research itself
- Collaborate actively in translational research programmes, currently
 - Metabolism and cancer
 - Drugs Repositioning Program
- Development of clinical research Nursing functions
- Teaching

SERVICE	NEW CLINICAL TRIALS	ACTIVE CLINICAL TRIALS
Medical Oncology	22	155
Haematology	6	43
Radiation Oncology	1	7
TOTAL	29	205



BIOBANK

idibgi.org/en/biobanc
biobanc@idibgi.org

José Manuel Fernández-Real, MD, PhD
Scientific director Lluís Gallart
Coordinator



People working at the platform: 9 (W: 6 / M: 3)

The IDIBGI Biobank is the research core facility responsible for the management of human biological samples and associated data for research. This includes collection, processing, storage, and transfer of samples to promote quality biomedical research. The IDIBGI Biobank is linked to two hospitals: The University Hospital of Girona Dr. Josep Trueta (HUGJT) and the Santa Caterina Hospital at Institut d'Assistència Sanitària (IAS).

Its goal is to contribute to the development of biomedical research of excellence, making available biological samples to the scientific community under certain legal, technical, organizational guarantees and respecting the rights of the donors.

The IDIBGI Biobank was authorized by the Department of Health in October 2013; is enrolled in the Carlos III Health Institute National Register of Biobanks; and belongs to the ISCIII Biobank and Biomodels Platform (PT20/00199). All the procedures performed at the Biobank are carried out under ISO 9001:2015 certification.

The IDIBGI Biobank Catalogue of samples is organized into two nodes:

- **Central Node**, which contains a variety of samples: blood, serum, plasma, buffy coat, urine, stool, adipose tissue and DNA, among others. This repository is composed by samples of patients with diverse clinical diagnosis (COVID-19 included), collected by IDIBGI researchers and HUJT and Santa Caterina Hospital services.
- **Tumour bank Node**, which contains tumoural and nontumoural tissue samples from cancer patients collected by anatomical pathology service and medical interventions and surgeries.

Biobank activity including management of biobank collections, research line collections, projects and clinical trials:

COLLECTION

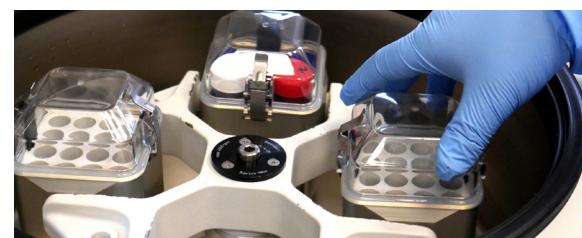
DONORS	GENERATED SAMPLES	PROJECTS ATTENDED WITH ACTIVE SAMPLE COLLECTION
1.692	30.880	26

SESSION

SAMPLE DELIVERED	PROJECTS ATTENDED	ACKNOWLEDGED PUBLICATIONS
16.581	24	10

IDIBGI Biobank has continued to provide technical services for processing, storing and shipping samples for different clinical trials and projects to the company Hipra Scientific, S.L.U.:

- Clinical trial to study HIPRA vaccine against COVID-19 (HIPRA-HH-1 phase I-IIa, HIPRA-HH-2 phase IIb, HIPRA-HH-5 phase III).
- Clinical trial to study HIPRA vaccine against COVID-19 with immunocompromised participants (HIPRA-HH-4 phase III), articulated through the European RBDCOV project.
- RSV vaccine project, to investigate a new vaccine against respiratory syncytial virus (RSV), which causes bronchiolitis and pneumonia.



GENCARDIO DIAGNOSTICS

idibgi.org/en/serveis/laboratori-de-diagnostic-genetic-ldg
plataformes@idibgi.org

Ramon Brugada Tarradellas, MD, PhD
 Scientific director

People working at the platform: 16 (W: 9 / M: 7)

Gencardio Diagnostics has its origins in the Cardiovascular Genetics Research Group, a group with consolidated clinical and research experience in the field of hereditary heart diseases, for that reason the laboratory was dedicated exclusively to the genetic diagnosis of diseases associated with cardiovascular diseases, but thanks to the collaboration of other institutions and professionals, it also offers services in other specialties such as cancer, neurology and thrombophilia.

Nowadays, Gencardio Diagnostics is a reference laboratory in genetic diagnosis accredited by the Generalitat de Catalunya according to the CatSalut 6/2015 instruction, born from the joint initiative between the Institut Català de la Salut and the Girona Biomedical Research Institute (IDIBGI).

GenCardio-Diagnostics combine the development of high-performance genetic and computer tools, with the support of the clinical professional both in choosing the necessary genetic study and in advising him in patient decision-making.

Since 2017 Gencardio Diagnostics has been working under a quality system based on ISO9001:2015.

As a genome analysis facility, Gencardio Diagnostics offers services as: extraction and quantification of DNA, Sanger sequencing service, Sequencing service by MiSeq of Illumina, PCR real-time service and genotyping with fluidigm.

Some noteworthy services performed by Gencardio Diagnostics in research projects during 2022 are:

- Replicación cromosómica, formación y desensamblaje del doble hexámero (PID2020-120518GB-I00)



DROSOPHILA "FLY ROOM"

plataformes@idibgi.org

José Manuel Fernández-Real, MD, PhD
 Scientific director

People working at the platform: 3 (W: 2 / M: 1)

The *Drosophila* "Fly Room" IDIBGI platform is a recently created service that offers to the IDIBGI community, as well as external users, access to *Drosophila melanogaster* as an animal model for biomedical research. The *Drosophila* model allows the study of a wide variety of disorders and genetic specificities, providing a low-cost animal model and rapid results, if we compare it to the more common rat or mouse models.

Drosophila "Fly Room" belongs to ISCIII Biobank and Biomodels Platform (PT20/00199).

Currently, *Drosophila* "Fly Room" IDIBGI can offer services of: cognition test, locomotion test, fat accumulation test, histology techniques and gene expression techniques.

Amongst others, *Drosophila* "Fly Room" IDIBGI has participated in the following research projects:

- Interrelaciones entre las reservas de hierro, el metagenoma intestinal, los niveles de glucosa y diferentes dominios cognitivos: el papel de los microARN circulantes (IRONmiRNA - PI21/01361)
- Involvement of the gut microbiota-brain cross talk in the loss of eating control (GMBCrossTalk-Food - HR22-00737)
- Microbiota y cognición en el contexto de la obesidad, estudio con *Drosophila melanogaster* (CD20/00051)



MAGPIX EQUIPMENT

plataformes@idibgi.org

People working at the platform: 1 (W: 1)

IDIBGI offers the MagPix equipment for internal and external users. Luminex MagPix is a multiplexing unit capable of testing up to 50 different analytes in a single reaction of 25µl volume.

Some noteworthy projects where Magpix equipment had been used are:

- Aproximación proteómica para la identificación de placa vulnerable y posterior validación de biomarcadores no invasivos en pacientes con estenosis carotidea: biomarcadores en sangre periférica (PI16/01540)
- Biomarkers of mitochondrial dysfunction and their relation with neurodegeneration (EME-REEM 2020)



OTHER IDIBGI FACILITIES

CELL CULTURE LABS

IDIBGI's laboratories include two cell culture labs, and sooner will be increased with a new one directed to primary cultures. Labs contain all basic equipment (CO₂ incubators, type II biosafety cabinets, microscope, centrifuge, etc.) for their normal operation. The equipment includes an Incucyte SX1, a live-cell imaging and analysis system. This instrument efficiently captures cellular changes where they happen – in the incubator, enabling users to observe and quantify complex biological changes in real time.

Among others, IDIBGI's Cell Culture Labs has been used to develop the following projects:

- Dependencias metabólicas y regulación dietética de los puntos de control inmunitario: Nuevas dianas contra la resistencia a la inmunoterapia del cáncer RSV vaccine (PID2019-104055GB-I00)
- Are adipose tissue microbial products accumulation associated with obesity-associated insulin resistance? The possible role of lipopolysaccharide binding protein and lysozyme. PI19/01712
- Restricting fatty liver: Therapeutic utility of miR-30b (CP19/00109)
- Study of the insights and origins of endothelial dysfunction in chronic thromboembolic pulmonary hypertension. Fondo de Investigación Sanitaria (FIS) Contratos Miguel Servet tipo II, CPII22/00006.
- Variabilidad fenotípica en la Miocardiopatía Arritmogénica: De los mecanismos moleculares a la práctica clínica (PI22/00422).

CYTOMETRY AND CELL SORTING

Flow cytometry is a multiparametric analysis technique used to detect and measure physical and chemical characteristics of a population of cells or particles that pass one by one through a laser. This multiparametric study collect information regarding size and structural complexity as well as antigenic, biophysical or biochemical characteristics allowing us to analyse subpopulations in complex samples. A cell sorting equip has the same benefits as flow cytometer while incorporating the ability to separate particles or cells selectively.

Since 2022 our cytometry facility hosts one analyser cytometer (Accuri C6). The platform has been used for several IDIBGI groups. This year, IDIBGI has received funding (IFEQ22/00076) for the acquisition of a cell sorting cytometer, which will increase the services offered by our cytometry facility.

ULTRACENTRIFUGATION

The ultracentrifuge is a centrifuge optimized for spinning a rotor at very high speeds, capable of generating acceleration as high as 100000 rpm. The basis of ultracentrifugation is to separate the components of a solution based on their size and density. Major applications of ultracentrifugation: Separation of plasmid, mitochondrial, or chromosomal DNA, proteoglycans, and lipoproteins. Our ultracentrifugation facility will have the Optima XPN100 (Beckman Coulter) equipment.

Quality Seals

HUMAN RESOURCES STRATEGY FOR RESEARCHERS



HR EXCELLENCE IN RESEARCH

<https://idibgi.org/hr-excellence-in-research>

On the 31st of March 2015, the Girona Biomedical Research Institute (IDIBGI) received the "HR Excellence in Research Award". This award and its logo reflect the IDIBGI's commitment to continuously improve its human resources policies and practices in line with the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers (Charter & Code). IDIBGI endorsed the Charter and Code in May 2011 and joined the Fourth Cohort of the Institutional Human Resources Strategy Group in 2012.

Thereon the IDIBGI started implementing its own Human Resources Strategy for Researchers (HRS4R). In 2019 the Action Plan 2014-2018 concluded and a new gap analysis and Action Plan for 2020-2023 was developed by the HRS4R Working Group. The OTM-R checklist was reviewed as well. The Action Plan 2020-2023 was sent to the European Commission on November 2020 for their revision and renewal of the "HR Excellence in Research Award".

During 2022 some actions were concluded, such as

- Implementation of the IDIBGI Communication Policy approved by the end of 2021.
- Job offers updates: job descriptions are in three languages and incorporate the evaluation of merits through the scoring of technical, basic and soft skills, based on the skills dictionary approved.
- Expand lab facilities, equipment and service platforms: new facilities next to the Hospital Dr. Josep Trueta (500 m² of clinical research offices) and laboratories and offices expansion in the M2 building (500 m²).
- Implementation of the IDIBGI Teleworking Policy approved by the end of 2021.
- Renewal of the IDIBGI Gender Plan 2023-2027.
- Contribute to defining strategies for staff stabilization: Labour reform laws approved by the end of 2021 have permitted the stabilization of 27 positions in IDIBGI; the Science law update has included a new indefinite contract for researchers and people working on research support.
- Give career advice and information to young researchers (individual grants, collaborations, research services available).
- Organise meetings with Hospital Departments and Specialist Units to promote innovation and research.
- Introduce the IDIBGI Ombudsperson, Dr. Wifredo Ricart, to the

IDIBGI community

- IDIBGI includes in the Training Plan 2022-2023:
 - ◊ Training on public speaking, leadership and other training on soft skills.
 - ◊ Training on IPR and Science Law. Include these sessions in the Training Plan.
 - ◊ Training for disseminating how to ask for mobility grants for short stays to researchers and encourage them to apply.
 - ◊ Give career advice and information to young researchers (individual grants, collaborations, research services available).
 - ◊ IDIBGI's Seminar and Conference series to publicise the research carried out by the different IDIBGI groups and to promote cooperation between them.

ISO 9001:2015 CERTIFICATION



The ISO 9001 Standard is the most widespread quality management tool in the world. Its main goal is to increase customer satisfaction through continuous improvement processes. It is designed to ensure that organizations guarantee their ability to offer services that meet the demands of their clients: researchers and external clients.

This international standard promotes the adoption of a process-based approach when developing, implementing, and improving the effectiveness of a quality management system.

The main benefits derived from the ISO 9001 certification for organizations are the systematization of operations, improvement of the internal organization, generation of a greater level of confidence internally and externally, and an increase in competitiveness and compliance with legislation and regulations related to products and services, among others.

In 2019 IDIBGI obtained the ISO 9001:2015 certification for a) Research support services; and b) Biobank's Quality policy and procedures. In 2020 and 2021 IDIBGI passed the first and second follow-up audit successfully.

In 2022 IDIBGI renewed the certification for the ISO 9001 standard, which demonstrates the organization's commitment to quality service and customer satisfaction.

OUTREACH ACTIVITIES

Seminars, conferences and courses

SEMINARS ORGANIZED BY IDIBGI DURING 2022

TOTAL: 8

IDIBGI CYCLE OF CONFERENCES

MiR-155, a master regulator of macrophages in disease

Dr. Claire McCoy. Royal College of Surgeons in Ireland (RCSI).
June, 29



Body shape phenotypes and breast and colorectal cancer risk. Insights from a genetic perspective

Laia Peruchet. International Agency for Research on Cancer (IARC) / World Health Organization (WHO).
December, 16



IDIBGI IN-HOUSE SEMINARS "INSIDE SCIENCE"

Placental methylation in the IRS1 gene is associated with obesity parameters in 6 year-old children born to mothers with pre-gestational obesity

Ariadna Gómez. Metabolic and Maternal-fetal IDIBGI research group.
October, 5



Orc6 and its contribution to the origin licensing

Marina Guerrero. Chromosomal replication IDIBGI research group.
October, 5



Endothelial dysfunction in COVID-19: A threatening sequelae to cardiopulmonary complications

Paula Poyatos. Respiratory IDIBGI research group.
November, 2



Circulating miRNAs as predictive biomarkers of vulnerable plaque in patients with carotid stenosis

Laia Carballo. Cerebrovascular Pathology IDIBGI research group.
November, 2



Relationship between placental PEG10 methylation and postnatal weight gain in 6 year-old children

Berta Mas. Paediatric obesity and cardiovascular risk IDIBGI research group.
December, 14



Biomarkers of inflammation and oxidative stress for a differential diagnosis of non-active primary progressive multiple sclerosis

Albert Miguela. Neurodegeneration and Neuroinflammation IDIBGI research group.
December, 14



CONFERENCES ORGANIZED BY IDIBGI DURING 2022
TOTAL: 7

Jornada sobre infeccions uirnàries refractaries
Dr. Joan Meléndez. April, 29

V JORNADA Immunoterapia i noves teràpies del càncer
Dr. Joaquim Bosch. May and June

Jornada de Cirurgia Hepàtica
Dr. López Ben. May, 12

Jornada Tumors Neuroendocrins
Dr. Raquel Guardeño. October, 13

VI Jornada d'Infectologia Pediàtrica
Dr. Borja Guarch. October, 14

Jornades Gironines Mediterrani EM 2022
Dr. Lluís Ramió-Torrentà. December, 15 and 16

I Jornada UFMAMA
Dr. Arantxa Eraso and Dr. Gemma Viñas. December, 16

COURSES ORGANIZED BY IDIBGI DURING 2022
TOTAL: 14

Formación Continuada del Servicio de Hematología de ICO Girona
Dr. Yolanda González. All year long

Programa formació interna Dermatologia IAS
Dr. Margarita Roura. All year long

Curs Cirurgia Hepàtica per Laparoscopia
Dr. Ramón Farrés. February - March

Curs aportaciones de la cirugía transanal
Dr. Santiago López Ben. February - March

Formació continuada Hematologia ICO Girona
Dr. David Gallardo. March - November

Formació en Tumors Urològics
Dr. Núria Sala. April, 20 - October, 5

Curs punció perifèrica ecoguiada per infermeria
Dr. Xavier Garcia - May, 4, 5 and 6

Formació anual UNIEMTG
Dr. Lluís Ramió-Torrentà. May, 21 - November, 22

Curs de prevenció primària i secundària cardiopatia isquèmica
Dr. Jaime Aboal. May

Sessió informativa Esclerosi Múltiple: La progressió en l'esclerosi múltiple: com la podem identificar i com la podem controlar
Dr. Lluís Ramió-Torrentà. July, 14

Formación Proyecto Creación Unidad Rápida y Alta resolución Cardiología
Dr. Marco Paz. September and December

Tallers formatius la Detecció del pacient amb Esclerosis Múltiple
Dr. Lluís Ramió-Torrentà. October - November

Formació en Tècniques Laparoscòpiques Colorrectals
Dr. Antoni Codina-Cazador. Novembrer, 24

Formación centros de atención primaria
Dr. Marco Paz. December and January

Communication and public engagement

MEDIA IMPACT

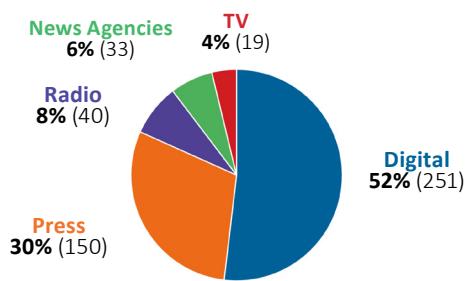
27

Press Releases sent (+68 %)

503

IDIBGI media impacts (+279 %)

Media impact by type of media:



WEBSITE



21.753 unique visits (+22 %)

SOCIAL MEDIA



- Twitter
2261 followers (+14 %)
- Instagram
1247 followers (+30 %)
- LinkedIn
3764 followers (+47 %)
- Youtube
55 subscribers (+5 %)

Metrics of December 31st, 2022. Percentages show the evolution from 2021 metrics.



OUTREACH ACTIVITIES AND VISITS

4

Dissemination events

8

Schools visits

12

Donors and Sponsors visits



FUNDRAISING

9

New IDIBGI donors

12

Solidarity campaigns and activities organized for the IDIBGI research

230.303€



- 1 The president of the Diputació de Girona institution, Miquel Noguer, visits IDIBGI.
- 2 IDIBGI's participation at the "European Researchers' Night" 2022 event in Girona.
- 3 In 2022 the charity dinner "El Sopar dels Miralls" was recovered after the COVID19.
- 4 The Girona Women's Race is one of the raises funds for IDIBGI research.

IDIBGI FRIENDS



PUBLIC INSTITUTIONS



MEDIA PARTNERS



RESEARCH AREAS AND GROUPS



CARDIO- VASCULAR AND RESPIRATORY

CARDIOVASCULAR GENETICS
RESEARCH IN VASCULAR HEALTH
RESPIRATORY

Cardiovascular genetics



Recognized as a consolidated research group by AGAUR (Generalitat de Catalunya) - 2017 SGR 804.

MEMBER OF
CIBER-CV

KEYWORDS
Sudden Cardiac Death; Arrhythmia; Ion channels, Genetics; Cell Biology; Epigenomics; iPSCs

RELATED DISEASES
Sudden Death; Long Qt syndrome; Short Qt syndrome; Brugada Syndrome; Catecholaminergic polymorphic ventricular tachycardia; Arrhythmogenic cardiomyopathy; Hypertrophic cardiomyopathy; Dilated cardiomyopathy.

GROUP LEADER - R4
Ramon Brugada Terradellas (ICS/Trueta)

ESTABLISHED RESEARCHERS - R3
Oscar Campuzano Larrea (UdG)
Carles Ferrer Costa (IDIBGI)
Sergio Moral Torres (ICS/Trueta)
Sara Pagans Lista (UdG)
Guillermo Javier Pérez González (UdG)

Elisabet Selga Coma (UVic-UCC)
Fabiana Silvia Scornik Gerzenstein (UdG)
Marcel Vergés Aiguaviva (UdG)

POST-DOCTORAL RESEARCHERS - R2

Jaime Aboal Viñas (ICS/Trueta)
Mireia Alcalde Masegú (IDIBGI)
Mónica Coll Vidal (IDIBGI)
Markus Linhart (ICS/Trueta)
Rebecca Martínez Moreno (IDIBGI)
Pablo Loma-Osorio Rincon (ICS/Trueta)
Bernat Del Olmo Cabestré (IDIBGI)
Mel·lina Pinsach Abuin (IDIBGI)
Marta Puigmulé Raurich (CIBER)

PRE-DOCTORAL RESEARCHERS - R1

Maria Yajaira Alvarado Cervantes (IDIBGI)
Eloi Arias Labrador (EUSES)
David Carreras Gorgals (IDIBGI)
Anna Fernandez Falgueras (ICS/Trueta)
Adrián Pérez Agustín (IDIBGI)
Helena Resta Saurí (ICS/Trueta)
Manjot Singh (ICS/Trueta)
Marta Vallverdú Prats (IDIBGI)

TECHNICIANS

Aleix Ramon Brugada Iglesias (GENINCODE)
Oriol Canal Pujol (IDIBGI)
Mònica Corona Martín (IDIBGI)

MEMBERS DISTRIBUTED BY GENDER

W: 52,9% M: 47,1%

Imma Gomez Aguilar (IDIBGI)
Anna Maria Iglesias Muñoz (IDIBGI)
Laura López López (IDIBGI)
Marina Moliner Culubret (IDIBGI)
Núria Esther Neto Ibáñez (IDIBGI)
Adrià Simon Rodríguez (IDIBGI)
Alejandro Pérez Pizarro (IDIBGI)
Alexandra Pérez Serra (IDIBGI)
Ferran Picó Micaló (IDIBGI)
Isabel Ramio Viñets (IDIBGI)
Xavier Sumpsi Balada (IDIBGI)
Marcel Tarragó Lamelas (IDIBGI)

NON-SCIENTIFIC RESEARCH SUPPORT STAFF

Elisabet Canals Latorre (UdG)
Laia Nogué Navarro (UVic-UCC)

COLLABORATORS

Maria Berenguel Anter (ICS/Trueta)
Xavier Albert Bertran (ICS/Trueta)
Núria Coma Constansó (ICS/Trueta)
Paula Fluvia Brugués (ICS/Trueta)
Alei Fort Pal (ICS/Trueta)
Maria Nuñez Torras (ICS/Trueta)
Daniel Rivero Cerda (ICS/Trueta)
Coloma Tiron De Llano (ICS/Trueta)
Maria-Emilce Trucco (ICS/Trueta)



OVERVIEW

PROBLEM

Sudden cardiac death in the young is a devastating event, which affects families and communities. Because it can have a genetic origin, it places family members at risk. The identification of the genetic cause is key for adoption of preventive strategies.

APPROACH

We aim to tackle this medical problem with research at the clinical and basic levels.

CLINICAL RESEARCH: The clinical research program takes advantage of the collaboration of hospitals and health centers to study risk factors, possible treatments, and prevention methods.

BASIC RESEARCH: STUDIES AIMED AT BETTER UNDERSTANDING THE BIOLOGICAL BASES OF DISEASES ASSOCIATED WITH SUDDEN DEATH. THE LABORATORY PARTICIPATES IN DIFFERENT PROJECTS TO UNDERSTAND THE PHYSIO PATHOLOGICAL BASIS OF SUDDEN DEATH IN SIX MAJOR ASPECTS: GENETICS, EPIGENETICS, HISTOLOGY, ELECTROPHYSIOLOGY, MEMBRANE TRAFFICKING AND PROTEOMICS.

IMPACT

Our research is multidisciplinary. We use genetic tools to identify the genetic variants associated with the disease and molecular biology tools, functional studies, IPs and CRISPR technology to understand the basic mechanisms leading to arrhythmogenesis.

The goal of our research is to provide better tools for the identification of individuals at risk of sudden death, to adopt preventive and therapeutic strategies to ultimately better understand the most common cause of sudden death, the one caused by myocardial infarction.

MAIN RESEARCH LINES

- Channelopathies, we investigate new mechanisms associated with the disease, from the most basic to the clinical aspects of the disease
- Cardiomyopathies. We investigate how the disease is associated with sudden cardiac death in athletes
- Unexplained sudden death in forensics. We investigate the genetic, epigenetic and environmental factors causing sudden death in the young

- Public access defibrillation program. We investigate the use of public access defibrillators in the prevention of sudden death
- Valvulopathies
- Electrophysiological bases of arrhythmias
- Early coronary artery disease
- Cardioncology

PUBLICATIONS

ORIGINALS/ I.F: 221.52

1. Vallverdú Prats M,Brugada R,Alcalde M. **Premature Termination Codon in 5' Region of Desmoplakin and Plakoglobin Genes May Escape Nonsense-Mediated Decay through the Reinitiation of Translation.** Int J Mol Sci. 2022. 23. (2):656. IF:6,208. (Q1).
2. Puigmulé M,Coll M,Pérez Serra A,López L,Picó F,Neto N,Corona M,Pinsach Abuin ML,Ferrer Costa C,Buxó M,Queralt FX,Brugada R. **High-quality RNA improves sensitivity of SARS-CoV-2 detection by colorimetric RT-LAMP.** Exp. Biol. Med. 2022. 247. (3):p. 276-281. IF:4,088. (Q3).
3. Peltenburg PJ,Kallas D,Bos JM,Lieve KVV,Franciosi S,Roston TM,Denjoy I,Sorensen KB,Ohno S,Roses Noguer F,Aiba T,Maltret A,LaPage MJ,Atallah J,Giudicessi JR,Clur SB,Blom NA,Tanck M,Extramiana F,Kato K,Barc J,Borggrefe M,Behr ER,Sarquella Brugada G,Tfelt Hansen J,Zorio E,Swan H,Kammeraad J,Krahn AD,Davis A,Sacher F,Schwartz PJ,Roberts JD,Skinner JR,van den Berg MP,Kannankeril PJ,Drago F,Robyns T,Haugaa KH,Tavacova T,Semsarian C,Till J,Probst V,Brugada R,Shimizu W,Horie M,Leenhardt A,Ackerman MJ,Sanatani S,van der Werf C,Wilde A. **An International Multicenter Cohort Study on beta-Blockers for the Treatment of Symptomatic Children With Catecholaminergic Polymorphic Ventricular Tachycardia.** Circulation. 2022. 145. (5):p. 333-344. IF:39,918. (Q1).
4. Carbó Bagué A,Rubió Casadevall J,Puigdemont M,Sanvisens A,Oliveras G,Coll M,Del Olmo B,Perez Bueno F,Marcos Gragera R. **Epidemiology and Molecular Profile of Mucosal Melanoma: A Population-Based Study in Southern Europe.** Cancers (Basel). 2022. 14. (3):780. IF:6,575. (Q1).
5. Martínez Barrios E,Sarquella Brugada G,Pérez Serra A,Fernández Falgueras A,Cesar S,Coll M,Puigmulé M,Iglesias A,Alcalde M,Vallverdú Prats M,Ferrer Costa C,Del Olmo B,Picó F,López L,Fiol V,Cruzalegui J,Hernández C,Arbelo

- E.Grassi S,Oliva A,Toro R,Brugada J,Brugada R,Campuzano O. **Discerning the Ambiguous Role of Missense TTN Variants in Inherited Arrhythmogenic Syndromes.** J. Pers. Med. 2022. 12. (2):241. IF:3,508. (Q2).
- 6.** Toro R,Pérez Serra A,Mangas A,Campuzano O,Sarquella Brugada G,Quezada Feijoo M,Ramos M,Alcalá M,Carrera E,García Padilla C,Franco D,Bonet F. **miR-16-5p Suppression Protects Human Cardiomyocytes against Endoplasmic Reticulum and Oxidative Stress-Induced Injury.** Int J Mol Sci. 2022. 23. (3):1036. IF:6,208. (Q1).
- 7.** Barc J,Tadros R,Glinge C,Chiang DY,Jouni M,Simonet F,Jurgens SJ,Baudic M,Nicastro M,Potet F,Offerhaus JA,Walsh R,Choi SH,Verkerk AO,Mizusawa Y,Anys S,Minois D,Arnaud M,Duchateau J,Wijeyeratne YD,Muir A,Papadakis M,Castelletti S,Torchio M,Ortuño CG,Lacunza J,Giachino DF,Cerrato N,Martins RP,Campuzano O,Van Dooren S,Thollet A, KYNTDF,Mazzanti A,Clémenty N,Bisson A,Corveleyn A,Stallmeyer B,Dittmann S,Saenen J,Noël A,Honarbakhsh S,Rudic B,Marzak H,Rowe MK,Fedderspiel C,Le Page S,Placide L,Milhem A,Barajas Martinez H,Beckmann BM,Krapels IP,Steinfurt J,Winkel BG,Jabbari R,Shoemaker MB,Boukens BJ,Škoric Milosavljevic D,Bikker H,Manev FC,Lichtner P,Ribasés M,Meitinger T,Müller Nurasyid M,KORA Study G,Veldink JH,van den Berg LH,Van Damme P,Cusi D,Lanzani C,Rigade S,Charpentier E,Baron E,Bonnaud S,Lecointe S,Donnart A,Le Marec H,Chatel S,Karakachoff M,Bézieau S,London B,Tfelt Hansen J,Roden D,Odening KE,Cerrone M,Chinitz LA,Volders PG,van de Berg MP,Laurent G,Faivre L,Antzelevitch C,Kääb S,Arnaout AA,Dupuis JM,Pasquie JL,Billon O,Roberts JD,Jesel L,Borggrefe M,Lambiasi PD,Mansouriati J,Loeys B,Leenhardt A,Guicheney P,Maury P,Schulze Bahr E,Robyns T,Breckpot J,Babuty D,Priori SG,Napolitano C,Nantes Referral Center for inherited cardiac A,de Asmundis C,Brugada P,Brugada R,Arbelo E,Brugada J,Mabo P,Behar N,Giustetto C,Molina MS,Gimeno JR,Hasdemir C,Schwartz PJ,Crott L,McKeown PP,Sharma S,Behr ER,Haissaguerre M,Sacher F,Rooryck C,Tan HL,Remme CA,Postema PG,Delmar M,Ellinor PT,Lubitz SA,Gourraud JB,Tanck MW,George AL,MacRae CA,Burridge PW,Dina C,Probst V,Wilde AA,Schott JJ,Redon R,Bezzina CR. **Genome-wide association analyses identify new Brugada syndrome risk loci and highlight a new mechanism of sodium channel regulation in disease susceptibility.** Nature Genet. 2022. 54. (3):p. 232-239. IF:41,307. (Q1).
- 8.** Jordà P,Martínez D,Farrero M,Marcos MÁ,Sandoval E,Castel MÁ,Pereda D,Quintana E,Arbelo E,Sánchez A,Campuzano O,Tirón de Llano C,Brugada R,Brugada J,Castellá M,Pérez Villa F,García Álvarez A. **BAG3 Genetic Cardiomyopathy May Overlap Fulminant Myocarditis Clinical Findings.** Circ.-Heart Fail. 2022. 15. (3):e008443. IF:10,447. (Q1).
- 9.** Bonanad C,Raposeiras Roubin S,García Blas S,Núñez Gil I,Vergara Uzcategui C,Díez Villanueva P,Bañeras J,Badía Molins C,Aboal J,Carreras J,Bodi V,Gabaldón Pérez A,Mateus Porta G,Parada Barcia JA,Martínez Sellés M,Chorro FJ,Ariza Solé A. **Evaluation of the Use of Dual Antiplatelet Therapy beyond the First Year after Acute Coronary Syndrome.** J Clin Med. 2022. 11. (6):1680. IF:4,964. (Q2).
- 10.** Jiménez López J,Vallès E,Martí Almor J,Casteigt B,Villuendas R,Bisbal F,Sarriàs A,Benito E,Trucco E,Conejos J,Alcalde O,Figuera Mari L,Fan R,Bazan V. **Merged two-way mapping technique: an alternative 3D electroanatomical mapping approach to guide challenging ablation procedures of accessory pathways with bidirectional conduction properties.** J. Interv. Card. Electrophysiol. 2022. 63. (3):p. 591-599. IF:1,759. (Q4).
- 11.** Martínez Moreno R,Pérez Serra A,Carreras D,Aran B,Kuebler B,Brugada R,Scornik FS,Pérez GJ,Selga E. **Generation of an induced pluripotent stem cell line from a healthy Caucasian male.** Stem Cell Res. 2022. 60. p. 102717-102717. IF:1,587. (Q4).
- 12.** Galian Gay L,Escalona Silva RA,Teixidó Turà G,Casas G,Ferrer Sistach E,Mitroi C,Mingo S,Monivas V,Saura D,Vidal B,Trasca L,Moral S,Calvo F,Castiñeira Busto M,Sánchez V,Gonzalez A,Guzman G,Mora MN,Arnau Vives M,Peteiro J,Bouzas A,Mas Stachurska A,González Alujas T,Gutiérrez L,Fernandez Galera R,Valente F,Gualà A,Ruiz Muñoz A,Avilés C,Palomares JFR,Ferreira I,Evangelista A. **Prognosis of Paradoxical Low-Flow Low-Gradient Aortic Stenosis: A Severe, Non-critical Form, With Surgical Treatment Benefits.** Front Cardiovasc Med. 2022. 9. p. 852954-852954. IF:5,846. (Q2).
- 13.** Alcalde M,Nogué Navarro L,Tiron C,Fernandez Falgueras A,Iglesias A,Simon A,Buxó M,Pérez Serra A,Puigmulé M,López L,Picó F,Del Olmo B,Corona M,Campuzano O,Moral S,Castella J,Coll M,Brugada R. **Rare variants in genes encoding structural myocyte contribute to a thickened ventricular septum in sudden death population without ventricular alterations.** Forensic Sci. Int.-Genet. 2022. 58. p. 102688-102688. IF:4,453. (Q1).
- 14.** Mayneris Perxachs J,Castells Nobau A,Arnoriaga Rodríguez M,Martin M,de la Vega Correa L,Zapata C,Burokas A,Blasco G,Coll C,Esrichs A,Biarrés C,Moreno Navarrete JM,Puig J,Garre Olmo J,Ramos R,Pedraza S,Brugada R, K, Serena J,Gich J,Ramíó Torrentà L,Pérez Brocal V,Moya A,Pamplona R,Sol J,Jové M,Ricart W,Portero Otín M,Deco G,Maldonado R,Fernández Real JM. **Microbiota alterations in proline metabolism impact depression.** Cell Metab. 2022. 34. (5):p. 681-681. IF:31,373. (Q1).
- 15.** Vilardell P,Moral S,Morales M,Ballesteros E,Brugada R. **Unicuspid aortic valve and infective endocarditis.** Acta Cardiol. 2022. 77. (5):p. 463-464. IF:1,738. (Q4).

- 16.** Coll M,Fernández Falgueras A,Tiron C,Iglesias A,Buxó M,Simón A,Nogué Navarro L,Moral S,Pérez Serra A,Puigmulé M,Del Olmo B,Campuzano O,Castellà J,Picó F,Lopez L,Neto N,Corona M,Alcalde M,Brugada R. **Post-mortem toxicology analysis in a young sudden cardiac death cohort.** Forensic Sci. Int.-Genet. 2022. 59. p. 102723-102723. IF:4,453. (Q1).
- 17.** Martínez Moreno R,Carreras D,Aran B,Kuebler B,Sarquella Brugada G,Brugada R,Pérez GJ,Scornik FS,Selga E. **Generation of four induced pluripotent stem cell lines from a family harboring a single nucleotide variant in SCN5A.** Stem Cell Res. 2022. 63. p. 102847-102847. IF:1,587. (Q4).
- 18.** Mangas A,Pérez Serra A,Bonet F,Muñiz O,Fuentes F,Gonzalez Estrada A,Campuzano O,Rodriguez Roca JS,Alonso Villa E,Toro R. **A microRNA Signature for the Diagnosis of Statins Intolerance.** Int J Mol Sci. 2022. 23. (15):8146. IF:6,208. (Q1).
- 19.** Escobar Lopez L,Ochoa JP,Royuela A,Verdonschot J,Dal Ferro M,Espinosa MA,Sabater Molina M,Gallego Delgado M,Larrañaga Moreira JM,Garcia Pinilla JM,Basurte Elorza MT,Rodríguez Palomares JF,Climent V,Bermudez Jimenez FJ,Mogollón Jiménez MV,Lopez J,Peña ML,Garcia Alvarez A,López Abel B,Ripoll Vera T,Palomino Doza J,Bayes Genis A,Brugada R,Idiazabal U,Mirelis JG,Dominguez F,Henkens MTHM,Krapels I,Brunner HG,Paldino A,Zaffalon D,Mestroni L,Sinagra G,Heymans SRB,Merlo M,Garcia Pavia P. **Clinical Risk Score to Predict Pathogenic Genotypes in Patients With Dilated Cardiomyopathy.** J. Am. Coll. Cardiol. 2022. 80. (12):p. 1115-1126. IF:27,203. (Q1).
- 20.** Sarquella Brugada G,Fernandez Falgueras A,Cesar S,Arbelo E,Coll M,Perez Serra A,Puigmulé M,Iglesias A,Alcalde M,Vallverdú Prats M,Fiol V,Ferrer Costa C,Del Olmo B,Picó F,Lopez L,García Alvarez A,Jordà P,Tiron de Llano C,Toro R,Grassi S,Oliva A,Brugada J,Brugada R,Campuzano O. **Clinical impact of rare variants associated with inherited channelopathies: a 5-year update.** Hum. Genet. 2022. 141. (10):p. 1579-1589. IF:5,881. (Q1).
- 21.** Coll M,Fernandez Falgueras A,Iglesias A,Del Olmo B,Nogue Navarro L,Simon A,Perez Serra A,Puigmule M,Lopez L,Pico F,Corona M,Vallverdu Prats M,Tiron C,Campuzano O,Castella J,Brugada R,Alcalde M. **Unpredicted Aberrant Splicing Products Identified in Postmortem Sudden Cardiac Death Samples.** Int J Mol Sci. 2022. 23. (20):12640. IF:6,208. (Q1).
- 2.** Martínez Barrios E,Arbelo E,Cesar S,Cruzalegui J,Fiol V,Díez Escuté N,Hernández C,Brugada R,Brugada J,Campuzano O,Sarquella Brugada G. **Brugada Syndrome in Women: What Do We Know After 30 Years?** Front Cardiovasc Med. 2022. 9. p. 874992-874992. IF:5,846. (Q2).
- 3.** Moral S,Abulí M,Vilardell P,Trucco E,Ballesteros E,Brugada R. **Multimodality Imaging in the Study of the Left Atrium.** J Clin Med. 2022. 11. (10):2854. IF:4,964. (Q2).
- 4.** Oliva A,Grassi S,Pinchi V,Cazzato F,Coll M,Alcalde M,Vallverdú Prats M,Perez Serra A,Martínez Barrios E,Cesar S,Iglesias A,Cruzalegui J,Hernández C,Fiol V,Arbelo E,Díez Escuté N,Arena V,Brugada J,Sarquella Brugada G,Brugada R,Campuzano O. **Structural Heart Alterations in Brugada Syndrome: Is it Really a Channelopathy? A Systematic Review.** J Clin Med. 2022. 11. (15):4406. IF:4,964. (Q2).
- 5.** Alonso Villa E,Bonet F,Hernandez Torres F,Campuzano Ó,Sarquella Brugada G,Quezada Feijoo M,Ramos M,Mangas A,Toro R. **The Role of MicroRNAs in Dilated Cardiomyopathy: New Insights for an Old Entity.** Int J Mol Sci. 2022. 23. (21):13573. IF:6,208. (Q1).

LETTERS/ I.F.: 7.47

- 1.** Tirón C,Campuzano O,Fernández Falgueras A,Alcalde M,Loma Osorio P,Zamora E,Caballero A,Sarquella Brugada G,Cesar S,Garcia Cuenllas L,García A,Jordà P,Arbelo E,Tomás Querol C,Pineda V,Martínez D,Brugada R. **Prevalence of Pathogenic Variants in Cardiomyopathy-Associated Genes in Myocarditis.** Circ.-Genom. Precis. Med. 2022. 15. (3):e003408. IF:7,465. (Q1).

CASE REPORTS/ I.F.: 10.62

- 1.** Cruzalegui J,Cesar S,Campuzano O,Fiol V,Brugada J,Sarquella Brugada G. **Pediatric Left Posteroseptal Accessory Pathway Ablation from Giant Coronary Sinus with Persistent Left Superior Cava.** J. Cardiovasc. Dev. Dis. 2022. 9. (4):109. IF:4,415. (Q2).
- 2.** Grassi S,Campuzano O,Coll M,Cazzato F,Iglesias A,Ausania F,Scarnicci F,Sarquella Brugada G,Brugada J,Arena V,Oliva A,Brugada R. **Eosinophilic Infiltration of the Sino-Atrial Node in Sudden Cardiac Death Caused by Long QT Syndrome.** Int J Mol Sci. 2022. 23. (19):11666. IF:6,208. (Q1).

REVIEWS/ I.F.: 26.74

- 1.** Martínez Barrios E,Cesar S,Cruzalegui J,Hernandez C,Arbelo E,Fiol V,Brugada J,Brugada R,Campuzano O,Sarquella Brugada G. **Clinical Genetics of Inherited Arrhythmogenic Disease in the Pediatric Population.** Biomedicines. 2022. 10. (1):106. IF:4,757. (Q2).

MEMBERSHIP OF COLLABORATIVE RESEARCH NETWORKS

SPANISH

- CIBER-CV (Enfermedades Cardiovasculares) - CB16/11/00329
- i4KIDS, Hub especializado en Innovación Pediátrica y Maternal

GRANTS

IDIBGI Principal Investigator: Jaime Aboal

Project Title: Aplicació de noves tecnologies (App ODISEA) en el codi IAM per millorar els temps d'angioplastia primària
Project Code: ODISEA
Funding Agency: Fundació Acadèmica Ciències Mèdiques- Societat Catalana de Cardiologia
Duration: 01/07/2022 to 30/06/2023

IDIBGI Principal Investigator: Jaime Aboal

Project Title: Aplicación de las nuevas tecnologías (App ODISEA) en el código IAM para mejorar los tiempos de angioplastia primaria-Formació Carmen Martín Domínguez
Project Code: ODISEA
Funding Agency: Sociedad Española de Cardiología
Duration: 01/07/2022 to 30/06/2023

IDIBGI Principal Investigator: Ramon Brugada

Project Title: Ajuda de personal PFIS
Project Code: FI18/00321
Funding Agency: Instituto de Salud Carlos III
Duration: 01/01/2019 to 31/05/2023

IDIBGI Principal Investigator: Ramon Brugada

Project Title: Mendelian Randomization to assess causal genetic pathways leading to severe COVID-19 (GINA-COVID)

Project Code: GINA-COVID
Funding Agency: Fundació La Marató de TV3
Duration: 20/07/2021 to 30/07/2024

IDIBGI Principal Investigator: Ramon Brugada

Project Title: miRNAs circulants com a nous biomarcadors per a la determinació de la etiologia dels episodis sincopals
Project Code: 2021 LLAV 00073
Funding Agency: Agència de Gestió d'Ajuts Universitaris i de Recerca
Duration: 11/10/2022 to 10/07/2023

IDIBGI Principal Investigator: Ramon Brugada

Project Title: Implementació de la segona fase del programa Pm05 "Girona, territori cardioprotigit"
Project Code:
Funding Agency: IDIBGI-Diputació de Girona
Duration: 01/07/2022 to 31/10/2025

IDIBGI Principal Investigator: Ramon Brugada

IDIBGI Beneficiary: Manjot Singh
Project Title: Public Access defibrillation in Girona, a paradigm for

PAD in rural areas around the world

Project Code:

Funding Agency: IDIBGI-Diputació de Girona

Duration: 01/02/2022 to 31/01/2024

IDIBGI Principal Investigator: Sergi Moral

IDIBGI Beneficiary: Helena Resta

Project Title: Impact of a structured program of physical exercise and cardiovascular risk factors control in primary prevention of cardiotoxicity in patients with breast cancer undergoing cardiotoxic treatments: prev study

Project Code:

Funding Agency: IDIBGI-Diputació de Girona

Duration: 18/07/2022 to 17/07/2024

IDIBGI Principal Investigator: Oscar Campuzano

Project Title: Estudio de expresión del ARN en pacientes con miocardiopatía arritmogénica para la determinación del sustrato fisiopatológico inductor de arritmias

Project Code: SEC/FEC-INV-BAS 20/003

Funding Agency: Sociedad Española De Cardiología

Duration: 28/10/2020 to 31/12/2024

IDIBGI Principal Investigator: Sergi Moral

Project Title: Impacto de un programa estructurado de ejercicio físico y control de factores de riesgo cardiovasculares en prevención primaria de cardiotoxicidad en pacientes con cáncer de mama sometidos a tratamientos cardiotóxicos: Estudio PREV

Project Code: Estudio PREV

Funding Agency: Sociedad Española De Cardiología

Duration: 01/11/2021 to 31/12/2025

IDIBGI Principal Investigator: Ramon Brugada

Project Title: Contracte de treball en el Marc del Programa INVESTIGO-AGAUR

Project Code: 2022 INV-1 00001- 100001TC3

Funding Agency: Agència de Gestió d'Ajuts Universitaris i de Recerca
Duration: 14/11/2022 to 13/11/2024

IDIBGI Principal Investigator: Ramon Brugada, Mireia Alcalde

Project Title: Variabilidad fenotípica en la Miocardiopatía Arritmogénica: De los mecanismos moleculares a la práctica clínica

Project Code: PI22/00422

Funding Agency: Instituto de Salud Carlos III

Duration: 01/01/2023 to 31/12/2025

IDIBGI Principal Investigator: Ramon Brugada

Project Title: Enhancing Whole Genome Sequencing (WGS) and/or Reverse Transcription Polymerase Chain Reaction (RT-PCR) national infrastructures and capacities to respond to the Covid-19 pandemic in Spain. HERA Incubator

Project Code: Grant/2021/PHF/23776

Funding Agency: European Centre for Disease Prevention and Control (ECDC)

Role: Partner

Duration: 03/09/2021 to 30/09/2022

IDIBGI Principal Investigator: Ramon Brugada

Project Title: Programa de prevenció de malalties cardiovasculars basat en el cribatge d'arteriopatia perifèrica asimptomàtica. (Health origram for prevention of cardiovascular diseases based on a risk screeNing strategy with Ankle-brachial index)

Project Code: SLT021/21/000015

Funding Agency: Generalitat de Catalunya

Role: Partner

Duration: 01/04/2022 to 31/12/2024

IDIBGI Principal Investigator: Ramon Brugada

Project Title: Programa de prevenció de malalties cardiovasculars basat en el cribatge d'arteriopatia perifèrica asimptomàtica. (Health origram for prevention of cardiovascular diseases based on a risk screeNing strategy with Ankle-brachial index)

Project Code: SLT021/21/000015

Funding Agency: Generalitat de Catalunya

Role: Partner

Duration: 01/04/2022 to 31/12/2024

IDIBGI Principal Investigator: Ramon Brugada, Joan Brunet

Project Title: CGI-Clinics: Data-driven cancer genome interpretation for personalised cancer treatment

Project Code: HORIZON-HLTH-2021-CARE-05

Funding Agency: European Comission

Role: Partners

Duration: 01/11/2022 to 01/11/2027

IDIBGI Principal Investigator: Antoni Castro, Ramon Brugada, Rafel Ramos

Project Title: RBD Dimer recombinant protein vaccine against SARS-CoV2 (RBDCOV)

Project Code: 101046118

Funding Agency: EUROPEAN COMISSION

Role: Partner

Duration: 01/12/2021 to 31/05/2024

PATENTS

Title: Genetic markers for severe COVID-19

Application number: EP22382342

EPO

Applicants: IMIM, UdG IDIBGI, IDIAP, UVic

Inventors: Jaume Marrugat de la Iglesia, Roberto Elosua Llanos, Anna Camps Vilaró, Isaac Subirana Cachinero, Xavier Nogues Solan, Joan Ramón Masclans, Roberto Güerri Fernández, Judith Marin Corral, Helena Tizón Marco, Ramón Brugada i Terradelles, Mel·lina Pinsach Abuin, Alexandra Pérez Serra, Rafel Ramos Blanes, Ruth Martí Lluch, Irene Roman Degano

Licensed: No

AWARDS

Title: Premio a la transformación digital Ennova 2022

Institution: Diario médico

Awardee/s: Dr. Jaime Aboal Viñas

Title: Premi a la millor tesi doctoral Consell Català de Ressuscitació (CCR)

Institution: Consell Català de Ressuscitació (CCR)

Awardee/s: Dr. Pablo Loma-Osorio Rincón

Research in vascular health



Recognized as a consolidated research group by AGAUR (Generalitat de Catalunya) - 2017 SGR 1146.

MEMBER OF
RICAPPS ISCIII

KEYWORDS
Atherosclerosis
Cardiovascular risk
Primary prevention

RELATED DISEASES
Coronary Heart Disease
Cerebrovascular disease
Peripheral Artery Disease

GROUP LEADER - R4

Rafel Ramos Blanes (ICS/Primary Care Services)

ESTABLISHED RESEARCHERS - R3

Maria Del Mar Garcia Gil (IDIAPJGol)
Ruth Martí Lluch (IDIBGI)
Anna Ponjoan Thäns (IDIBGI)

POST-DOCTORAL RESEARCHERS - R2

Lia Alves Cabratosa (IDIAPJGol)
Dídac Parramon Font (ICS/Primary Care Services)
Miquel Quesada Sabaté (ICS/Primary Care Services)
Mar Serrat Costa (ICS/Primary Care Services)

PRE-DOCTORAL RESEARCHERS - R1

Elisabet Balló Peña (ICS/Primary Care Services)
Aida Corpes Comes (IDIBGI - ICS/Primary Care Services)
Lidia Elizabeth Guzman Heras (IDIAPJGol)
Ester Fages Masmiquel (ICS/Primary Care Services)

MEMBERS DISTRIBUTED BY GENDER

W: 57,1%

M: 42,9%

Marc Ribas Aulinas (IDIBGI - ICS/Primary Care Services)

TECHNICIANS

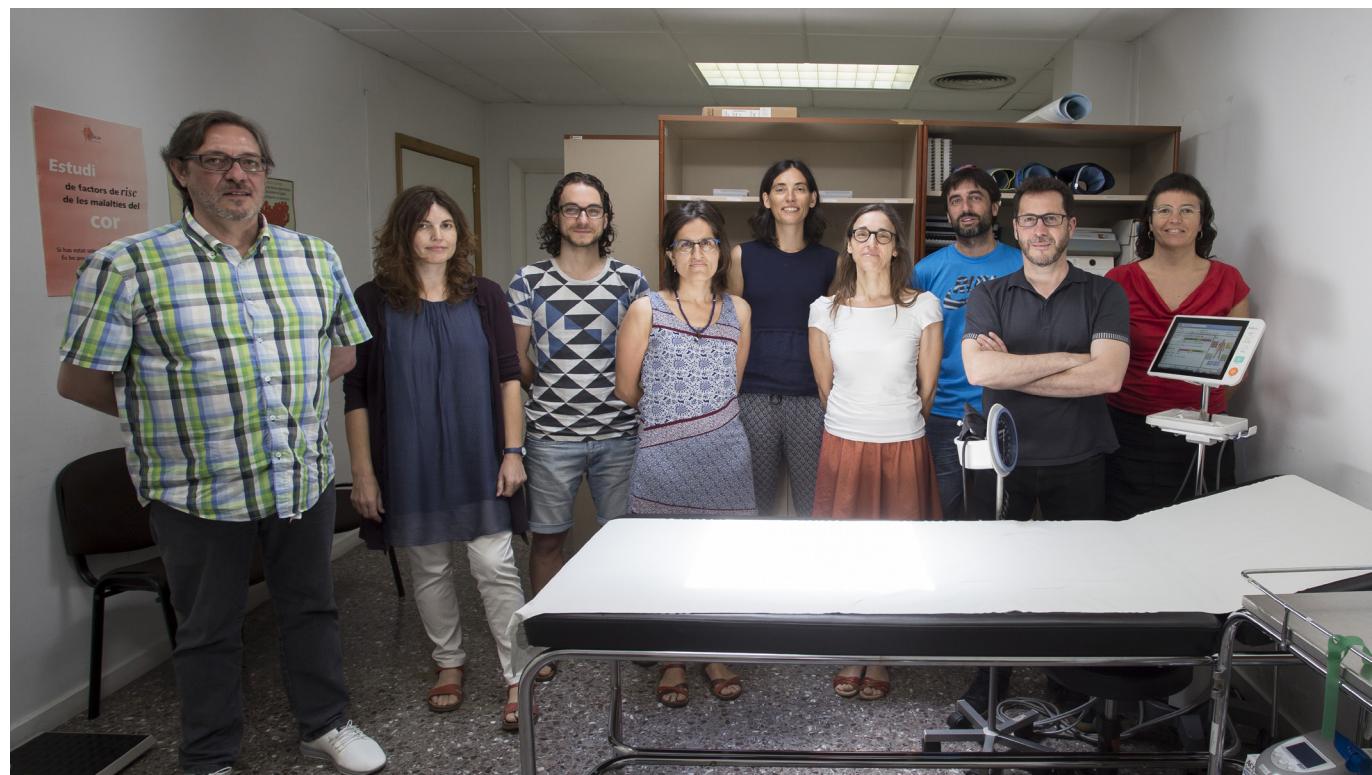
Jordi Blanch Font (IDIAPJGol)
Júlia Olivé Vilà (IDIBGI)
Marta de los Santos Abaurrea (IDIBGI)
Èric Tornabell Noguera (IDIAPJGol)

NON-SCIENTIFIC RESEARCH SUPPORT STAFF

Anna Castel Marqués (IDIBGI)
Josep Maria Ramos Blanes (IDIAPJGol)

COLLABORATORS

Carlos Javier Cerezo Goyeneche (ICS/Primary Care Services)
Pascual Solanas Saura (ICS/Primary Care Services)



OVERVIEW

PROBLEM

Cardiovascular diseases are the leading cause of death and disability in the western countries. Most of the burden of cardiovascular diseases is preventable.

APPROACH

Our group is focused on the design and implementation of decision-making support tools using mathematical modelling of risk prediction and on the design and evaluation of preventive interventions to reduce the cardiovascular disease burden.

IMPACT

Our final goal is to improve lifestyles and cardiovascular risk factors and reduce the incidence of cardiovascular diseases in general population.

MAIN RESEARCH LINES

- Evaluation of preventive interventions and study of the effectiveness of drugs used in primary prevention.
- Epidemiology of cardiovascular diseases, especially asymptomatic.
- The design of decision-making support tools using mathematical modelling of risk prediction.

PUBLICATIONS

ORIGINALS / IF: 156.65

- Alves Cabratosa L,Comas Cufí M,Blanch J,Martí Lluch R,Ponjoan A,Castro Guardiola A,Hurtado Ganoza A,Pérez Jaén A,Rexach Fumaña M,Faixedas Brunsoms D,Gispert Ametller MA,Guell Cargol A,Rodríguez Batista M,Santaulària Font E,Orriols R,Bonnín Vilaplana M,Calderón López JC,Sabater Talaverano G,Queralt Moles FX,Rodríguez Requejo S,Avellana Revuelta E,Balló E,Fages Masmiquel E,Sirvent JM,Lorencio C,Morales Pedrosa JM,Ortiz Ballujera P,Ramos R. Individuals With SARS-CoV-2 Infection During the First and Second Waves in Catalonia, Spain: Retrospective Observational Study Using Daily Updated Data. JMIR Public Health Surveill. 2022. 8. (1):e30006. IF:14,557. (Q1).**
- Gómez Sánchez L,Rodríguez Sánchez E,Ramos R,Marti Lluch R,Gómez Sánchez M,Lugones Sánchez C,Tamayo Morales O,Llamas Ramos I,Rigo F,García Ortiz L,Gómez Marcos MA. The Association of Dietary Intake with Arterial Stiffness and Vascular Ageing in a Population with Intermediate Cardiovascular Risk-A MARK Study. Nutrients. 2022. 14. (2):244. IF:6,706. (Q1).**
- Ponjoan A,García Gil MM,Alves Cabratosa L,Martí Lluch R,Ramos R. Public funding of health research on LGTBIQ plus population in Spain. Gac. Sanit. 2022. 36. (2):p. 106-110. IF:2,479. (Q3).**
- Mayneris Perxachs J,Castells Nobau A,Arnoriaga Rodríguez M,Garre Olmo J,Puig J,Ramos R,Martínez Hernández F,Burokas A,Coll C,Moreno Navarrete JM,Zapata Tona C,Pedraza S,Pérez Brocal V,Ramió Torrentà L,Ricart W,Moya A,Martínez García M,Maldonado R,Fernández Real JM. Caudovirales bacteriophages are associated with improved executive function and memory in flies, mice, and humans. Cell Host Microbe. 2022. 30. (3):p. 340-340. IF:31,316. (Q1).**
- Ponjoan A,Blanch J,Alves Cabratosa L,Martí Lluch R,Comas Cufí M,Cirach M,Nieuwenhuijsen M,Garcia Gil MDM,Ramos R. Impact of residential greenness on myocardial infarction in the population with diabetes: A sex-dependent association?. Environ. Res. 2022. 205. p. 112449-112449. IF:8,431. (Q1).**
- Serrano Sarbosa D,Martí Lluch R,Cárdenas M,Solanas P,Marrugat J,Vilalta Franch J,Garre Olmo J. Gender analysis of the frequency and course of depressive disorders and relationship with personality traits in general population: A prospective cohort study. J. Affect. Disord. 2022. 302. p. 241-248. IF:6,533. (Q1).**
- Mayneris Perxachs J,Castells Nobau A,Arnoriaga Rodríguez M,Martin M,de la Vega Correa L,Zapata C,Burokas A,Blasco G,Coll C,Escrichs A,Biarnés C,Moreno Navarrete JM,Puig J,garre Olmo J,Ramos R,Pedraza S,Brugada R, K,Serena J,Gich J,Ramió Torrentà L,Pérez Brocal V,Moya A,Pamplona R,Sol J,Jové M,Ricart W,Portero Otin M,Deco G,Maldonado R,Fernández Real JM. Microbiota alterations in proline metabolism impact depression. Cell Metab. 2022. 34. (5):p. 681-681. IF:31,373. (Q1).**
- Puig E,Clará A,Pérez S,Degano IR,Subirana I,García C,Martí R,Ramos R,Marrugat J,Elosua R. Resting heart rate, cardiovascular events, and all-cause mortality: the REGICOR study. Eur. J. Prev. Cardiol. 2022. 29. (5):p. 200-202. IF:8,526. (Q1).**
- Ramos R,Alves Cabratosa L,Blanch J,Pèlach À,Albert L,Salomó Q,Cabarrocas S,Comas Cufí M,Martí Lluch R,Ponjoan A,Garcia**

Gil M, de Cambra S, d'Anta A, Balló E, Alum A, Aleixandre RN.
SARS-CoV-2 transmission risk screening for safer social events: a non-randomised controlled study. Sci Rep. 2022. 12. (1):p. 12794-12794. IF:4,996. (Q2).

10. Gómez Sánchez L, Rodríguez Sánchez E, Ramos R, Martí R, Gómez Sánchez M, Lugones Sánchez C, Tamayo Morales O, Sánchez SG, Rigo F, García Ortiz L, Gómez Marcos MA, MARK I. **Association of physical activity with vascular aging in a population with intermediate cardiovascular risk, analysis by sex: MARK study.** Biol. Sex Differ. 2022. 13. (1):p. 46-46. IF:8,811. (Q1).
11. Mayneris Perxachs J, Arnoriaga Rodríguez M, Garre Olmo J, Puig J, Ramos R, Treli M, Burokas A, Coll C, Zapata Tona C, Pedraza S, Pérez Brocal V, Ramió L, Ricart W, Moya A, Jové M, Sol J, Portero Otín M, Pamplona R, Maldonado R, Fernández Real JM. **Presence of Blastocystis in gut microbiota is associated with cognitive traits and decreased executive function.** ISME J. 2022. 16. (9):p. 2181-2197. IF:11,217. (Q1).
12. Clark CE, Warren FC, Boddy K, McDonagh STJ, Moore SF, Teresa Alzamora M, Ramos Blanes R, Chuang SY, Criqui MH, Dahl M, Engström G, Erbel R, Espeland M, Ferrucci L, Guerchet M, Hattersley A, Lahoz C, McClelland RL, McDermott MM, Price J, Stoffers HE, Wang JG, Westerink J, White J, Cloutier L, Taylor RS, Shore AC, McManus RJ, Aboyans V, Campbell JL. **Higher Arm Versus Lower Arm Systolic Blood Pressure and Cardiovascular Outcomes: a Meta-Analysis of Individual Participant Data From the INTERPRESS-IPD Collaboration.** Hypertension. 2022. 79. (10):p. 2328-2335. IF:9,897. (Q1).
13. Del Castillo Izquierdo Á, Moreno Navarrete JM, Latorre J, Arnoriaga Rodríguez M, Ballanti M, Monteleone G, Alessandro Paoluzi O, Mingrone G, Puig J, Ramos R, Garre Olmo J, Jové M, Pamplona R, Portero Otín M, Sol J, Lefebvre P, Staels B, Federici M, Fernández Real JM, Mayneris Perxachs J. **DPP9 as a Potential Novel Mediator in Gastrointestinal Virus Infection.** Antioxidants. 2022. 11. (11):2177. IF:7,675. (Q1).
14. Recio Rodriguez JI, Garcia Ortiz L, Garcia Yu IA, Lugones Sanchez C, Olmo EZ, Bolibar B, Casajuana Closas M, Lopez Jimenez T, Llobera J, Ramos R, Pombo H, Motrico E, Gil Girbau M, Lopez Mendez F, Represas Carrera F, Maderuelo Fernandez JA. **Effectiveness of a multiple health-behaviour-change intervention in increasing adherence to the Mediterranean Diet in adults (EIRA study): a randomized controlled hybrid trial.** Bmc Public Health. 2022. 22. (1):p. 2127-2127. IF:4,135. (Q2).

GRANTS

- IDIBGI Principal Investigator: Rafael Ramos
Project Title: GIRONA, REGIÓ SALUDABLE- IMAGENOMA DE LA SALUT
Project Code: GO03-001848
Funding Agency: DIPUTACIÓ DE GIRONA
Duration: 01/01/2017 to 31/12/2023
- IDIBGI Principal Investigator: Rafael Ramos
Project Title: GIRONA, REGIÓ SALUDABLE- IMAGENOMA DE LA SALUT
Project Code: GO03-001848
Funding Agency: GENERALITAT DE CATALUNYA
Role: Partner
Duration: 01/01/2017 to 31/12/2023
- IDIBGI Principal Investigator: Antoni Castro, Ramon Brugada, Rafael Ramos
Project Title: RBD Dimer recombinant protein vaccine against SARSCoV2 (RBDCOV)
Project Code: 101046118
Funding Agency: EUROPEAN COMISSION
Role: Partner
Duration: 01/12/2021 to 31/05/2024
- RESEARCH GRANTS IN OTHER INSTITUTIONS**
- IDIBGI Principal Investigator: Rafael Ramos
Project Title: CARGENCORS / CARDiovascular GENetic risk score for Risk Stratification of patients positive for SARS-CoV-2 (Covid 19) virus
Project Code: NC
Funding Agency: FONDO SUPERA COVID – CRUE UNIVERSIDADES ESPAÑOLAS
Role: Partner
Duration: 01/01/2022 to 01/01/2024
- IDIBGI Principal Investigator: Rafael Ramos
Project Title: Programa de prevenció de malalties cardiovasculars basat en el cribatge d'arteriopatia perifèrica asimptomàtica. [Health program for prEvention of cardiovascuLar disEases based on a risk screeNing strategy with Ankle-brachial index]. HELENA Study
Project Code: SLT/21/000015
Funding Agency: PERIS –Departament de Salut de la Generalitat de Catalunya
Role: Coordinator / Partner
Duration: 01/04/2022 to 31/12/2024
- IDIBGI Principal Investigator: Ruth Martí
Project Title: Mendelian Randomization to assess causal genetic pathways leading to severe COVID-19
Project Code: 202119-30-31-32-33
Funding Agency: Fundacio La Marato de TV3
Role: Partner
Duration: 01/01/2021 to 01/01/2023
- IDIBGI Principal Investigator: Anna Ponjoan
Project Title: Smart City Obervatori implement Resilent water

management

Project Code: NC

Funding Agency: Fundació de salut català de recerca en aigua (ICRA)

Role: Partner

Duration: 01/01/2019 to 01/01/2022

MEMBERSHIP OF COLLABORATIVE RESEARCH NETWORKS

SPANISH

- RICORS – Red: RICCAPS ISCIII - RD21/0016/0001
-

DOCTORAL THESES

Thesis author: Alícia Carrera Boix

Title: Valoració dels canvis que pateix la uretra durant l'embaràs objectivats per ecografia 2D i la relació d'aquests amb l'aparició d'incontinència d'orina en la gestació

Thesis directors: Dr. Rafel Ramos Blanes / Dr. Jordi Cassadó Garriga

International mention: No

Thesis author: Margarita Matas Serra

Title: Cribatge i diagnòstic de la malaltia renal crònica en població adulta menor de 65 anys d'edat, de risc elevat, en l'àmbit de l'atenció primària de salut

Thesis directors: Dr. Rafel Ramos Blanes / Dra. Ruth Martí Lluch

International mention: No

Respiratory



MEMBERS DISTRIBUTED BY GENDER

W: 67,9%

M: 32,1%

Part of a preconsolidated research group recognized by AGAUR (Generalitat de Catalunya) - 2017 SGR 1387.

MEMBER OF
CIBER-ES

KEYWORDS
Bronchiectasis
Sleep disorders
Interstitial Lung Diseases
Occupational diseases
COVID-19
Endothelial dysfunction
Arterial pulmonary hypertension
Thromboembolic disease

RELATED DISEASES
Bronchiectasis
Obstructive Sleep Apnea Hypopnea Syndrome
Thromboembolic pulmonary hypertension
COVID-19
Lung Cancer
Occupational and Interstitial Lung Diseases

GROUP LEADER - R4

Ramon Orriols Martinez (ICS/Trueta)

ESTABLISHED RESEARCHERS - R3Olga Tura Ceide (IDIBGI)
Montserrat Vendrell Relat (ICS/Trueta)**POST-DOCTORAL RESEARCHERS - R2**Marc Bonnin Vilaplana (ICS/Trueta)
Manel Haro Estarriol (ICS/Trueta)
Gerard Muñoz Castro (IDIBGI)
Ana Mª Muñoz Fernandez (ICS/Trueta)
Mònica Sánchez Ortiz (ICS/Trueta)**PRE-DOCTORAL RESEARCHERS - R1**Sana Ayyoub (IDIBGI)
Carlos Cabanillas Diez-Madroñero (ICS/Trueta)
Juan Carlos Calderon Lopez (IAS)
Saioa Eizaguirre Anton (ICS/Trueta)
Carla López Padros (ICS/Trueta)
Paula Poyatos Dorado (IDIBGI)
Eric Rojas Calvera (ICS/Trueta)
Gladis Sabater Talaverano (ICS/Trueta)
Laura Sebastián Victoria (ICS/Trueta)
Daniela Soledad Torres Scianca (ICS/Trueta)
Carmen Rosa Vargas Arevalo (ICS/Trueta)**TECHNICIANS**Miquel Gratacós Aurich (IDIBGI)
Neus Luque Sanchez (IDIBGI)
Míriam Peracaula Domínguez (IDIBGI)
Neus Puigdevall Salvans (ICS/Trueta)**NON-SCIENTIFIC RESEARCH SUPPORT STAFF**

Laia Merchan Cañada (ICS/Trueta)

COLLABORATORSSònia Belda Díaz (ICS/Trueta)
Laia Cendón Panadés (ICS/Trueta)
Anton Obrador Lagares (ICS/Trueta)
Anna Torrente Nieto (ICS/Trueta)

OVERVIEW

PROBLEM

The Respiratory Research Group is focused on research into bronchiectasis, sleep disorders, thromboembolic pulmonary hypertension, COVID-19, lung cancer, occupational respiratory and interstitial lung diseases. The research challenge is to improve knowledge in respiratory health problems and have significantly beneficial impact on patient's health.

APPROACH

As a medical research group, our research is based on intense clinical activity and is especially linked to the resolution of clinical problems. We consider that participation of clinicians from the Pulmonology Service is essential. In addition, the collaboration of our basic research unit is also essential, as it carries out the necessary laboratory tasks in those studies and projects that is required.

IMPACT

A growing understanding of the respiratory health problems may have a significantly impact on the health system and patient's quality of life. In addition to the direct impact on the respiratory health of the population, we want to improve our competitiveness in research. Also, make it possible, innovation and technology transfer.

MAIN RESEARCH LINES

- Bronchiectasis
- Obstructive Sleep Apnea Hypopnea Syndrome
- Endothelial dysfunction
- Occupational and interstitial diseases
- Lung cancer
- COVID-19

PUBLICATIONS

ORIGINALS / I.F: 48.35

1. Alves Cabrata L,Comas Cufí M,Blanch J,Martí Lluch R,Ponjoan A,Castro Guardiola A,Hurtado Ganoza A,Pérez Jaén A,Rexach Fumaña M,Faixedas Brunsoms D,Gispert Ametller MA,Guell Cargol A,Rodriguez Batista M,Santaularia Font F,Orriols R,Bonnin Vilaplana M,Calderón López JC,Sabater Talaverano G,Queralt Moles FX,Rodriguez Requejo S,Avellana Revuelta E,Balló E,Fages Masmiquel E,Sirvent JM,Lorencio C,Morales Pedrosa JM,Ortiz Ballujera P,Ramos R. Individuals With SARS-CoV-2 Infection During the First and Second Waves in Catalonia, Spain: Retrospective Observational Study Using Daily Updated Data. JMIR Public Health Surveill. 2022. 8. (1):e30006. IF:14,557. (Q1).

2. Youssef L,Crovetto F,Simoes RV,Miranda J,Paules C,Blasco M,Palomo M,García Calderó H,Tura Ceide O,Dantas AP,Hernandez Gea V,Herrero P,Canela N,Campil JM,Garcia Pagan JC,Diaz Ricart M,Gratacos E,Crispi F. The Interplay between Pathophysiological Pathways in Early-Onset Severe Preeclampsia Unveiled by Metabolomics. Life-Basel. 2022. 12. (1):86. IF:3,251. (Q2).

3. Smolders V,Rodríguez C,Blanco I,Szulcek R,Timens W,Piccarri L,Roger Y,Hu X,Morén C,Bonjoch C,Sebastián L,Castellà M,Osorio J,Peinado VI,Bogaard HJ,Quax P,Cascante M,Barberà JA,Tura Ceide O. Metabolic profile in endothelial cells of chronic thromboembolic pulmonary hypertension and pulmonary arterial hypertension. Sci Rep. 2022. 12. (1):p. 2283-2283. IF:4,996. (Q2).

4. Marti S,Carsin AE,Sampol J,Pallero M,Aldas I,Marin T,Lujan M,Lalmolda C,Sabater G,Bonnin Vilaplana M,Peñacoba P,Martinez Llorens J,Tárrega J,Bernadich Ó,Córdoba Izquierdo A,Lozano L,Mendez S,Vélez Segovia E,Prina E,Eizaguirre S,Balañá Corberó A,Ferrer J,Garcia Aymerich J. Higher mortality and intubation rate in COVID-19 patients treated with noninvasive ventilation compared with high-flow oxygen or CPAP. Sci Rep. 2022. 12. (1):p. 6527-6527. IF:4,996. (Q2).

5. Poyatos P,Luque N,Eizaguirre S,Sabater G,Sebastián L,Albesa ÍF,Peracaula M,Boixadé M,Orriols R,Tura Ceide O. Post-COVID-19 patients show an increased endothelial progenitor cell production. Transl. Res. 2022. 243. p. 14-20. IF:10,171. (Q1).

6. Cazorla González J,García Retortillo S,Gacto Sánchez M,Muñoz Castro G,Serrano Ferrer J,Román Viñas B,López Bermejo A,Font Lladó R,Prats Puig A. Effects of Crawling before Walking: Network Interactions and Longitudinal Associations in 7-Year-Old Children. Int J Environ Res Public Health. 2022. 19. (9):5561. IF:4,614. (Q1).

7. Aguilar D,Bosacoma A,Blanco I,Tura Ceide O,Serrano Mollar A,Barberà JA,Peinado VI. Differences and Similarities between the Lung Transcriptomic Profiles of COVID-19, COPD, and IPF Patients: A Meta-Analysis Study of

- Pathophysiological Signaling Pathways.** Life-Basel. 2022. 12. (6):887. IF:3,251. (Q2).
- 8.** Rivera CM,Crespo Lessmann A,Arismendi E,Muñoz Esquerre M,Aguilar X,Ausín P,Bobolea I,Dalmau Duch G,Pifarre Teixido R,Sabater Talaverano G,Sogo Sabardía A,Gall XM. **Challenges for asthma units in response to COVID-19: a qualitative group dynamics analysis.** J. Asthma. 2022. 59. (6):p. 1195-1202. IF:2,515. (Q3).
- REVIEWS / I.F: 105.89**
- Alberti S,Goeminne PC,O'Donnell AE,Aksamit TR,Al Jahdali H,Barker AF,Blasi F,Boersma WG,Crichton ML,De Soya A,Dimakou KE,Elborn SJ,Feldman C,Tiddens H,Haworth CS,Hill AT,Loebinger MR,Martinez Garcia MA,Meerburg JJ,Menendez R,Morgan LC,Murris MS,Polverino E,Ringshausen FC,Shteinberg M,Sverzellati N,Tino G,Torres A,Vandendriessche T,Vendrell M,Welte T,Wilson R,Wong CA,Chalmers JD. **Criteria and definitions for the radiological and clinical diagnosis of bronchiectasis in adults for use in clinical trials: international consensus recommendations.** Lancet Resp. Med. 2022. 10. (3):p. 298-306. IF:102,642. (Q1).
 - Peracaula M,Torres D,Poyatos P,Luque N,Rojas E,Obrador A,Orriols R,Tura Ceide O. **Endothelial Dysfunction and Cardiovascular Risk in Obstructive Sleep Apnea: A Review Article.** Life-Basel. 2022. 12. (4):537. IF:3,251. (Q2).
- LETTERS / I.F: 3.20**
- Torrente Nieto A,Bonnin Vilaplana M,Rojas Calvera E. **Isolated lobar consolidation as a form of presentation of pulmonary MALT lymphoma.** Med Clin (Barc). 2022. 158. (6):p. 298-298. IF:3,200. (Q2).
- EDITORIALS / I.F: 7.75**
- Tura Ceide O. **Blood Flow Disturbances in Congenital Heart Disease Is Neuroblastoma Suppressor of Tumorigenicity 1 a Target for Preventing Pulmonary Vascular Remodeling?** Am. J. Respir. Cell Mol. Biol. 2022. 67. (6):p. 615-616. IF:7,748. (Q1).
-
- GRANTS**
- IDIBGI Principal Investigator: Ramon Orriols
Project Title: La detecció de ctDNA com a eina de diagnòstic en la neoplàsia de pulmó
Project Code: ctDNA
Funding Agency: Sociedad Española de Neumología y Cirugía Torácica
Duration: 08/03/2022 to 31/12/2022
- IDIBGI Principal Investigator: Anton Obrador, Olga Tura
Project Title: Diagnostic and treatment of Sleep Apnea Hypopnea Syndrome in Primary Care (Innobics-SAHS)
Project Code: 220637
Funding Agency: European Institute of Innovation & Technology- EIT Health e.V.
Duration: 01/01/2022 al 31/12/2024
- IDIBGI Principal Investigator: Olga Tura
Project Title: Disfunció endotelial, metabòlomica i biomarcadors en pacients amb la síndrome d'apnea obstructiva del son (SAOS) lleu i moderat.
Project Code: Dison
Funding Agency: Sociedad Española de Neumología y Cirugía Torácica
Duration: 28/12/2021 to 31/12/2022
- IDIBGI Principal Investigator: Olga Tura
Project Title: Ayuda de personal Miquel Servet.-Proyecto
Project Code: CP17/00114
Funding Agency: Instituto de Salud Carlos III
Duration: 01/01/2018 to 10/07/2022
- IDIBGI Principal Investigator: Olga Tura
Project Title: Ayuda de personal Miquel Servet
Project Code: MS17/00114
Funding Agency: Instituto de Salud Carlos III
Duration: 01/01/2018 to 31/05/2023
- IDIBGI Principal Investigator: Olga Tura
Project Title: ESTUDIO DEL METABOLISMO Y DE LA FUNCIÓN ENDOTELIAL EN PACIENTES CON HIPERTENSIÓN PULMONAR TROMBOEMBÓLICA: EFECTO DE LA ESTIMULACIÓN DE RIOCIGUAT.
Project Code: PI18/00960
Funding Agency: Instituto de Salud Carlos III
Duration: 01/01/2019 to 30/06/2023
- IDIBGI Principal Investigator: Olga Tura
Project Title: Ajuda de personal FI
Project Code: 2022 FI_B 00941
Funding Agency: Agència de Gestió d'Ajuts Universitaris i de Recerca
Duration: 01/06/2022 to 31/05/2025
- IDIBGI Principal Investigator: Olga Tura
Project Title: Estudio del metabolismo y de la función endotelial en pacientes con hipertensión pulmonar tromboembólica: efecto de la estimulación de Riociguat
Project Code:
Funding Agency: Societat Catalana de Pneumologia (SOCAP)
Duration: 2020 to 2022
- IDIBGI Principal Investigator: Olga Tura
Project Title: Disfunción endotelial en pacientes tras superar la COVID-19: secuelas y complicaciones cardiopulmonares
Project Code: 1087
Funding Agency: Sociedad Española de Neumología y Cirugía Torácica
Duration: 28/12/2021 to 30/06/2023

IDIBGI Principal Investigator: Monserrat Vendrell
Project Title: Benefits of inhalation of 7% hypertonic saline solution prior to ELTGOL physiotherapy, in patients with bronchiectasis. A randomized controlled trial
Project Code: FISHT2021
Funding Agency: Sociedad Española de Neumología y Cirugía Torácica
Duration: 15/12/2021 to 31/12/2026

IDIBGI Principal Investigator: Olga Tura
Project Title: Contracte de treball en el marc del Programa Investigo
Project Code: SEPE_2022-C23.I01.P03.S0020-0000042
Funding Agency: Ministerio de Trabajo y Economía
Duration: 15/12/2021 to 31/12/2026

IDIBGI Principal Investigator: Monserrat Vendrell
Project Title: Impacte de la COVID-19 en pacients amb bronquièctasis no degudes a fibrosi quística.
Project Code: COVBQ-21
Funding Agency: Col·legi de Fisioterapeutes de Catalunya
Duration: 18/08/2021 to 18/08/2023

IDIBGI Principal Investigator: Olga Tura
Project Title: Disfunción endotelial en pacientes tras superar la COVID-19: secuelas y complicaciones cardiopulmonares
Project Code: 22101
Funding Agency: Fundació Catalana de Pneumología (FUCAP/Dr. Albert Agustí)
Duration: 2022 to 2024

IDIBGI Principal Investigator: Olga Tura
Project Title: Nuevas estrategias terapéuticas para tratar la disfunción endotelial en HPTEC: Moléculas de adhesión y estrés oxidativo. Estudio de la disfunción endotelial en pacientes con COVID-19
Project Code: IFUDG2021
Funding Agency: Becas Santander Investigación
Duration: 2021 to 2024

IDIBGI Principal Investigator: Olga Tura
Project Title: Endothelial dysfunction in COVID-19: A threatening sequelae to cardiopulmonary complications
Project Code: Project: 2021085229
Funding Agency: Alba-Cells sincrotró
Duration: 2022 to 2022

IDIBGI Principal Investigator: Olga Tura
Project Title: Diagnostic and treatment of Sleep Apnea Hypopnea Syndrome in Primary Care
Project Code: 210450
Funding Agency: European Institute of Technology
Role: Partner
Duration: 01/01/2022 to 31/12/2024

IDIBGI Principal Investigator: Olga Tura
Project Title: Estudio del origen y características de la disfunción endotelial en la HPTEC y en la COVID-19 (SIENA)
Project Code: PI21/01212

Funding Agency: Instituto de Salud Carlos III
Role: Coordinator
Duration: 01/01/2022 to 31/12/2024
IDIBGI Principal Investigator: Olga Tura
Project Title: Network For Research In Vascular Ageing
Project Code: CA18216
Funding Agency: European Cooperation in Science and Technology (COST)
Role: Partner
Duration: 05/11/2019 to 04/11/2023

IDIBGI Principal Investigator: Olga Tura
Project Title: Estudio del metabolismo y de la función endotelial en pacientes con hipertensión pulmonar tromboembólica: efecto de la estimulación de Riociguat.
Project Code: 907/2019
Funding Agency: Sociedad Española de Neumología y Cirugía Torácica
Role: Collaborator
Duration: 28/12/2021 to 30/06/2023

MEMBERSHIP OF COLLABORATIVE RESEARCH NETWORKS

INTERNATIONAL

- Cost Action
- EMBARC - The European Bronchiectasis Registry

SPANISH

- CIBER_ES (enfermedades respiratorias) - CB06/06/0030



MEDICAL IMAGING

MEDICAL IMAGING

Medical imaging

MEMBERS DISTRIBUTED BY GENDER

W: 36,4%

M: 63,6%

KEYWORDS

Imaging
Radiology
Nuclear medicine
Biomarkers
Disease
Follow up
Recovery
Nutritional neuroscience

RELATED DISEASES

Stroke
Oncology
Aging
Musculoskeletal
Metabolism
Obesity

GROUP LEADER - R4

Josep Puig Alcántara (IDI)

ESTABLISHED RESEARCHERS - R3

Oren Contreras Rodriguez (IDIBGI)
Joan Carles Vilanova Busquets (IDI)

POST-DOCTORAL RESEARCHERS - R2

Victor Pineda Sanchez (IDI)

PRE-DOCTORAL RESEARCHERS - R1

Marta Reales Moreno (IDIBGI)

TECHNICIANS

Carles Biarnés Duran (IDIBGI)
Elena de la Calle Vargas (IDIBGI)
Maria Angels Martí Navas (IDIBGI)
Julio Tejelo Labrador (IDIBGI)

COLLABORATORS

Pepus Daunis Estadella (UdG)
Santiago Thio Fernandez De Henestrosa
(UdG)



OVERVIEW

PROBLEM

Biomarkers are characteristics that are objectively evaluated as indicators of normal biological and pathological processes, or treatment responses. Our challenge is to use advanced imaging techniques to develop associative or predictive imaging biomarkers to understand clinical conditions and/or course of diseases. Despite an increase in new imaging biomarkers, only a few have undergone full validation and qualification for routine research or clinical use.

APPROACH

Our imaging lab is located at Department of Radiology (IDI) in the University Hospital Dr. Josep Trueta. We are involved into the optimization of the 1.5T magnetic resonance imaging protocols acquisition and data quantification aimed to identify disease-related image biomarkers.

IMPACT

The practice of precision medicine requires reliable and informative biomarkers to guide clinical management decisions. The impact of our processes is expected to accelerate translation of imaging biomarkers into clinical use.

MAIN RESEARCH LINES

- Cerebrovascular disease
- Oncology
- Aging
- Obesity
- Nutritional neuroscience

PUBLICATIONS

ORIGINALS / I.F: 227.97

1. Contreras Rodriguez O, Arnoriaga Rodríguez M, Miranda Olivos R, Blasco G, Biarnés C, Puig J, Rivera Pinto J, Calle ML, Pérez Brocal V, Moya A, Coll C, Ramió Torrentà L, Soriano Mas C, Fernandez Real JM. **Obesity status and obesity-associated gut dysbiosis effects on hypothalamic structural covariance.** Int. J. Obes. 2022; 46. (1):p. 30-38. IF:5,551. (Q2).

2. Khaled R, Vidal J, Vilanova JC, Martí R. **A U-Net Ensemble for breast lesion segmentation in DCE MRI.** Comput. Biol. Med. 2022; 140. p. 105093-105093. IF:6,698. (Q1).
3. Xiberta P, Thio Henestrosa S, Fontas J, Boada I. **The Experience of Using a New e-Learning Tool in Architectural Studies.** IEEE Access. 2022; 10. p. 87008-87021. IF:3,476. (Q2).
4. Schlemm I, Braemswig TB, Boutitie F, Vynckier J, Jensen M, Galinovic I, Simonsen CZ, Cheng B, Cho TH, Fiehler J, Puig J, Thijs V, Fiebach J, Muir K, Nighoghossian N, Ebinger M, Pedraza S, Thomalla G, Gerloff C, Endres M, Lemmens R, Nolte CH, WAKE UP I. **Cerebral Microbleeds and Treatment Effect of Intravenous Thrombolysis in Acute Stroke An Analysis of the WAKE-UP Randomized Clinical Trial.** Neurology. 2022; 98. (3):p. 302-314. IF:11,800. (Q1).
5. Mayneris Perxachs J, Castells Nobau A, Arnoriaga Rodríguez M, Garre Olmo J, Puig J, Ramos R, Martínez Hernández F, Burokas A, Coll C, Moreno Navarrete JM, Zapata Tona C, Pedraza S, Pérez Brocal V, Ramió Torrentà L, Ricart W, Moya A, Martínez García M, Maldonado R, Fernández Real JM. **Caudovirales bacteriophages are associated with improved executive function and memory in flies, mice, and humans.** Cell Host Microbe. 2022; 30. (3):p. 340-340. IF:31,316. (Q1).
6. Pradas I, Jové M, Huynh K, Ingles M, Borras C, Mota Martorell N, Galo Licona JD, Puig J, Viña J, Meikle PJ, Pamplona R. **Long-lived Humans Have a Unique Plasma Sphingolipidome.** J. Gerontol. Ser. A-Biol. Sci. Med. Sci. 2022; 77. (4):p. 728-735. IF:6,591. (Q1).
7. Vives Mestres M, Kenett RS, Thio Henestrosa S, Martin Fernandez JA. **Measurement, selection, and visualization of association rules: A compositional data perspective A Compositional Data perspective on Association Rules.** Qual. Reliab. Eng. Int. 2022; 38. (3):p. 1327-1339. IF:3,007. (Q2).
8. Martín Pérez C, Contreras Rodríguez O, Pastor A, Christensen E, Andrews ZB, de la Torre R, Verdejo García A. **Endocannabinoid signaling of homeostatic status modulates functional connectivity in reward and salience networks.** Psychopharmacology. 2022; 239. (5):p. 1311-1319. IF:4,415. (Q2).
9. Mayneris Perxachs J, Castells Nobau A, Arnoriaga Rodríguez M, Martín M, de la Vega Correa L, Zapata C, Burokas A, Blasco G, Coll C, Escrichs A, Biarnés C, Moreno Navarrete JM, Puig J, Garre Olmo J, Ramos R, Pedraza S, Brugada R, Vilanova JC, Serena J, Gich J, Ramió Torrentà L, Pérez Brocal V, Moya A, Pamplona R, Sol J, Jové M, Ricart W, Portero Otin M, Deco G, Maldonado R, Fernández Real JM. **Microbiota alterations in proline metabolism impact depression.** Cell Metab. 2022.

34. (5):p. 681-681. IF:31,373. (Q1).
- 10.** Martí Bonmatí L,Koh DM,Riklund K,Bobowicz M,Roussakis Y,Vilanova JC,Fütterer JJ,Rimola J,Mallol P,Ribas G,Miguel A,Tsiaknakis M,Lekadir K,Tsakou G. **Considerations for artificial intelligence clinical impact in oncologic imaging: an AI4HI position paper.** Insights Imaging. 2022. 13. (1):p. 89-89. IF:5,036. (Q1).
- 11.** Remollo S,Terceño M,Werner M,Castaño C,Hernández Pérez M,Blasco J,San Román L,Daunis Estadella P,Thió Henestrosa S,Cuba V,Gimeno A,Puig J. **Combined Approach to Stroke Thrombectomy Using a Novel Short Flexible Aspiration Catheter with a Stent Retriever Preliminary Clinical Experience.** Clin Neuroradiol. 2022. 32. (2):p. 393-400. IF:3,156. (Q3).
- 12.** Porcu M,Cocco L,Cau R,Suri JS,Mannelli L,Puig J,Qi Y,Paraskevas KI,Saba L. **Mid-term effects of carotid endarterectomy on cognition and white matter status evaluated by whole brain diffusion tensor imaging metrics: A preliminary analysis.** Eur J Radiol. 2022. 151. p. 110314-110314. IF:4,531. (Q2).
- 13.** Batlle A,Boada I,Thio Henestrosa S,de Sevilla MF,Garcia JJ. **Using a route planner to optimize door-to-door visits for a pediatric home-hospitalization program: Feasibility study.** Front. Pediatr. 2022. 10. 928273. IF:3,569. (Q2).
- 14.** Sharma M,Smith EE,Pearce LA,Perera KS,Kasner SE,Yoon BW,Ameriso SF,Puig J,Damgaard D,Fiebach JB,Muir KW,Veltkamp RC,Toni DS,Shamalov N,Gagliardi RJ,Mikulik R,Engelter ST,Bereczki D,O'Donnell MJ,Saad F,Shoamanesh A,Berkowitz SD,Mundl H,Hart RG,NAVIGATE ESUS MRI Substudy I. **Rivaroxaban versus aspirin for prevention of covert brain infarcts in patients with embolic stroke of undetermined source: NAVIGATE ESUS MRI substudy.** Int J Stroke. 2022. 17. (7):p. 799-805. IF:6,948. (Q1).
- 15.** Blasco J,Puig J,López Rueda A,Daunis Estadella P,Llull L,Zarco F,Macias N,Macho J,González E,Labayen I,Vega P,Murias E,Jimenez Gomez E,Bravo Rey I,Moreu M,Pérez García C,Chirife Chaparro O,Aixut S,Terceño M,Werner M,Pumar JM,Aguilar Tejedor Y,Mendez JC,Moliner S,Nogueira RG,San Roman L,ROSSETTI G. **Addition of intracranial aspiration to balloon guide catheter does not improve outcomes in large vessel occlusion anterior circulation stent retriever based thrombectomy for acute stroke.** J. NeuroInterventional Surg. 2022. 14. (9):p. 863-867. IF:8,572. (Q1).
- 16.** Mayneris Perxachs J,Arnoriaga Rodríguez M,Garre Olmo J,Puig J,Ramos R,Trelis M,Burokas A,Coll C,Zapata Tona C,Pedraza S,Pérez Brocal V,Ramíó L,Ricart W,Moya A,Jové M,Sol J,Portero Otín M,Pamplona R,Maldonado R,Fernández Real JM. **Presence of Blastocystis in gut microbiota is associated with cognitive traits and decreased executive function.** ISME J. 2022. 16. (9):p. 2181-2197. IF:11,217. (Q1).
- 17.** Equiza J,de la Riva P,Angel Larrea J,Marta Enguita J,Albájar I,Lüttich A,Garmendia E,Alonso M,de Arce A,Díez N,Gonzalez Flruzubieta P,Sulibarria N,Puig J,Martínez Zabaleta M. **Impact on functional outcome of an adaptive Stroke Unit based system of care for patients undergoing endovascular treatment during pandemic times.** Eur Stroke J. 2022. 7. (3):p. 248-256. IF:5,894. (Q1).
- 18.** Porcu M,Cocco L,Cau R,Suri JS,Wintermark M,Puig J,Qi Y,Lanzino G,Caulo M,Saba L. **The restoring of interhemispheric brain connectivity following carotid endarterectomy: an exploratory observational study.** Brain Imaging Behav. 2022. 16. (5):p. 2037-2048. IF:3,224. (Q2).
- 19.** Pérez García C,Rosati S,Gómez Escalonilla C,Arrazola J,López Frías A,González E,Fondevila J,Vega P,Murias E,Jimenez Gomez E,Bravo Rey I,Macho J,San Roman L,Rodríguez Caamaño I,Paipa AJ,Remollo S,Aguilar Tejedor Y,Bermúdez Coronel I,Moliner S,Pumar JM,Bashir S,Puig J,López Rueda A,Blasco J,Nogueira RG,Moreu M. **Stent-retriever alone versus combined use of stent-retriever and contact aspiration technique for middle cerebral artery M2 occlusions: a propensity score analysis.** J. NeuroInterventional Surg. 2022. 14. (11):p. 1062-1067. IF:8,572. (Q1).
- 20.** Schlemm E,Jensen M,Kuceyeski A,Jameson K,Ingwersen T,Mayer C,Königsberg A,Boutitie F,Ebinger M,Endres M,Fiebach JB,Fiehler J,Galinovic I,Lemmens R,Muir KW,Nighoghossian N,Pedraza S,Puig J,Simonsen CZ,Thijs V,Wouters A,Gerloff C,Thomalla G,Cheng B. **Early effect of thrombolysis on structural brain network organisation after anterior-circulation stroke in the randomized WAKE-UP trial.** Hum. Brain Mapp. 2022. 43. (16):p. 5053-5065. IF:5,399. (Q1).
- 21.** Laredo C,Rodríguez A,Oleaga L,Hernández Pérez M,Renú A,Puig J,Román LS,Planas AM,Urra X,Chamorro Á. **Adjunct Thrombolysis Enhances Brain Reperfusion following Successful Thrombectomy.** Ann. Neurol. 2022. 92. (5):p. 860-870. IF:11,274. (Q1).
- 22.** Del Castillo Izquierdo Á,Moreno Navarrete JM,Latorre J,Arnoriaga Rodríguez M,Ballanti M,Monteleone G,Alessandro Paoluzi O,Mingrone G,Puig J,Ramos R,garre Olmo J,Jové M,Pamplona R,Portero Otín M,Sol J,Lefebvre P,Staelens B,Federici M,Fernández Real JM,Mayneris Perxachs J. **DPP9 as a Potential Novel Mediator in Gastrointestinal Virus Infection.** Antioxidants. 2022. 11. (11):2177. IF:7,675. (Q1).

- 23.** Reales Moreno M,Tonini P,Escorihuela RM,Solanas M,Fernández Barrés S,Romaguera D,Contreras Rodríguez O. Ultra-Processed Foods and Drinks Consumption Is Associated with Psychosocial Functioning in Adolescents. Nutrients. 2022. 14. (22):4831. IF:6,706. (Q1).
- 24.** Batlle A,Thio Henestrosa S,Boada I,Lopez S,Moya I,Fernandez JC,de Sevilla MF,Garcia JJ. **Attending pediatric acutely ill patients at home: families' socioeconomic characterization, expectations, and experiences.** BMC Pediatr. 2022. 22. (1):679. IF:2,567. (Q3).
- 25.** Puig J,Martí R,Lladó X,Corral Baqués MI,Sendrós Tolsau S. **Structural changes in subcutaneous and visceral abdominal fatty tissue induced by local application of 448 kHz capacitive resistive monopolar radiofrequency: a magnetic resonance imaging case study.** Lasers Med. Sci. 2022. 37. (9):p. 3739-3748. IF:2,555. (Q2).
- 26.** Vega P,Murias E,Jimenez JM,Chaviano J,Rodriguez J,Calleja S,Delgado M,Benavente L,Castañon M,Puig J,Cigarran H,Arias F,Chapot R. **First-line Double Stentriever Thrombectomy for M1/TICA Occlusions Initial Experiences.** Clin Neuroradiol. 2022. 32. (4):p. 971-977. IF:3,156. (Q3).
- 27.** Pati S,Baid U,Edwards B,Sheller M,Wang SH,Reina GA,Foley P,Gruzdev A,Karkada D,Davatzikos C,Sako C,Ghodasara S,Bilello M,Mohan S,Vollmuth P,Brugnara G,Preetha CJ,Sahm F,Maier Hein K,Zenk M,Bendszus M,Wick W,Calabrese E,Rudie J,Villanueva Meyer J,Cha S,Ingalhalikar M,Jadhav M,Pandey U,Saini J,Garrett J,Larson M,Jeraj R,Currie S,Frood R,Fatania K,Huang RY,Chang K,Quintero CB,Capellades J,Puig J,Trenkler J,Pichler J,Necker G,Haunschmidt A,Meckel S,Shukla G,Liem S,Alexander GS,Lombardo J,Palmer JD,Flanders AE,Dicker AP,Sair HI,Jones CK,Venkataraman A,Jiang M, TY,Chen C,Heng PA,Dou Q,Kozubek M,Lux F,Michálek J,Matula P,Kerkovský M,Koprivová T,Dostál M,Vybíhal V,Vogelbaum MA,Mitchell JR,Farinhas J,Maldjian JA,Yogananda CGB,Pinho MC,Reddy D,Holcomb J,Wagner BC,Ellingson BM,Cloughesy TF,Raymond C,Oughourlian T,Hagiwara A,Wang C>To MS,Bhardwaj S,Chong C,Agzarian M,Falcão AX,Martins SB,Teixeira B,Sprenger F,Menotti D,Lucio DR,LaMontagne P,Marcus D,Wiestler B,Kofler F,Ezhov I,Metz M,Jain R,Lee M,Lui YW,McKinley R,Slotboom J,Radojewski P,Meier R,Wiest R,Murcia D,Fu E,Haas R,Thompson J,Ormond DR,Badve C,Sloan AE,Vadmal V,Waite K,Colen RR,Pei L,Ak M,Srinivasan A,Bapuraj JR,Rao A,Wang N,Yoshiaki O,Moritani T,Turk S,Lee J,Prabhudesai S,Morón F,Mandel J,Kamnitsas K,Glocker B,Dixon LVM,Williams M,Zampakis P,Panagiotopoulos V,Tsiganos P,Alexiou S,Haliassos I,Zacharakis EI,Moustakas K,Kalogeropoulou C,Kardamakis DM,Choi YS,Lee SK,Chang JH,Ahn SS,Luo B,Poisson L,Wen N,Tiwari P,Verma R,Bareja R,Yadav I,Chen J,Kumar N,Smits M,van der Voort SR,Alafandi A,Incekara F,Wijnenga MMJ,Kapsas G,Gahrmann R,Schouten JW,Dubbink HJ,Vincent A,van den Bent MJ,French PJ,Klein S,Yuan Y,Sharma S,Tseng TC,Adabi S,Niclou SP,Keunen O,Hau AC,Vallières M,Fortin D,Lepage M,Landman B,Ramadass K,Xu K,Chotai S,Chambless LB,Mistry A,Thompson RC,Gusev Y,Bhuvaneshwar K,Sayah A,Bencheqroun C,Belouali A,Madhavan S,Booth TC,Chelliah A,Modat M,Shuaib H,Dragos C,Abayazeed A,Kolodziej K,Hill M,Abbassy A,Gamal S,Mekhaimar M,Qayati M,Reyes M,Park JE,Yun J,Kim HS,Mahajan A,Muzi M,Benson S,Beets Tan RGH,Teuwen J,Herrera Trujillo A,Trujillo M,Escobar W,Abello A,Bernal J,Gómez J,Choi J,Baek S,Kim Y,Ismael H,Allen B,Buatti JM,Kotrotsou A,Li H,Weiss T,Weller M,Bink A,Pouymayou B,Shaykh HF,Saltz J,Prasanna P,Shrestha S,Mani KM,Payne D,Kurc T,Pelaez E,Franco Maldonado H,Loayza F,Quevedo S,Guevara P,Torche E,Mendoza C,Vera F,Ríos E,López E,Velastin SA,Ogbole G,Soneye M,Oyekunle D,Odafe Oyibotha O,Osobu B,Shu'aibu M,Dorcas A,Dako F,Simpson AL,Hamghalam M,Peoples JJ,Hu R,Tran A,Cutler D,Moraes FY,Boss MA,Gimpel J,Veettil DK,Schmidt K,Bialecki B,Marella S,Price C,Cimino L,Apgar C,Shah P,Menze B,Barnholtz Sloan JS,Martin J,Bakas S. **Federated learning enables big data for rare cancer boundary detection.** Nat Commun. 2022. 13. (1):p. 7346-7346. IF:17,694. (Q1).
- 28.** Xiberta P,Boada I,Thió Henestrosa S,Pedraza S,Pineda V. **Asynchronous online learning as a key tool to adapt to new educational needs in radiology during the COVID-19 pandemic.** Med. Educ. Online. 2022. 27. (1):p. 2118116-2118116. IF:6,000. (Q1).
- REVIEWS/ I.F.: 22.17**
- 1.** Jager A,Vilanova JC,Michi M,Wijkstra H,Ooddens JR. **The challenge of prostate biopsy guidance in the era of mpMRI detected lesion: ultrasound-guided versus in-bore biopsy.** Br. J. Radiol. 2022. 95. (1131):p. 20210363-20210363. IF:3,629. (Q2).
- 2.** Figley CR,Uddin MN,Wong K,Kornelsen J,Puig J,Figley TD. **Potential Pitfalls of Using Fractional Anisotropy, Axial Diffusivity, and Radial Diffusivity as Biomarkers of Cerebral White Matter Microstructure.** Front. Neurosci. 2022. 15. p. 799576-799576. IF:5,152. (Q2).
- 3.** Balana C,Castañer S,Carrato C,Moran T,Lopez Paradís A,Domenech M,Hernandez A,Puig J. **Preoperative Diagnosis and Molecular Characterization of Gliomas With Liquid Biopsy and Radiogenomics.** Front Neurol. 2022. 13. p. 865171-865171. IF:4,086. (Q2).
- 4.** Contreras Rodriguez O,Solanas M,Escorihuela RM. **Dissecting ultra-processed foods and drinks: Do they have a potential to impact the brain?.** Rev. Endocr. Metab. Disord. 2022. 23. (4):p. 697-717. IF:9,306. (Q1).

LETTERS/ I.F.: 14.15

1. Tirón C,Campuzano O,Fernández Falgueras A,Alcalde M,Loma Osorio P,Zamora E,Caballero A,Sarquella Brugada G,Cesar S,Garcia Cuenllas L,García A,Jordà P,Arbelo E,Tomás Querol C,Pineda V,Martínez D,Brugada R. **Prevalence of Pathogenic Variants in Cardiomyopathy-Associated Genes in Myocarditis.** Circ.-Genom. Precis. Med. 2022. 15. (3):e003408. IF:7,465. (Q1).

2. Braemswig TB,Vynckier J,Jensen M,Boutitie F,Galinovic I,Simonsen CZ,Cheng B,Cho TH,Scheitz JF,Fiehler J,Puig J,Thijs V,Fiebach JB,Muir KW,Naghoghossian N,Ebinger M,Pedraza S,Thomalla G,Gerloff C,Endres M,Lemmens R,Schlemm L,Nolte CH,WAKE UP I. **New remote cerebral microbleeds in acute ischemic stroke: an analysis of the randomized, placebo-controlled WAKE-UP trial.** J Neurol. 2022. 269. (10):p. 5660-5667. IF:6,682. (Q1).

CASE REPORTS/ I.F.: 2.32

1. Maroto A,Martinez Diago C,Tio G,Sagües M,Borrell A,Bonmatí A,Teixidor M,Adrados C,Torrent S,Alvarez E. **Autoimmune hemolytic anemia in pregnancy: a challenge for maternal and fetal follow-up.** J. Matern.-Fetal Neonatal Med. 2022. 35. (5):p. 996-998. IF:2,323. (Q3).

GRANTS

IDIBGI Principal Investigator: Oren Contreras
 Project Title: Ayuda de personal Miquel Servet
 Project Code: CP20/00165
 Funding Agency: INSTITUTO DE SALUD CARLOS III
 Duration: 01/01/2021 to 31/12/2025

IDIBGI Principal Investigator: Oren Contreras
 Project Title: Comida ultraprocesada y desarrollo de la corteza prefrontal en la adolescencia (UP-PREdev)
 Project Code: PI22/00645
 Funding Agency: INSTITUTO DE SALUD CARLOS III
 Duration: 01/01/2023 to 31/12/2025

IDIBGI Principal Investigator: Josep Puig
 Project Title: MRI Biomarkers of brain connectivity during stroke recovery and rehabilitation
 Project Code: La Marató 201725.30
 Funding Agency: FUNDACIÓ LA MARATÓ TV3
 Role: Coordinator
 Duration: 10/03/2019 to 31/01/2022

IDIBGI Principal Investigator: Joan Carles Vilanova
 Project Title: ProCancer-I: An AI Platform integrating imaging data and models, supporting precision care through prostate cancer's continuum

Project Code: 952159

Funding Agency: EUROPEAN COMISION

Role: Partner

Duration: 01/10/2020 to 30/09/2024

IDIBGI Principal Investigator: Oren Contreras

Project Title: Ultra-processed food intake, depression, and treatment effectiveness in adolescents

Project Code: Intramural 2021

Funding Agency: CIBER

Role: Partner

Duration: 30/09/2021 to 30/03/2025

MEMBERSHIP OF COLLABORATIVE RESEARCH NETWORKS**SPANISH**

- CIBER_SAM (Salud Mental) - CB/07/09/0022

PATENTS

Title: Method and system for the automatic segmentation of white matter hyperintensities in brain magnetic resonance images

Application number: WO2020ES70069

PCT

Applicants: Quibim SL, IDIBGI

Inventors: Ana María Jiménez Pastor, Eduardo Camacho Ramos, Fabio García Castro, Ángel Alberich Bayarri, Josep Puig Alcántara, Carles Biarnes Durán, Luis Martí Bonmatí, Salvador Pedraza Gutiérrez
 Licensed: Yes. Quibim SL

DOCTORAL THESES

Thesis author: Carles Muñoz Montplet

Title: Impacte clínic del càlcul de la dosi absorbida en radioteràpia externa mitjançant un nou algorisme basat en la solució de l'equació de Boltzmann.

Thesis directors: Dr. Joan Carles Vilanova / Dr. Rafael Fuentes Raspall
 European mention: No



MENTAL HEALTH

MENTAL HEALTH AND ADDICTIONS
NEURODEVELOPMENTAL DISORDERS

Mental health and addictions

MEMBERS DISTRIBUTED BY GENDER

W: 75%

M: 25%

KEYWORDS
Mental health
Addictions
Psychotropic drugs
Patient safety
Epidemiology
Neuropsychology
Pediatric
Adults
Mental health services
Genetic polymorphism

RELATED DISEASES
Mental health
Mood disorder
Attempted suicide
Psychosis
Attention deficit disorder with hyperactivity
Disruptive behavior disorders
Cognition disorders
Addictions

GROUP LEADER - R4

Jordi Cid Colom (IAS)

ESTABLISHED RESEARCHERS - R3

Eva Frigola Capell (IAS)

POST-DOCTORAL RESEARCHERS - R2

Aránzazu Jordá Jordá (IAS)

Laura Masferrer Boix (IAS)

Domènec Serrano Sarbosa (IAS)

PRE-DOCTORAL RESEARCHERS - R1

Meritxell Beltran Fernandez (IAS)

Emma Bonamaisó Nogué (IAS)

Maria Dels Àngels Deu Coll (IAS)

Maria Teresa Garcia Lopez (IAS)

René Ricardo Morgan Ferrando (IAS)

Eduard Palomer (IAS)

COLLABORATORS

Eugenia Baykova Platonenkova (IAS)

Margarita De Castro-Palomino Serra (IAS)

Jordi Font Pujol (IAS)

Montse Gibernau (IAS)

Maria Pilar González Planas (IAS)

Begoña Gonzalvo Cirac (IAS)

Laura Gratacos Santanach (ICS/Trueta)
Maria Dolors Malla (IAS)
Lourdes Márquez Mora (IAS)
Sacramento Mayoral Moyano (IAS)
Alejandro Nieto Campaña (IAS)
Pilar Ramiro (IAS)
Patricia Revilla Bruñol (IAS)
José Luís Sagredo (IAS)
Ingrid Thelen (IAS)
Cristina Toro Blanch (ICS/Trueta)
Glòria Tràfach (IAS)

OVERVIEW

PROBLEM

Mental health disorders are influenced by individual attributes (ie. genetic-based factors...) the social circumstances (socio-economic status, educational, working conditions...) and the environment (access to services, cultural background...) in which they live. These determinants interact dynamically, and may threaten or protect an individual's mental state. Suffering a mental health problem increases the odds of substance use problems. Variability in the treatment of complex mental health disorders yields to increasing costs and exposure to quality and safety inequalities among health care users.

APPROACH

The group research focuses on the study of mental health conditions through genetic and imaging tools, psychological treatments, psychometrics, e-health technologies, social-functionalism impact, and epidemiological methods. The group also focus on assessment of mental health programmes and support in decision making. Finally, the group focuses on patient safety, systematizing the identification of events or

circumstances that may have given rise to, or have indeed given rise to unnecessary harm to a patient, and work in suggesting improvements.

IMPACT

The ambition is to increase knowledge of mental disorders. A growing understanding in this field may offer new and important tools to move forward to better treatments and recovery, allow personal empowerment and improve quality of care of patients.

MAIN RESEARCH LINES

- Clinical Research line, which includes several mental health conditions such as psychosis, addictions, mood disorders, attempted suicide, attention deficit disorder with hyperactivity...
- Mental health programmes and support in decision making.
- IC Technologies applied to health and remote assistance and m-health (use of mobile technology).

- Quality and Patient Safety applied to clinical processes, pharmacological and non-pharmacological therapies and genetics in mental health.

PUBLICATIONS

ORIGINALS / I.F: 42.58

- Serrano Sarbosa D, Martí Lluch R, Cárdenas M, Solanas P, Marrugat J, Vilalta Franch J, Garre Olmo J. Gender analysis of the frequency and course of depressive disorders and relationship with personality traits in general population: A prospective cohort study. *J. Affect. Disord.* 2022; 302. p. 241-248. IF:6,533. (Q1).**
- Moreno Küstner B, Fábrega Ruz J, Gonzalez Caballero JL, Reyes Martin S, Ochoa S, Romero Alberca C, Cid J, Vila Badia R, Frigola Capell E, Salvador Carulla L. Patient-reported impact of symptoms in schizophrenia scale (PRISS): Development and validation. *Acta Psychiatr. Scand.* 2022; 145. (6):p. 640-655. IF:7,734. (Q1).**
- Ferrer Quintero M, Fernández D, López Carrilero R, Birulés I, Barajas A, Lorente Rovira E, Luengo A, Díaz Cutraro L, Verdaguer M, García Mieres H, Gutiérrez Zotes A, Grasa E, Pousa E, Huerta Ramos E, Pélaez T, Barrigón ML, Gómez Benito J, González Higuera F, Ruiz Delgado I, Cid J, Moritz S, Sevilla Jones J, Spanish Metacognition G, Ochoa S. Males and females with first episode psychosis present distinct profiles of social cognition and metacognition. *Eur. Arch. Psych. Clin. Neurosci.* 2022; 272. (7):p. 1169-1181. IF:5,760. (Q1).**
- Pousa E, Brébion G, López Carrilero R, Ruiz AI, Grasa E, Barajas A, Peláez T, A, Lorente E, Barrigón ML, Ruiz Delgado I, González Higuera F, Cid J, Pérez Solà V, Spanish Metacognition Study G, Insight Barcelona Work G, Ochoa S. Clinical insight in first-episode psychosis: Clinical, neurocognitive and metacognitive predictors. *Schizophr Res.* 2022; 248. p. 158-167. IF:4,662. (Q2).**
- Mendoza García S, García Mieres H, Lopez Carrilero R, Sevilla Jones J, Birulés I, Barajas A, Lorente Rovira E, Gutiérrez Zotes A, Grasa E, Pousa E, Pelaéz T, Barrigón ML, González Higuera F, Ruiz Delgado I, Cid J, Montserrat R, Martin Iñigo L, Moreno Kustner B, Vila Bbadía R, Díaz Cutraro L, Verdaguer Rodríguez M, Ferrer Quintero M, Punsoda Puche P, Barrau Sastre P, Moritz S, Ochoa S. Influence of Maternal and Paternal History of Mental Health in Clinical, Social Cognition and Metacognitive Variables in People with First-Episode Psychosis. *J. Pers. Med.* 2022; 12. (10):1732. IF:3,508. (Q2).**
- Ferrer Quintero M, Fernández D, López Carrilero R, Díaz Cutraro L, Verdaguer Rodríguez M, García Mieres H, Huerta Ramos E, Gómez Benito J, Peláez T, Birulés I, Barajas A, Pousa E, Barrigón M, Gutiérrez Zotes A, Grasa E, Ruiz Delgado I, Lorente Rovira E, Cid J, On Behalf Of The Spanish Metacognition Study G, Ochoa S. Heterogeneity in Response to MCT and Psychoeducation: A Feasibility Study Using Latent Class Mixed Models in First-Episode Psychosis. *Healthcare.* 2022; 10. (11):2155. IF:3,160. (Q2).**
- Ruiz Delgado I, Moreno Küstner B, García Medina M, Barrigón ML, Gonzalez Higuera F, López Carrilero R, Barrios Mellado I, Barajas A, Pousa E, Lorente Rovira E, Grasa E, Cid J, Barrau Sastre P, Moritz S, Ochoa S, Spanish Metacognition G. Is Metacognitive Training effective for improving neurocognitive function in patients with a recent onset of psychosis?. *Psychiatry Res.* 2022; 318. p. 114941-114941. IF:11,225. (Q1).**

GRANTS

IDIBGI Principal Investigator: Eva Frigola
 Project Title: OPADE: Optimise and predict antidepressant efficacy for patient with major depressive disorders using multi-omics analysis and AI-predictive tool
 Project Code: OPADE
 Funding Agency: EUROPEAN COMISSION
 Duration: 01/11/2022 to 30/04/2027

MEMBERSHIP OF COLLABORATIVE RESEARCH NETWORKS

SPANISH

- Clúster Salut Mental Catalunya (CSMC)
- Innovació i recerca en salut mental a Catalunya (TECSAM)
- PSICOST Group
- Spanish Metacognition Study Group (SMSG)

Neurodevelopmental disorders



MEMBERS DISTRIBUTED BY GENDER

W: 83,3%

M: 16,7%

KEYWORDS

Mental health
 Intellectual disabilities
 Autism spectrum disorder
 Challenge behavior
 Genetics
 Behavioural phenotypes
 Prader-Willi
 Down syndrome
 Neuropsychology
 DTI
 MEG
 MRI
 Connectivity

RELATED DISEASES

Autism spectrum disorder
 Rare genetic syndromes
 Intellectual disabilities
 Prader Willi Syndrome
 Down Syndrome

GROUP LEADER - R4

Susanna Esteba Castillo (IAS)

ESTABLISHED RESEARCHERS - R3

Ramon Novell Alsina (IAS)

POST-DOCTORAL RESEARCHERS - R2

Pilar Àvila Castells (IAS)
 Irene Mademont Soler (ICS/Trueta)
 Maria Obon Ferrer (ICS/Trueta)

PRE-DOCTORAL RESEARCHERS - R1

Emili Rodriguez Hidalgo (IAS)

TECHNICIANS

Nuria Ribas Vidal (IAS)

COLLABORATORS

Maria Cristina Almeda Collado (IAS)
 Natalia Diaz Calleja (IAS)
 Aida Palacin Maresma (IAS)
 Laura Verges Planaguma (IAS)
 Marta Vila Alsina (IAS)



OVERVIEW

PROBLEM

People with intellectual disabilities are a population that has a high probability of presenting behavioural disturbances and/or mental health problems. They are, generally, an unattractive population when it comes to global research due to the difficulty involved, in their assessment, among others. We believe that the study of this group will, on one hand, allow the improvement on the understanding of the relationship between behaviour-brain and, on the other hand, to improve interventions in the field of health (both pharmacological and non-pharmacological).

APPROACH

We want to focus on an interdisciplinary approach that wants to identify the genetic, cognitive, MRI/connectivity and mental health problems in intellectual disability population, rare genetic syndromes and autism disorders. Also, we want to reduce the contribution of mental health difficulties, autism characteristics and negative outcomes in people with complex needs.

IMPACT

The impact of our research has a range from the purely biological aspect to the most social one, such as supporting the rights and the access of people with intellectual disabilities to secondary and tertiary healthcare services as recent EU policy developments and initiatives gathered below include actions and recommendations focused on the issue of people with disabilities' health and their right to access health care services. So far, what we want to achieve and what we're fighting for is obtaining the right for an acceptable quality of life.

MAIN RESEARCH LINES

Our interdisciplinary research is on learning disabilities from different perspectives. Research to date has had the following main themes:

- Relationship between genetics-cognition-behaviour in people with intellectual disabilities.
- Research projects have included studies of Prader Willi Syndrome and the associated eating disorder and risks of psychiatric illness, neuropsychological aspects and functional connectivity.
- Investigations of the links between Down's syndrome and

the high risk for developing Mild cognitive impairment and Alzheimer's disease and diagnostic criteria.

- Creation, validation and standardization of neuropsychological and psychiatric tests in ID population.
- Study of genetic variants, structural alterations and cognitive profiles in women on the autism spectrum.
- Proprioception-based intervention for behavioural, psychiatric and sleep factors improvement.
- Stands for stopping over medication of people with a learning disability and or autism with psychotropic medicines Supporting rights and access of people with intellectual disabilities to secondary and tertiary healthcare services.

PUBLICATIONS

ORIGINALS / I.F: 24.58

1. Esteba Castillo S,Garcia Alba J,Rodríguez Hidalgo E,Vaquero L,Novell R,Moldenhauer F,Castellanos MÁ. **Proposed diagnostic criteria for mild cognitive impairment in Down syndrome population.** *J. Appl. Res. Intellect. Disabil.* 2022. 35. (2):p. 495-505. IF:2,162. (Q2).
2. Fernández Lafitte M,Cobo J,Coronas R,Parra I,Oliva JC,Àlvarez A,Esteba Castillo S,Giménez Palop O,Palao DJ,Caixàs A. **Social Responsiveness and Psychosocial Functioning in Adults with Prader-Willi Syndrome.** *J Clin Med.* 2022. 11. (5):1433. IF:4,964. (Q2).
3. Casamitjana L,Blanco Hinojo L,Giménez Palop O,Pujol J,Martínez Vilavella G,Esteba Castillo S,Pareja R,Freijo V,Vigil L,Deus J,Caixàs A. **One Year of Recombinant Human Growth Hormone Treatment in Adults with Prader-Willi Syndrome Improves Body Composition, Motor Skills and Brain Functional Activity in the Cerebellum.** *J Clin Med.* 2022. 11. (7):1831. IF:4,964. (Q2).
4. Garcia Alba J,Rubio Valdehita S,Julia Sanchez M,Garcia AIM,Esteba Castillo S,Gomez Caminero M. **Cognitive training in adults with intellectual disability: pilot study applying a cognitive tele-rehabilitation program.** *Int. J. Dev. Disabil.* 2022. 68. (3):p. 301-308. IF:2,170. (Q2).
5. Rodríguez Hidalgo E,García Alba J,Buxó M,Novell R,Esteba Castillo S. **The Pictorial Screening Memory Test (P-MIS) for Adults with Moderate Intellectual Disability and Alzheimer's**

Disease. Int J Environ Res Public Health. 2022. 19. (17):10780.
IF:4,614. (Q1).

6. Fernández A,Ramírez Toraño F,Bruña R,Zuluaga P,Esteba Castillo S,Abásolo D,Moldenhauer F,Shumbayawonda E,Maestú F,García Alba J. **Brain signal complexity in adults with Down syndrome: Potential application in the detection of mild cognitive impairment.** Front. Aging Neurosci. 2022. 14. p. 988540-988540. IF:5,702. (Q1).
-

GRANTS

IDIBGI Principal Investigator: Laura Vergés
Project Title: EQUAL TREATMENT: Supporting rights and access of people with intellectual disabilities to secondary and tertiary healthcare services
Project Code: 101049115
Funding Agency: EUROPEAN COMISION 25.4999
Role: Partner
Duration: 01/03/2022 to 31/08/2024

FUNDRAISING GRANTS

IDIBGI Principal Investigator: Susanna Esteba Castillo
Project Title: Beca Granés Fundació per a l'estudi de la realitat virtual immersiva en el tractament de les fòbies específiques en persones en el trastorn de l'espectre autista
Project Code: IDIBGI.00211
Funding Agency: Granés Fundació
Duration: 2022-2024



METABOLISM AND INFLAM- MATION

DIGESTIVE DISEASES AND MICROBIOTA
INFECTIONS, SEPSIS AND MULTI-ORGAN DYSFUNCTION IN THE PATIENT
INTERNAL MEDICINE
METABOLIC AND MATERNAL-FETAL
NEPHROLOGY
NUTRITION, EUMETABOLISM AND HEALTH
OBESITY AND CARDIOVASCULAR RISK IN CHILDREN

Digestive diseases and microbiota

MEMBERS DISTRIBUTED BY GENDER

W: 61,9%

M: 38,1%

KEYWORDS

Microbiota
Biomarkers
Inflammatory Bowel diseases
Pancreatic diseases
Colorectal Cancer
Molecular microbial ecology

RELATED DISEASES

Inflammatory bowel diseases
Irritable bowel syndrome
Celiac disease
Pancreatic cancer
Chronic pancreatitis
Colorectal Cancer

GROUP LEADER - R4

Xavier Aldeguer Mante (ICS/Trueta)

ESTABLISHED RESEARCHERS - R3

Robert Carreras Torres (IDIBGI)
Josep Oriol Miquel Cusachs (ICS/Trueta)
Virginia Piñol Sanchez (ICS/Trueta)
Margarita Sala Llinàs (ICS/Trueta)
Isabel Serra Matamala (ICS/Trueta)

POST-DOCTORAL RESEARCHERS - R2

Anna Bahí Salavedra (IDIBGI)
Javier Pamplona Portero (IAS)
Miriam Sàbat Mir (IAS)

PRE-DOCTORAL RESEARCHERS - R1

David Busquets Casals (ICS/Trueta)
Aleix Lluansí Salís (IDIBGI)
Laura Vilà Quintana (IDIBGI)

TECHNICIANS

Montserrat Capdevila Cabarrocas (IDIBGI)
Anna Feliu Ropero (IDIBGI)
Débora Pozas Hernandez (IDIBGI)

COLLABORATORS

Marc Albert Carrasco (ICS/Trueta)
Esther Fort Martorell (ICS/Trueta)
Carlos Huertas Nadal (ICS/Trueta)
Carmen Lopez Nuñez (ICS/Trueta)
Laura Pardo Grau (ICS/Trueta)
Leyanira Torrealba Medina (ICS/Trueta)



OVERVIEW

PROBLEM

The role of living microorganisms in the digestive system on overall health and digestive diseases is an expanding research field. Alterations in the composition have been observed related to health outcomes; however, their causal role and their diagnostic character is not yet elucidated. Moreover, modifications on the composition by prebiotic or probiotic intake are a potential noninvasive treatment for outcomes and symptoms.

APPROACH

We collect tissue, saliva, and feces samples from different patients with specific outcomes. The 16s rRNA gene of those samples is sequenced by DNA PCR techniques to obtain the present microbiota diversity. These techniques are independent from traditional culture techniques, and allow a minimum biased identification of diversity.

IMPACT

The results of our research activity will provide evidence on the diagnostic character of microbiome diversity on a range of digestive diseases, and the potential benefit of prebiotic and probiotic intake to revert microbiota unbalanced composition.

MAIN RESEARCH LINES

- Diagnostic capacity of microbiome diversity on inflammatory bowel diseases, including Crohn's diseases and colitis ulcerosa, and their different states (active, remission without bowel discomfort, remission with bowel discomfort)
- Diagnostic capacity of microbiome diversity on pancreas outcomes including chronic pancreatitis and pancreatic cancer
- Prebiotic effect of bread fermentation protocols on microbiome composition of patients with inflammatory bowel diseases

PUBLICATIONS

ORIGINALS / I.F: 182.98

1. Castillo Regalado E,Huertas C,Torrealba L,Hombrados DRA,Figa

M,Busquets D,Uchima H. **Endoscopic full-thickness resection in the rectum closed with PolyLoop-and-clips method using single-channel endoscope**. Endoscopy. 2022. 54. (01):p. 24-25. IF:9,776. (Q1).

2. Carreras Torres R,Kim AE,Lin Y,Díez Obrero V,Bien SA,Qu C,Wang J,Dimou N,Aglago EK,Albanes D,Arndt V,Baurley JW,Berndt SI,Bézieau S,Bishop DT,Bouras E,Brenner H,Budiarto A,Campbell PT,Casey G,Chan AT,Chang Claude J,Chen X,Conti DV,Dampier CH,Devall MA,Drew DA,Figueiredo JC,Gallinger S,Giles GG,Gruber SB,Gsur A,Gunter MJ,Harrison TA,Hidaka A,Hoffmeister M,Huyghe JR,Jenkins MA,Jordahl KM,Kawaguchi E,Keku TO,Kundaje A,Le Marchand L,Lewinger JP,Li L,Mahesworo B,Morrison JL,Murphy N,Nan H,Nassir R,Newcomb PA,Obón Santacana M,Ogino S,Ose J,Pai RK,Palmer JR,Papadimitriou N,Pardamean B,Peoples AR,Pharoah PDP,Platz EA,Rennert G,Ruiz Narvaez E,Sakoda LC,Scacheri PC,Schmit SL,Schoen RE,Shcherbina A,Slattery ML,Stern MC,Su YR,Tangen CM,Thomas DC,Tian Y,Tsilidis KK,Ulrich CM,van Duijnhoven FJB,Van Guelpen B,Visvanathan K,Vodicka P,Cenggoro TW,Weinstein SJ,White E,Wolk A,Woods MO,Hsu L,Peters U,Moreno V,Gauderman WJ. **Genome-wide interaction study with smoking for colorectal cancer risk identifies novel genetic loci related to tumor suppression, inflammation and immune response**. Cancer Epidemiol. Biomarkers Prev. 2022. 32. (3):p. 315-328. IF:4,090. (Q2).
3. Batista G,Marin Jimenez I,Fores A,Garcia Planella E,Arguelles Arias F,Tagarro I,Fernandez Nistal A,Montoto C,Aparicio J,Aguas M,Santos Fernandez J,Bosca Watts MM,Ferreiro Iglesias R,Merino O,Aldeguer X,Corttes X,Sicilia B,Mesonero F,Barreiro de Acosta M. **Treatment patterns and intensification within 5 year of follow-up of the first-line anti-TNF alpha used for the treatment of IBD: Results from the VERNE study**. Dig. Liver Dis. 2022. 54. (1):p. 76-83. IF:5,165. (Q2).
4. Quintana I,Mur P,Terradas M,García Mulero S,Aiza G,Navarro M,Piñol V,Brunet J,Moreno V,Sanz Pamplona R,Capellá G,Valle L. **Potential Involvement of NSD1, KRT24 and ACACA in the Genetic Predisposition to Colorectal Cancer**. Cancers (Basel). 2022. 14. (3):699. IF:6,575. (Q1).
5. Sánchez A,Roos VH,Navarro M,Pineda M,Caballol B,Moreno L,Carballal S,Rodríguez Alonso L,Ramon Cajal YT,Llort G,Piñol V,Fernandez AL,Salces I,Picó MD,Rivas L,Bujanda L,Garzon M,Pizarro A,Martinez de Castro E,López Arias MJ,Poves C,Garau C,Rodriguez Alcalde D,Herraiz M,Alvarez Urrutia C,Dacal A,Carrillo Palau M,Cid L,Ponce M,Barreiro Alonso E,Saperas E,Aguirre E,Romero C,Bastiaansen B,Gonzalez Acosta M,Morales Romero B,Ocaña T,Rivero Sánchez L,Jung G,Bessa X,Cubiella J,Jover R,Rodríguez Moranta F,Balmaña J,Brunet J,Castells A,Dekker E,Capella G,Serra Burriel M,Moreira L,Pellise M,Balaguer F. **Quality of Colonoscopy Is Associated With Adenoma Detection and Postcolonoscopy Colorectal Cancer Prevention in Lynch Syndrome**. Clin. Gastroenterol. Hepatol. 2022. 20. (3):p. 611-611. IF:13,576. (Q1).

- 6.** Marín Jiménez I,Acosta MB,Esteve M,Castro Laria L,García López S,Ceballos D,Echarri A,Martín Arranz MD,Busquets D,Llaó J,Navarro Llavat M,Huguet JM,Argüelles Arias F,Vicente R,Boudet JM,Díaz G,Sánchez Migallón AM,Casellas F,for RAPIDA trial I. **Rapidity of clinical response to adalimumab and improvement of quality of life in luminal Crohn's disease: RAPIDA study.** Gastroenterol Hepatol. 2022. 45. (3):p. 165-176. IF:5,867. (Q2).
- 7.** López Siles M,Camprubí Font C,Gómez Del Pulgar EM,Sabat Mir M,Busquets D,Sanz Y,Martinez Medina M. **Prevalence, Abundance, and Virulence of Adherent-Invasive Escherichia coli in Ulcerative Colitis, Colorectal Cancer, and Coeliac Disease.** Front Immunol. 2022. 13. p. 748839-748839. IF:8,786. (Q1).
- 8.** Loras C,Andújar X,Gornals JB,Sanchiz V,Brullet E,Sicilia B,Martín Arranz MD,Naranjo A,Barrio J,Dueñas C,Foruny JR,Busquets D,Monfort D,Pineda JR,González Huix F,Pérez Roldán F,Pons V,González B,Reyes Moreno J,Sainz E,Guardiola J,Bosca Watts MM,Fernández Bañares F,Mayor V,Esteve M,Grupo Español de Trabajo de la Enfermedad de Crohn Colitis Ulcerosa (GETECCU) Y. **Self-expandable metal stents versus endoscopic balloon dilation for the treatment of strictures in Crohn's disease (ProtDilat study): an open-label, multicentre, randomised trial.** Lancet Gastroenterol. Hepatol. 2022. 7. (4):p. 332-341. IF:45,042. (Q1).
- 9.** Hernández Camba A,Arranz L,Vera I,Carpio D,Calafat M,Lucendo AJ,Taxonera C,Marín S,García MJ,Marín GS,Rodríguez ES,Carbajo AY,De Castro ML,Iborra M,Martin Cardona A,Rodríguez Lago I,Busquets D,Bertoletti F,Ausín MS,Tardillo C,Malaves JH,Bujanda L,Castaño A,Domènech E,Ramos L,GETECCU (Grupo Español de Trabajo en Enfermedad de Crohn Colitis Ulcerosa) Y,Additional member of the Spanish GETECCU G. **Real-world use of mycophenolate mofetil in inflammatory bowel disease: Results from the ENEIDA registry.** Dig. Liver Dis. 2022. 54. (5):p. 635-641. IF:5,165. (Q2).
- 10.** Uchima H,Blé M,Busquets D,Serra I,López C,Aldeguer X,Huertas C. **Eradication of neoplastic Barrett's esophagus in patients with esophageal varices with a modified endoscopic mucosal resection technique and radiofrequency ablation.** Endoscopy. 2022. 54. (06):p. 261-263. IF:9,776. (Q1).
- 11.** Riestra S,Taxonera C,Zabana Y,Carpio D,Chaparro M,Barrio J,Rivero M,Lopez Sanroman A,Esteve M,de Francisco R,Bastida G,Garcia Lopez S,Manosa M,Martin Arranz MD,Perez Calle JL,Guardiola J,Munoz F,Arranz L,Cabriada JL,Garcia Sepulcre MF,Navarro M,Montoro Huguet MA,Ricart E,Bermejo F,Calvet X,Piqueras M,Garcia Planella E,Marquez L,Minguez M,Van Domselaar M,Bujanda L,Aldeguer X,Sicilia B,Iglesias E,Alcain G,Perez Martinez I,Rolle V,Castano Garcia A,Gisbert JP,Domenech E, G. **Performance of Screening Strategies for**
- Latent Tuberculosis Infection in Patients with Inflammatory Bowel Disease: Results from the ENEIDA Registry of GETECCU.** J Clin Med. 2022. 11. (13):3915. IF:4,964. (Q2).
- 12.** Calafat M,Mañosa M,Ricart E,Nos P,Iglesias Flores E,Vera I,López SanRomán A,Guardiola J,Taxonera C,Mínguez M,Martín Arranz MD,de Castro L,de Francisco R,Rivero M,García Planella E,Calvet X,García López S,Márquez L,Gomollón F,Barrio J,Esteve M,Muñoz F,Gisbert JP,Gutiérrez A,Hinojosa J,Argüelles Arias F,Busquets D,Bujanda L,Pérez Calle JL,Sicilia B,Merino O,Martínez P,Bermejo F,Lorente R,Barreiro de Acosta M,Rodríguez C,García Sepulcre MF,Monfort D,Cañete F,Domènech E,ENEIDA Study Group of G. **Risk of Immunomediated Adverse Events and Loss of Response to Infliximab in Elderly Patients with Inflammatory Bowel Disease: A Cohort Study of the ENEIDA Registry.** J. Crohns Colitis. 2022. 16. (6):p. 946-953. IF:10,020. (Q1).
- 13.** Muñoz Martínez S,Sapena V,Forner A,Bruix J,Sanduzzi Zamparelli M,Ríos J,Bouattour M,El Kassas M,Leal CRG,Mocan T,Nault JC,Alves RCP,Reeves HL,da Fonseca L,García Juárez I,Pinato DJ,Varela M,Alqahtani SA,Alvares Silva MR,Bandi JC,Rimassa L,Lozano M,González Santiago JM,Tacke F,Sala M,Anders M,Lachenmayer A,Piñero F,França A,Guarino M,Elvevi A,Cabibbo G,Peck Radosavljevic M,Rojas Á,Vergara M,Braconi C,Pascual S,Perelló C,Mello V,Rodríguez Lope C,Acevedo J,Villani R,Hollande C,Vilgrain V,Tawheed A,Ferguson Theodoor C,Sparchez Z,Blaise L,Viera Alves DE,Watson R,Carrilho FJ,Moctezuma Velázquez C,D'Alessio A,Iavarone M,Reig M. **Outcome of liver cancer patients with SARS-CoV-2 infection: An International, Multicentre, Cohort Study.** Liver Int. 2022. 42. (8):p. 1891-1901. IF:8,754. (Q1).
- 14.** Duran A,Guerrero PE,Ortiz MR,Pérez Del Campo D,Castro E,Garcia Velasco A,Fort E,De Llorens R,Saldova R,Llop E,Peracaula R. **Characterization of Mesothelin Glycosylation in Pancreatic Cancer: Decreased Core Fucosylated Glycoforms in Pancreatic Cancer Patients' Sera.** Biomedicines. 2022. 10. (8):1942. IF:4,757. (Q2).
- 15.** Alcalá K,Mariosa D,Smith Byrne K,Nasrollahzadeh Nesheli D,Carreras Torres R,Ardanaz Aicua E,Bondonno NP,Bonet C,Brunström M,Bueno Mesquita B,Chirlaque MD,Christakoudi S,Heath AK,Kaaks R,Katzke V,Krogh V,Ljungberg B,Martin RM,May A,Melander O,Palli D,Rodriguez Barranco M,Sacerdote C,Stocks T,Tjønneland A,Travis RC,Vermeulen R,Chanock S,Purdue M,Weiderpass E,Muller D,Brennan P,Johansson M. **The relationship between blood pressure and risk of renal cell carcinoma.** Int. J. Epidemiol. 2022. 51. (4):p. 1317-1327. IF:9,685. (Q1).
- 16.** Obón Santacana M,Mas Lloret J,Bars Cortina D,Criado Mesas L,Carreras Torres R,Díez Villanueva A,Moratalla Navarro F,Guinó E,Ibáñez Sanz G,Rodríguez Alonso L,Mulet Margalef N,Mata A,García Rodríguez A,Duell EJ,Pimenoff VN,Moreno V. **Meta-**

Analysis and Validation of a Colorectal Cancer Risk Prediction Model Using Deep Sequenced Fecal Metagenomes. Cancers (Basel). 2022. 14. (17):4214. IF:6,575. (Q1).

17. Casadó Llombart S, Velasco de Andrés M, Català C, Leyton Pereira A, Gutiérrez Córzar R, Suárez B, Armiger N, Carreras E, Esteller M, Ricart E, Ordás I, Gisbert JP, Chaparro M, Esteve M, Márquez L, Busquets D, Iglesias E, García Planella E, Martín Arranz MD, Lohmann J, Ayata CK, Niess JH, Engel P, Panés J, Salas A, Domènech E, Lozano F, ENEIDA Project of G. **Experimental and genetic evidence for the impact of CD5 and CD6 expression and variation in inflammatory bowel disease.** Front Immunol. 2022. 13. p. 966184-966184. IF:8,786. (Q1).
18. Rivera Esteban J, Manzano Nuñez R, Broquetas T, Serra Matamala I, Bassegoda O, Soriano Varela A, Espín G, Castillo J, Bañares J, Carrión J, Ginès P, Graupera I, Pericàs JM. **Impact of the COVID-19 pandemic on the care and outcomes of people with NAFLD-related cirrhosis.** JHEP Rep. 2022. 4. (11):p. 100574-100574. IF:9,917. (Q1).
19. Bassegoda O, Rivera Esteban J, Serra I, Morillas R, Broquetas T, Vergara M, Rodriguez A, Aracil C, Virolés S, Carrión JA, Pardo A, Rodríguez Tajes S, Serra Burriel M, Pericàs JM, Augustin S, Ginès P, Graupera I. **High frequency of acute decompensation and cancer in patients with compensated cirrhosis due to nonalcoholic fatty liver disease: A retrospective cohort study.** Hepatol Commun. 2022. 6. (11):p. 3212-3222. IF:5,701. (Q2).

GRANTS

IDIBGI Principal Investigator: Robert Carreras
Project Title: Contracte de treball en el Marc del Programa INVESTIGO-AGAUR
Project Code: 2022 INV-1 00001- 100001ID1
Funding Agency: AGÈNCIA DE GESTIÓ D'AJUTS UNIVERSITATS I DE RECERCA
Duration: 07/11/2022 to 20/11/2024

IDIBGI Principal Investigator: Robert Carreras
Project Title: Ayuda de personal Miguel Servet
Project Code: CP21/00058
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2022 to 31/12/2026

IDIBGI Principal Investigator: Xavier Aldeguer
Project Title: Analysis of microbiota patterns linked to pancreatic cancer and their role in host inflammation, oxidative stress, and immune status
Project Code: La Marató 201912-31
Funding Agency: FUNDACIÓ LA MARATÓ TV3
Role: Partner
Duration: 30/09/2020 to 30/09/2023

MEMBERSHIP OF COLLABORATIVE RESEARCH NETWORKS

SPANISH

- Grupo español de trabajo en enfermedades de Crohn y colitis ulcerosa (GETECCU)

PATENTS

Title: Improved method for the screening, diagnosis and/or monitoring of colorectal advanced neoplasia, advanced adenoma and/or colorectal cancer.

Application number: WO2020EP56575

PCT

Applicants: GoodGut SL, IDIBGI, UdG

Inventors: Mariona Serra Pagès, Jesús García-Gil Librado, Xavier Aldeguer Manté, Marta Malagón Rodriguez, Sara Ramió Pujol

Licensed: Yes. GoodGut S.L.

Title: Method for the quantification of faecalibacterium prausnitzii phylogroup I and/or phylogroup II members and the use thereof as biomarkers.

Application number: WO2016EP69188

PCT

Applicants: UdG, IDIBGI, GoodGut SL

Inventors: Mireia López Siles, Jesús García-Gil Librado, Xavier Aldeguer Manté, Margarita Martínez Medina

Licensed: Yes. GoodGut S.L.

Title: Method for diagnosing colorectal cancer from a human feces sample by quantitative PCR, primers and kit.

Application number: WO2015EP54451

PCT

Applicants: IDIBGI, UdG

Inventors: Mariona Serra Pagès, Jesús García-Gil, Teresa Mas de Xaxars, Xavier Aldeguer

Licensed: Yes. GoodGut S.L.

Infections, sepsis and multi-organ dysfunction in the patient

MEMBERS DISTRIBUTED BY GENDER

W: 77,8%

M: 22,2%

KEYWORDS

Critical care
Infection
Sepsis
Septic shock
Microbiota
Biomarker

RELATED DISEASES

Ventilator-Associated Pneumonia
Sepsis and Septic Shock
Microbiome

GROUP LEADER - R4

Josep Maria Sirvent Calvera (ICS/Trueta)

POST-DOCTORAL RESEARCHERS - R2

Cristina Murcia Gubianas (ICS/Trueta)

PRE-DOCTORAL RESEARCHERS - R1

Anna Baro Serra (IAS-ICS/Trueta)
Silvia Maritza Cuenca Barrero (ICS/Trueta)
Sara Foradada Ubach (ICS/Trueta)
Juliana Gonzalez Londoño (IAS)
Carolina Lorencio Cardenas (ICS/Trueta)
Josep Miquel Morales Pedrosa (IAS)
Patricia Ortiz Ballujera (ICS/Trueta)



OVERVIEW**PROBLEM**

Our aim is understanding the pathogenesis of infection and sepsis in the critically ill patient.

APPROACH

The physiological mechanisms that are altered during the hospitalization and in the intensive care unit (ICU) contribute to the microbial growth. In this sense, the group research is focused on the study of predictive biomarkers of infection and mortality in critically ill patients. We also focus on molecular analysis of the microbiome of critically ill patients. Finally, as severe sepsis remains the most common cause of death in intensive care units (ICUs), the group also focuses on creating a sepsis and septic shock registry and analysis of biomarkers by collecting data that describe the management and outcomes of severe sepsis patients in ICUs.

IMPACT

The ambition is to develop better treatments for infected and septic patients for the improvement of critically ill patient prognostic and survival. Also, a growing understanding the ventilator-associated pneumonia, the sepsis, the nutrition and the microbiome may offer important tools in changing antibiotic stewardship and management of the critically ill patient.

MAIN RESEARCH LINES

- Studies of microbiology and Infections in the critically ill patient.
- Study of sepsis and septic shock.
- Study of ventilator-associated pneumonia. Special attention to COVID-19.
- Study of nutrition in septic patients
- Procedure in security (hospital acquired infections) in critically ill patients.

PUBLICATIONS**ORIGINALS / I.F.: 70.04**

1. Alves Cabratosa L,Comas Cufí M,Blanch J,Martí Lluch R,Ponjoan A,Castro Guardiola A,Hurtado Ganoza A,Pérez Jaén A,Rexach Fumaña M,Faixedas Brunsoms D,Gispert Ametller MA,Guell Cargol A,Rodriguez Batista M,Santularia Font F,Orriols R,Bonnín Vilaplana M,Calderón López JC,Sabater Talaverano G,Queralt Moles FX,Rodriguez Requejo S,Avellana Revuelta E,Balló E,Fages Masmiquel E,Sirvent JM,Lorencio C,Morales Pedrosa JM,Ortiz Ballujera P,Ramos R. Individuals With SARS-CoV-2 Infection During the First and Second Waves in Catalonia, Spain: Retrospective Observational Study Using Daily Updated Data. JMIR Public Health Surveill. 2022. 8. (1):e30006. IF:14,557. (Q1).
2. Wendel Garcia PD,Mas A,González Isern C,Ferrer R,Máñez R,Masclans JR,Sandoval E,Vera P,Trenado J,Fernández R,Sirvent JM,Martínez M,Ibarz M,Garro P,Lopera JL,Bodí M,Yébenes Reyes JC,Triginer C,Vallverdú I,Baró A,Bodí F,Saludes P,Valencia M,Roche Campo F,Huerta A,Cambra FJ,Barberà C,Echevarría J,Peñuelas Ó,Mancebo J,UCIsCAT study G. Non-invasive oxygenation support in acutely hypoxic COVID-19 patients admitted to the ICU: a multicenter observational retrospective study. Crit. Care. 2022. 26. (1):p. 37-37. IF:19,334. (Q1).
3. Lopez Delgado JC,Grau Carmona T,Trujillano Cabello J,García Fuentes C,Mor Marco E,Bordeje Laguna ML,Portugal Rodriguez E,Lorencio Cárdenas C,Vera Artazcoz P,Macaya Redin L,Martinez Carmona JF,Mateu Campos L,Gero Escapa M,Gastaldo Simeon R,Vila García B,Flordelis Lasierra JL,Montejo Gonzalez JC,Servià Goixart L,The Enpic Study G. The Effect of Enteral Immunonutrition in the Intensive Care Unit: Does It Impact on Outcomes? Nutrients. 2022. 14. (9):1904. IF:6,706. (Q1).
4. Flordelis Lasierra JL,Montejo González JC,López Delgado JC,Zárate Chug P,Martínez Lozano Aranaga F,Lorencio Cárdenas C,Bordejé Laguna ML,Maichle S,Terceros Almanza LJ,Trasmonte Martínez MV,Mateu Campos L,Servià Goixart L,Vaquerizo Alonso C,Vila García B,the NUTRIVAD Study G. Enteral nutrition in critically ill patients under vasoactive drug therapy: The NUTRIVAD study. J. Parenter. Enter. Nutr. 2022. 46. (6):p. 1420-1430. IF:3,896. (Q3).
5. Lorencio Cárdenas C,Yébenes JC,Vela E,Clèries M,Sirvent JM,Fuster Bertolín C,Reina C,Rodríguez A,Ruiz Rodríguez JC,Trenado J,Esteban Torné E. Trends in mortality in septic patients according to the different organ failure during 15 years. Crit. Care. 2022. 26. (1):p. 302-302. IF:19,334. (Q1).
6. Cuenca S,Soler Z,Serrano Gómez G,Xie Z,Barquinero J,Roca J,Sirvent JM,Manichanh C. Dysbiosis: An Indicator of COVID-19 Severity in Critically Ill Patients. Int J Mol Sci. 2022.

23. (24):15808. IF:6,208. (Q1).

LETTERS / I.F.: 7.75

1. Murcia Gubianas C,Yébenes JC,Buxó M,Foradada S,Pinart E. Is serum hyperosmolality related with myocardial dysfunction in septic shock patients?. Eur. J. Intern. Med. 2022. 95. p. 108-110. IF:7,749. (Q1).
-

MEMBERSHIP OF COLLABORATIVE RESEARCH NETWORKS

SPANISH

- Grupo ÍTACA
 - Registro ENVIN (SEMICYUC)
-

DOCTORAL THESES

Thesis author: Cristina Murcia Gubianas

Title: Biomarcadors diagnòstics de disfunció miocàrdica associada a xoc sèptic: evaluació de la troponina T ultrasensible i de la hiperosmolalitat plasmàtica.

Thesis directors: Dra. Elisabeth Pinart Nadal / Dr. Juan Carlos Yébenes

European mention: No

Internal medicine

MEMBERS DISTRIBUTED BY GENDER

W: 76,2%

M: 23,8%

KEYWORDS

Venous Thromboembolism
Heart Failure
Infectious diseases
Sarcoidosis
Autoimmune-systemic diseases

RELATED DISEASES

Infectious diseases
Heart failure
Venous thromboembolic disease
Systemic-autoimmune disease

GROUP LEADER - R4

Antoni Castro Guardiola (ICS/Trueta)

PRE-DOCTORAL RESEARCHERS - R1

Mònica Angerri Nadal (ICS/Trueta)
Ariadna De Genover Gil (ICS/Trueta)

TECHNICIANS

Tuy de Agustin de Oro (IDIBGI)
Nerea Barcelona Imbernon (IDIBGI)
Luis Eduardo Duran Duran (IDIBGI)
Emma Llobet François (IDIBGI)
Àngela Llop Hernández (IDIBGI)
Blanca Ronquete Jimenez (IDIBGI)
Eva Taravilla Suros (IDIBGI)

NON-SCIENTIFIC RESEARCH SUPPORT STAFF

Sónia Jané Galindo (IDIBGI)

COLLABORATORS

Ana Alberich Conesa (ICS/Trueta)
Arola Armengou Arxe (ICS/Trueta)
Iria Francisco Albesa (ICS/Trueta)
Abelardo Hurtado Ganoza (ICS/Trueta)
Inés Jou Segovia (ICS/Trueta)
Marta Lora Diez (ICS/Trueta)



OVERVIEW

PROBLEM

The scientific challenge of our group is to acquire new knowledge in the study of risk factors, diagnosis and treatment of diseases within our field of action.

APPROACH

The research of our Group is basically epidemiological of the study of risk factors and associations as well as diagnostic clinical data of the diseases object of our expertise. It also includes participation in clinical trials of different treatments for these diseases. Some of the actions are participation in national and international registries of diseases such as heart failure, venous thromboembolic disease, sarcoidosis, Sjögren's disease, Systemic sclerosis, Lupus and nosocomial infections.

We are also interested in publishing for the dissemination of acquired knowledge and to involve young internists in research.

IMPACT

The result of our research must allow us to advance in the study and management of the different pathologies mentioned to improve quality of life, better outcome and diagnosis of our patients.

MAIN RESEARCH LINES

- Venous thromboembolic disease
- Heart failure
- Infectious diseases
- Systemic autoimmune diseases

PUBLICATIONS

ORIGINALS / I.F: 49.86

1. Alves Cabratosa L,Comas Cufí M,Blanch J,Martí Lluch R,Ponjoan A,Castro Guardiola A,Hurtado Ganoza A,Pérez Jaén A,Rexach Fumaña M,Faixedas Brunsoms D,Gispert Ametller MA,Guell Cargol A,Rodríguez Batista M,Santaularia Font F,Orriols R,Bonnin Vilaplana M,Calderón López JC,Sabater Talaverano G,Queralt Moles FX,Rodríguez Requejo S,Avellana Revuelta E,Balló E,Fages Masmiquel E,Sirvent JM,Lorencio C,Morales Pedrosa JM,Ortiz Ballujera P,Ramos R. **Individuals With SARS-CoV-2 Infection During the First and Second Waves in Catalonia, Spain: Retrospective Observational Study Using Daily Updated Data.** JMIR Public Health Surveill. 2022. 8. (1):e30006. IF:14,557. (Q1).

2. Giorgi Pierfranceschi M,Monreal M,Di Micco P,Francisco J,Hernández Blasco L,Madridano O,López Sáez JB,Hernando E,Meireles J,Dentali F,The Riete I. **Prognostic Impact of Active Cigarette Smoking on Mortality in Patients with Acute Venous Thromboembolic Events, Findings from Real World Data.** Med. Lith. 2022. 58. (2):295. IF:2,948. (Q3).
3. Álvarez Bravo G,Sánchez Cirera L,Angerri Nadal M,Ramíó I,Torrentà L. **Clinical heterogeneity in patients with myoclonus associated to COVID-19.** Neurol. Sci. 2022. 43. (3):p. 1587-1592. IF:3,830. (Q2).
4. Poyatos P,Luque N,Eizaguirre S,Sabater G,Sebastián L,Albesa JF,Peracaula M,Boixadé M,Orriols R,Tura Ceide O. **Post-COVID-19 patients show an increased endothelial progenitor cell production.** Transl. Res. 2022. 243. p. 14-20. IF:10,171. (Q1).
5. Lecumberri R,Ruiz Artacho P,Tzoran I,Brenner B,Farge Bancel D,Ay C,Rosa V,Francisco J,Hernández Blasco LM,Trujillo Santos J,Monreal M. **Outcome of Cancer-Associated Venous Thromboembolism Is More Favorable among Patients with Hematologic Malignancies than in Those with Solid Tumors.** Thromb. Haemost. 2022. 122. (09):p. 1594-1602. IF:6,681. (Q1).
6. Ilop Hernández À,Verdura S,Cuyàs E,Menendez JA. **Nutritional Niches of Cancer Therapy-Induced Senescent Cells.** Nutrients. 2022. 14. (17):3636. IF:6,706. (Q1).
7. Muñoz Rivas N,Aibar J,Gabara Xancó C,Trueba Vicente Á,Urbelz Pérez A,Gómez Del Olmo V,Demelo Rodríguez P,Rivera Gallego A,Bosch Nicolau P,Perez Pinar M,Rios Prego M,Madridano Cobo O,Ramos Alonso L,Alonso Carrillo J,Francisco Albesa J,Martí Saez E,Maestre Peiró A,Méndez Bailón M,Hernández Rivas JÁ,Torres Macho J,PROTHROMCOVID Trial I. **Efficacy and Safety of Tinzaparin in Prophylactic, Intermediate and Therapeutic Doses in Non-Critically Ill Patients Hospitalized with COVID-19: The PROTHROMCOVID Randomized Controlled Trial.** J Clin Med. 2022. 11. (19):5632. IF:4,964. (Q2).

CONSORTIUM PUBLICATIONS / I.F: 13.40

1. Arroyo Garcia N,Badia JM,Vázquez A,Pera M,Parés D,Limón E,Almendral A,Piriz M,Díez C,Fraccalvieri D,López Contreras

J,Pujol M,Members of the VINCat Colorectal Surveillance T,VINCat P. **An interventional nationwide surveillance program lowers postoperative infection rates in elective colorectal surgery. A cohort study (2008-2019).** Int. J. Surg. 2022. 102. p. 106611-106611. IF:13,400. (Q1).

GRANTS

IDIBGI Principal Investigator: Antoni Castro, Ramon Brugada, Rafel Ramos
Project Title: RBD Dimer recombinant protein vaccine against SARS-CoV2 (RBDCOV)
Project Code: 101046118
Funding Agency: EUROPEAN COMMISSION
Role: Partner
Duration: 01/12/2021 to 31/05/2024

MEMBERSHIP OF COLLABORATIVE RESEARCH NETWORKS

SPANISH

- Registro de Insuficiencia Cardíaca: Registro RICA
- Registro Español de Pacientes con Esclerodermia (Registro RESCLE)
- Registro Español de pacientes con Lupus Eritematoso Sistémico: Registro RELES
- Registro Español de Sarcoidosis
- Registro Informatizado de Pacientes con Enfermedad Trombo-Embólica (RIETE)

Metabolic and maternal-fetal

MEMBERS DISTRIBUTED BY GENDER

W: 85,7%

M: 14,3%

Part of a consolidated research group recognized by AGAUR (Generalitat de Catalunya) - 2017 SGR 1236.

KEYWORDS

Pregnancy
Pre and postnatal growth
Metabolic programming

RELATED DISEASES

Gestational obesity
Childhood obesity
Intra-uterine growth restriction (IUGR)

GROUP LEADER - R4

Judit Bassols Casadevall (IDIBGI)

POST-DOCTORAL RESEARCHERS - R2

Jose Maria Martínez-Calcerrada Collell
(Institute of Legal Medicine and Forensic Sciences)

PRE-DOCTORAL RESEARCHERS - R1

Ariadna Gómez Vilarrubla (IDIBGI)

TECHNICIANS

Maria Niubó Pallás (IDIBGI)

COLLABORATORS

Alexandra Bonmatí Santané (ICS/Trueta)
Montserrat Gispert-Sauch Puigdevall (ICS/Trueta)
Mercè Montesinos Costa (ICS/Trueta)



OVERVIEW

PROBLEM

To investigate metabolic and epigenetic markers during pregnancy and in early life that could be used to predict obesity and metabolic outcomes in the offspring.

APPROACH

The predisposition to metabolic diseases is primed in utero by unfavourable prenatal environments and the mechanistic underpinnings of this phenomenon include alterations in the epigenome.

IMPACT

The early identification of the population at risk of obesity and cardiometabolic disorders may help to design intervention strategies to reduce disease burden in the national healthcare system.

MAIN RESEARCH LINES

- Epigenetic markers of pregnancy and offspring
- Metabolic programming during pregnancy
- Obesity and cardiometabolic risk markers in the pediatric age
- Pathophysiological bases of SGA and PCOS

PUBLICATIONS

ORIGINALS/ I.F.: 74.87

1. Lizarraga Mollinedo E,Carreras Badosa G,Xargay Torrent S,Remesar X,Mas Pares B,Prats Puig A,de Zegher F,Ibáñez L,López Bermejo A,Bassols J. **Catch-up growth in juvenile rats, fat expansion, and dysregulation of visceral adipose tissue.** *Pediatr Res.* 2022. 91. (1):p. 107-115. IF:3,953. (Q1).
2. Carreras Badosa G,Gómez Vilarrubla A,Mas Parés B,Martínez Calcerrada JM,Xargay Torrent S,Prats Puig A,Puerto Carranza E,Díaz Roldán F,de Zegher F,Ibáñez L,Bassols J,López Bermejo A. **A 24-month metformin treatment study of children with obesity: Changes in circulating GDF-15 and associations with changes in body weight and visceral fat.** *Pediatr Obes.* 2022. 17. (2):e12845. IF:3,910. (Q1).

3. Toloza FJK,Derakhshan A,Männistö T,Bliddal S,Popova PV,Carty DM,Chen L,Taylor P,Mosso L,Oken E,Suvanto E,Itoh S,Kishi R,Bassols J,Auvinen J,López Bermejo A,Brown SJ,Boucail L,Hisada A,Yoshinaga J,Shilova E,Grineva EN,Vrijkotte TGM,Sunyer J,Jiménez Zabala A,Riaño Galan I,Lopez Espinosa MJ,Prokop LJ,Singh Ospina N,Brito JP,Rodriguez Gutierrez R,Alexander EK,Chaker L,Pearce EN,Peeters RP,Feldt Rasmussen U,Guxens M,Chatzi L,Delles C,Roeters van Lennep JE,Pop VJM,Lu X,Walsh JP,Nelson SM,Korevaar T,Maraka S. **Association between maternal thyroid function and risk of gestational hypertension and pre-eclampsia: a systematic review and individual-participant data meta-analysis.** *Lancet Diabetes Endocrinol.* 2022. 10. (4):p. 243-252. IF:44,867. (Q1).

4. Xargay Torrent S,Mas Parés B,Carreras Badosa G,Lizárraga Mollinedo E,Tibau J,Reixach J,Platero Gutierrez E,Prats Puig A,De Zegher F,Ibáñez L,Bassols J,López Bermejo A. **Metabolic programming in the offspring after gestational overfeeding in the mother: toward neonatal rescuing with metformin in a swine model.** *Int. J. Obes.* 2022. 46. (5):p. 1018-1026. IF:5,551. (Q2).

5. Bliddal S,Derakhshan A,Xiao Y,Chen L,Männistö T,Ashoor G,Tao F,Brown SJ,Vafeida M,Itoh S,Grineva EN,Taylor P,Ghafoor F,Vaidya B,Hattersley A,Mosso L,Oken E,Kishi R,Alexander EK,Maraka S,Huang K,Chaker L,Bassols J,Pirzada A,López Bermejo A,Boucail L,Peeters RP,Pearce EN,Nelson SM,Chatzi L,Vrijkotte TG,Popova P,Walsh J,Nicolaides KH,Suvanto E,Lu X,Pop VJM,Forman JL,Korevaar T,Feldt Rasmussen U. **Association of Thyroid Peroxidase Antibodies and Thyroglobulin Antibodies with Thyroid Function in Pregnancy: An Individual Participant Data Meta-Analysis.** *Thyroid.* 2022. 32. (7):p. 828-840. IF:6,506. (Q1).

6. Garcia Beltran C,Carreras Badosa G,Bassols J,Malpique R,Plou C,de Zegher F,López Bermejo A,Ibáñez L. **microRNAs in newborns with low birth weight: relation to birth size and body composition.** *Pediatr Res.* 2022. 92. (3):p. 829-837. IF:3,953. (Q1).

7. Osingga J,Derakhshan A,Palomaki GE,Ashoor G,Männistö T,Maraka S,Chen L,Bliddal S,Lu X,Taylor PN,Vrijkotte TGM,Tao FB,Brown SJ,Ghafoor F,Poppe K,Veltri F,Chatzi L,Vaidya B,Broeren M,Shields BM,Itoh S,Mosso L,Popova PV,Anopova AD,Kishi R,Aminorroaya A,Kianpour M,López Bermejo A,Oken E,Pirzada A,Vafeiadi M,Bramer WM,Suvanto E,Yoshinaga J,Huang K,Bassols J,Boucail L,Feldt Rasmussen U,Grineva EN,Pearce EN,Alexander EK,Pop VJM,Nelson SM,Walsh JP,Peeters RP,Chaker L,Nicolaides KH,D'Alton ME,Korevaar T. **TSH and FT4 Reference Intervals in Pregnancy: A Systematic Review and Individual Participant Data Meta-Analysis.** *J. Clin. Endocrinol. Metab.* 2022. 107. (10):p. 2925-2933. IF:6,134. (Q1).

CASE REPORTS/ I.F.: 2.32

1. Maroto A, Martinez Diago C, Tio G, Sagües M, Borrell A, Bonmatí A, Teixidor M, Adrados C, Torrent S, Alvarez E. **Autoimmune hemolytic anemia in pregnancy: a challenge for maternal and fetal follow-up.** J. Matern.-Fetal Neonatal Med. 2022; 35(5):p. 996-998. IF:2,323. (Q3).

Duration: 01/06/2022 to 31/05/2023

IDIBGI Principal Investigator: Judit Bassols i Abel López-Bermejo
Project Title: Efectos del tratamiento con Spiomet a mitad de dosis en niñas con pubertad adelantada y aceleración de la maduración ósea: Estudio multicéntrico, aleatorizado y controlado con placebo
Project Code: ICI21/00005
Funding Agency: INSTITUTO DE SALUD CARLOS III
Role: Coordinator
Duration: 01/01/2022 to 31/12/2025

GRANTS

IDIBGI Principal Investigator: Judit Bassols
Project Title: Análisis longitudinal de las marcas de metilación del DNA asociadas con la obesidad infantil
Project Code: PI20/00399
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2021 to 31/12/2023

IDIBGI Principal Investigator: Judit Bassols
Project Title: Ayuda de personal PFIS
Project Code: FI18/00144
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2019 to 31/05/2023

IDIBGI Principal Investigator: Judit Bassols
Project Title: PERFIL DESFAVORABLE D'ACIDS GRASSOS EN PLACENTA I EPIGENÈTICA DEL DESENVOLUPAMENT
Project Code: SCE 2017
Funding Agency: FUNDACIÓ ACADÈMIA CIÈNCIES MÈDIQUES
Duration: 21/03/2017 to 31/12/2022

IDIBGI Principal Investigator: Judit Bassols
Project Title: Ayuda de movilidad M-AES 2021
Project Code: MV21/00051
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/03/2022 to 31/07/2022

IDIBGI Principal Investigator: Judit Bassols
Project Title: Contracte de treball marc del Programa InvestiGO
Project Code: SEPE_2022-C23.I01.P03.S0020-0000042
Funding Agency: MINISTERIO DE TRABAJO Y ECONOMÍA SOCIAL
Duration: 01/09/2022 to 31/08/2024

IDIBGI Principal Investigator: Judit Bassols, Abel López-Bermejo
Project Title: Spiomet4Health: PCOS in Adolescent Girls and Young Women: Toward a Treatment Guided by Pathophysiology
Project Code: SEP-210653186
Funding Agency: EUROPEAN COMMISSION
Role: Partner
Duration: 01/04/2021 to 31/05/2026

IDIBGI Principal Investigator: Judit Bassols
Project Title: Inteligencia artificial, epigenética y predicción de la obesidad infantil
Project Code: IA, epigenética y predicción de la obesidad infantil
Funding Agency: FUND. SOC. ESP. ENDOCRINOLOGIA PEDIATR
Role: Coordinator

MEMBERSHIP OF COLLABORATIVE RESEARCH NETWORKS**INTERNATIONAL**

- International Childhood Vascular Structure Evaluation Consortium (ICVSEC)
- International Consortium on Thyroid and Pregnancy (ICTP)

SPANISH

- i4KIDS, Hub especializado en Innovación Pediátrica y Maternal

DOCTORAL THESES

Thesis author: José María Martínez-Calcerrada
Title: L'àcid úric, el greix perirenal i la mida renal com a nous marcadors de risc cardiovascular en població pediàtrica sana
Thesis directors: Dra. Judit Bassols / Dr. Abel López-Bermejo
European mention: No

Nephrology

MEMBERS DISTRIBUTED BY GENDER

W: 80%

M: 20%

KEYWORDS

Nephrology
Dialysis
Hypertension
Therapeutic aphaeresis

RELATED DISEASES

Chronic kidney disease
Arterial hypertension
Diabetic nephropathy

GROUP LEADER - R4

Jordi Calabia Martínez (ICS/Trueta)

PRE-DOCTORAL RESEARCHERS - R1

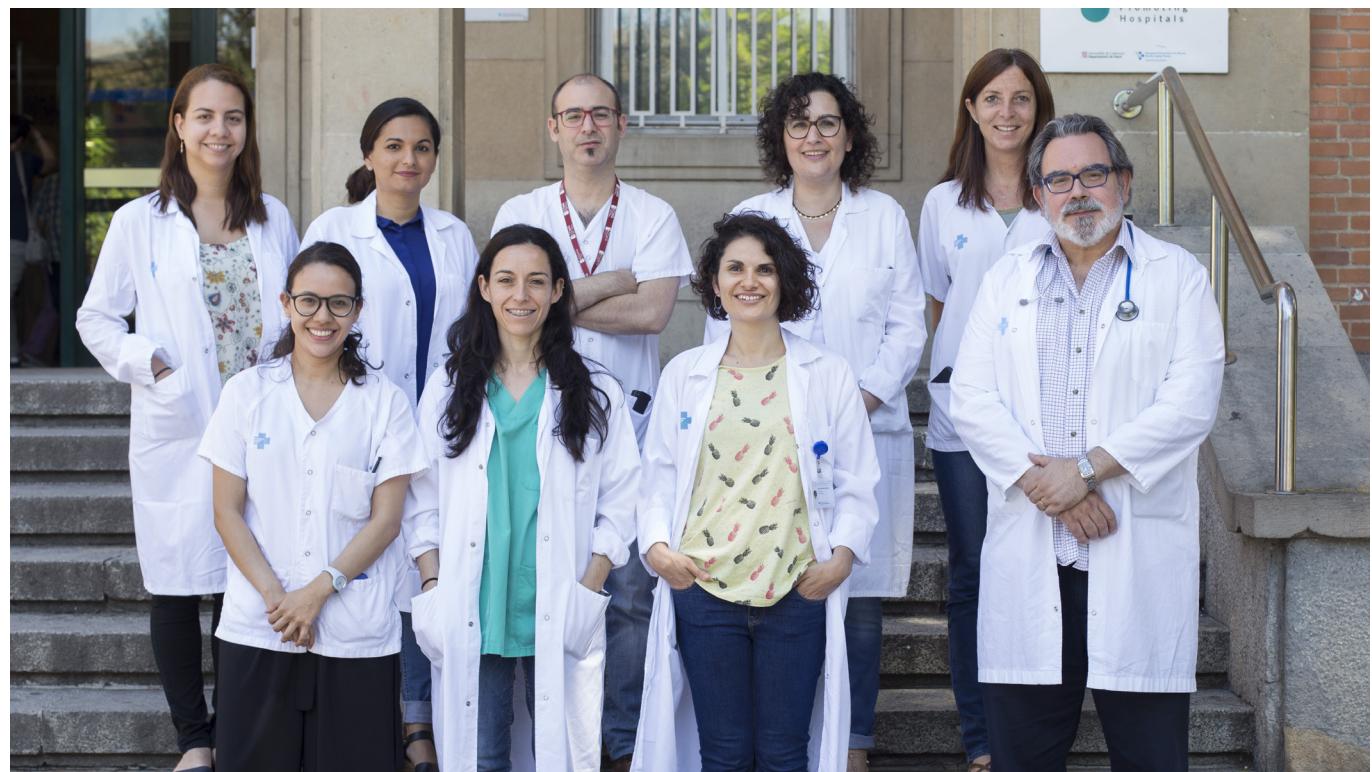
Ana Merino Ribas (ICS/Trueta)

TECHNICIANS

Berta Bover Sàncchez (IDIBGI)
Sònia Valentí Muñoz (IDIBGI)

COLLABORATORS

Nadia Martin Alemany (ICS/Trueta)



OVERVIEW

PROBLEM

Consolidate the method for studying cardiovascular risk and the atheroma burden in patients with chronic kidney disease, high blood pressure and Diabetes Mellitus with diabetic nephropathy. Consolidating the methodology for the study of stiffness and vascular calcification in patients with chronic kidney disease.

APPROACH

Study of the macro and microvascular affection of inflammatory markers and bone-mineral metabolism markers in chronic kidney disease and their most frequent pathologies: high blood pressure and diabetic nephropathy.

IMPACT

The Nephrology Group aims to develop renal substitutive home treatments, mainly peritoneal dialysis. Also, growing development of different research lines will have a significantly beneficial impact on the health system and contribute to better guide clinical management decisions.

MAIN RESEARCH LINES

- Study of cardiovascular risk and atheroma burden
- Biomarkers of macro and microvascular affection in chronic kidney disease
- Study of high blood pressure and diabetic nephropathy

PUBLICATIONS

ORIGINALS / I.F.: 27.19

1. Bolufer M,García Carro C,Blasco M,Quintana LF,Shabaka A,Rabasco C,Draibe J,Merino A,Melero MR,Alonso F,Buxeda A,Batalha P,Visús MT,Soler MJ. **Kidney Biopsy in Patients with Cancer along the Last Decade: A Multicenter Study.** J Clin Med. 2022. 11. (10):2915. IF:4,964. (Q2).
2. Merino Ribas A,Araujo R,Pereira L,Campos J,Barreiros L,Segundo MA,Silva N,Costa C,Quelhas Santos J,Trindade F,Falcão Pires I,Alencastre I,Dumitrescu IB,Sampaio Maia B. **Vascular Calcification and the Gut and Blood Microbiome in Chronic Kidney Disease Patients on Peritoneal Dialysis:**

A Pilot Study. Biomolecules. 2022. 12. (7):867. IF:6,064. (Q2).

3. Caravaca Fontán F,Díaz Encarnación M,Cabello V,Ariceta G,Quintana LF,Marco H,Barros X,Ramos N,Rodríguez Mendiola N,Cruz S,Fernández Juárez G,Rodríguez A,de José AP,Rabasco C,Rodado R,Fernández L,Gómez VP,Ávila A,Bravo L,Espinosa N,Allende N,Sánchez de la Nieta MD,Rodríguez E,Olea T,Melgosa M,Huerta A,Miquel R,Mon C,Fraga G,de Lorenzo A,Draibe J,Cano Megías M,González F,Shabaka A,López Rubio ME,Fenollosa MÁ,Martín Penagos L,Da Silva I,Titos JA,de Córdoba SR,de Jorge EG,Praga M,Spanish Group for the Study of Glomerular Diseases (. **Longitudinal change in proteinuria and kidney outcomes in C3 glomerulopathy.** Nephrol. Dial. Transplant. 2022. 37. (7):p. 1270-1280. IF:7,186. (Q1).
4. Merino Ribas A,Araujo R,Bancu I,Graterol F,Vergara A,Noguera Julian M,Paredes R,Bonal J,Sampaio Maia B. **Gut microbiome in hemodialysis patients treated with calcium acetate or treated with sucroferric oxyhydroxide: a pilot study.** INT UROL NEPHROL. 2022. 54. (8):p. 2015-2023. IF:2,266. (Q3).
5. Arias Guillén M,Collado S,Coll E,Carreras J,Betancourt L,Romano B,Fernández M,Duarte V,Garro J,Soler J,González JC,Calabia J. **Prevalence of Protein-Energy Wasting in Dialysis Patients Using a Practical Online Tool to Compare with Other Nutritional Scores: Results of the Nutrendial Study.** Nutrients. 2022. 14. (16):3375. IF:6,706. (Q1).

CASE REPORTS / I.F.: 3.01

1. Suarez GMG,Merino Ribas A,Haro MC,Freiría XB,Alemany NM,Bover B,Mendez IG,Paez CN,Devia CMC,Teran MP,Escuder PT,Martinez JC. **Multi-organ involvement and intratubular calcium phosphate deposition in the kidney biopsy: what should we investigate?** Eat. Weight Disord.-Stud. Anorex. 2022. 27. (7):p. 2931-2935. IF:3,008. (Q3).

GRANTS

IDIBGI Principal Investigator: Ana Merino

Project Title: Estudio de los cambios en la microbiota intestinal de pacientes con poliquistosis renal autosómica dominante, su asociación con alteraciones genéticas específicas, y la posible relación con capacidad cognitiva, ansiedad y depresión

Project Code: MICROPOLI

Funding Agency: FUNDACIÓN SENEFRO

Duration: 11/08/2021 to 11/08/2026

IDIBGI Principal Investigator: Ana Merino

Project Title: El sentit de coherència (SOC) de les persones cuidadores com a factor determinant dels costos assistencials de la

malaltia d'Alzheimer. Cod. SOC & DEM.

Project Code: PI17/00029

Funding Agency: INSTITUTO DE SALUD CARLOS III

Duration: 01/01/2018 to 08/06/2022

MEMBERSHIP OF COLLABORATIVE RESEARCH NETWORKS

SPANISH

- Grupo Sobre Enfermedades Glomerulares (GLOSEN)

CATALAN

- Grup De Malalties Glomerulars (GlomCAT)
-

AWARDS

Title: Premi per joves professionals en nefrologia. Publicació: "Characterization of Oral Enterobacteriaceae Profile in Chronic Kidney Disease Patients Undergoing Peritoneal Dialysis" publicat a FrontMicrobiol.

Institution: Societat Catalana de Nefrologia

Awardee/s: Dr. Ana Merino Ribas

Nutrition, eumetabolism and health



MEMBERS DISTRIBUTED BY GENDER

W: 72,4%

M: 27,6%

Recognized as a consolidated research group by AGAUR (Generalitat de Catalunya) - 2017 SGR 734.

MEMBER OF
CIBER-OBN

KEYWORDS
Inflammation
Iron
Insulin Resistance
Type 2 diabetes
Obesity
Interrelations microbiota-cognition

RELATED DISEASES
Obesity
Type 2 diabetes
Neurocognitive impairment

GROUP LEADER - R4

José Manuel Fernández-Real Lemos (ICS/
Trueta)

ESTABLISHED RESEARCHERS - R3

Mercè Fernández Balsells (ICS/Trueta)
José María Moreno Navarrete (CIBER)
Francisco José Ortega Delgado (IDIBGI)
Jordi Mayneris Perxachs (IDIBGI)

POST-DOCTORAL RESEARCHERS - R2

Anna Castells Nobau (IDIBGI)
Eduard Esteve Lafuente (ICS/Trueta)
Jessica Latorre Luque (CIBER)
Yenny Leal Moncada (IDIBGI)
Cristina Planella Farrugia (ICS/Trueta)

PRE-DOCTORAL RESEARCHERS - R1

Maria Arnoriaga Rodriguez (IDIBGI)
Angela Del Castillo Izquierdo (IDIBGI)
Júlia Figueras Cufí (IAS)
Aina Lluch Balaña (IDIBGI)
Núria Oliveras Cañellas (IDIBGI)
Marisel Rosell Diaz (IDIBGI)

Lidia Sojo Vega (ICS/Trueta)

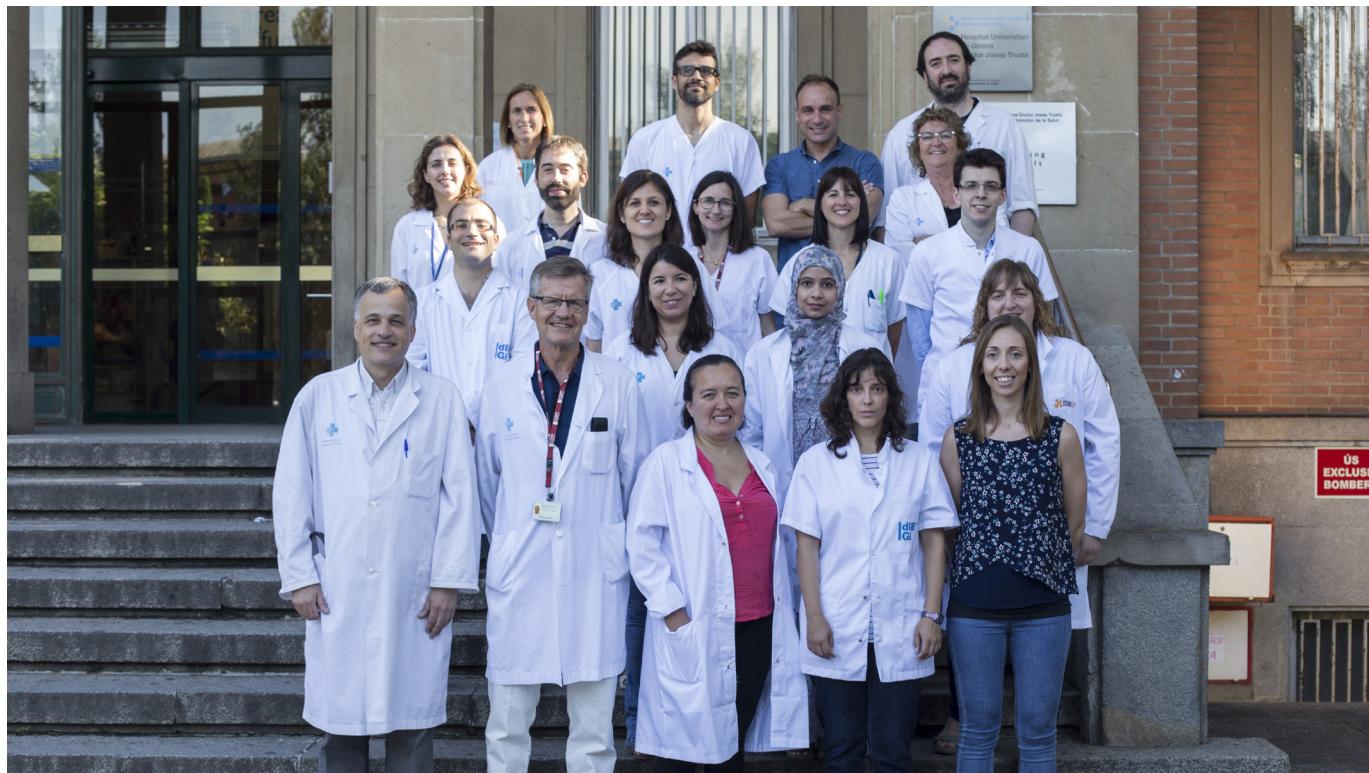
Lisset De La Vega Correa (IDIBGI)

TECHNICIANS

Elena De La Calle Vargas (IDIBGI)
Alejandro Hinojosa Moscoso (IDIBGI)
Isma Ishaq Parveen (IDIBGI)
Anna Motger Alberti (IDIBGI)
Irene Puig Parnau (IDIBGI)
Oscar Rovira Gómez (CIBER)
Elena Santos Gonzalez (IDIBGI)
Irene Uclés Navarro (IDIBGI)
Kenia Melissa Vasquez Vasquez (IDIBGI)
Cristina Zapata Tona (IDIBGI)

EMERITUS RESEARCHER

Wifredo Ricart Engel



OVERVIEW**PROBLEM**

To delve deeper into the study of the pathophysiology of obesity and type 2 diabetes mellitus and their complications. To investigate further their relationship with gut microbiota composition and their relationships with cognitive function.

APPROACH

The group's research is focused on the study of inflammatory factors and the association of various genetic inflammatory polymorphisms of the innate immune system with insulin resistance and other parameters of the metabolic syndrome. The group is also focused on the role of iron (systemic, circulating and tissue content of the liver, brain, adipose tissue and muscle) as a modulator of chronic inflammation and metabolic disease. We also study the role of gut and adipose tissue microbiota on systemic metabolism and their implications for a correct function of the central nervous system.

IMPACT

The ambition is to develop novel diagnostic and therapeutic targets for the improvement of patients with metabolic disease.

MAIN RESEARCH LINES

- Innate immune system, inflammation and metabolic diseases.
- Diabetes and obesity genomic/genetic type 2 (microRNAs and long non-coding RNAs).
- Biology of adipose tissue.
- Iron as a modulator of inflammation in metabolic pathology.
- The role of the microbiota in obesity and type 2 diabetes.
- Non-alcoholic steatohepatitis and fatty liver disease.
- The brain as a metabolic organ.
- Stratification of Obese Phenotypes to Optimize Future Obesity Therapy.
- Drosophila as a cognition model for metabolic diseases and cognitive impairment.

PUBLICATIONS**ORIGINALS / I.F.: 312.63**

1. Contreras Rodriguez O, Arnoriaga Rodríguez M, Miranda Olivos R, Blasco G, Biarnés C, Puig J, Rivera Pinto J, Calle ML, Pérez Brocal V, Moya A, Coll C, Ramió Torrentà L, Soriano Mas C, Fernandez Real JM. **Obesity status and obesity-associated gut dysbiosis effects on hypothalamic structural covariance.** Int. J. Obes. 2022. 46. (1):p. 30-38. IF:5,551. (Q2).
2. Bañas I, Etxandi M, Munguía L, Granero R, Mestre Bach G, Sánchez I, Ortega E, Andreu A, Moize VL, Fernández Real JM, Tinahones FJ, Diéguez C, Frühbeck G, Le Grange D, Tchanturia K, Karwautz A, Zeiler M, Imgart H, Zanko A, Favaro A, Claes L, Shekirladze I, Serrano Troncoso E, Cecilia Costa R, Rangil T, Loran Meler ME, Soriano Pacheco J, Carceller Sindreu M, Navarrete R, Lozano M, Linares R, Gudiol C, Carratalá J, Plana MT, Graell M, González Parra D, Gómez Del Barrio JA, Sepúlveda AR, Sánchez González J, Machado PPP, Håkansson A, Túry F, Pászthy B, Stein D, Papezová H, Gricova J, Bax B, Borisenkova MF, Popov SV, Gubin DG, Petrov IM, Isakova D, Mustafina SV, Kim YR, Nakazato M, Godart N, van Voren R, Ilnytska T, Chen J, Rowlands K, Voderholzer U, Monteleone AM, Treasure J, Jiménez Murcia S, Fernández Aranda F. **Impact of COVID-19 Lockdown in Eating Disorders: A Multicentre Collaborative International Study.** Nutrients. 2022. 14. (1):100. IF:6,706. (Q1).
3. Izquierdo AG, Carreira MC, Boughanem H, Navarrete JM, Nicoletti CF, Oliver P, de Luis D, Nonino CB, Portillo MP, Martínez Olmos MA, Fernandez Real JM, Tinahones FJ, Martínez JA, Macías González M, Casanueva FF, Crujeiras AB. **Adipose tissue and blood leukocytes ACE2 DNA methylation in obesity and after weight loss.** Eur. J. Clin. Invest. 2022. 52. (2):e13685. IF:5,722. (Q1).
4. Seoane Collazo P, Rial Pensado E, Estévez Salguero Á, Milbank E, García Caballero L, Ríos M, Liñares Pose L, Scotece M, Gallego R, Fernández Real JM, Nogueiras R, Diéguez C, Gualillo O, López M. **Activation of Hypothalamic AMP-Activated Protein Kinase Ameliorates Metabolic Complications of Experimental Arthritis.** Arthritis Rheumatol. 2022. 74. (2):p. 212-222. IF:15,483. (Q1).
5. Rodríguez Barrueco R, Latorre J, Devis Jáuregui L, Lluch A, Bonifaci N, Llobet FJ, Oliván M, Coll Iglesias L, Gassner K, Davis ML, Moreno Navarrete JM, Castells Nobau A, Plata Peña L, Dalmau Pastor M, Höring M, Liebisch G, Olkkonen VM, Arnoriaga Rodríguez M, Ricart W, Fernández Real JM, Silva JM, Ortega FJ, Llobet Navas D. **A microRNA Cluster Controls Fat Cell Differentiation and Adipose Tissue Expansion By Regulating SNCG.** Adv. Sci. 2022. 9. (4):2104759. IF:17,521. (Q1).

- 6.** Straczkowski M,Nikolajuk A,Stefanowicz M,Matulewicz N,Fernandez Real JM,Karczewska Kupczewska M. **Adipose Tissue and Skeletal Muscle Expression of Genes Associated with Thyroid Hormone Action in Obesity and Insulin Resistance.** *Thyroid.* 2022. 32. (2):p. 206-214. IF:6,506. (Q1).
- 7.** Suárez Ortegón MF,McLachlan S,Fernandez Real JM,Tuomainen TP,Aregbesola A,Wild SH. **Serum ferritin and incident cardiometabolic diseases in Scottish adults.** *Cardiovasc Diabetol.* 2022. 21. (1):p. 26-26. IF:8,949. (Q1).
- 8.** Latorre J,Ortega F,Oliveras Cañellas N,Comas F,Lluch A,Gavaldà Navarro A,Morón Ros S,Ricart WVillarroya F,Giralt M,Fernández Real JM,Moreno Navarrete JM. **Specific adipose tissue Lbp gene knockdown prevents diet-induced body weight gain, impacting fat accretion-related gene and protein expression.** *Mol. Ther-Nucl. Acids.* 2022. 27. p. 870-879. IF:10,183. (Q1).
- 9.** Planellas P,Cornejo L,Farrés R,Pigem A,Timoteo A,Ortega N,Pellino G,Rodríguez Hermosa JL,López Bonet E,Fernández Real JM,Codina Cazador A. **Prognostic significance of the microbiome-adipose tissue axis in rectal cancer: protocol of a prospective observational study.** *BJS Open.* 2022. 6. (2):zrac009. IF:3,875. (Q1).
- 10.** Mayneris Perxachs J,Castells Nobau A,Arnoriaga Rodríguez M,Garre Olmo J,Puig J,Ramos R,Martínez Hernández F,Burokas A,Coll C,Moreno Navarrete JM,Zapata Tona C,Pedraza S,Pérez Brocal V,Ramíó Torrentà L,Ricart W,Moya A,Martínez García M,Maldonado R,Fernández Real JM. **Caudovirales bacteriophages are associated with improved executive function and memory in flies, mice, and humans.** *Cell Host Microbe.* 2022. 30. (3):p. 340-340. IF:31,316. (Q1).
- 11.** González García I,Freire Agulleiro Ó,Nakaya N,Ortega FJ,Garrido Gil P,Liñares Pose L,Fernó J,Labandeira García JL,Diéguez C,Sultana A,Tomarev SI,Fernández Real JM,López M. **Olfactomedin 2 deficiency protects against diet-induced obesity.** *Metab.-Clin. Exp.* 2022. 129. p. 155122-155122. IF:13,934. (Q1).
- 12.** Pellegrinelli V,Rodriguez Cuenca S,Rouault C,Figueroa Juarez E,Schilbert H,Virtue S,Moreno Navarrete JM,Bidault G,Vázquez Borrego MC,Dias AR,Pucker B,Dale M,Campbell M,Carrobbio S,Lin YH,Vacca M,Aron Wisnewsky J,Mora S,Masiero MM,Emmanouilidou A,Mukhopadhyay S,Dougan G,den Hoed M,Loos RJF,Fernández Real JM,Chiarugi D,Clément K,Vidal Puig A. **Dysregulation of macrophage PEPD in obesity determines adipose tissue fibro-inflammation and insulin resistance.** *Nat. Metab.* 2022. 4. (4):p. 476-494. IF:19,865. (Q1).
- 13.** Menghini R,Hoyles L,Cardellini M,Casagrande V,Marino A,Gentileschi P,Davato F,Mavilio M,Arisi I,Mauriello A,Montanaro M,Scimeca M,Barton RH,Rappa F,Cappello F,Vinciguerra M,Moreno Navarrete JM,Ricart W,Porzio O,Fernández Real JM,Burcelin R,Dumas ME,Federici M. **ITCH E3 ubiquitin ligase downregulation compromises hepatic degradation of branched-chain amino acids.** *Mol. Metab.* 2022. 59. p. 101454-101454. IF:8,568. (Q1).
- 14.** Mayneris Perxachs J,Castells Nobau A,Arnoriaga Rodríguez M,Martin M,de la Vega Correa L,Zapata C,Burokas A,Blasco G,Coll C,Escrichs A,Biarnés C,Moreno Navarrete JM,Puig J,Garre Olmo J,Ramos R,Pedraza S,Brugada R,K,Serena J,Gich J,Ramíó Torrentà L,Pérez Brocal V,Moya A,Pamplona R,Sol J,Jové M,Ricart W,Portero Otín M,Deco G,Maldonado R,Fernández Real JM. **Microbiota alterations in proline metabolism impact depression.** *Cell Metab.* 2022. 34. (5):p. 681-681. IF:31,373. (Q1).
- 15.** García Blanco A,Domingo Rodriguez L,Cabana Domínguez J,Fernández Castillo N,Pineda Cirera L,Mayneris Perxachs J,Burokas A,Espinosa Carrasco J,Arboleya S,Latorre J,Stanton C,Cormand B,Fernández Real JM,Martín García E,Maldonado R. **miRNA signatures associated with vulnerability to food addiction in mice and humans.** *J Clin Invest.* 2022. 132. (10):e156281. IF:19,456. (Q1).
- 16.** Latorre J,Aroca A,Fernández Real JM,Romero LC,Moreno Navarrete JM. **The Combined Partial Knockdown of CBS and MPST Genes Induces Inflammation, Impairs Adipocyte Function-Related Gene Expression and Disrupts Protein Persulfidation in Human Adipocytes.** *Antioxidants.* 2022. 11. (6):1095. IF:7,675. (Q1).
- 17.** Lluch A,Latorre J,Fernández Real JM,Moreno Navarrete JM. **Lysozyme Gene Expression in 3T3-L1 Cells Sustains Expression of Adipogenic Genes and Adipocyte Differentiation.** *Front Cell Dev Biol.* 2022. 10. p. 914788-914788. IF:6,081. (Q1).
- 18.** Lluch A,Veiga SR,Latorre J,Moreno Navarrete JM,Bonifaci N,Dien Nguyen V,Zhou Y,Höring M,Liebisch G,Olkokonen VM,Llobet Navas D,Thomas G,Rodríguez Barrueco R,Fernández Real JM,Kozma SC,Ortega FJ. **A compound directed against S6K1 hampers fat mass expansion and mitigates diet-induced hepatosteatosis.** *JCI Insight.* 2022. 7. (14):e150461. IF:9,484. (Q1).
- 19.** Comas F,Díaz Trelles R,Gavaldà Navarro A,Milbank E,Dragano N,Morón Ros S,Mukthavaram R,Latorre J,Ortega F,Arnoriaga Rodríguez M,Oliveras Cañellas N,Ricart W,Karmali PP,Tachikawa K,Chivukula P,Villarroya F,Giralt M,López M,Fernández Real JM,Moreno Navarrete JM. **Downregulation of peripheral lipopolysaccharide binding protein impacts on perigonadal adipose tissue only in**

female mice. Biomed. Pharmacother. 2022. 151. p. 113156-113156. IF:7,419. (Q1).

20. Huber Ruano I,Calvo E,Mayneris Perxachs J,Rodríguez Peña MM,Ceperuelo Mallafré V,Cedó L,Núñez Roa C,Miro Blanch J,Arnoriaga Rodríguez M,Balvay A,Maudet C,García Roves P,Yanes O,Rabot S,Grimaud GM,De Prisco A,Amoruso A,Fernández Real JM,Vendrell J,Fernández Veledo S. **Orally administered Odoribacter laneus improves glucose control and inflammatory profile in obese mice by depleting circulating succinate.** Microbiome. 2022. 10. (1):p. 135-135. IF:16,837. (Q1).

21. Mayneris Perxachs J,Arnoriaga Rodríguez M,Garre Olmo J,Puig J,Ramos R,Trelis M,Burokas A,Coll C,Zapata Tona C,Pedraza S,Pérez Brocal V,Ramíó L,Ricart W,Moya A,Jové M,Sol J,Portero Otín M,Pamplona R,Maldonado R,Fernández Real JM. **Presence of Blastocystis in gut microbiota is associated with cognitive traits and decreased executive function.** ISME J. 2022. 16. (9):p. 2181-2197. IF:11,217. (Q1).

22. Latorre J,Díaz Trelles R,Comas F,Gavaldà Navarro A,Milbank E,Dragano N,Morón Ros S,Mukthavaram R,Ortega F,Castells Nobau A,Oliveras Cañellas N,Ricart W,Karmali PP,Tachikawa K,Chivukula P,Villarroya F,López M,Giralt M,Fernández Real JM,Moreno Navarrete JM. **Downregulation of hepatic lipopolysaccharide binding protein improves lipogenesis-induced liver lipid accumulation.** Mol. Ther.-Nucl. Acids. 2022. 29. p. 599-613. IF:10,183. (Q1).

23. Martínez C,Latorre J,Ortega F,Arnoriaga Rodríguez M,Lluch A,Oliveras Cañellas N,Díaz Sáez F,Aragonés J,Camps M,Gumà A,Ricart W,Fernández Real JM,Moreno Navarrete JM. **Serum neuregulin 4 is negatively correlated with insulin sensitivity in humans and impairs mitochondrial respiration in HepG2 cells.** Front. Physiol. 2022. 13. p. 950791-950791. IF:4,755. (Q1).

24. Farràs M,Swann JR,Rowland I,Rubió L,Subirana I,Catalán Ú,Motilva MJ,Solà R,Covas MI,Blanco Vaca F,Fitó M,Mayneris Perxachs J. **Impact of Phenol-Enriched Olive Oils on Serum Metabonomics and Its Relationship with Cardiometabolic Parameters: A Randomized, Double-Blind, Cross-Over, Controlled Trial.** Antioxidants. 2022. 11. (10):1964. IF:7,675. (Q1).

25. Del Castillo Izquierdo Á,Moreno Navarrete JM,Latorre J,Arnoriaga Rodríguez M,Ballanti M,Monteleone G,Alessandro Paoluzi O,Mingrone G,Puig J,Ramos R,Garre Olmo J,Jové M,Pamplona R,Portero Otín M,Sol J,Lefebvre P,Staels B,Federici M,Fernández Real JM,Mayneris Perxachs J. **DPP9 as a Potential Novel Mediator in Gastrointestinal Virus Infection.** Antioxidants. 2022. 11. (11):2177. IF:7,675. (Q1).

26. Latorre J,Mayneris Perxachs J,Oliveras Cañellas N,Ortega F,Comas F,Fernández Real JM,Moreno Navarrete JM. **Adipose tissue cysteine dioxygenase type 1 is associated with an anti-inflammatory profile, impacting on systemic metabolic traits.** EBioMedicine. 2022. 86. p. 104302-104302. IF:11,205. (Q1).

27. Latorre J,Martínez C,Ortega F,Oliveras Cañellas N,Díaz Sáez F,Aragonés J,Camps M,Gumà A,Ricart W,Fernández Real JM,Moreno Navarrete JM. **The relevance of EGFR, ErbB receptors and neuregulins in human adipocytes and adipose tissue in obesity.** Biomed. Pharmacother. 2022. 156. p. 113972-113972. IF:7,419. (Q1).

REVIEWS/ I.F.: 52.85

- 1.** Del Castillo Izquierdo A,Mayneris Perxachs J,Fernández Real JM. **Bidirectional relationships between the gut microbiome and sexual traits.** Am. J. Physiol.-Cell Physiol. 2022. 322. (6):p. 1223-1229. IF:5,282. (Q1).
- 2.** Mayneris Perxachs J,Moreno Navarrete JM,Fernández Real JM. **The role of iron in host-microbiota crosstalk and its effects on systemic glucose metabolism.** Nat Rev Endocrinol. 2022. 18. (11):p. 683-698. IF:47,564. (Q1).

COMMENTS/ I.F.: 11.21

- 1.** Moreno Navarrete JM. **Gremlin 2 could explain the reduced capacity of browning of visceral adipose tissue.** EBioMedicine. 2022. 80. p. 104046-104046. IF:11,205. (Q1).

GRANTS

IDIBGI Principal Investigator: José Manuel Fernández-Real
 Project Title: Anàlisis integrat de les interaccions entre la glucèmica i la composició de la microbiota, i del seu impacte sobre l'acumulació de ferro cerebral i la congèncio en subjectes obesos
 Project Code: PI18/01022
 Funding Agency: INSTITUTO DE SALUD CARLOS III
 Duration: 01/01/2019 to 30/06/2023

IDIBGI Principal Investigator: José Manuel Fernández-Real
 Project Title: Plataforma Red Nacional de Biobancos
 Project Code: PT20/00199
 Funding Agency: INSTITUTO DE SALUD CARLOS III
 Duration: 01/01/2021 to 31/12/2023

IDIBGI Principal Investigator: José Manuel Fernández-Real
 Project Title: Ayuda de personal PFIS
 Project Code: FI19/00293

Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2020 to 31/12/2023

IDIBGI Principal Investigator: José Manuel Fernández-Real
Project Title: Ayuda de personal Río Hortega
Project Code: CM19/00190
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2020 to 31/05/2022

IDIBGI Principal Investigator: José Manuel Fernández-Real, Anna Castells Nobau
Project Title: Ayuda de personal Sara Borrell
Project Code: CD20/00051
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2021 to 31/12/2023

IDIBGI Principal Investigator: José Manuel Fernández-Real
Project Title: Ajuda de personal PERIS
Project Code: SLT017/20/000164
Funding Agency: GENERALITAT DE CATALUNYA
Duration: 12/07/2021 to 31/12/2024

IDIBGI Principal Investigator: José Manuel Fernández-Real
Project Title: Interrelaciones entre las reservas de hierro, el metagenoma intestinal, los niveles de glucosa y diferentes dominios cognitivos: el papel de los microARN circulantes
Project Code: PI21/01361
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2022 to 31/12/2024

IDIBGI Principal Investigator: Jordi Mayneris
Project Title: Ayuda de personal Miquel Servet
Project Code: MS18/00009
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2019 to 31/12/2023

IDIBGI Principal Investigator: Jordi Mayneris
Project Title: Tryptophan Metabolism: A link between the gut microbiome and cognitive function in obesity and related low-grade chronic inflammation disorders
Project Code: PI20/01090
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2021 to 31/12/2023

IDIBGI Principal Investigator: Francisco José Ortega
Project Title: Papel de la Olfactomedina 2 (OLFM2) en el tejido adiposo en relación con la obesidad
Project Code: PI18/00550
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2019 to 31/12/2022

IDIBGI Principal Investigator: Francisco José Ortega
Project Title: Ayuda de personal PFIS
Project Code: FI19/00045
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2020 to 31/12/2023
IDIBGI Principal Investigator: Francisco José Ortega

Project Title: Ayuda de personal Miquel Servet- Francisco José Ortega Delgado
Project Code: MS19/00109

Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2020 to 31/12/2024

IDIBGI Principal Investigator: Francisco José Ortega
Project Title: Contracte de treball marco del Programa Investigo
Project Code: SEPE_2022-C23.I01.P03.S0020-0000042
Funding Agency: MINISTERIO DE TRABAJO Y ECONOMÍA SOCIAL
Duration: 30/08/2022 to 21/08/2024

IDIBGI Principal Investigator: Francisco José Ortega
Project Title: Señalización Auto-paracrina de la gamma-Sinucleína Derivada del Tejido Adiposo en Patología Relacionada con la Obesidad
Project Code: PI21/00074
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2022 to 31/12/2024

IDIBGI Principal Investigator: Mercè Fernández
Project Title: Proceso asistencial DM1 vinculado a historia clínica electrónica. Una experiencia colaborativa de obtención de datos estructurados en tiempo real de los servicios de Endocrinología de los hospitales de referencia de l'Institut Català de la Salut CEIC: Protocol d'explotació del procés DM1 en entorn SAP-ARGOS
Project Code: DIAB-ICS
Funding Agency: SOCIEDAD ESPAÑOLA DE DIABETES
Rol: Coordinator
Duration: 25/05/2022 to 24/05/2023

IDIBGI Principal Investigator: José Manuel Fernández-Real
Project Title: SOPHIA: Stratification of Obese Phenotypes to Optimize Future Obesity Therapy
Project Code: 875534
Funding Agency: EUROPEAN COMISION
Role: Partner
Duration: 01/01/2020 to 31/05/2022

IDIBGI Principal Investigator: Herencia epigenética mediada por ARN paterno de trastornos metabólicos: impacto de la pérdida de peso en el epitranscriptoma de los espermatozoides humanos
Project Code: AC18/00012
Funding Agency: INSTITUTO DE SALUD CARLOS III
Role: Partner
Duration: 01/01/2019 to 30/06/2023

IDIBGI Principal Investigator: José Manuel Fernández-Real
Project Title: THINKGUT: Predicción personalizada de la cognición a través de la microbiota humana
Project Code: EFA345/19
Funding Agency: CONSORCIO DE LA CTP. INTERREG POCTEFA
Role: Coordinator
Duration: 01/04/2020 to 31/05/2022

IDIBGI Principal Investigator: José Manuel Fernández-Real
Project Title: Gut-brain-axis: Targets for improvement of cognition in

the elderly
Project Code: SMARTAGE
Funding Agency: European Commission
Role: Partner
Duration: 01/09/2020 to 31/08/2024

IDIBGI Principal Investigator: José Manuel Fernández-Real
Project Title: Evaluating Microbiome Causality in the Gut-Liver Axis and Impact on Insulin Resistance
Project Code: 19/0006059
Funding Agency: DIABETES UK
Role: Partner
Duration: 31/02/2020 to 02/02/2024

IDIBGI Principal Investigator: José Manuel Fernández-Real
Project Title: SUCCINATE/SUCNR1 AXIS: A NOVEL TARGET FOR ANTI-OBESITY THERAPIES
Project Code: METASUCC
Funding Agency: FUND. BANCARIA "LA CAIXA"
Role: Partner
Duration: 01/12/2020 to 31/11/2023

IDIBGI Principal Investigator: José Manuel Fernández-Real
Project Title: Dianas terapéuticas y biomarcadores de la medicina de precisión en MAFLD
Project Code: PMP21/00072
Funding Agency: INSTITUTO DE SALUD CARLOS III
Role: Partner
Duration: 01/01/2022 to 31/12/2025

IDIBGI Principal Investigator: José Manuel Fernández-Real
Project Title: Involvement of the gut microbiota-brain cross talk in the loss of eating control
Project Code: HR22-00737
Funding Agency: FUND. BANCARIA "LA CAIXA"
Role: Partner
Duration: 01/10/2022 to 30/09/2025

IDIBGI Principal Investigator: Jordi Mayneris
Project Title: Investigating the influence of gut microbial metabolism on normal age-related cognitive decline. WP4: Multi-omics analyses and integration.
Project Code: UKRI Cognitive Decline
Funding Agency: UK RESEARCH AND INNOVATION (UKRI)
Role: Partner
Duration: 01/01/2022 to 31/12/2024

RESEARCH GRANTS IN OTHER INSTITUTIONS

IDIBGI Principal Investigator: Jose Maria Moreno
Project Title: Are there any links between microbial products accumulation in adipose tissue and obesity-associated insulin resistance? The possible role LBP and lysozyme
Project Code: PI19/01712
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2020 to 31/12/2022

MEMBERSHIP OF COLLABORATIVE RESEARCH NETWORKS

INTERNATIONAL

- ECNP Network

SPANISH

- CIBER-OBN (Fisiopatología de la Obesidad y Nutrición) - CB06/03/0010

PATENTS

Title: Pharmaceutical and nutraceutical compositions with a combination of amino acids and its use in diseases characterized by lipid accumulation in tissues
Application number: EP22382390
EPO
Applicants: Eurecat, IDIBGI, CIBER
Inventors: Josep Maria del Bas, Xavier Escoté, Sergio Quesada, José Manuel Fernández-Real Lemos, Jordi Mayneris Perxachs
Licensed: No

Title: Gut microbiota composition and uses thereof
Application number: EP20382592
EPO
Applicants: IDIBGI, UPF, CIBER, UV, FISABIO
Inventors: Rafel Maldonado López, Aureliju Burokas, Andrés Moya Simarro, Vicente Pérez Brocal, José Manuel Fernández-Real Lemos, Jordi Mayneris Perxachs, María Arnoriaga Rodríguez
Licensed: No

Title: Bacteriófago para uso terapéutico
Application number: P202130786
Spanish National Patent
Applicants: Fundació Institut d'Investigació Biomèdica de Girona Dr. Josep Trueta (IDIBGI), Universitat Pompeu Fabra (UPF), Consorcio Centro De Investigación Biomédica En Red, M.P. (CIBER), Universitat de València (UV), Fundación para el Fomento de la Investigación Sanitaria y Biomédica de la Comunitat Valenciana (FISABIO)
Inventors: Maldonado López, Rafael; Moya Simarro, Andrés; Pérez Brocal, Vicente; Fernández-Real Lemos, José Manuel; Mayneris Perxachs, Jordi; Arnoriaga Rodríguez, María; Castells Nobau, Anna.
Licensed: No

Title: Compositions and methods for treating metabolic disorders
Application number: 63132881
US National Patent
Applicants: IDIBGI, CIBER, UB, Arcturus
Inventors: José María Moreno Navarrete, José Manuel Fernández-

Real, Ramon Díaz, Kiyoshi Tachikawa, Priya Karmali, Rajesh Mukthavaram, Aleix Gavaldà, Marta Giralt, Francesc Villarroya
Licensed: No

Title: Method for diagnosing hepatic fibrosis based on bacterial profile and diversity

Application number: EP20160770700

EPO

Applicants: Vaiomer, UNIV DEGLI STUDI DI ROMA TOR VERGATA, IDIBGI

Inventors: Benjamin Lelouvier, Florence Servant, Michael Courtney, Massimo Federici, Jose Manuel Fernández-Real
Licensed: No

Title: Method for diagnosing hepatic fibrosis

Application number: EP20140305597

EPO

Applicants: Vaiomer, UNIV DEGLI STUDI DI ROMA TOR VERGATA, IDIBGI

Inventors: Michael Courtney, Benjamin Lelouvier, Massimo Federici, Jose Manuel Fernández-Real, Païssé Sandrine
Licensed: No

DOCTORAL THESES

Thesis author: María Arnoriaga Rodríguez

Title: Cognitive function in obesity: interactions with the gut microbiome

Thesis directors: Dr. José Manuel Fernández-Real Lemos / Dr. Rémy Burcelin / Dr. Wifredo Ricart

European mention: Yes

AWARDS

Title: Constantes y Vitales Award to the best biomedical publication during 2022 in Spain

Institution: La Sexta y Fundación Axa (Constantes y Vitales)

Awardee/s: Dr. José Manuel Fernández-Real Lemos, Dr. Jordi Mayneris-Perxachs and Dr. Anna Castells Nobau.

Title: Premi Extraordinari de Doctora

Institution: Universitat de Girona

Awardee/s: María Arnoriaga Rodríguez.

Paediatric obesity and cardiovascular risk

MEMBERS DISTRIBUTED BY GENDER

W: 80%

M: 20%

Part of a consolidated research group recognized by AGAUR (Generalitat de Catalunya) - 2017 SGR 1236.

KEYWORDS

Obesity
Cardiovascular risk
Metabolic programming
Developmental epigenetics
Intrauterine growth retardation
Functional ovarian hyperandrogenism
Polycystic ovary syndrome
Early puberty

RELATED DISEASES

Obesity
Insulin resistance
Small for gestational age (SGA) children
Polycystic ovarian syndrome (PCOS)
Early puberty

GROUP LEADER - R4

Abel López Bermejo (IDIBGI)

POST-DOCTORAL RESEARCHER - R2

Gemma Carreras Badosa (IDIBGI)

PRE-DOCTORAL RESEARCHERS -R1

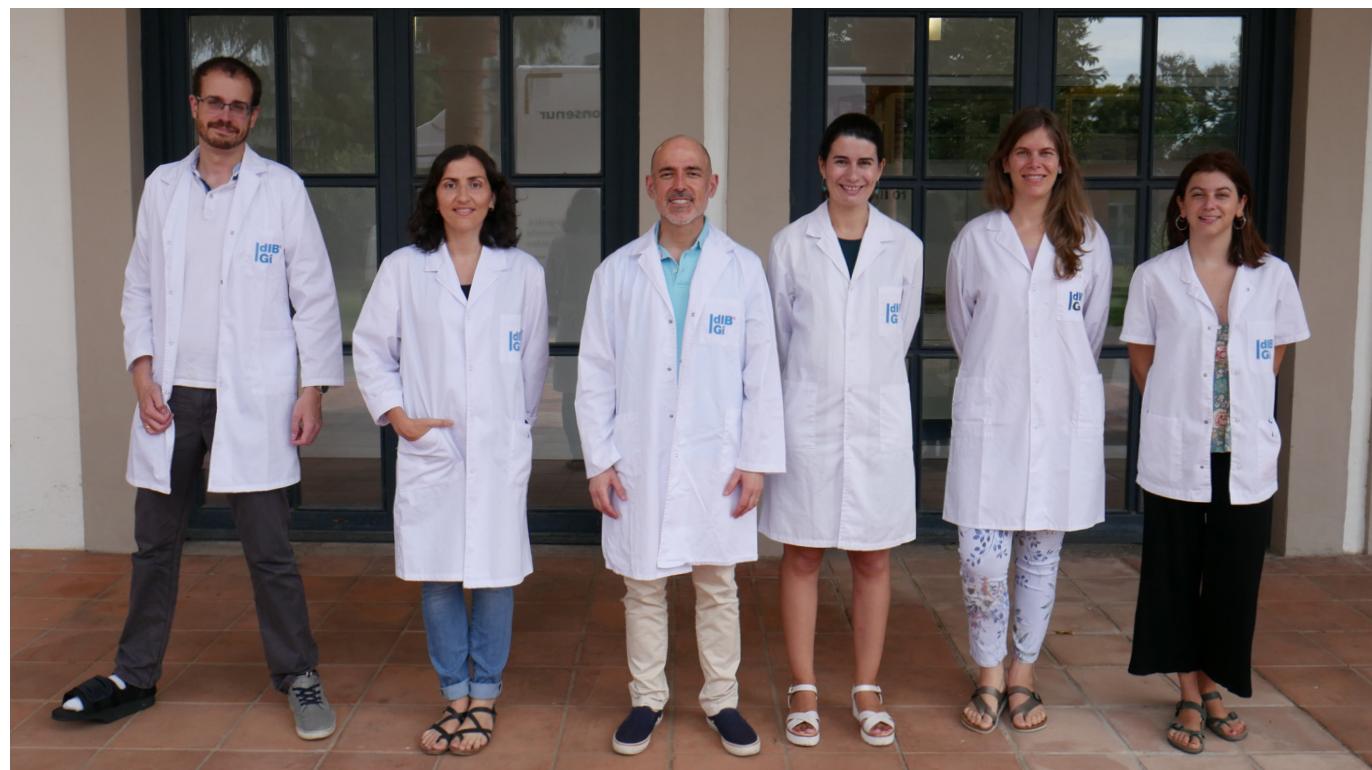
Ferran Díaz Roldan (ICS/Trueta)
Berta Mas Pares (IDIBGI)
Fidanka Vasileva (IDIBGI)

TECHNICIANS

Cora Oliver Vila (IDIBGI)

COLLABORATORS

Inés Osiniri Kippes (Clínica Bofill)
Anna Prats Puig (EUSES)
Elena María Riera Pérez (Fundació Salut Empordà)
Pilar Soriano Rodríguez (Fundació Salut Empordà)



OVERVIEW

PROBLEM

The main research team aim is to identify new metabolic, genetic, and epigenetic markers during pre- and post-natal life for the early prevention of obesity and cardiometabolic risk later in life.

APPROACH

The research approach focuses on the design of new strategies for disease prevention. The identification of new therapeutic target molecules related to paediatric obesity and associated diseases is crucial for this aim. Methods include clinical, biochemical, molecular and image studies as well as *in vivo* studies in experimental animal.

IMPACT

We expect to advance in the early identification of the population at risk of developing obesity and associated diseases as well as cardiometabolic disorders later in life.

MAIN RESEARCH LINES

- Prevention of obesity and cardiovascular risk in childhood: Pathophysiology of paediatric obesity and identification of risk markers for cardiometabolic disorders in infancy.
- Developmental epigenetics: identification of pre- and post-natal basis of metabolic programming through the study of microRNAs, ADN methylation and genetic imprinting.
- Pathophysiology and treatment of polycystic ovarian syndrome (PCOS) in adolescent girls: development of new therapeutic strategies in PCOS.
- Pathophysiology and treatment of early puberty in girls: development of new therapeutic strategies in early puberty.

PUBLICATIONS

ORIGINALS / I.F.: 94.19

- Lizarraga Mollinedo E,Carreras Badosa G,Xargay Torrent S,Remesar X,Mas Pares B,Prats Puig A,de Zegher F,Ibáñez L,López Bermejo A,Bassols J. Catch-up growth in juvenile rats, fat expansion, and dysregulation of visceral adipose tissue.

Pediatr Res. 2022. 91. (1):p. 107-115. IF:3,953. (Q1).

- Carreras Badosa G,Gómez Vilarrubla A,Mas Parés B,Martínez Calcerrada JM,Xargay Torrent S,Prats Puig A,Puerto Carranza E,Díaz Roldán F,de Zegher F,Ibáñez L,Bassols J,López Bermejo A. A 24-month metformin treatment study of children with obesity: Changes in circulating GDF-15 and associations with changes in body weight and visceral fat. Pediatr Obes. 2022. 17. (2):e12845. IF:3,910. (Q1).
- Garcia Beltran C,Cereijo R,Plou C,Gavaldà Navarro A,Malpique R,Villarroya J,López Bermejo A,de Zegher F,Ibáñez L,Villarroya F. Posterior Cervical Brown Fat and CXCL14 Levels in the First Year of Life: Sex Differences and Association With Adiposity. J. Clin. Endocrinol. Metab. 2022. 107. (3):p. 1148-1158. IF:6,134. (Q1).
- Garcia Beltran C,Villarroya J,Plou C,Gavaldà Navarro A,Casano P,Cereijo R,de Zegher F,López Bermejo A,Ibáñez L,Villarroya F. Bone Morphogenetic Protein-8B Levels at Birth and in the First Year of Life: Relation to Metabolic-Endocrine Variables and Brown Adipose Tissue Activity. Front. Pediatr. 2022. 10. p. 869581-869581. IF:3,569. (Q2).
- Toloza FJK,Derakhshan A,Männistö T,Bliddal S,Popova PV,Carty DM,Chen L,Taylor P,Mosso L,Oken E,Suvanto E,Itoh S,Kishi R,Bassols J,Auvinen J,López Bermejo A,Brown SJ,Boucail L,Hisada A,Yoshinaga J,Shilova E,Grineva EN,Vrijkotte TG,Sunyer J,Jiménez Zabala A,Riaño Galan I,Lopez Espinosa MJ,Prokop LJ,Singh Ospina N,Brito JP,Rodriguez Gutierrez R,Alexander EK,Chaker L,Pearce EN,Peeters RP,Feldt Rasmussen U,Guxens M,Chatzi L,Delles C,Roeters van Lennep JE,Pop VJM,Lu X,Walsh JP,Nelson SM,Korevaar T,Maraka S. Association between maternal thyroid function and risk of gestational hypertension and pre-eclampsia: a systematic review and individual-participant data meta-analysis. Lancet Diabetes Endocrinol. 2022. 10. (4):p. 243-252. IF:44,867. (Q1).
- Xargay Torrent S,Mas Parés B,Carreras Badosa G,Lizárraga Mollinedo E,Tibau J,Reixach J,Platero Gutierrez E,Prats Puig A,De Zegher F,Ibáñez L,Bassols J,López Bermejo A. Metabolic programming in the offspring after gestational overfeeding in the mother: toward neonatal rescuing with metformin in a swine model. Int. J. Obes. 2022. 46. (5):p. 1018-1026. IF:5,551. (Q2).
- Cazorla González J,García Retortillo S,Gacto Sánchez M,Muñoz Castro G,Serrano Ferrer J,Román Viñas B,López Bermejo A,Font Lladó R,Prats Puig A. Effects of Crawling before Walking: Network Interactions and Longitudinal Associations in 7-Year-Old Children. Int J Environ Res Public Health. 2022. 19. (9):5561. IF:4,614. (Q1).
- Bliddal S,Derakhshan A,Xiao Y,Chen L,Männistö T,Ashoor

- G,Tao F,Brown SJ,Vafeida M,Itoh S,Grineva EN,Taylor P,Ghafoor F,Vaidya B,Hattersley A,Mosso L,Oken E,Kishi R,Alexander EK,Maraka S,Huang K,Chaker L,Bassols J,Pirzada A,López Bermejo A,Boucail L,Peeters RP,Pearce EN,Nelson SM,Chatzi L,Vrijkotte TG,Popova P,Walsh J,Nicolaides KH,Suvanto E,Lu X,Pop VJM,Forman JL,Korevaar T,Feldt Rasmussen U. **Association of Thyroid Peroxidase Antibodies and Thyroglobulin Antibodies with Thyroid Function in Pregnancy: An Individual Participant Data Meta-Analysis.** *Thyroid.* 2022; 32. (7):p. 828-840. IF:6,506. (Q1).
9. Garcia Beltran C,Carreras Badosa G,Bassols J,Malpique R,Plou C,de Zegher F,López Bermejo A,Ibáñez L. **microRNAs in newborns with low birth weight: relation to birth size and body composition.** *Pediatr Res.* 2022. 92. (3):p. 829-837. IF:3,953. (Q1).
10. Osinga J,Derakhshan A,Palomaki GE,Ashoor G,Männistö T,Maraka S,Chen L,Bliddal S,Lu X,Taylor PN,Vrijkotte TGM,Tao FB,Brown SJ,Ghafoor F,Poppe K,Veltri F,Chatzi L,Vaidya B,Broeren M,Shields BM,Itoh S,Mosso L,Popova PV,Anopova AD,Kishi R,Aminorroaya A,Kianpour M,López Bermejo A,Oken E,Pirzada A,Vafeiadi M,Bramer WM,Suvanto E,Yoshinaga J,Huang K,Bassols J,Boucail L,Feldt Rasmussen U,Grineva EN,Pearce EN,Alexander EK,Pop VJM,Nelson SM,Walsh JP,Peeters RP,Chaker L,Nicolaides KH,D'Alton ME,Korevaar T. **TSH and FT4 Reference Intervals in Pregnancy: A Systematic Review and Individual Participant Data Meta-Analysis.** *J. Clin. Endocrinol. Metab.* 2022. 107. (10):p. 2925-2933. IF:6,134. (Q1).
11. Carreras Badosa G,Maslovskaja J,Vaher H,Pajusaar L,Annilo T,Lättekivi F,Hüenthal M,Rodriguez E,Weidinger S,Kingo K,Rebane A. **miRNA expression profiles of the perilesional skin of atopic dermatitis and psoriasis patients are highly similar.** *Sci Rep.* 2022. 12. (1):p. 22645-22645. IF:4,996. (Q2).
- REVIEWS / I.F.: 4.61**
1. Sacot A,López Ros V,Prats Puig A,Escosa J,Barretina J,Calleja González J. **Multidisciplinary Neuromuscular and Endurance Interventions on Youth Basketball Players: A Systematic Review with Meta-Analysis and Meta-Regression.** *Int J Environ Res Public Health.* 2022. 19. (15):9642. IF:4,614. (Q1).
-
- GRANTS**
- IDIBGI Principal Investigator: Abel López-Bermejo
Project Title: FUNCIÓN COGNITIVA Y OBESIDAD EN NIÑOS PREPUBERALES: EFECTO DE LA OBESIDAD MATERNA, CRECIMIENTO PRE Y POSTNATAL Y FACTORES AMBIENTALES
Project Code: Merck Salud Abel
Funding Agency: FUNDACION MERCK SALUD
- Duration: 15/07/2019 to 14/07/2022
IDIBGI Principal Investigator: Abel López-Bermejo, Gemma Carreras
Project Title: Ayuda de personal Sara Borrell
Project Code: CD19/00172
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2020 to 26/06/2023
- IDIBGI Principal Investigator: Abel López-Bermejo
Project Title: Ayuda de personal PFIS
Project Code: FI20/00138
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2021 to 31/12/2024
- IDIBGI Principal Investigator: Abel López-Bermejo
Project Title: Ajuda de personal FI
Project Code: 2021 FI_B 000293
Funding Agency: AGÈNCIA DE GESTIÓ D'AJUTS UNIVERSITARIS I DE RECERCA
Duration: 01/07/2021 to 30/06/2024
- IDIBGI Principal Investigator: Abel López-Bermejo
Project Title: Epigenética en niñas con pubertad adelantada y predicción de su evolución puberal
Project Code: PI22/00366
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2023 to 31/12/2025
- IDIBGI Principal Investigator: Abel López-Bermejo
Project Title: Impronta genómica en el crecimiento postnatal e impacto de la obesidad de los padres
Project Code: PI19/00451
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2020 to 31/12/2023
- IDIBGI Principal Investigator: Abel López-Bermejo, Judit Bassols
Project Title: IEfectos del tratamiento con Spiomet a mitad de dosis en niñas con pubertad adelantada y aceleración de la maduración ósea: Estudio multicéntrico, aleatorizado y controlado con placebo
Project Code: ICI21/00005
Funding Agency: INSTITUTO DE SALUD CARLOS III
Role: Coordinator
Duration: 01/01/2022 to 31/12/2025
- IDIBGI Principal Investigator: Abel López-Bermejo, Judit Bassols
Project Title: Spiomet4Health: PCOS in Adolescent Girls and Young Women: Toward a Treatment Guided by Pathophysiology
Project Code: SEP-210653186
Funding Agency: EUROPEAN COMISSION Call H2020-SC1-BHC-2018-2020
Role: Partner
Duration: 01/04/2021 to 31/03/2026

MEMBERSHIP OF COLLABORATIVE RESEARCH NETWORKS

INTERNATIONAL

- International Childhood Vascular Structure Evaluation Consortium (ICVSEC)
- International Consortium on Thyroid and Pregnancy (ICTP)

SPANISH

- i4KIDS, Hub especializado en Innovación Pediátrica y Maternal
-

DOCTORAL THESES

Thesis author: José María Martínez-Calcerrada

Title: L'àcid úric, el greix perirenal i la mida renal com a nous marcadors de risc cardiovascular en població pediàtrica sana

Thesis directors: Dra. Judit Bassols / Dr. Abel López-Bermejo

European mention: No



NEUROSCIENCE

CEREBROVASCULAR PATHOLOGY

NEURODEGENERATION AND NEUROINFLAMMATION

Cerebrovascular pathology

MEMBERS DISTRIBUTED BY GENDER

W: 68,7%

M: 31,3%

Recognized as a preconsolidated research group by AGAUR (Generalitat de Catalunya) - 2017 SGR 1730.

MEMBER OF
RETICS INVICTUS + ISCIII
RICORS ICTUS ISCIII

KEYWORDS
Acute Stroke
Ischaemic stroke
Haemorrhagic stroke
Thrombolysis
Stroke unit
Endovascular treatment
Cryptogenic stroke
In vitro models
Molecular and cellular neuroscience
Atherosclerosis
Vulnerable plaque
Biomarkers
Rehabilitation;
Immersive virtual reality

RELATED DISEASES
Ischaemic stroke
Haemorrhagic stroke
Atherothrombotic stroke

GROUP LEADER - R4
Joaquín Serena Leal (ICS/Trueta)

ESTABLISHED RESEARCHERS - R3
Gemma Huguet Blanco (UdG)
Elisabet Kádár García (UdG)
Yolanda Silva Blas (ICS/Trueta)
Mikel Terceño Izaga (ICS/Trueta)

POST-DOCTORAL RESEARCHERS - R2
Carme Gubern Mérida (IDIBGI)
Dolors Puigoriol Illamola (IDIBGI)

PRE-DOCTORAL RESEARCHERS - R1
Juan Rodríguez Álvarez-Cienfuegos (ICS/
Trueta)
Saima Bashir Viturro (ICS/Trueta)
Laia Carballo Perich (IDIBGI)

TECHNICIANS
Laura Pardo Albiñana (IDIBGI)
Elisabet Ortiz Martos (ICS/Trueta)
Montserrat Reina Garrido (IDIBGI)

NON-SCIENTIFIC RESEARCH SUPPORT STAFF
Pilar Tarifa Romera (IDIBGI)

COLLABORATORS

Alan Danilo Murillo Hernandez (ICS/Trueta)
Victor Augusto Vera Monge (ICS/Trueta)



OVERVIEW

PROBLEM

Stroke is a health and social challenge. It is the second cause of death and the leading cause of serious disability in our population. It has a very high cost, both direct (hospitalisation) and indirect (rehabilitation), as well as non-quantifiable personal and social cost due to disability. According to the expected increase in incidence in the coming years from World Health Organization data, it is mandatory to prevent and improve the effectiveness of stroke management in the acute phase.

APPROACH

The different lines of research of our group have a translational focus for human health analysing biomarkers, pathophysiological mechanisms and/or therapeutic options for both ischaemic and haemorrhagic stroke with the aim of transferring this knowledge to clinical practice for the prevention of stroke and its associated disability.

IMPACT

It is expected to delve a greater understanding of pathophysiology of ischaemic and haemorrhagic stroke, as well as, carotid plaque vulnerability, to identify biomarkers that allow a better stratification of patients at high risk of stroke or poor outcome after a cerebrovascular event. Positive results of the different lines of research will have a significantly beneficial impact on the health system as well as citizen's quality of life.

MAIN RESEARCH LINES

- Identification of blood and tissue biomarkers of vulnerable carotid plaque and associated molecular mechanisms.
- Study of prognostic blood and radiological biomarkers of intracerebral haemorrhage growth and intracranial aneurysm instability, as well as the molecular mechanisms involved.
- Study of therapeutic options and biomarkers in cerebral ischaemia, as well as associated molecular mechanisms.
- Determination of clinical aspects and biomarkers in the identification of the underlying etiopathogenesis in cryptogenic stroke and stroke with infrequent causes.
- Evaluation of neurotechnological innovation to improve the

quality of stroke patients' follow-up: rehabilitation, secondary prevention and humanity in health.

PUBLICATIONS

ORIGINALS / I.F.: 424.99

1. **Suñer Soler R, Grau Martín A, Terceño M, Silva Y, Maldonado E, Gras ME, Font Mayolas S, Rodrigo Gil J, Serena J. A Clinical Trial Comparing Smoking Cessation Interventions at Two Levels of Intensity in Stroke Patients, Stratified by the Presence of Insular Cortex Lesions.** Nicotine Tob. Res. 2022. 24. (1):p. 44-52. IF:5,825. (Q1).
2. **Flores A, Seró L, Gomez Choco M, Ustrell X, Pellisé A, Viñas J, Rodriguez P, Monterde A, Castilho G, Rubiera M, Amaro S, Padrós M, Cardona P, Martí Fabregas J, Molina CA, Serena J, Jiménez Fábrega FX, Purroy F, Zaragoza Brunet J, Cocho D, Palomeras E, Kuprinski J, Más N, Hernández Perez M, Sanjurjo E, Carrión D, Costa X, Barceló M, Monedero J, Catena E, Rybyeba M, Díaz G, de la Ossa NP, Ribó M, Catalan Stroke Code and Reperfusion C. The Role of Vascular Imaging at Referral Centers in the Drip and Ship Paradigm.** J Stroke Cerebrovasc Dis. 2022. 31. (1):p. 106209-106209. IF:2,677. (Q3).
3. **Gubern Mérida C, Comajoan P, Huguet G, García Yebenes I, Lizasoain I, Moro MA, Puig Parnau I, Sánchez JM, Serena J, Kádár E, Castellanos M. Cav-1 Protein Levels in Serum and Infarcted Brain Correlate with Hemorrhagic Volume in a Mouse Model of Thromboembolic Stroke, Independently of rt-PA Administration.** Mol. Neurobiol. 2022. 59. (2):p. 1320-1332. IF:5,682. (Q1).
4. **Renú A, Millán M, San Román L, Blasco J, Martí Fàbregas J, Terceño M, Amaro S, Serena J, Urra X, Laredo C, Barranco R, Camps Renom P, Zarco F, Oleaga L, Cardona P, Castaño C, Macho J, Cuadrado Godía E, Vivas E, López Rueda A, Guimaraens L, Ramos Pachón A, Roquer J, Muchada M, Tomasello A, Dávalos A, Torres F, Chamorro Á, CHOICE I. Effect of Intra-arterial Alteplase vs Placebo Following Successful Thrombectomy on Functional Outcomes in Patients With Large Vessel Occlusion Acute Ischemic Stroke The CHOICE Randomized Clinical Trial.** JAMA. 2022. 327. (9):p. 826-835. IF:157,335. (Q1).
5. **Millán M, Ramos Pachón A, Dorado L, Bustamante A, Hernández Pérez M, Rodríguez Esparragoza L, Gomis M, Remollo S, Castaño C, Werner M, Wenger D, Rubio S, Domínguez Lizarbe M, Terceño M, Paipa AJ, Rodríguez Vázquez A, Boned S, Camps Renom P, Cánovas D, Giralt E, López Cancio E, Dávalos A, Ros Roig J, Pérez de la Ossa N, Cat SCR C. Predictors of Functional Outcome After Thrombectomy in Patients With Prestroke Disability in Clinical Practice.** Stroke. 2022. 53. (3):p. 845-

854. IF:10,170. (Q1).
- 6.** Mayneris Perxachs J,Castells Nobau A,Arnoriaga Rodríguez M,Martin M,de la Vega Correa L,Zapata C,Burokas A,Blasco G,Coll C,Escrichs A,Biarnés C,Moreno Navarrete JM,Puig J,Garre Olmo J,Ramos R,Pedraza S,Brugada R, K,Serena J,Gich J,Ramíó Torrentà L,Pérez Brocal V,Moya A,Pamplona R,Sol J,Jové M,Ricart W,Portero Otin M,Deco G,Maldonado R,Fernández Real JM. **Microbiota alterations in proline metabolism impact depression.** Cell Metab. 2022. 34. (5):p. 681-681. IF:31,373. (Q1).
- 7.** Pérez de la Ossa N,Abilleira S,Jovin TG,García Tornel Á,Jimenez X,Urra X,Cardona P,Cocco D,Purroy F,Serena J,San Román Manzanera L,Vivanco Hidalgo RM,Salvat Plana M,Chamorro A,Gallofré M,Molina CA,Cobo E,Davalos A,Ribo M,RACECAT Trial I. **Effect of Direct Transportation to Thrombectomy-Capable Center vs Local Stroke Center on Neurological Outcomes in Patients With Suspected Large-Vessel Occlusion Stroke in Nonurban Areas The RACECAT Randomized Clinical Trial.** JAMA. 2022. 327. (18):p. 1782-1794. IF:157,335. (Q1).
- 8.** Remollo S,Terceño M,Werner M,Castaño C,Hernández Pérez M,Blasco J,San Román L,Daunis Estadella P,Thió Henestrosa S,Cuba V,Gimeno A,Puig J. **Combined Approach to Stroke Thrombectomy Using a Novel Short Flexible Aspiration Catheter with a Stent Retriever Preliminary Clinical Experience.** Clin Neuroradiol. 2022. 32. (2):p. 393-400. IF:3,156. (Q3).
- 9.** Saima B,Mikel T,Maria B,Yolanda S,Juan ÁC,Victor VM,Laura P,Montserrat R,Carme GM,Alan M,Joquín S. **Progressive Lacunar Strokes: A Predictive Score.** J Stroke Cerebrovasc Dis. 2022. 31 . (8):p. 106510-106510. IF:2,677. (Q3).
- 10.** Blasco J,Puig J,López Rueda A,Daunis Estadella P,Llull L,Zarco F,Macias N,Macho J,González E,Labayen I,Vega P,Murias E,Jimenez Gomez E,Bravo Rey I,Moreu M,Pérez García C,Chirife Chaparro O,Aixut S,Terceño M,Werner M,Pumar JM,Aguilar Tejedor Y,Mendez JC,Moliner S,Nogueira RG,San Roman L,ROSSETTI G. **Addition of intracranial aspiration to balloon guide catheter does not improve outcomes in large vessel occlusion anterior circulation stent retriever based thrombectomy for acute stroke.** J. NeuroInterventional Surg. 2022. 14. (9):p. 863-867. IF:8,572. (Q1).
- 11.** Pérez García C,Rosati S,Gómez Escalonilla C,Arrazola J,López Frías A,González E,Fonddevila J,Vega P,Murias E,Jimenez Gomez E,Bravo Rey I,Macho J,San Roman L,Rodriguez Caamaño I,Paipa AJ,Remollo S,Aguilar Tejedor Y,Bermúdez Coronel I,Moliner S,Pumar JM,Bashir S,Puig J,López Rueda A,Blasco J,Nogueira RG,Moreu M. **Stent-retriever alone versus combined use of stent-retriever and contact aspiration technique for middle cerebral artery M2 occlusions: a propensity score analysis.** J. NeuroInterventional Surg. 2022. 14. (11):p. 1062-1067. IF:8,572. (Q1).
- 12.** Font MÀ,García Sánchez SM,Mengual JJ,Mena L,Avellaneda C,Serena J,Valls Carbó A,Chamorro Á,Ustrell X,Molina C,Cardona P,Guasch Jiménez M,Purroy F,Rodríguez Campello A,Palomeras E,Cocco D,Krupinski J,Cánovas D,García Alama J,Zaragoza J,Puiggròs E,Matos N,Aragónès JM,Costa X,Sanjurjo E,Pedroza C,Monedero J,Almendros MC,Rybyeva M,Carrión D,Díaz G,Barceló M,Jiménez Fàbrega X,Salvat Plana M,Elosúa R,Pérez de la Ossa N,Gómez Choco M,Catalan Stroke Code and Reperfusion Consortium (Cat SCR C. **Determinants and Trends of the Use of Intravenous Thrombolysis for Minor Stroke: A Population-Based Study, 2016 to 2020.** Stroke. 2022. 53. (11):p. 3289-3294. IF:10,170. (Q1).
- 13.** Garcia Tornel A,Millan M,Rubiera M,Bustamante A,Requena M,Dorado L,Olivé Gadea M,Jiménez X,Soto A,Querol M,Hernández Pérez M,Gomis M,Cardona P,Urra X,Purroy F,Silva Y,Ustrell X,Esteve P,Salvat Plana M,Gallofré M,Molina C,Dávalos A,Jovin T,Abilleira S,Ribo M,Pérez de la Ossa N,RACECAT Trial I. **Workflows and Outcomes in Patients With Suspected Large Vessel Occlusion Stroke Triaged in Urban and Nonurban Areas.** Stroke. 2022. 53. (12):p. 3728-3740. IF:10,170. (Q1).
- 14.** García Tornel Á,Seró L,Urra X,Cardona P,Zaragoza J,Krupinski J,Gómez Choco M,Sala NM,Catena E,Palomeras E,Serena J,Hernandez Perez M,Boned S,Olivé Gadea M,Requena M,Muchada M,Tomasello A,Molina CA,Salvat Plana M,Escudero M,Jimenez X,Davalos A,Jovin TG,Purroy F,Abilleira S,Ribo M,de la Ossa NP,RACECAT trial I. **Workflow Times and Outcomes in Patients Triaged for a Suspected Severe Stroke.** Ann. Neurol. 2022. 92. (6):p. 931-942. IF:11,274. (Q1).
- REVIEWS/ I.F.: 6.21**
- 1.** Carballo Perich L,Puigoriol Illamola D,Bashir S,Terceño M,Silva Y,Gubern Mérida C,Serena J. **Clinical Parameters and Epigenetic Biomarkers of Plaque Vulnerability in Patients with Carotid Stenosis.** Int J Mol Sci. 2022. 23. (9):5149. IF:6,208. (Q1).
- CLINICAL GUIDELINES/ I.F.: 5.49**
- 1.** Palacio Portilla EJ,Roquer J,Amaro S,Arenillas JF,Ayo Martín O,Castellanos M,Freijo MM,Fuentes B,García Pastor A,Gomis M,Gómez Choco M,López Cancio E,Martínez Sánchez P,Morales A,Rodríguez Yáñez M,Segura T,Serena J,Vivancos Mora J,de Leciñana MA,Comité ad hoc del Grupo de Estudio de Enfermedades Cerebrovasculares de la S. **Dyslipidemias and stroke prevention: recommendations of the Study**

Group of Cerebrovascular Diseases of the Spanish Society of Neurology. Neurología. 2022. 37. (1):p. 61-72. IF:5,486. (Q1).

CONSORTIUM PUBLICATIONS / I.F.: 10.17

1. Sharma M, Smith EE, Pearce LA, Shoamanesh A, Perera KS, Coutts SB, Damgaard D, Ameriso SF, Rha JH, Modrau B, Yoon BW, Romano M, Messé SR, Barlinn J, Lambeck J, Saad F, Berkowitz SD, Mundl H, Connolly SJ, Hart RG, NAVIGATE ESUS MIND MRI Substudy I. **Frequency and Patterns of Brain Infarction in Patients With Embolic Stroke of Undetermined Source:** NAVIGATE ESUS Trial. *Stroke.* 2022. 53. (1):p. 45-52. IF:10,170. (Q1).

GRANTS

IDIBGI Principal Investigator: Joaquín Serena
Project Title: Circulating miRNAs as predictive biomarkers of vulnerable plaque in patients with carotid stenosis. Clinical and pre-clinical study
Project Code: PI19/01776
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2020 to 30/06/2024

IDIBGI Principal Investigator: Joaquín Serena
Project Title: Ayuda de personal para la intensificación
Project Code: INT20/00056
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2021 to 31/12/2022

IDIBGI Principal Investigator: Joaquín Serena
Project Title: Ayuda de personal PFIS. miRNAs circulantes como biomarcadores no invasivos de placa vulnerable en pacientes con estenosis carotídea
Project Code: FI20/00305
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2021 to 31/12/2024

IDIBGI Principal Investigator: Yolanda Silva
Project Title: Prediction of intracerebral hemorrhage growth by CT-perfusion: a prospective study
Project Code: La Marató 201734.10
Funding Agency: FUNDACIÓ LA MARATÓ TV3
Duration: 01/01/2018 to 28/02/2022

IDIBGI Principal Investigator: Yolanda Silva
Project Title: Evaluación de biomarcadores predictivos de crecimiento de la hemorragia intracerebral: foco en ARNs no-codificantes y ADN libre de células.
Project Code: PI21/00209
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2022 to 31/12/2024

IDIBGI Principal Investigator: Mikel Terceño
Project Title: Estudio de correlación de biomarcadores sanguíneos

con la captación de la pared aneurismática en RM3T para la identificación de aneurisma cerebral inestable: estudio ANEUGIR
Project Code: PI22/01073

Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2023 to 31/12/2025

IDIBGI Principal Investigator: Joaquín Serena
Project Title: RICORS- ICTUS
Project Code: RD21/0006/0011- ICTUS
Funding Agency: INSTITUTO DE SALUD CARLOS III
Role: Partner
Duration: 01/01/2021 to 31/12/2024

IDIBGI Principal Investigator: Yolanda Silva
Project Title: Desenvolupament d'un projecte de realitat virtual per a la rehabilitació motora i funcional dels pacients amb ictus
Project Code: e-Health COMG 2021
Funding Agency: Col·legi Oficial de Metges de Girona
Role: Coordinator
Duration: 01/06/2021 to 30/06/2023

COLLABORATIVE GRANTS

IDIBGI Principal Investigator: Yolanda Silva
Project Title: HARMONICS: Implementation of high value stroke care program
Project Code: HARMONICS_EIT-HEALTH-BP2022
Funding Agency: European Commission
Role: Partner
Duration: 01/06/2022 to 30/06/2024

MEMBERSHIP OF COLLABORATIVE RESEARCH NETWORKS

INTERNATIONAL

- The International PFO Consortium Study Group

SPANISH

- The Morpheus Stroke Registry
- Rosseti Registry
- RICOS ICTUS: Red Enfermedades Vasculares Cerebrales (RD21/0006/0011)

Neurodegeneration and neuroinflammation

RICORS
Enfermedades Inflamatorias

redEspañola de esclerosis múltiple

G R A N É S
FUNDACIÓ
Incentivem les capacitats

MEMBERS DISTRIBUTED BY GENDER

W: 65,4%

M: 34,6%

Recognized as a preconsolidated research group by AGAUR (Generalitat de Catalunya) - 2017 SGR 1444.

MEMBER OF
REEM ISCIII
RICORS Enfermedades Inflamatorias ISCIII

KEYWORDS
Multiple sclerosis
Neurodegeneration
Neuroinflammation
Cognitive impairment
Neuroimmunology
Epigenetics
eHealth

RELATED DISEASES
Multiple sclerosis
Neuromyelitis optica spectrum disease
Myelin oligodendrocyte glycoprotein antibody disease
Autoimmune encephalitis
Parkinson's disease
Movement disorders and atypical parkinsonism
Alzheimer's disease
Genetic Ataxia
Rare genetic neurological diseases

GROUP LEADER - R4

Lluís Ramió Torrentà (ICS/Trueta)

ESTABLISHED RESEARCHERS - R3

David Genís Batlle (ICS/Trueta)
Jordi Gich Fullà (ICS/Trueta)
René Roberto Robles Cedeño (ICS/Trueta)

POST-DOCTORAL RESEARCHERS - R2

Ana Quiroga Varela (IDIBGI)

PRE-DOCTORAL RESEARCHERS - R1

Gary Álvarez Bravo (ICS/Trueta)
Clàudia Coll Martínez (IDIBGI)
Ariadna Gifreu Fraixinó (ICS/Trueta)
Joana Maria Huertas Pons (IDIBGI)
Albert Miguela Benavides (IDIBGI)
Marc Puig Casadevall (ICS/Trueta)
Judit Salavedra Pont (ICS/Trueta)

TECHNICIANS

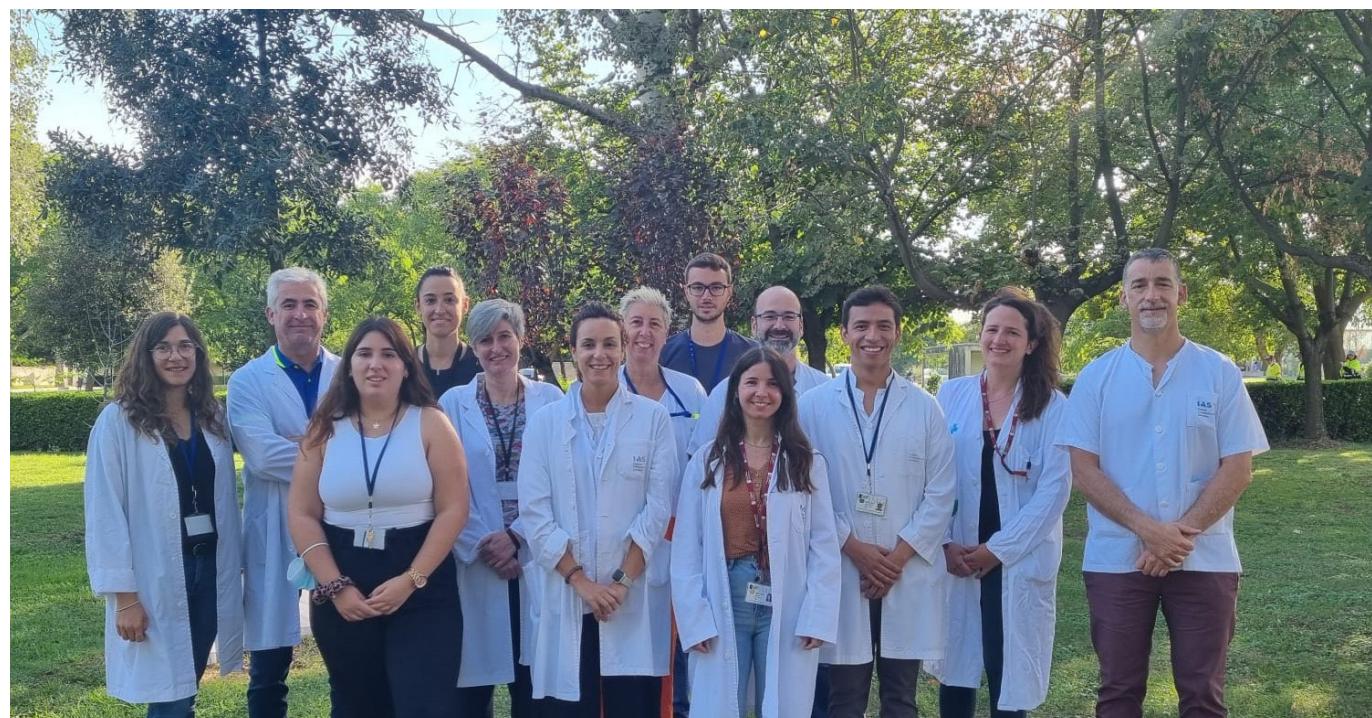
Imma Gomez Aguilar (IDIBGI)
Marina Gonzalez Del Rio (IDIBGI)
Miquel Merchan Ruiz (IDIBGI)
Judith Sances Millan (IDIBGI)
Lilian Vivas Villacampa (IAS)

NON-SCIENTIFIC RESEARCH SUPPORT STAFF

Josefa Lopez Zurita (ICS/Trueta)
Mireia Montserrat Rosés (IDIBGI-IAS)
Meritxell Rigola Tubien (IDIBGI)

COLLABORATORS

Berta Alemany Perna (ICS/Trueta)
Anna Cots Foraster (ICS/Trueta)
Laura Fàbregas Casas (IAS)
Immaculada Pericot Nierga (IAS)
Berta Solano Vila (ICS/Trueta)
Antoni Turon Estrada (IAS)



OVERVIEW

PROBLEM

Neurodegenerative diseases are the second leading cause of disability in the world, very prevalent and devastating in terms of quality of life. Neuroinflammation is activated after an immune stimulation and, chronically, it is a risk factor for the development of these diseases. Given the complexity of our central nervous system and the lack of knowledge about how it works, research is the main tool for advancing the treatment and prevention of these diseases.

APPROACH

Our approach is fully translational (clinical-basic) and proposes a precision medicine strategy by detecting specific mechanisms and biomarkers for improving the diagnosis, prognosis, therapeutic adequacy, and response to treatment in patients with multiple sclerosis and other neurodegenerative conditions. The goal is that questions that are asked at the clinical level can be answered in the lab and, conversely, the findings that are given in the lab can be quickly transferred to the clinic.

IMPACT

The causes that trigger the neurodegenerative process are unknown and currently, the process is irreversible. Current treatments alleviate the symptoms, have an impact in their natural history and allow a better quality of life, but do not cure them. The personal, social, health and economic costs are very high and will increase in the coming years due to the aging population. Faced with this complex situation, it is necessary to focus on discovering the underlying causes to improve the management of the disease and address new therapies that can stop these processes.

MAIN RESEARCH LINES

- Epigenetic and molecular biomarkers in multiple sclerosis
- Cognitive function and associated biomarkers in patients with multiple sclerosis
- Cellular mechanisms and molecular bases of the neurodegenerative process
- Advanced MRI in multiple sclerosis
- Digital technologies and multiple sclerosis

- Novel therapeutical approaches for genetic ataxias
- Microbiota in Parkinson's Disease and atypical parkinsonism

PUBLICATIONS

ORIGINALS / I.F.: 153.80

1. Contreras Rodriguez O, Arnoriaga Rodríguez M, Miranda Olivos R, Blasco G, Biarnés C, Puig J, Rivera Pinto J, Calle ML, Pérez Brocal V, Moya A, Coll C, Ramió Torrentà L, Soriano Mas C, Fernandez Real JM. Obesity status and obesity-associated gut dysbiosis effects on hypothalamic structural covariance. Int. J. Obes. 2022. 46. (1):p. 30-38. IF:5,551. (Q2). Gad
2. Santos García D, Canfield H, de Deus Fonticoba T, Cores Bartolomé C, Naya Ríos L, García Roca L, Martínez Miró C, Jesús S, Aguilar M, Pastor P, Cosgaya M, García Caldentey J, Caballol N, Legarda I, Hernández Vara J, Cabo I, López Manzanares L, González Aramburu I, Ávila Rivera MA, Gómez Mayordomo V, Nogueira V, Puente V, Dotor J, Borrué C, Solano Vila B, Álvarez Sauco M, Vela L, Escalante S, Cubo E, Carrillo Padilla F, Martínez Castrillo JC, Sánchez Alonso P, Alonso Losada MG, López Ariztegui N, Gastón I, Kulisevsky J, Blázquez Estrada M, Seijo M, Rúiz Martínez J, Valero C, Kurtis M, de Fábregues O, González Ardura J, Alonso Redondo R, Ordás C, López Díaz LM, McAfee D, Martínez Martín P, Mir P, COPPADIS Study G. **Parkinson's Disease Motor Subtypes Change with the Progression of the Disease: Results from the COPPADIS Cohort at 2-Year Follow-Up.** J Parkinsons Dis. 2022. 12. (3):p. 935-955. IF:5,520. (Q2).
3. Santos García D, García Roca L, de Deus Fonticoba T, Cores Bartolomé C, Naya Ríos L, Canfield H, Paz González JM, Martínez Miró C, Jesús S, Aguilar M, Pastor P, Planellas L, Cosgaya M, García Caldentey J, Caballol N, Legarda I, Hernández Vara J, Cabo I, López Manzanares L, González Aramburu I, Ávila Rivera MA, Gómez Mayordomo V, Nogueira V, Puente V, Dotor García Soto J, Borrué C, Solano Vila B, Álvarez Sauco M, Vela L, Escalante S, Cubo E, Carrillo Padilla F, Martínez Castrillo JC, Sánchez Alonso P, Alonso Losada MG, López Ariztegui N, Gastón I, Kulisevsky J, Blázquez Estrada M, Seijo M, Rúiz Martínez J, Valero C, Kurtis M, de Fábregues O, González Ardura J, Alonso Redondo R, Ordás C, López Díaz LLM, McAfee D, Martínez Martín P, Mir P, COPPADIS Study G. **Constipation Predicts Cognitive Decline in Parkinson's Disease: Results from the COPPADIS Cohort at 2-Year Follow-up and Comparison with a Control Group.** J Parkinsons Dis. 2022. 12. (1):p. 315-331. IF:5,520. (Q2).
4. Ramo Tello C, Blanco Y, Brieva L, Casanova B, Martínez Cáceres E, Ontaneda D, Ramió Torrentà L, Rovira À. **Recommendations for the Diagnosis and Treatment of Multiple Sclerosis Relapses.** J. Pers. Med. 2022. 12. (1):6. IF:3,508. (Q2).

- 5.** Álvarez Bravo G,Sánchez Cirera L,Angerri Nadal M,Ramió I Torrentà L. **Clinical heterogeneity in patients with myoclonus associated to COVID-19.** Neurol. Sci. 2022. 43. (3):p. 1587-1592. IF:3,830. (Q2).
- 6.** Mayneris Perxachs J,Castells Nobau A,Arnoriaga Rodríguez M,Garre Olmo J,Puig J,Ramos R,Martínez Hernández F,Burokas A,Coll C,Moreno Navarrete JM,Zapata Tona C,Pedraza S,Pérez Brocal V,Ramió Torrentà L,Ricart W,Moya A,Martínez García M,Maldonado R,Fernández Real JM. **Caudovirales bacteriophages are associated with improved executive function and memory in flies, mice, and humans.** Cell Host Microbe. 2022. 30. (3):p. 340-340. IF:31,316. (Q1).
- 7.** Sampredo F,Martínez Horta S,Horta Barba A,Grothe MJ,Labrador Espinosa MA,Jesús S,Adarmes Gómez A,Carrillo F,Puig Davi A,Lora FR,Barberá MA,Pastor P,Arroyo SE,Vila BS,Foraster AC,Martínez JR,Padilla FC,Morlans MP,Aramburu IG,Ceberio JL,Vara JH,de Fábregues Boixar O,de Deus Fonticoba T,Ávila A,Martínez Castrillo JC,Bejr Kasem H,Campolongo A,Pascual Sedano B,COPPADIS Study G,Martínez Martín P,Santos García D,Mir P,Kulisevsky J. **Increased homocysteine levels correlate with cortical structural damage in Parkinson's disease.** J. Neurol. Sci. 2022. 434. p. 120148-120148. IF:4,553. (Q2).
- 8.** Vermersch P,Brieva Ruiz L,Fox RJ,Paul F,Ramíro Torrentà L,Schwab M,Moussy A,Mansfield C,Hermine O,Maciejowski M,AB07002 Study G. **Efficacy and Safety of Masitinib in Progressive Forms of Multiple Sclerosis A Randomized, Phase 3, Clinical Trial.** Neurol.-Neuroimmunol. Neuroinflammation. 2022. 9. (3):e1148. IF:11,360. (Q1).
- 9.** Santos García D,de Deus Fonticoba T,Bartolomé CC,Painceiras MJF,Castro ES,Canfield H,Miró CM,Jesús S,Aguilar M,Pastor P,Planellas L,Cosgaya M,Caldentey JG,Caballo N,Legarda I,Hernández Vara J,Cabo I,Manzanares LL,Aramburu IG,Rivera M,Mayordomo VG,Nogueira V,Puente V,García Soto JD,Borrué C,Vila BS,Sauco MÁ,Vela L,Escalante S,Cubo E,Padilla FC,Castrillo JCM,Alonso PS,Losada M,Ariztegui NL,Gastón I,Kulisevsky J,Estrada MB,Seijo M,Martínez JR,Valero C,Kurtis M,de Fábregues O,Ardura JG,Redondo RA,Ordás C,Díaz LML,McAfee D,Martinez Martin P,Mir P,Coppadis Study G. **Motor Fluctuations Development Is Associated with Non-Motor Symptoms Burden Progression in Parkinson's Disease Patients: A 2-Year Follow-Up Study.** Diagnostics. 2022. 12. (5):1147. IF:3,992. (Q2).
- 10.** Mayneris Perxachs J,Castells Nobau A,Arnoriaga Rodríguez M,Martin M,de la Vega Correa L,Zapata C,Burokas A,Blasco G,Coll C,Esrichs A,Biarnés C,Moreno Navarrete JM,Puig J,Garre Olmo J,Ramos R,Pedraza S,Brugada R,K,Serena J,Gich J,Ramió Torrentà L,Pérez Brocal V,Moya A,Pamplona R,Sol J,Jové M,Ricart W,Portero Otin M,Pamplona R,Maldonado R,Fernández Real JM. **Microbiota alterations in proline metabolism impact depression.** Cell Metab. 2022. 34. (5):p. 681-681. IF:31,373. (Q1).
- 11.** Zabalza A,Arrambide G,Otero Romero S,Pappolla A,Tagliani P,López Maza S,Cárdenas Robledo S,Esperalba J,Fernández Naval C,Martínez Gallo M,Castillo M,Bonastre M,Resina Salles M,Bertran J,Rodríguez Barranco M,Carbonell Mirabent P,Gonzalez M,Merchan M,Quiroga Varela A,Miguela A,Gómez I,Álvarez G,Robles R,Perez Del Campo D,Queralt X,Soler MJ,Agraz I,Martinez Valle F,Rodríguez Acevedo B,Midaglia L,Vidal Jordana Á,Cobo Calvo Á,Tur C,Galan I,Castillo J,Río J,Espejo C,Comabella M,Nos C,Sastre Garriga J,Ramió Torrentà L,Tintoré M,Montalban X. **Is humoral and cellular response to SARS-CoV-2 vaccine modified by DMT in patients with multiple sclerosis and other autoimmune diseases?** Mult Scler. 2022. 28. (7):p. 1138-1145. IF:5,855. (Q1).
- 12.** Santos García D,de Deus Fonticoba T,Cores Bartolomé C,Íñiguez Alvarado MC,Feal Panceiras MJ,Suárez Castro E,Canfield H,Martínez Miró C,Jesús S,Aguilar M,Pastor P,Planellas L,Cosgaya M,García Caldentey J,Caballo N,Legarda I,Hernández Vara J,Cabo I,López Manzanares L,González Aramburu I,Ávila Rivera MA,Gómez Mayordomo V,Nogueira V,Puente V,Dotor García Soto J,Borrué C,Solano Vila B,Álvarez Sauco M,Vela L,Escalante S,Cubo E,Carrillo Padilla F,Martínez Castrillo JC,Sánchez Alonso Alonso P,Alonso Losada MG,Ariztegui NL,Gastón I,Kulisevsky J,Blázquez Estrada M,Seijo M,Martínez JR,Valero C,Kurtis M,de Fábregues O,González Ardura J,Alonso Redondo R,Ordás C,López Díaz LM,McAfee D,Martinez Martin P,Mir P,COPPADIS Study G. **Predictors of the change in burden, strain, mood, and quality of life among caregivers of Parkinson's disease patients.** Int. J. Geriatr. Psychiatr. 2022. 37. (6):IF:3,850. (Q2).
- 13.** Merino Galán I,Jimenez Urbeta H,Zamarbide M,Rodríguez Chinchilla T,Beloso Iguerategui A,Santamaría E,Fernández Irigoyen J,Aiastui A,Doudnikoff E,Bézard E,Ouro A,Knafo S,Gago B,Quiroga Varela A,Rodríguez Oroz MC. **Striatal synaptic bioenergetic and autophagic decline in premotor experimental parkinsonism.** Brain. 2022. 145. (6):p. 2092-2107. IF:15,255. (Q1).
- 14.** Mayneris Perxachs J,Arnoriaga Rodríguez M,Garre Olmo J,Puig J,Ramos R,Trelis M,Burokas A,Coll C,Zapata Tona C,Pedraza S,Pérez Brocal V,Ramió L,Ricart W,Moya A,Jové M,Sol J,Portero Otin M,Pamplona R,Maldonado R,Fernández Real JM. **Presence of Blastocystis in gut microbiota is associated with cognitive traits and decreased executive function.** ISME J. 2022. 16. (9):p. 2181-2197. IF:11,217. (Q1).
- 15.** Sampredo F,Martínez Horta S,Horta Barba A,Grothe MJ,Labrador Espinosa MA,Jesús S,Adarmes Gomez A,Carrillo F,Puig Davi A,Roldan Lora F,Aguilar Barbera M,Pastor P,Escalante Arroyo S,Solano Vila B,Cots Foraster A,Ruiz Martínez J,Carrillo Padilla F,Pueyo Morlans M,Gonzalez Aramburu

I,Infante Ceberio J,Hernandez Vara J,de Fabregues Boixar O,de Deus Fonticoba T,Avila A,Martínez Castrillo JC,Bejr Kasem H,Campolongo A,Pascual Sedano B,Martínez Martín P,Santos García D,Mir P,COPPADIS Study G,Garcia Ruiz PJ,Kulisevsky J.**Clinical and structural brain correlates of hypomimia in early-stage Parkinson's disease.** Eur J Neurol. 2022. 29. (12):p. 3720-3727. IF:6,288. (Q1).

- 16.** Coll Martinez C,Quintana E,Buxó M,Salavedra Pont J,Gasull Vicens L,Quiroga Varela A,Costa Frossard L,Villar LM,Fernández Díaz E,Gracia J,Aladro Y,Méndez Burgos A,Cerezo M,Ramió Torrentà L,Gich J. **Oligoclonal IgM bands are a promising biomarker for long-term cognitive outcomes in multiple sclerosis.** Mult. Scler. Relat. Disord. 2022. 68. p. 104397-104397. IF:4,808. (Q2).

REVIEWS / I.F.: 15.07

- Bravo GÁ,Cedeño RR,Casadevall MP,Ramió Torrentà L. **Sphingosine-1-Phosphate (S1P) and S1P Signaling Pathway Modulators, from Current Insights to Future Perspectives.** Cells. 2022. 11. (13):2058. IF:7,666. (Q2).
- Gonzalez Rio M,Bertran Noguer C,Ramió Torrentà L,Zabaleta Olmo E. **Multiple sclerosis disease-related knowledge measurement instruments show mixed performance: a systematic review.** J. Clin. Epidemiol. 2022. 149. p. 60-82. IF:7,407. (Q1).

CONSORTIUM PUBLICATIONS / I.F.: 10.17

- Garcia Tornel A,Millan M,Rubiera M,Bustamante A,Requena M,Dorado L,Olivé Gadea M,Jiménez X,Soto A,Querol M,Hernández Pérez M,Gomis M,Cardona P,Urra X,Purroy F,Silva Y,Ustrell X,Esteve P,Salvat Plana M,Gallofré M,Molina C,Dávalos A,Jovin T,Abilleira S,Ribo M,Pérez de la Ossa N,RACECAT Trial I. **Workflows and Outcomes in Patients With Suspected Large Vessel Occlusion Stroke Triaged in Urban and Nonurban Areas.** Stroke. 2022. 53. (12):p. 3728-3740. IF:10,170. (Q1).

GRANTS

IDIBGI Principal Investigator: Berta Alemany
Project Title: Estudio piloto sobre los efectos del tratamiento con Calcitriol en la función neurológica y los niveles de Frataxina en pacientes con ataxia de Friedreich
Project Code: FA-calcitriol (ATAKIES)
Funding Agency: FEDERACIÓN DE ATAXIAS DE ESPAÑA
Duration: 02/12/2020 to 02/12/2022

IDIBGI Principal Investigator: Lluís Ramió
Project Title: Proyectos Bianuales EME-REEM 2020
Project Code: EME-REEM 2020
Funding Agency: ASOC. ESCLEROSIS MULTIPLE ESPAÑA

Duration: 01/07/2020 to 31/12/2022

IDIBGI Principal Investigator: Lluís Ramió
Project Title: Ajuda de personal PERIS
Project Code: SLT017/20/000115
Funding Agency: Generalitat De Catalunya
Duration: 01/07/2021 to 31/12/2023

IDIBGI Principal Investigator: Lluís Ramió
Project Title: Estudio de biomarcadores moleculares de resiliencia cognitiva en el envejecimiento cerebral y en la neurodegeneración
Project Code:
Funding Agency: FRANCISCO SORIA MELGUIZO, S.A
Duration: 01/01/2022 to 31/12/2023

IDIBGI Principal Investigator: Lluís Ramió
Project Title: EM-Line! Kids: rehabilitació cognitiva des de casa per a pacients en edat pediàtrica
Project Code: 2021LLAV00072
Funding Agency: AGENCIA DE GESTIO D'AJUTS UNIV. I RECER.
Duration: 11/10/2022 to 10/07/2023

IDIBGI Principal Investigator: Lluís Ramió
Project Title: RICORS- Enfermedades Inflamatorias
Project Code: RD21/0002/0063- EM
Funding Agency: INSTITUTO DE SALUD CARLOS III
Role: Partner
Duration: 01/01/2022 to 31/12/2024

FUNDRAISING GRANTS

IDIBGI Principal Investigator: Lluís Ramió i Torrentà
Project Title: Beques Granés Fundació per a la incorporació d'investigadors/res joves en recerca en l'àmbit de les discapacitats i/o de les malalties que la provoquen
Project Code: IDIBGI.00104
Funding Agency: Granés Fundació
Duration: 2020-2024

MEMBERSHIP OF COLLABORATIVE RESEARCH NETWORKS

INTERNATIONAL

- Autoimmune Encephalitis Alliance (AEA)
- BioMS eu Network

SPANISH

- RICORS Enfermedades inflamatorias (RD21/0002/0063)
- Red Española de Esclerosis Múltiple (REEM) - RD16/0015/0006
- XarSMART: Programa de Valorització i Transferència dels resultats de la recerca



ONCOLOGY AND HAEMATOLOGY

CHROMOSOMAL REPLICATION

DESCRIPTIVE EPIDEMIOLOGY, GENETICS AND CANCER PREVENTION

GENERAL AND DIGESTIVE SURGERY

HAEMATOLOGY

METABOLISM AND CANCER

PRECISION ONCOLOGY

RADIATION ONCOLOGY AND MEDICAL PHYSICS

Chromosomal replication

F B A
Fundació Bosch Aymerich

MEMBERS DISTRIBUTED BY GENDER

W: 40%

M: 60%

KEYWORDS

Genomic duplication
DNA replication
Cell cycle
Cancer

RELATED DISEASES

Cancer
Meier-Gorlin syndrome

GROUP LEADER - R4

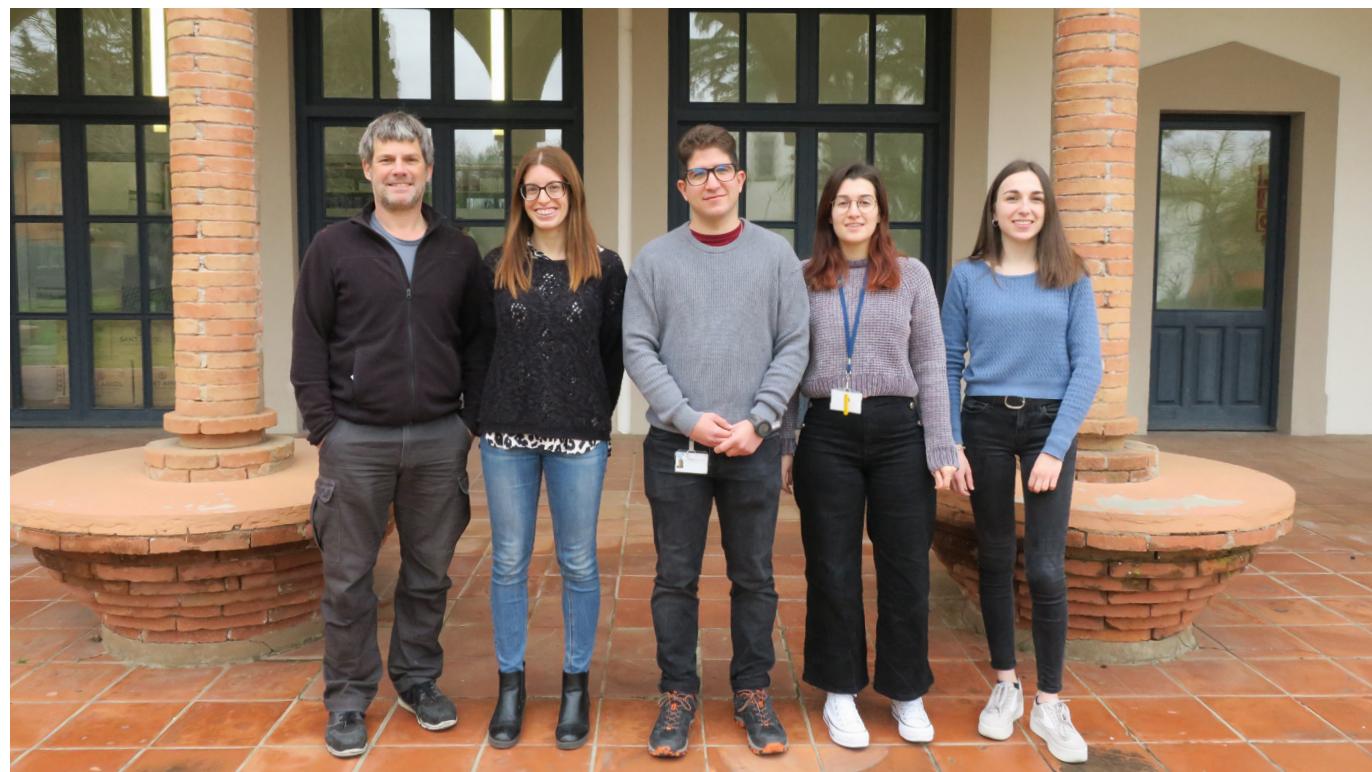
Jordi Frigola Mas (IDIBGI)

PRE-DOCTORAL RESEARCHERS - R1

Adrián Jimenez San Mauro (IDIBGI)
Lucia Márquez Thibaut (IDIBGI)
Marina Guerrero Puigdevall (IDIBGI)

COLLABORATORS

Narcís Fernández Fuentes (UPF)



OVERVIEW

PROBLEM

Classic radiation and most of the chemotherapeutic classic treatments (alkylating agents, antimetabolites, antibiotics and topoisomerase inhibitors) are currently used as a curative and/or palliative care. All these treatments share a common target, stop chromosome replication to halt cell proliferation. To do so, they inhibit genomic duplication by damaging either the DNA or the replication machinery. The high efficiency of these treatments, is limited by their high toxicity, due to their mutagenic nature and lack of tumour specificity.

APPROACH

We are using the state-of-the-art technology in the field, reconstitution of chromosome replication with purified proteins. These powerful assays allow us to understand the different mechanisms behind genome duplication. We used both yeast and human proteins to dissect the critical steps involved on the first stages of chromosome replication. Ultimately, all the gained knowledge will allow us to design new ways to halt cell proliferation, in a more specific and less invasive manner, than current cancer treatments.

IMPACT

Understand at mechanistic level how the replication machinery achieves genome duplication is critical not only to push the scientific boundaries, but also to be able to explore and design new ways to stop cell proliferation without the need to induce vast amounts of DNA damage.

MAIN RESEARCH LINES

- Studies of chromosome replication in *S. cerevisiae*.
- Evaluate the conservation of the mechanisms behind chromosome replication in human cells.
- Study, design and development of new cancer therapies.

GRANTS

IDIBGI Principal Investigator: Jordi Frigola

Project Title: Chromosome replication, formation and disassembly of the double hexamer

Project Code: PID2020-120518GB-I00

Funding Agency: MINISTERIO DE ECONOMIA Y COMPETITIVIDAD MINECO

Duration: 01/09/2021 to 31/08/2024

IDIBGI Principal Investigator: Jordi Frigola

Project Title: Ajuda de personal PERIS

Project Code: SLT017/20/000213

Funding Agency: Generalitat De Catalunya

Duration: 23/06/2021 to 31/12/2024

FUNDRAISING GRANTS

IDIBGI Principal Investigator: Jordi Frigola

Project Title: Research and development on new cancer treatments

Project Code: IDIBGI.00078

Funding Agency: Fundació Bosch Aymerich

Duration: 01/01/2020 to 31/12/2022

Descriptive epidemiology, genetics and cancer prevention



MEMBERS DISTRIBUTED BY GENDER

W: 68,7%

M: 31,3%

Part of a consolidated research group recognized by AGAUR (Generalitat de Catalunya) - 2017 SGR 733.

MEMBER OF
CIBER-ESP

KEYWORDS

Cancer epidemiology
Prognostic and predictive markers
Cancer risk factors

RELATED DISEASES
Cancer

GROUP LEADER - R4

Rafel Marcos Gragera (ICO)

POST-DOCTORAL RESEARCHERS - R2

Carme Auñon Sanz (ICO)
Gemma Osca Gelis (ICO)
Marta Solans Margalef (CIBER)
Alicia Silvana Villavicencio Obando (ICO)

PRE-DOCTORAL RESEARCHERS - R1

Andres Castillo Bonilla (Josep Carreras Leukaemia Research Institute)

TECHNICIANS

Montse Puigdemont Guinart (ICO)
Marti Rispau Pagès (ICO)
Arantza Sanvisens Berge (ICO)
Anna Vidal Vila (ICO)

NON-SCIENTIFIC RESEARCH SUPPORT STAFF

Maikel Verdaguer Roberte (IDIBGI)

COLLABORATORS

Sonia Del Barco Berron (ICO)
Ma. Carme Carmona Garcia (ICO)
Adelaida Garcia Velasco (ICO)
Jordi Rubió Casadevall (ICO)
Neus Vilar Coromina (ICO)



OVERVIEW

PROBLEM

Cancer is a leading cause of death and reduces the life expectancy in every country of the world. The incidence and mortality of this disease is rapidly growing worldwide. However, there are important differences between regions and type of cancers. To analyze the key epidemiologic indicators at population-level in Girona is the main objective of our group.

APPROACH

The research focuses on the analysis of data whose main source is the Girona Cancer Registry and with the following objectives:

- To establish the prevalence, incidence and survival of cancer overall and according to the specific location at the population-level.
- To analyze the temporal trend of the incidence and survival of cancer in the context of the therapeutic changes that are being developed.
- To determine the epidemiological parameters based on sex and age.
- To carry out etiological studies of cancer according to each of the histological subtypes.

IMPACT

The results obtained from the research objectives can have an impact on different biomedical issues. Specifically:

- Facilitate the coding of diagnoses as a basis for research into these pathologies.
- Deepen the knowledge of the prognosis of the disease, facilitating clinical decision-making and the different care needs.
- Design and implement strategic programs for the rehabilitation and improvement of the quality of life of patients with specific.
- Determine risk factors for different type of cancer in order to implement specific prevention measures and improve public health programs.

MAIN RESEARCH LINES

- Breast and female genital cancer.
- Haematological neoplasms.
- Childhood neoplasms.

- Coding and cancer information systems.

PUBLICATIONS

ORIGINALS / I.F.: 402.49

1. Posso M,Alcántara R,Vázquez I,Comerma L,Baré M,Louro J,Quintana MJ,Román M,Marcos Gragera R,Vernet Tomas M,Saladie F,Vidal C,Bargalló X,Peñalva L,Sala M,Castells X,BELE study G. **Mammographic features of benign breast lesions and risk of subsequent breast cancer in women attending breast cancer screening.** Eur. Radiol. 2022. 32. (1):p. 621-629. IF:7,034. (Q1).
2. OnCovid Study G,Pinato DJ,Patel M,Scotti L,Colomba E,Dolly S,Loizidou A,Chester J,Mukherjee U,Zambelli A,Dalla Pria A,Aguilar Company J,Bower M,Salazar R,Bertuzzi A,Brunet J,Lambertini M,Tagliamento M,Pous A,Sita Lumsden A,Srikandarajah K,Colomba J,Pommeret F,Seguí E,Generali D,Grisanti S,Pedrazzoli P,Rizzo G,Libertini M,Moss C,Evans JS,Russell B,Harbeck N,Vincenzi B,Biello F,Bertulli R,Ottaviani D,Liñan R,Rossi S,Carmona García MC,Tondini C,Fox L,Baggi A,Fotia V,Parisi A,Porzio G,Queirolo P,Cruz CA,Saoudi Gonzalez N,Felip E,Roqué Lloveras A,Newsom Davis T,Sharkey R,Roldán E,Reyes R,Zoratto F,Earnshaw I,Ferrante D,Marco Hernández J,Ruiz Camps I,Gaidano G,Patriarca A,Bruna R,Sureda A,Martínez Vila C,Sanchez de Torre A,Berardi R,Giusti R,Mazzoni F,Guida A,Rimassa L,Chiudinelli L,Franchi M,Krengli M,Santoro A,Prat A,Tabernero J,Van Hemelrijck M,Diamantis N,Gennari A,Cortellini A. **Time-Dependent COVID-19 Mortality in Patients With Cancer An Updated Analysis of the OnCovid Registry.** JAMA Oncol. 2022. 8. (1):p. 114-122. IF:33,006. (Q1).
3. Hernández García M,Molina Barceló A,Vanaclocha Espi M,Zurriaga Ó,Pérez Gómez B,Aragonés N,Amiano P,Altibar JM,Castaño Vinyals G,Sala M,Ederra M,Martín V,Gómez Acebo I,Vidal C,Tardón A,Marcos Gragera R,Pollán M,Kogevinas M,Salas D. **Differences in breast cancer-risk factors between screen-detected and non-screen-detected cases (MCC-Spain study).** Cancer Causes Control. 2022. 33. (1):p. 125-136. IF:2,532. (Q3).
4. Bosch Barrera J,Roqué A,Teixidor E,Carmona Garcia MC,Arbusà A,Brunet J,Martin Castillo B,Cuyàs E,Verdura S,Menendez JA. **Clinical Management of COVID-19 in Cancer Patients with the STAT3 Inhibitor Silibinin.** Pharmaceuticals. 2022. 15. (1):19. IF:5,215. (Q1).
5. Jurado Bruggeman D,Munoz Montplet C,Hernandez V,Saez J,Fuentes DR. **Impact of the dose quantity used in MV photon optimization on dose distribution, robustness, and complexity.** Med. Phys. 2022. 49. (1):p. 648-665. IF:4,506.

- (Q2).
6. Solans M,Sanvisens A,Ameijide A,Merino S,Rojas D,Alemán A,Banqueri E,Chico M,Marcos Al,de Castro V,Gil L,de Munain AL,Puigdemont M,Sánchez MJ,Perucha J,Ruiz Armengol P,Chirlaque MD,Guevara M,Carulla M,Marcos Gragera R. **Incidence of myeloid neoplasms in Spain (2002-2013): a population-based study of the Spanish network of cancer registries.** Sci Rep. 2022. 12. (1):p. 323-323. IF:4,996. (Q2).
 7. Peremiquel Trillas P,Frias Gomez J,Alemany L,Ameijide A,Villardell M,Marcos Gragera R,Paytubi S,Ponce J,Martínez JM,Pineda M,Brunet J,Matías Guiu X,Carulla M,Galceran J,Izquierdo Á,Borràs JM,Costas L,Clèries R. **Predicting Ovarian-Cancer Burden in Catalonia by 2030: An Age-Period-Cohort Modelling.** Int J Environ Res Public Health. 2022. 19. (3):1404. IF:4,614. (Q1).
 8. Carbó Bagué A,Rubió Casadevall J,Puigdemont M,Sanvisens A,Oliveras G,Coll M,Del Olmo B,Perez Bueno F,Marcos Gragera R. **Epidemiology and Molecular Profile of Mucosal Melanoma: A Population-Based Study in Southern Europe.** Cancers (Basel). 2022. 14. (3):780. IF:6,575. (Q1).
 9. Hernández Rubio A,Sanvisens A,Bolao F,Cachón Suárez I,García Martín C,Short A,Bataller R,Muga R. **Prevalence and associations of metabolic syndrome in patients with alcohol use disorder.** Sci Rep. 2022. 12. (1):p. 2625-2625. IF:4,996. (Q2).
 10. Clèries R,Buxó M,Villardell M,Ameijide A,Martínez JM,Font R,Marcos Gragera R,Puigdemont M,Viñas G,Carulla M,Espinàs JA,Galceran J,Izquierdo Á,Borràs JM. **No Excess Mortality up to 10 Years in Early Stages of Breast Cancer in Women Adherent to Oral Endocrine Therapy: A Probabilistic Graphical Modeling Approach.** Int J Environ Res Public Health. 2022. 19. (6):3605. IF:4,614. (Q1).
 11. Daubisse Marliac L,Grosclaude P,Carulla M,Parada D,Villardell L,Ameijide A,Marcos Gragera R,Galceran J. **Registration of Urothelial Tumours in Cancer Registries: How to Improve and Make It More Useful?.** Int J Environ Res Public Health. 2022. 19. (5):2714. IF:4,614. (Q1).
 12. Sanvisens A,Ameijide A,Carulla M,Marcos Gragera R,en representación de la Red Española de Registros de Cáncer (. **Estimates of the incidence of hematological neoplasms in Spain, 2021: Study of the Spanish Network of Cancer Registries (REDECAN).** Med Clin (Barc). 2022. 158. (6):p. 284-290. IF:3,200. (Q2).
 13. Martínez García M,Servitja Tormo S,Vilariño Quintela N,Arance Fernández A,Berrocal Jaime A,Cantos Sánchez de Ibargüen B,Del Barco Berrón S,García Campelo R,Gironés Sarrió R,Manuel Sepúlveda Sánchez J. **SEOM-GEINO clinical guideline of systemic therapy and management of brain central nervous system metastases (2021).** Clin Transl Oncol. 2022. 24. (4):p. 703-711. IF:3,340. (Q3).
 14. Rubió Casadevall J,Ciurana E,Puigdemont M,Sanvisens A,Marruecos J,Miró J,Urbán A,Palhua RL,Martín Romero F,Ortíz Duran MR,Marcos Gragera R. **Population-Based Analysis of Trends in Incidence and Survival of Human Papilloma Virus-Related Oropharyngeal Cancer in a Low-Burden Region of Southern Europe.** Int J Environ Res Public Health. 2022. 19. (8):4802. IF:4,614. (Q1).
 15. Rubio FJ,Alvares D,Redondo Sanchez D,Marcos Gragera R,Sánchez MJ,Luque Fernandez MA. **Bayesian variable selection and survival modeling: assessing the Most important comorbidities that impact lung and colorectal cancer survival in Spain.** BMC Med. Res. Methodol. 2022. 22. (1):p. 95-95. IF:4,612. (Q1).
 16. Guevara M,Molinuevo A,Salmerón D,Marcos Gragera R,Carulla M,Chirlaque MD,Rodríguez Cambor M,Alemán A,Rojas D,Vizcaíno Batllés A,Chico M,Jiménez Chillarón R,López de Munain A,de Castro V,Sánchez MJ,Ramalle Gómarra E,Franch P,Galceran J,Ardanaz E. **Cancer Survival in Adults in Spain: A Population-Based Study of the Spanish Network of Cancer Registries (REDECAN).** Cancers (Basel). 2022. 14. (10):2441. IF:6,575. (Q1).
 17. Font R,Buxó M,Ameijide A,Martínez JM,Marcos Gragera R,Carulla M,Puigdemont M,Villardell M,Civit S,Viñas G,Espinàs JA,Galceran J,Izquierdo Á,Borràs JM,Clèries R. **Using population-based data to evaluate the impact of adherence to endocrine therapy on survival in breast cancer through the web-application BreCanSurvPred.** Sci Rep. 2022. 12. (1):p. 8097-8097. IF:4,996. (Q2).
 18. Ssenyonga N,Stiller C,Nakata K,Shalkow J,Redmond S,Bulliard JL,Girardi F,Fowler C,Marcos Gragera R,Bonaventure A,Saint Jacques N,Minicozzi P, P,Rodríguez Barranco M,Larönningen S,Di Carlo V,Mägi M,Valkov M,Seppä K,Huws WYND,Coleman MP,Allemani C,CONCORD Working G. **Worldwide trends in population-based survival for children, adolescents, and young adults diagnosed with leukaemia, by subtype, during 2000-14 (CONCORD-3): analysis of individual data from 258 cancer registries in 61 countries.** Lancet Child. Adolesc. Health. 2022. 6. (6):p. 409-431. IF:37,746. (Q1).
 19. Cortellini A,Salazar R,Gennari A,Aguilar Company J,Bower M,Bertuzzi A,Brunet J,Lambertini M,Maluquer C,Pedrazzoli P,Lee AJ,Carmona García M,Newsom Davis T,Van Hemelrijck M,Plaja A,Zambelli A,Tondini C,Generalí D,Bertulli R,Diamantis N,Mukherjee U,Rizzo G,Yu T,Zoratto F,Bruna R,Sureda A,Martinez Vila C,Cantini L,Mazzoni F,Grosso F,Parisi A,Saponara M,Prat A,Pinato DJ,On Covid study G. **Original**

- Research Persistence of long-term COVID-19 sequelae in patients with cancer: An analysis from the OnCovid registry.** Eur. J. Cancer. 2022. 170. p. 10-16. IF:10,002. (Q1).
- 20.** Pinato DJ,Aguilar Company J,Ferrante D,Hanbury G,Bower M,Salazar R,Mirallas O,Sureda A,Plaja A,Cucurull M,Mesia R,Townsend S,Jackson A,Dalla Pria A,Newsom Davis T,Handford J,Sita Lumsden A,Apthorp E,Vincenzi B,Bertuzzi A,Brunet J,Lambertini M,Maluquer C,Pedrazzoli P,Biello F,Sinclair A,Bawany S,Khalique S,Rossi S,Rogers L,Murphy C,Belessiotis K,Carmona García MC,Sharkey R,García Illescas D,Rizzo G,Perachino M,Saoudi Gonzalez N,Doonga K,Fox L,Roldán E,Gaidano G,Ruiz Camps I,Bruna R,Patriarca A,Martinez Vila C,Cantini L,Zambelli A,Giusti R,Mazzoni F,Caliman E,Santoro A,Grosso F,Parisi A,Queirolo P,Aujayeb A,Rimassa L,Prat A,Tucci M,Libertini M,Grisanti S,Mukherjee U,Diamantis N,Fusco V,Generali D,Provenzano S,Gennari A,Tabernero J,Cortellini A,OnCovid study G. **Outcomes of the SARS-CoV-2 omicron (B.1.1.529) variant outbreak among vaccinated and unvaccinated patients with cancer in Europe: results from the retrospective, multicentre, OnCovid registry study.** Lancet Oncol. 2022. 23. (7):p. 865-875. IF:54,433. (Q1).
- 21.** Cortellini A,Gennari A,Pommeret F,Patel G,Newsom Davis T,Bertuzzi A,Viladot M,Aguilar Company J,Mirallas O,Felip E,Lee A,Pria AD,Sharkey R,Brunet J,García MC,Chester J,Mukherjee U,Scotti L,Dolly S,Sita Lumsden A,Ferrante D,Van Hemelrijck M,Moss C,Russell B,Seguí E,Biello F,Krengli M,Marco Hernández J,Gaidano G,Patriarca A,Bruna R,Roldán E,Fox L,Pous A,Griscelli F,Salazar R,Martinez Vila C,Sureda A,Loizidou A,Maluquer C,Stoclin A,Iglesias M,Pedrazzoli P,Rizzo G,Santoro A,Rimassa L,Rossi S,Harbeck N,de Torre AS,Vincenzi B,Libertini M,Provenzano S,Generali D,Grisanti S,Berardi R,Tucci M,Mazzoni F,Lambertini M,Tagliamento M,Parisi A,Zoratto F,Queirolo P,Giusti R,Guida A,Zambelli A,Tondini C,Maconi A,Betti M,Colomba E,Diamantis N,Sinclair A,Bower M,Ruiz Camps I,Pinato DJ,OnCovid study G. **COVID-19 Sequelae and the Host Proinflammatory Response: An Analysis From the OnCovid Registry.** J Natl Cancer Inst. 2022. 114. (7):p. 979-987. IF:11,816. (Q1).
- 22.** Vener C,Rossi S,Minicozzi P,Marcos Gragera R,Poile HA,Maynadié M,Troussard X,Pravettoni G,De Angelis R,Sant M,EUROCARE 6 Working G. **Clear Improvement in Real-World Chronic Myeloid Leukemia Survival: A Comparison With Randomized Controlled Trials.** Front Oncol. 2022. 12. p. 892684-892684. IF:5,738. (Q2).
- 23.** Cardoso R,Guo F,Heisser T,De Schutter H,Van Damme N,Nilbert MC,Tybjerg AJ,Bouvier AM,Bouvier V,Launoy G,Woronoff AS,Cariou M,Robaszkiewicz M,Delafosse P,Poncet F,Walsh PM,Senore C,Rosso S,Lemmens V,Elferink M,Tomšić S,Žagar T,Lopez de Munain Marques A,Marcos Gragera R,Puigdemont M, Galceran J,Carulla M,Sánchez Gil A,Chirlaque MD,Hoffmeister M,Brenner H. **Proportion and stage distribution of screen-detected and non-screen-detected colorectal cancer in nine European countries: an international, population-based study.** Lancet Gastroenterol. Hepatol. 2022. 7. (8):p. 711-723. IF:45,042. (Q1).
- 24.** Pinato DJ,Ferrante D,Aguilar Company J,Bower M,Salazar R,Mirallas O,Sureda A,Bertuzzi A,Brunet J,Lambertini M,Maluquer C,Pedrazzoli P,Biello F,Lei A, SNGCCT,Liñan R,Rossi S,Carmona García MC,Sharkey R,Eremiev S,Rizzo G,Bain HD,Yu T,Cruz CA,Perachino M,Saoudi Gonzalez N,Fort Culillas R,Doonga K,Fox L,Roldán E,Zoratto F,Gaidano G,Ruiz Camps I,Bruna R,Patriarca A,Shawe Taylor M,Fusco V,Martinez Vila C,Berardi R,Filetti M,Mazzoni F,Santoro A,Delfanti S,Parisi A,Queirolo P,Aujayeb A,Rimassa L,Prat A,Tabernero J,Gennari A,Cortellini A,OnCovid study G. **Vaccination against SARS-CoV-2 protects from morbidity, mortality and sequelae from COVID19 in patients with cancer.** Eur. J. Cancer. 2022. 171. p. 64-74. IF:10,002. (Q1).
- 25.** Palomar Cros A,Harding BN,Espinosa A,Papantonio K,Pérez Gómez B,Straif K,Ardanaz E,Fernández Villa T,Amiano P,Gómez Acebo I,Moreno V,Alguacil J,Fernández Tardón G,Molina Barceló A,Marcos Gragera R,Aragónés N,Castaño Vinyals G,Guevara M,Marcos Delgado A,Pollán M,Romaguera D,Kogevinas M. **Association of time of breakfast and nighttime fasting duration with breast cancer risk in the multicase-control study in Spain.** Front. Nutr. 2022. 9. p. 941477-941477. IF:6,590. (Q1).
- 26.** Hernandez A,Muñoz Mármol AM,Esteve Codina A,Alameda F,Carrato C,Pineda E,Arpí Lluciá O,Martinez García M,Mallo M,Gut M,Del Barco S,Gallego O,Dabad M,Mesia C,Bellosillo B,Domenech M,Vidal N,Aldecoa I,de la Iglesia N,Balana C. **In silico validation of RNA-Seq results can identify gene fusions with oncogenic potential in glioblastoma.** Sci Rep. 2022. 12. (1):p. 14439-14439. IF:4,996. (Q2).
- 27.** Di Carlo V,Stiller CA,Eisemann N,Bordoni A,Matz M,Curado MP,Daubisse Marliac L,Valkov M,Bulliard JL,Morrison D,Johnson C,Girardi F,Marcos Gragera R,Šekerija M,Larønningen S,Sirri E,Coleman MP,Allemani C,CONCORD Working G. **Does the morphology of cutaneous melanoma help to explain the international differences in survival? Results from 1 578 482 adults diagnosed during 2000-2014 in 59 countries (CONCORD-3).** Br. J. Dermatol. 2022. 187. (3):p. 364-380. IF:11,113. (Q1).
- 28.** Sant M,Magli MC,Maurichi A,Lillini R,Bento MJ,Ardanaz E,Guevara M,Innos K,Marcos Gragera R,Rubio Casadevall J,Sánchez Pérez MJ,Tumino R,Rugge M,Minicozzi P,The Melanoma Study Working Group HR. **Association of Sentinel Node Biopsy and Pathological Report Completeness with Survival Benefit for Cutaneous Melanoma and Factors Influencing Their Different Uses in European Populations.** Cancers (Basel). 2022. 14. (18):4379. IF:6,575. (Q1).

- 29.** Nikšić M, Matz M, Valkov M, Marcos Gragera R, Stiller C, Rosso S, Coleman MP, Allemani C, CONCORD Working G. **World-wide trends in net survival from pancreatic cancer by morphological sub-type: An analysis of 1,258,329 adults diagnosed in 58 countries during 2000-2014 (CONCORD-3).** Cancer Epidemiol. 2022. 80. p. 102196-102196. IF:2,890. (Q3).
- 30.** Gutiérrez González E, Fernández Navarro P, Pastor Barriuso R, García Pérez J, Castaño Vinyals G, Martín Sánchez V, Amiano P, Gómez Acebo I, Guevara M, Fernández Tardón G, Salcedo Bellido I, Moreno V, Pinto Carbó M, Alguacil J, Marcos Gragera R, Gómez JH, Gómez Ariza JL, García Barrera T, Varea Jiménez E, Núñez O, Espinosa A, Molina de la Torre AJ, Aizpurua Atxega A, Alonso Molero J, Ederra Sanz M, Belmonte T, Aragónés N, Kogevinas M, Pollán M, Pérez Gómez B. **Toenail zinc as a biomarker: Relationship with sources of environmental exposure and with genetic variability in MCC-Spain study.** Environ. Int. 2022. 169. p. 107525-107525. IF:13,352. (Q1).
- 31.** Alonso Molero J, Gómez Acebo I, Llorca J, Lope Carvajal V, Amiano P, Guevara M, Martín V, Castaño Vinyals G, Fernández Ortiz M, Obón Santacana M, Alguacil J, Fernandez Tardon G, Molina Barceló A, Marcos Gragera R, Pérez Gómez B, Aizpurua A, Ardanaz E, Molina AJ, Rodríguez Cundín P, Moreno V, Rodríguez Reinado C, Aragónés N, Kogevinas M, Pollán M, Dierssen Sotos T. **Effect of the use of prediagnosis hormones on breast cancer prognosis: MCC-Spain study.** Menopause-J. N. Am. Menopause Soc. 2022. 29. (11):p. 1315-1322. IF:3,310. (Q2).
- 32.** Pla C, Solans M, Ameijide A, Sanvisens A, Carulla M, Rojas MD, Alemán MA, Sáez Lloret I, Díaz Campo C, Marcos Navarro AI, Sainz Aja L, Aizpurua Atxega A, Lopez Munain A, Sánchez MJ, Perucha J, Franch P, Chirlaque MD, Guevara M, Galceran J, Merino S, Marcos Gragera R, REDECAN working G. **Incidence and survival of lymphoid neoplasms in Spain, 2002-2013: A population-based study from the Spanish Network of Cancer Registries (REDECAN).** Front Oncol. 2022. 12. p. 1046307-1046307. IF:5,738. (Q2).
- 33.** Díaz Santa J, Rodríguez Romanos R, Coll R, Osca G, Pratcorona M, González Bártulos M, Garrido A, Angona A, Talarn C, Tormo M, Arnan M, Vives S, Salamero O, Tuset E, Lloveras N, Díez J, Zamora L, Bargay J, Sampol A, Cruz D, Vila J, Sitges M, García A, Vall Llovera F, Esteve J, Sierra J, Gallardo D, "Grupo Cooperativo Para el Estudio Tratamiento de las Leucemias Agudas Mielo YY. 5'-nucleotidase, cytosolic II genotype, and clinical outcome in patients with acute myeloid leukemia with intermediate-risk cytogenetics. Eur. J. Haematol. 2022. 109. (6):p. 755-764. IF:3,674. (Q3).
- 34.** Botta L, Gatta G, Capocaccia R, Stiller C, Cañete A, Dal Maso L, Innos K, Mihor A, Erdmann F, Spix C, Lacour B, Marcos Gragera R, Murray D, Rossi S, EUROCARE 6 Working G. **Long-term survival and cure fraction estimates for childhood cancer in Europe (EUROCARE-6): results from a population-based study.** Lancet Oncol. 2022. 23. (12):p. 1525-1536. IF:54,433. (Q1).
- 35.** Turner MC, Gracia Lavedan E, Papantoniou K, Aragónés N, Castaño Vinyals G, Dierssen Sotos T, Amiano P, Ardanaz E, Marcos Delgado A, Molina Barceló A, Alguacil J, Benavente Y, Belmonte T, Jiménez Moleón JJ, Marcos Gragera R, Pérez B, Gómez Acebo I, Pollán M, Kogevinas M. **Sleep and breast and prostate cancer risk in the MCC-Spain study.** Sci Rep. 2022. 12. (1):p. 21807-21807. IF:4,996. (Q2).
- REVIEWS / I.F.: 3.34**
- 1.** Torregrosa Maicas MD, Del Barco Berrón S, Cotes Sanchís A, Lema Roso L, Servitja Tormo S, Gironés Sarrió R. **Expert consensus to optimize the treatment of elderly patients with luminal metastatic breast cancer.** Clin Transl Oncol. 2022. 24. (6):p. 1033-1046. IF:3,340. (Q3).
- LETTERS / I.F.: 9.81**
- 1.** García Martín P, Díez AM, Maldonado JMS, Serrano A, Ter Horst R, Benavente Y, Landi S, Macauda A, Clay Gilmour A, Hernández Mohedo F, Niazi Y, González Sierra P, Espinet B, Rodríguez Sevilla JJ, Maffei R, Blanco G, Giaccherini M, Puiggros A, Cerhan J, Marasca R, Cañadas Garre M, López Nevot MÁ, Chen Liang T, Thomsen H, Gámez I, Moreno V, Marcos Gragera R, García Álvarez M, Llorca J, Jerez A, Berndt S, Butrym A, Norman AD, Casabonne D, Luppi M, Slager SL, Hemminki K, Li Y, Alcoleba M, Campa D, Canzian F, de Sanjosé S, Försti A, Netea MG, Jurado M, Sainz J. **Validation and functional characterization of GWAS-identified variants for chronic lymphocytic leukemia: a CRUICAL study.** Blood Cancer J. 2022. 12. (5):p. 79-79. IF:9,812. (Q1).
- CONSORTIUM PUBLICATIONS / I.F.: 6.64**
- 1.** Cañete A, Peris Bonet R, Capocaccia R, Pardo Romaguera E, Segura V, Muñoz López A, Fernández Teijeiro A, Galceran Padros J, Gatta G, Spanish Neuroblastoma Linkage Working Group (. **Neuroblastoma in Spain: Linking the national clinical database and epidemiological registries-A study by the Joint Action on Rare Cancers.** Cancer Epidemiol. 2022. 78. p. 102145-102145. IF:2,890. (Q3).
- 2.** Botta L, Gatta G, Didonè F, Lopez Cortes A, Pritchard Jones K, BENCHISTA Project Working G. **International benchmarking of childhood cancer survival by stage at diagnosis: The BENCHISTA project protocol.** PLoS One. 2022. 17. (11):e0276997. IF:3,752. (Q2).

GRANTS

IDIBGI Principal Investigator: Rafael Marcos-Gragera
Project Title: Incidencia, tendencia y supervivencia neta de las neoplasias linfoides en España (1993–último año disponible)
Project Code:
Funding Agency: Institut Josep Carreras
Duration: 01/01/2021 to 31/12/2024

MEMBERSHIP OF COLLABORATIVE RESEARCH NETWORKS

INTERNATIONAL

- Cancer Incidence in Five Continents (CI5)
- European Cancer Information System (ECIS)
- EUROCARE
- European Network of Cancer Registries (ENCR)
- Global Surveillance of cancer survival (CONCORD programme)
- Innovative Partnershipfor Action Against Cancer (iPAAC)
- International Association of Cancer Registries (IACR)
- International Incidence of Childhood Cancer (IICC)
- International Lymphoma Epidemiology Consortium (InterLymph) (Multicentre case-control studies)
- RARECAREN project
- The High Resolution studies (HR)

SPANISH

- GenRisk cáncer
 - La Red Española de Registros de Cáncer (REDECAN)
 - MCC-Spain (Multicentre case-control studies)
 - Sistema de Información Epidemiológica del Cáncer en España (SIEC)
 - CIBER-ESP (Epidemiología y Salud Pública) – CB06/02/1002
-

DOCTORAL THESES

Thesis author: Alicia Silvana Villavicencio Obando
Title: Survival analysis of lymphoid neoplasms and impact of comorbidity in patients with chronic lymphocytic leukemia in Girona province: a population-based study.
Thesis directors: Dr. Rafael Marcos-Gragera / Dr. Marc Saez / Dra. Marta Solans
European mention: No

General and digestive surgery

MEMBERS DISTRIBUTED BY GENDER

W: 54,2% M: 45,8%

KEYWORDS

Oncology Surgery
Endocrine - Obesity surgery

RELATED DISEASES

Colorectal diseases
Liver and pancreatic diseases
Gastric esophagus diseases

GROUP LEADER - R4

Antoni Codina Cazador (ICS/Trueta)

ESTABLISHED RESEARCHERS - R3

Pere Planellas Gine (ICS/Trueta)
Jose Ignacio Rodriguez Hermosa (ICS/Trueta)

PRE-DOCTORAL RESEARCHERS - R1

Margalida Casellas Robert (ICS/Trueta)
Olga Delisau Puig (ICS/Trueta)
Ramon Farres Coll (ICS/Trueta)
Santiago Lopez Ben (ICS/Trueta)
Nuria Ortega Torrecilla (ICS/Trueta)
Anna Pigem Rodeia (ICS/Trueta)

NON-SCIENTIFIC RESEARCH SUPPORT STAFF

Lidia Cornejo Fernández (IDIBGI)

COLLABORATORS

Maria Teresa Albiol Quer (ICS/Trueta)
Eva Artigau Nieto (ICS/Trueta)
Ernest Castro Gutierrez (ICS/Trueta)
Cèlia Caula Freixa (ICS/Trueta)

OVERVIEW**PROBLEM**

The general and digestive surgery service is organized in different functional units and its aim is to try to deepen the development of the treatment lines for its main diseases.

The challenge of research in surgery focuses on the one hand on the surgical treatment of diseases and on the other hand, on the treatment of surgical complications.

APPROACH

In the case of conducting studies focused on surgical pathology, the approach is based on prospective, randomized studies and, in some cases, the intention is that they be multicenter studies.

In the case of studies based on postoperative complications, the studies are based on our own results and experience.

IMPACT

As our research is fundamentally clinical, the main beneficiaries of the results of clinical trials are our patients. The objective of

our research is to apply the results of our clinical trials to daily clinical practice and improve the results of our treatments and the patients' quality of life.

MAIN RESEARCH LINES

- Colorectal surgery.
- Endocrine and obesity surgery.
- Hepatobiliarypancreatic surgery.

PUBLICATIONS**ORIGINALS / I.F.: 102.49**

1. Ciria R,Berardi G,Nishino H,Chan A,Chanwat R,Chen KH,Chen Y,Cheung TT,Fuks D,Geller DA,Iwashita Y,Liu R,López Ben S,Yamamoto M,Wakabayashi G,Study group of Precision Anatomy for Minimally Invasive H. A **snapshot of the 2020**

- conception of anatomic liver resections and their applicability on minimally invasive liver surgery. A preparatory survey for the Expert Consensus Meeting on Precision Anatomy for Minimally Invasive HBP Surgery.** J. Hepato-Biliary-Pancreat. Sci. 2022. 29. (1):p. 41-50. IF:3,149. (Q2).
2. Gotohda N,Cherqui D,Geller DA,Abu Hilal M,Berardi G,Ciria R,Abe Y,Aoki T,Asbun HJ,Chan A,Chanwat R,Chen KH,Chen Y,Cheung TT,Fuks D,Han HS,Hasegawa K,Hatano E,Honda G,Itano O,Iwashita Y,Kaneko H,Kato Y,Kim JH,Liu R,López Ben S,Morimoto M,Monden K,Rotellar F,Sakamoto Y,Sugioka A,Yoshizumi T,Akahoshi K,Alconchel F,Ariizumi S,Benedetti Cacciaguerra A,Durán M,García Vazquez A,Golse N,Miyasaka Y,Mori Y,Ogiso S,Shirata C,Tomassini F,Urade T,Wakabayashi T,Nishino H,Hibi T,Kokudo N,Ohtsuka M,Ban D,Nagakawa Y,Ohtsuka T,Tanabe M,Nakamura M,Yamamoto M,Tsuchida A,Wakabayashi G. **Expert Consensus Guidelines: How to safely perform minimally invasive anatomic liver resection.** J. Hepato-Biliary-Pancreat. Sci. 2022. 29. (1):p. 16-32. IF:3,149. (Q2).
3. Wakabayashi G,Cherqui D,Geller DA,Abu Hilal M,Berardi G,Ciria R,Abe Y,Aoki T,Asbun HJ,Chan A,Chanwat R,Chen KH,Chen Y,Cheung TT,Fuks D,Gotohda N,Han HS,Hasegawa K,Hatano E,Honda G,Itano O,Iwashita Y,Kaneko H,Kato Y,Kim JH,Liu R,López Ben S,Morimoto M,Monden K,Rotellar F,Sakamoto Y,Sugioka A,Yoshizumi T,Akahoshi K,Alconchel F,Ariizumi S,Benedetti Cacciaguerra A,Durán M,García Vazquez A,Golse N,Miyasaka Y,Mori Y,Ogiso S,Shirata C,Tomassini F,Urade T,Wakabayashi T,Nishino H,Hibi T,Kokudo N,Ohtsuka M,Ban D,Nagakawa Y,Ohtsuka T,Tanabe M,Nakamura M,Tsuchida A,Yamamoto M. **The Tokyo 2020 terminology of liver anatomy and resections: Updates of the Brisbane 2000 system.** J. Hepato-Biliary-Pancreat. Sci. 2022. 29. (1):p. 6-15. IF:3,149. (Q2).
4. Morimoto M,Monden K,Wakabayashi T,Gotohda N,Abe Y,Honda G,Abu Hilal M,Aoki T,Asbun HJ,Berardi G,Chan A,Chanwat R,Chen KH,Chen Y,Cherqui D,Cheung TT,Ciria R,Fuks D,Geller DA,Han HS,Hasegawa K,Hatano E,Itano O,Iwashita Y,Kaneko H,Kato Y,Kim JH,Liu R,López Ben S,Rotellar F,Sakamoto Y,Sugioka A,Yoshizumi T,Akahoshi K,Alconchel F,Ariizumi S,Benedetti Cacciaguerra A,Durán M,García Vázquez A,Golse N,Miyasaka Y,Mori Y,Ogiso S,Shirata C,Tomassini F,Urade T,Nishino H,Kunzler F,Kozono S,Osakabe H,Takishita C,Ban D,Hibi T,Kokudo N,Ohtsuka M,Nagakawa Y,Ohtsuka T,Tanabe M,Nakamura M,Yamamoto M,Tsuchida A,Wakabayashi G. **Minimally invasive anatomic liver resection: Results of a survey of world experts.** J. Hepato-Biliary-Pancreat. Sci. 2022. 29. (1):p. 33-40. IF:3,149. (Q2).
5. Blanco Fernández G,Fondevila Campo C,Sanjuanbenito A,Fabregat Prous J,Secanella Medayo L,Rotellar Sastre F,Pardo Sánchez F,Prieto Calvo M,Marín Ortega H,Sánchez Cabús S,Diez Valladares L,Alonso Casado Ó,González Serrano C,Rodríguez Sanjuan JC,García Plaza G,Jaén Torrejimeno I,Suárez Muñoz MÁ,Becerra Massare A,Rio PS,Pando E,López Andújar R,Muñoz Forner E,Rodríguez López M,Pereira F,Serrablo Requejo A,Turrión VS,Garrido MJ,Burdío F,Martín Pérez E,Estevan R,López Guerra D,Castell Gómez J,Salinas Gómez J,López Baena JÁ,López Ben S,Solar García L,Pérez Alonso AJ,Martínez Insfran LA,Blas JL,Cornejo M,Gutierrez Calvo A,Pozo CD,Ochando Cerdan F,Muñoz Bellvís L,Rebollar Saenz J,Sánchez B,Jover JM,Gómez Bravo MÁ,Ramia JM,Rojas Holguín A. **Pancreatic metastases from renal cell carcinoma. Postoperative outcome after surgical treatment in a Spanish multicenter study (PANMEKID).** Eur J Surg Oncol. 2022. 48. (1):p. 133-141. IF:4,037. (Q1).
6. Planellas P,Marinello F,Elorza G,Golda T,Farrés R,Espín Basany E,Enríquez Navascués JM,Kreisler E,Cornejo L,Codina Cazador A. **Extended Versus Standard Complete Mesocolon Excision in Sigmoid Colon Cancer A Multicenter Randomized Controlled Trial.** Ann Surg. 2022. 275. (2):p. 271-280. IF:13,787. (Q1).
7. Görgec B,Cacciaguerra AB,Aldrighetti LA,Ferrero A,Cillo U,Edwin B,Vivarelli M,López Ben S,Besselink MG,Abu Hilal M,International Study Group of Bile Leakage after Liver S. **Incidence and Clinical Impact of Bile Leakage after Laparoscopic and Open Liver Resection: An International Multicenter Propensity Score-Matched Study of 13,379 Patients.** J. Am. Coll. Surg. 2022. 234. (2):p. 99-112. IF:6,532. (Q1).
8. Planellas P,Cornejo L,Farrés R,Pigem A,Timoteo A,Ortega N,Pellino G,Rodríguez Hermosa JI,López Bonet E,Fernández Real JM,Codina Cazador A. **Prognostic significance of the microbiome-adipose tissue axis in rectal cancer: protocol of a prospective observational study.** BJS Open. 2022. 6. (2):zrac009. IF:3,875. (Q1).
9. Di Martino M,Dorcaratto D,Primavesi F,SYNN,Blanco Terés L,Dupré A,Piardi T,Rhaiem R,Fernández GB,De Armas Conde N,Rodríguez Sanjuán JC,Santiago RF,Fernández Moreno MC,Ferret G,Ben SL,Suárez Muñoz MÁ,Perez Alonso AJ,Koh YX,Jones R,Vennarecci G,Martín Pérez E. **Liver resection in elderly patients with extensive CRLM: Are we offering an adequate treatment? A propensity score matched analysis.** Eur J Surg Oncol. 2022. 48. (6):p. 1331-1338. IF:4,037. (Q1).
10. Ielpo B,Julianí A,Sánchez P,Burdio F,Gastaka M,Di Martino M,Podda M,López Ben S,Siragusa L,Pellino G,Anselmo A. **Laparoscopic glissonean pedicle approach: step by step video description of the technique from different centres (with video).** Updates Surg. 2022. 74. (3):p. 1149-1152. IF:2,692. (Q2).
11. Hidalgo Pujol M,Biondo S,Die Trill J,Vigorita V,Paniagua García Señorans M,Pascual Migueláñez I,Prieto La Noire F,Timoteo A,Cornejo L,Martín Parra JI,Fidalgo García M,Solís Peña A,Cirera de Tudela A,Rodríguez González A,Sánchez Guillen

- L,Bustamante Recuenco C,Pérez Alonso C,Hurtado Caballero E,Pascual M,García Septiem J,Mora López L,Cervera Aldama J,Guadalajara H,Espín E,Kreisler E,LCCO Study G. **Upfront surgery versus self-expanding metallic stent as bridge to surgery in left-sided colonic cancer obstruction: A multicenter observational study.** *Surgery.* 2022. 172. (1):p. 74-82. IF:4,348. (Q1).
- 12.** Wang HP,Yong CC,Wu A,Cherqui D,Troisi RI,Cipriani F,Aghayan D,Marino MV,Belli A,Chiow A,Sucandy I,Ivanecz A,Vivarelli M,Di Benedetto F,Choi SH,Lee JH,Park JO,Gastaca M,Fondevila C,Efanov M,Rotellar F,Choi GH,Campos RR,Wang X,Sutcliffe RP,Pratschke J,Tang CN,Chong CC,D'Hondt M,Ruzzenen A,Herman P,Kingham TP,Scatton O,Liu R,Ferrero A,Levi Sandri GB,Soubbrane O,Melija A,López Ben S,Sijberden J,Monden K,Wakabayashi G,Sugioka A,Cheung TT,Long TCD,Edwin B,Han HS,Fuks D,Aldrighetti L,Abu Hilal M,Goh BKP,International Robotic and Laparoscopic Liver Resection Study Group I. **Factors associated with and impact of open conversion on the outcomes of minimally invasive left lateral sectionectomies: An international multicenter study.** *Surgery.* 2022. 172. (2):p. 617-624. IF:4,348. (Q1).
- 13.** Duran A,Guerrero PE,Ortiz MR,Pérez Del Campo D,Castro E,Garcia Velasco A,Fort E,De Llorens R,Saldova R,Llop E,Peracaula R. **Characterization of Mesothelin Glycosylation in Pancreatic Cancer: Decreased Core Fucosylated Glycoforms in Pancreatic Cancer Patients' Sera.** *Biomedicines.* 2022. 10. (8):1942. IF:4,757. (Q2).
- 14.** Innominate PF,Cailliez V,Allard MA,López Ben S,Ferrero A,Marques H,Hubert C,Giulante F,Pereira F,Cugat E,Mirza DF,Costa Maia J,Serrablo A,Lapointe R,Dopazo C,Tralhao J,Kaiser G,Chen JS,Garcia Borobia F,Regimbeau JM,Skipenko O,Lin JK,Laurent C,Opocher E,Goto Y,Chibaudel B,de Gramont A,Adam R. **Impact of Preoperative Chemotherapy Features on Patient Outcomes after Hepatectomy for Initially Unresectable Colorectal Cancer Liver Metastases: A LiverMetSurvey Analysis.** *Cancers (Basel).* 2022. 14. (17):4340. IF:6,575. (Q1).
- 15.** Korenblik R,Olij B,Aldrighetti LA,Hilal MA,Ahle M,Arslan B,van Baardewijk LJ,Baclja I,Bent C,Bertrand CL,Björnsson B,de Boer MT,de Boer SW,Bokkers RPH,Rinkes I,Breitenstein S,Bruijnen RCG,Bruners P,Büchler MW,Camacho JC,Cappelli A,Carling U,Chan BKY,Chang DH,Choi J,Font JC,Crawford M,Croagh D,Cugat E,Davis R,De Boo DW,De Cobelli F,De Wispelaere JF,van Delden OM,Delle M,Detry O,Díaz Nieto R,Dili A,Erdmann JI,Fisher O,Fondevila C,Fretland Å,Borobia FG,Gelabert A,Gérard L,Julianante F,Gobardhan PD,Gómez F,Grünberger T,Grünhagen DJ,Guitart J,Hagendoorn J,Heil J,Heise D,Herrero E,Hess GF,Hoffmann MH,Iezzi R,Imani F,Nguyen J,Jovine E,Kalff JC,Kazemier G,Kingham TP,Kleeff J,Kollmar O,Leclercq WKG,Ben SL,Lucidi V,MacDonald A,Madoff DC,Manekeller S,Martel G,Mehrabi A,Mehrzed H,Meijerink MR,Menon K,Metrakos P,Meyer C,Moelker A,Modi S,Montanari N,Navines J,Neumann UP,Peddu P,Primrose JN,Qu X,Raptis D,Ratti F,Ridouani F,Rogan C,Ronellenfitsch U,Ryan S,Sallemi C,Moragues JS,Sandström P,Sarriá L,Schnitzbauer A,Serenari M,Serrablo A,Smits MLJ,Sparrelid E,Spüntrup E,Stavrou GA,Sutcliffe RP,Tancredi I,Tasse JC,Udupa V,Valenti D,Fundora Y,Vogl TJ,Wang X,White SA,Wohlgemuth WA,Yu D,Zijlstra I,Binkert CA,Bemelmans M,van der Leij C,Schadde E,van Dam RM. **Dragon 1 Protocol Manuscript: Training, Accreditation, Implementation and Safety Evaluation of Portal and Hepatic Vein Embolization (PVE/HVE) to Accelerate Future Liver Remnant (FLR) Hypertrophy.** *Cardiovasc. Interv. Radiol.* 2022. 45. (9):p. 1391-1398. IF:2,797. (Q3).
- 16.** Di Martino M,Primavesi F, SYNN,Dorcaratto D,de la Hoz Rodríguez Á,Dupré A,Piardi T,Rhaim R,Blanco Fernández G,de Armas Conde N,Rodríguez Sanjuán JC,Fernández Santiago R,Fernández Moreno MC,Ferret G,López Ben S,Suárez Muñoz MÁ,Perez Alonso AJ,Koh YX,Jones R,Martín Pérez E. **Long-Term Outcomes of Perioperative Versus Neoadjuvant Chemotherapy for Resectable Colorectal Liver Metastases: An International Multicentre Propensity-Score Matched Analysis with Stratification by Contemporary Risk-Scoring.** *Ann. Surg.* Oncol. 2022. 29. (11):p. 6829-6842. IF:4,339. (Q1).
- 17.** Di Martino M,Primavesi F, SYNN,Dorcaratto D,de la Hoz Rodríguez Á,Dupré A,Piardi T,Rhaim R,Blanco Fernández G,de Armas Conde N,Rodríguez Sanjuán JC,Fernández Santiago R,Fernández Moreno MC,Ferret G,López Ben S,Suárez Muñoz MÁ,Perez Alonso AJ,Koh YX,Jones R,Martín Pérez E. **ASO Visual Abstract: Long-Term Outcomes of Perioperative versus Neoadjuvant Chemotherapy for Resectable Colorectal Liver Metastases-An International Multicenter Propensity-Score Matched Analysis with Stratification by Contemporary Risk Scoring.** *Ann. Surg. Oncol.* 2022. 29. (11):p. 6845-6846. IF:4,339. (Q1).
- 18.** Osorio J,Madrazo Z,Videla S,Sainz B,Rodríguez Gonzalez A,Campos A,Santamaría M,Pelegrina A,Gonzalez Serrano C,Aldeano A,Sariugarte A,Gómez Díaz CJ,Ruiz Luna D,García Gordejuela A,Gómez Gavara C,Gil Barrionuevo M,Vila M,Clavell A,Campillo B,Millan L,Olona C,Sánchez Cordero S,Medrano R,Lopez Arevalo CA,Pérez Romero N,Artigau E,Calle M,Echenagusia V,Otero A,Tebe C,Pallares N,Biondo S,Valderas JM,COVID CIR Collaborative G. **Use of failure-to-rescue after emergency surgery as a dynamic indicator of hospital resilience during the COVID-19 pandemic. A multicenter retrospective propensity score-matched cohort study.** *Int. J. Surg.* 2022. 106. p. 106890-106890. IF:13,400. (Q1).
- 19.** Planellas P,Cornejo L,Pigem A,Nuria Gómez DRA,Julià Bergkvist D,Ortega N,Rodríguez Hermosa JI,Farrés R. **Challenges and Learning Curves in Adopting TaTME and Robotic Surgery for Rectal Cancer: A Cusum Analysis.** *Cancers (Basel).* 2022. 14. (20):5089. IF:6,575. (Q1).
- 20.** Choi SH,Chen KH, SYNNL,Cipriani F,Cheung TT,Chiow A,Choi

GH,Siow TF,Sucandy I,Marino MV,Gastaca M,Chong CC,Lee JH,Ivanecz A,Mazzaferro V,Lopez Ben S,Fondevila C,Rotellar F,Campos RR,Efanov M,Kingham TP,Sutcliffe RP,Troisi RI,Pratschke J,Wang X,D'Hondt M,Yong CC,Levi Sandri GB,Tang CN,Ruzzenente A,Cherqui D,Ferrero A,Wakabayashi G,Scatton O,Aghayan D,Edwin B,Coelho FF,Giulante F,Liu R,Sijberden J,Abu Hilal M,Sugioka A,Long TCD,Fuks D,Aldrighetti L,Han HS,Goh BKP,International robotic and laparoscopic liver resection study group I. **Utility of the Iwate difficulty scoring system for laparoscopic right posterior sectionectomy: do surgical outcomes differ for tumors in segments VI and VII?**. Surg. Endosc. 2022. 36. (12):p. 9204-9214. IF:3,453. (Q2)..

CONSORTIUM PUBLICATIONS / I.F.: 312.15

1. Monden K,Alconchel F,Berardi G,Ciria R,Akahoshi K,Miyasaka Y,Urade T,García Vázquez A,Hasegawa K,Honda G,Kaneko H,Hoon Kim J,Tanabe M,Yamamoto M,Wakabayashi G,Study group of Precision Anatomy for Minimally Invasive H. **Landmarks and techniques to perform minimally invasive liver surgery: A systematic review with a focus on hepatic outflow.**J. Hepato-Biliary-Pancreat. Sci. 2022. 29. (1):p. 66-81. IF:3,149. (Q2).
2. Nakamura M,Wakabayashi G,Tsuchida A,Nagakawa Y,Study group of Precision Anatomy for Minimally Invasive H. **Precision anatomy for minimally invasive hepatobiliary pancreatic surgery: PAM-HBP Surgery Project.**J. Hepato-Biliary-Pancreat. Sci. 2022. 29. (1):p. 1-3. IF:3,149. (Q2).
3. Villodre C,Taccogna L,Zapater P,Cantó M,Mena L,Ramia JM,Lluís F,LUCENTUM Project R. **Simplified risk-prediction for benchmarking and quality improvement in emergency general surgery. Prospective, multicenter, observational cohort study.** Int. J. Surg. 2022. 97. p. 106168-106168. IF:13,400. (Q1).
4. COVIDSurg C,GlobalSurg C. **SARS-CoV-2 infection and venous thromboembolism after surgery: an international prospective cohort study.**Anaesthesia. 2022. 77. (1):p. 28-39. IF:12,893. (Q1).
5. de Rijk F,van Veldhuisen CL,Besselink MG,van Hooft JE,van Santvoort HC,van Geenen E,Hegyi P,Löhr JM,Dominguez Munoz JE,de Jonge PJF,Bruno MJ,Verdonk RC,Dutch Pancreatitis Study G. **Diagnosis and treatment of exocrine pancreatic insufficiency in chronic pancreatitis: An international expert survey and case vignette study.**Pancreatology. 2022. 22. (4):p. 457-465. IF:3,977. (Q3).
6. Manuel Vázquez A,Latorre Fragua R,Alcázar C,Requena PM,de la Plaza R,Blanco Fernández G,Serradilla Martín M,Ramia JM,SCORELAP G. **Reaching a consensus on the definition of "difficult" cholecystectomy among Spanish experts. A Delphi project. A qualitative study.** Int. J. Surg. 2022. 102. p. 106649-106649. IF:13,400. (Q1).
7. GlobalSurg Collaborative and NIHR Global Health Research Unit on Global S. **Effects of hospital facilities on patient outcomes after cancer surgery: an international, prospective, observational study.**Lancet Glob. Health. 2022. 10. (7):p. 1003-1011. IF:38,927. (Q1).
8. Lluís N,Parra J,Villodre C,Zapater P,Jalali A,Cantó M,Mena L,Ramia JM,Lluís F,LUCENTUM Project R. **Prediction of peritoneal soiling in acute appendicitis with simple clinical and laboratory data. Prospective, multicenter, cohort study of 2,645 adult patients nationwide.** Int. J. Surg. 2022. 104. p. 106741-106741. IF:13,400. (Q1).
9. Pata F,Di Martino M,Podda M,Di Saverio S,Ielpo B,Pellino G,ACIE Appy Study C. **Evolving Trends in the Management of Acute Appendicitis During COVID-19 Waves: The ACIE Appy II Study.**World J.Surg. 2022. 46. (9):p. 2021-2035. IF:3,282. (Q2).
10. Balakrishnan A,Jah A,Lesurtel M,Andersson B,Gibbs P,Harper SJF,Huguet EL,Kosmoliaptis V,Liau SS,Praseedom RK,Ramia JM,Branes A,Lendoire J,Maitheil S,Serrablo A,EAHPBA Scientific and Research Committee and the OMEGA study C. **Heterogeneity of management practices surrounding operable gallbladder cancer - results of the OMEGA-S international HPB surgical survey.**HPB (Oxford). 2022. 24. (11):p. 2006-2012. IF:3,842. (Q1).
11. NIHR Global Health Unit on Global S,COVIDSurg C. **Elective surgery system strengthening: development, measurement, and validation of the surgical preparedness index across 1632 hospitals in 119 countries.**Lancet. 2022. 400. (10363):p. 1607-1617. IF:202,731. (Q1).

GRANTS

IDIBGI Principal Investigator: Pere Planellas
 Project Title: IMplementación de un PROtocolo de anastomosis colorrectal SegurA IMPROSA
 Project Code: IMPROSA
 Funding Agency: F. Asoc. Esp. Coloproctología
 Duration: 01/04/2022 to 30/06/2023

IDIBGI Principal Investigator: Cristina Farres
 Project Title: Estudi de la disfuncionalitat i composició bacteriana del teixit adipós mesorectal i la seva associació amb la progressió tumoral en pacients amb càncer de recte.
 Project Code: Estudi BIORECTO- J.Bruquerà
 Funding Agency: AJUNTAMENT DE GIRONA
 Duration: 01/04/2021 to 01/04/2022

IDIBGI Principal Investigator: Pere Planellas
Project Title: Impacto del Microbioma Mesorectal como factor pronóstico en pacientes con cáncer de recto y análisis de su aplicabilidad en el tratamiento Neoadyuvante. Estudio BIORECTO
Project Code: Estudio BIORECTO
Funding Agency: F. Asoc. Esp. Coloproctología
Duration: 01/11/2021 to 31/08/2023

PATENTS

Title: Method for diagnosing cancer
Application number: EP22382244
EPO
Applicants: IMIM, UdG, IDIBGI, ICO
Inventors: Óscar Juan Pozo Mendoza, Àlex Gómez Gómez, Gabriel Gil Gómez, Manuel Roman Pera Roman, Laura Visa Turmo, Edurne Arriola Aperribay, Rosa Peracaula Miró, Esther Llop Escorihuela, Ernesto Castro Gutiérrez, Adelaida García Velasco, Esther Fort Martorell, Dunia Pérez del Campo
Licensed: No

Haematology

MEMBERS DISTRIBUTED BY GENDER

W: 68,4%

M: 31,6%

Recognized as a consolidated research group by AGAUR (Generalitat de Catalunya) - 2017 SGR 733.

KEYWORDS

Hematology

Leukemia

Immune checkpoints

RELATED DISEASES

Acute myeloblastic leukemia

Multiple myeloma

Chronic Lymphocytic leukemia

Graft-versus-host disease

GROUP LEADER - R4

David Gallardo Giralt (ICO)

ESTABLISHED RESEARCHERS - R3

Anna Angona Figueras (ICO)

POST-DOCTORAL RESEARCHERS - R2

Johana Alejandra Diaz Santa (ICO)

Gemma Osca Gelis (ICO)

Nazly Santos Carvajal (ICO)

PRE-DOCTORAL RESEARCHERS - R1

David Cruz Garcia (ICO)

Yolanda Gonzalez Montes (ICO)

TECHNICIANS

Marta Gonzalez Bártulos (IDIBGI)

Rocío Rodríguez Romanos (IDIBGI)

COLLABORATORS

Antonio Blanco Blanco (ICO)

Anna Bustins Tarrats (ICO)

Rosa Coll Jorda (ICO)

Nichollas John Kelleher (ICO)

Natalia Lloveras Guelque (ICO)

Silvia Zdenka Mostacedo Marasovic (ICO)

Josep Maria Roncero Vidal (ICO)



OVERVIEW

PROBLEM

Hematological diseases are a frequent health problem. Our goal is to investigate strategies to offer a better diagnosis, prognosis and treatment to the patients with hematological malignancies and hematology-related diseases.

APPROACH

We are increasing the number of clinical trials, and we have a Clinical Research Unit with nurses and technicians dedicated exclusively to these trials. We have also a monographic medical consultation on clinical trials.

Beyond clinical research, we are also doing translational research. Our research is focused on immune response modulation both in the autologous and the allogeneic setting, but also in pharmacogenomics, intracellular signaling pathways, flow cytometry characterization of hematological malignancies and germinal hematological neoplasms.

IMPACT

Our research has contributed to the better understanding of several hematological malignancies and to the characterization of the immunological responses after allogeneic hematopoietic transplantation. Several doctoral theses have been developed and many others will be finished within next years.

MAIN RESEARCH LINES

- Allogeneic stem cell transplantation (alloSCT).
- Multiple myeloma (MM).
- Acute Myeloblastic Leukemia (AML).
- Lymphoma.
- Study of Germline Hematological Malignancies.
- Flow cytometry characterization of hematological malignancies.

PUBLICATIONS

ORIGINALS / I.F.: 101.75

1. Dimopoulos MA,Schjesvold F,Doronin V,Vinogradova O,Quach H,Leleu X,Y González DRA,Ramasamy K,Pompa A,Levin MD,Lee C,Mellqvist UH,Fenk R,DeMarquette H,Sati H,Vorog A,Labotka R,Du J,Darif M,Kumar S. **Oral ixazomib-dexamethasone vs oral pomalidomide-dexamethasone for lenalidomide-refractory, proteasome inhibitor-exposed multiple myeloma: a randomized Phase 2 trial.** Blood Cancer J. 2022. 12. (1):p. 9-9. IF:9,812. (Q1).
2. Ribera J,Granada I,Morgades M,González T,Ciudad J,Such E,Casals MJ,Mercadal S,Coll R,González Campos J,Tormo M,García Cadenas I,Gil C,Cervera M,Barba P,Costa D,Ayala R,Bermúdez A,Orfao A,Ribera JM,Programa para el Tratamiento de Hemopatías Malignas (PETHEMA) Group (Spanish S. **Prognostic heterogeneity of adult B-cell precursor acute lymphoblastic leukaemia patients with t(1;19)(q23;p13)/TCF3-PBX1 treated with measurable residual disease-oriented protocols.** Br. J. Haematol. 2022. 196. (3):p. 670-675. IF:8,615. (Q1).
3. Oñate G,Bataller A,Garrido A,Hoyos M,Arnan M,Vives S,Coll R,Tormo M,Sampol MA,Escoda L,Salamero O,Garcia A,Bargay J,Aljarrilla A,Nomdedeu JF,Esteve J,Sierra J,Pratcorona M. **Prognostic impact of DNMT3A mutation in acute myeloid leukemia with mutated NPM1.** Blood Adv. 2022. 6. (3):p. 882-890. IF:7,637. (Q1).
4. Bataller A,Garrido A,Guijarro F,Oñate G,Díaz Beya M,Arnan M,Tormo M,Vives S,Queipo DE Llano MP,Coll R,Gallardo D,Vall Llovera F,Escoda L,García Guiñón A,Salamero O,Sampol A,Merchan B,Bargay J,Castaño Díez S,Esteban D,Oliver Caldes A,Rivero A,Mozas P,López Guerra M,Pratcorona M,Zamora L,Costa D,Rozman M,Nomdedeu JF,Colomer D,Brunet S,Sierra J,Esteve J. **European LeukemiaNet 2017 risk stratification for acute myeloid leukemia: validation in a risk-adapted protocol.** Blood Adv. 2022. 6. (4):p. 1193-1206. IF:7,637. (Q1).
5. Ocio EM,Montes Gaisán C,Bustamante G,Garzón S,González E,Pérez E,Sirvent M,Arguiñano JM,Y González DRA,Ríos R,de Miguel D,Grande M,Fernández A,Naves A,Rosiñol L. **Clinical and Sociodemographic Characteristics of Patients With Relapsed and/or Refractory Multiple Myeloma and Their influence on Treatment in the Real-World Setting in Spain: The CharisMMA Study.** Clin. Lymphoma Myeloma Leuk. 2022. 22. (4):p. 241-249. IF:2,822. (Q3).
6. Encinas C,Hernandez Rivas JÁ,Oriol A,Rosiñol L,Blanchard MJ,Bellón JM,García Sanz R,de la Rubia J,de la Guía AL,Jiménez Ubieto A,Jarque I,Iñigo B,Dourdin V,de Arriba F,Pérez Ávila CC,Y González DRA,Hernández MT,Bargay J,Granell M,Rodríguez

- Otero P,Silvent M,Cabrera C,Rios R,Alegre A,Gironella M,Gonzalez MS,Sureda A,Sampol A,Ocio EM,Krsnik I,García A,García Mateo A,Soler JA,Martín J,Arguiñano JM,Mateos MV,Bladé J,San Miguel JF,Lahuerta JJ,Martínez López J,GEM/PETHEMA (Grupo Español de Mieloma/Programa para el Estudio de la T. **A simple score to predict early severe infections in patients with newly diagnosed multiple myeloma.** Blood Cancer J. 2022. 12. (4):p. 68-68. IF:9,812. (Q1).
7. Triguero A,Xicoy B,Zamora L,Jiménez MJ,García O,Calabuig M,Díaz Beyá M,Arzuaga J,Ramos F,Medina A,Bernal T,Talarn C,Coll R,Collado R,Chen TH,Borrás J,Brunet S,Marchante I,Marco V,López Cadenas F,Calbacho M,Simiele A,Cortés M,Cedena MT,Pedreño M,Aguilar C,Pedró C,Fernández M,Stoica C,Ribera JM,Sanz G. **Response to azacitidine in patients with chronic myelomonocytic leukemia according to overlap myelodysplastic/myeloproliferative neoplasms criteria.** Leuk. Res. 2022. 116. p. 106836-106836. IF:3,715. (Q3).
8. Alvarez Larrán A,Garrote M,Ferrer Marín F,Pérez Encinas M,Mata Vázquez MI,Bellosillo B,Arellano Rodrigo E,Gómez M,García R,Gutiérrez V,Gasior M,Cuevas B,Angona A,Gómez Casares MT,Martínez CM,Magro E,Ayala R,Del Orbe Barreto R,Pérez López R,Fox ML,Raya JM,Guerrero L,García Hernández C,Caballero G,Murillo I,Xicoy B,Ramírez MJ,Carreño Tarragona G,Hernández Boluda JC,Pereira A,Spanish Group (Grupo Español de Enfermedades Mieloproliferativas Filadelfia MPN). **Real-world analysis of main clinical outcomes in patients with polycythemia vera treated with ruxolitinib or best available therapy after developing resistance/intolerance to hydroxyurea.** CANCER. 2022. 128. (13):p. 2441-2448. IF:6,921. (Q1).
9. Vallejo M,Muñiz P,Kwon M,Solán L,Bailén R,Carbonell D,Chicano M,Suárez González J,Catalán P,Bellón JM,Triviño JC,Dorado N,Gallardo D,Díez Martín JL,Ramírez N,Martínez Laperche C,Buño I. **Risk prediction of CMV reactivation after allogeneic stem cell transplantation using five non-HLA immunogenetic polymorphisms.** Ann Hematol. 2022. 101. (7):p. 1567-1576. IF:4,030. (Q2).
10. Moreno DF,Clapés V,Soler JA,Y_González DRA,Gironella M,Motlló C,Granell M,Abella E,García Pintos M,García Guiñón A,Cabezudo E,Bladé J,Rosíñol L. **Real-World Evidence of Daratumumab Monotherapy in Relapsed/Refractory Multiple Myeloma Patients and Efficacy on Soft-Tissue Plasmacytomas.** Clin. Lymphoma Myeloma Leuk. 2022. 22. (8):p. 635-642. IF:2,822. (Q3).
11. Tamariz Amador LE,Rodríguez Otero P,Jiménez Ubieto A,Rosíñol L,Oriol A,Ríos R,Sureda A,Blanchard MJ,Hernández MT,Cabañas Perianes V,Jarque I,Bargay J,Gironella M,De Arriba F,Palomera L,Y_González DRA,Martí JM,Krsnik I,Arguiñano JM,González ME,Casado LF,González Rodriguez AP,López Anglada L,Puig N,Cedena MT,Paiva B,Mateos MV,San Miguel J,Lahuerta JJ,Bladé J,Trocóniz IF. **Prognostic Value of Serum Paraprotein Response Kinetics in Patients With Newly Diagnosed Multiple Myeloma.** Clin. Lymphoma Myeloma Leuk. 2022. 22. (9):p. 844-852. IF:2,822. (Q3).
12. Muñiz P,Andrés Zayas C,Carbonell D,Chicano M,Bailén R,Oarbeascoa G,Suárez González J,Gómez Centurión I,Dorado N,Gallardo D,Anguita J,Kwon M,Díez Martín JL,Martínez Laperche C,Buño I. **Association between gene polymorphisms in the cyclophosphamide metabolism pathway with complications after haploidentical hematopoietic stem cell transplantation.** Front Immunol. 2022. 13. p. 1002959-1002959. IF:8,786. (Q1).
13. Vilorio Marqués L,Castañón Fernández C,Mora E,Gutiérrez L,Rey Bua B,Jiménez Lorenzo MJ,Díaz Beya M,Vara Pampliega M,Molero A,Sánchez García J,Calabuig M,Cedena MT,Chen Liang T,Díaz JA,Padilla I,Hernández F,Díez R,Asensi P,Xicoy B,Sanz G,Valcárcel D,Diez Campelo M,Bernal T. **Relevance of infections on the outcomes of patients with myelodysplastic syndromes, chronic myelomonocytic leukemia, and acute myeloid leukemia treated with hypomethylating agents: a cohort study from the GESMD.** Ther. Adv. Hematol. 2022. 13. 20406207221127547. IF:5,400. (Q2).
14. Triguero A,Pedraza A,Pérez Encinas M,Mata Vázquez MI,Vélez P,Fox L,Gómez Calafat M,García Delgado R,Gasior M,Ferrer Marín F,García Gutiérrez V,Angona A,Gómez Casares MT,Cuevas B,Martínez C,Pérez R,Raya JM,Guerrero L,Murillo I,Bellosillo B,Hernández Boluda JC,Sanz C,Álvarez Larrán A,On behalf of the Spanish Group (GEMFIN) MPN. **Low-risk polycythemia vera treated with phlebotomies: clinical characteristics, hematologic control and complications in 453 patients from the Spanish Registry of Polycythemia Vera.** Ann Hematol. 2022. 101. (10):p. 2231-2239. IF:4,030. (Q2).
15. Hernández Boluda JC,Pastor Galán I,Arellano Rodrigo E,Raya JM,Pérez Encinas M,Ayala R,Ferrer Marín F,Vélez P,Mora E,Fox ML,Hernández Rivas JM,Xicoy B,Mata Vázquez MI,García Fortes M,Pérez López R,Angona A,Cuevas B,Senín A,Ramírez MJ,Ramírez Payer A,Gómez Casares MT,Martínez Valverde C,Magro E,Steegmann JL,Durán MA,García Hernández C,Gasior M,de Villambrosia SG,Álvarez Larrán A,Pereira A,Spanish Group (GEMFIN) MPN. **Predictors of thrombosis and bleeding in 1613 myelofibrosis patients from the Spanish Registry of Myelofibrosis.** Br. J. Haematol. 2022. 199. (4):p. 529-538. IF:8,615. (Q1).
16. Díaz Santa J,Rodríguez Romanos R,Coll R,Osca G,Pratcorona M,González Bártulos M,Garrido A,Angona A,Talarn C,Tormo M,Arnan M,Vives S,Salamero O,Tuset E,Lloveras N,Díez J,Zamora L,Bargay J,Sampol A,Cruz D,Vila J,Sitges M,García A,Vall Llovera F,Esteve J,Sierra J,Gallardo D,"Grupo Cooperativo Para el Estudio Tratamiento de las Leucemias Agudas Mielo YY.

- 5'-nucleotidase, cytosolic II genotype, and clinical outcome in patients with acute myeloid leukemia with intermediate-risk cytogenetics.** Eur. J. Haematol. 2022. 109. (6):p. 755-764. IF:3,674. (Q3).
17. Sánchez R,Dorado S,Ruiz Heredia Y,Martín Muñoz A,Rosa JM,Ribera J,García O,Jimenez Ubieto A,Carreño Tarragona G,Linares M,Rufián L,Juárez A,Carrillo J,Espino MJ,Cáceres M,Expósito S,Cuevas B,Vanegas R,Casado LF,Torrent A,Zamora L,Mercadal S,Coll R,Cervera M,Morgades M,Hernández Rivas JÁ,Bravo P,Serí C,Anguita E,Barragán E,Sargas C,Ferrer Marín F,Sánchez Calero J,Sevilla J,Ruiz E,Villalón L,Del Mar Herráez M,Riaza R,Magro E,Steegman JL,Wang C,de Toledo P,García Gutierrez V,Ayala R,Ribera JM,Barrio S,Martínez López J. **Detection of kinase domain mutations in BCR::ABL1 leukemia by ultra-deep sequencing of genomic DNA.** Sci Rep. 2022. 12. (1):p. 13057-13057. IF:4,600. (Q2).
- LETTERS / I.F.: 41.13**
1. Barbui T,Iurlo A,Masciulli A,Carobbio A,Ghirardi A,Carioli G,Sobas MA,Elli EM,Rumi E,De Stefano V,Lunghi F,Marchetti M,Daffini R,Gasior Kabat M,Cuevas B,Fox ML,Andrade Campos MM,Palandri F,Guglielmelli P,Benevolo G,Harrison C,Foncillas MA,Bonifacio M,Alvarez Laran A,Kiladjian JJ,Bolaños Calderón E,Patriarca A,Quiroz Cervantes K,Griesshammer M,Garcia Gutierrez V,Marin Sanchez A,Magro Mazo E,Ruggeri M,Hernandez Boluda JC,Osorio S,Carreno Tarragona G,Sagues Serrano M,Kusec R,Navas Elorza B,Angona A,Xicoy Cirici B,Lopez Abadia E,Koschmieder S,Cattaneo D,Bucelli C,Cichocka E,Masternak Kulikowska de Nalecz A,Cavalca F,Borsani O,Betti S,Benajiba L,Bellini M,Curto Garcia N,Rambaldi A,Vannucchi AM. **Second versus first wave of COVID-19 in patients with MPN.** Leukemia. 2022. 36. (3):p. 897-900. IF:12,883. (Q1).
 2. Fernandez Sojo J,Cid J,Azqueta C,Valdivia E,Martorell L,Codinach M,Marsal J,Mussetti A,Esquirol A,Trabazo M,Benitez MI,Ferra C,Fox ML,Linares M,Alonso E,García Rey E,García Muñoz N,Medina L,Castillo Flores N,Vall Llovera F,Garcia A,Pinacho A,Talarin C,Arroba JG,Coll R,Santos M,Valero O,Carreras E,Lozano M,Querol S. **Post thawing viable CD34+ Cells dose is a better predictor of clinical outcome in lymphoma patients undergoing autologous stem cell transplantation.** Bone Marrow Transplant. 2022. 57. (8):p. 1341-1343. IF:5,174. (Q2).
 3. Barbui T,Carobbio A,Ghirardi A,Iurlo A,De Stefano V,Sobas MA,Rumi E,Elli EM,Lunghi F,Gasior Kabat M,Cuevas B,Guglielmelli P,Bonifacio M,Marchetti M,Alvarez Laran A,Fox L,Bellini M,Daffini R,Benevolo G,Carreno Tarragona G,Patriarca A,Al Ali HK,Andrade Campos MMM,Palandri F,Harrison C,Foncillas MA,Osorio S,Koschmieder S,Magro Mazo E,Kiladjian JJ,Bolaños Calderón E,Heidel FH,Quiroz Cervantes K,Griesshammer M,Garcia Gutierrez V,Sanchez AM,Hernandez Boluda JC,Lopez Abadia E,Carli G,Sagues Serrano M,Kusec R,Xicoy Cirici B,Guenova M,Navas Elorza B,Angona A,Cichocka E,Kulikowska de Nalecz A,Cattaneo D,Bucelli C,Betti S,Borsani O,Cavalca F,Carbonell S,Curto Garcia N,Benajiba L,Rambaldi A,Vannucchi AM. **Breakthrough infections in MPN-COVID vaccinated patients.** Blood Cancer J. 2022. 12. (11):p. 154-154. IF:9,812. (Q1).
 4. Barbui T,Carobbio A,Ghirardi A,Iurlo A,Sobas MA,Elli EM,Rumi E,De Stefano V,Lunghi F,Marchetti M,Daffini R,Gasior Kabat M,Cuevas B,Fox ML,Andrade Campos MM,Palandri F,Guglielmelli P,Benevolo G,Harrison C,Foncillas MA,Bonifacio M,Alvarez Laran A,Kiladjian JJ,Bolaños Calderón E,Patriarca A,Quiroz Cervantes K,Griesshammer M,Garcia Gutierrez V,Marin Sanchez A,Magro Mazo E,Carli G,Hernandez Boluda JC,Osorio S,Carreno Tarragona G,Sagues Serrano M,Kusec R,Navas Elorza B,Angona A,Xicoy Cirici B,Lopez Abadia E,Koschmieder S,Cattaneo D,Bucelli C,Cichocka E,de Nalecz AK,Cavalca F,Borsani O,Betti S,Bellini M,Curto Garcia N,Rambaldi A,Vannucchi AM. **Determinants of early triage for hospitalization in myeloproliferative neoplasm (MPN) patients with COVID-19.** Am. J. Hematol. 2022. 97. (12):p. 470-473. IF:13,265. (Q1).
- CONSORTIUM PUBLICATIONS / I.F.: 10.17**
1. Garcia Tornel A,Millan M,Rubiera M,Bustamante A,Requena M,Dorado L,Olivé Gadea M,Jiménez X,Soto A,Querol M,Hernández Pérez M,Gomis M,Cardona P,Urra X,Purroy F,Silva Y,Ustrell X,Esteve P,Salvat Plana M,Gallofré M,Molina C,Dávalos A,Jovin T,Abilleira S,Ribo M,Pérez de la Ossa N,RACECAT Trial I. **Workflows and Outcomes in Patients With Suspected Large Vessel Occlusion Stroke Triaged in Urban and Nonurban Areas.** Stroke. 2022. 53. (12):p. 3728-3740. IF:10,170. (Q1).
-
- GRANTS**
- IDIBGI Principal Investigator: David Gallardo
Project Title: Genotipo de las moléculas inhibidoras de respuesta inmune: más allá del trasplante alogénico. Banco nacional de ADN de pacientes tratados con terapia CAR-T
Project Code: PI20/01353
Funding Agency: INSTITUTO DE SALUD CARLOS III
Duration: 01/01/2018 to 30/06/2022
- IDIBGI Principal Investigator: David Gallardo
Project Title: Modulación de respuesta inmune en trasplante alogénico de progenitores hematopoyéticos por el genotipo de moléculas inhibidoras de checkpoint. Biobanco español de aloTHP
Project Code: PI17/00815
Funding Agency: INSTITUTO DE SALUD CARLOS III
Role: Coordinator
Duration: 01/01/2018 to 30/06/2022
- IDIBGI Principal Investigator: David Gallardo

Project Title: Relevancia del genotipo de lag3 y moléculas checkpoint en el trasplante alogénico de progenitores hematopoyéticos

Project Code:

Funding Agency: Institut Josep Carreras

Duration: 01/01/2021 to 31/12/2024

el metabolismo de la citarabina y asociación con la respuesta y toxicidad a la quimioterapia en pacientes con leucemia mieloide aguda de riesgo intermedio.

Thesis directors: David Gallardo Giralt

European mention: No

MEMBERSHIP OF COLLABORATIVE RESEARCH NETWORKS

INTERNATIONAL

- European Society for Blood and Marrow Transplantation (EBMT)

SPANISH

- Grupo Cooperativo de Estudio y Tratamiento de las Leucemias Agudas y Mielodisplásicas (CETLAM)
- Grupo de Estudio de Hemostasia y Trombosis (GEHT)
- Grupo Español de Enfermedades Mieloproliferativas Crónicas Filadelfia Negativas (GEMFIN)
- Grupo Español de Leucemia Mieloide Crónica (GELMC)
- Grupo Español de Leucemia Linfocítica Crónica (GELLC)
- Grupo Español de Linfomas/Trasplante Autólogo de Médula Ósea (GELTAMO)
- Grupo Español de Mieloma (GEM)
- Grupo Español de Síndromes Mielodisplásicos (GESMD)
- Grupo Español de Trasplante Hematopoyético y Terapia Celular (GETH)
- Programa Español de Tratamientos en Hematología (PETHEMA)

CATALAN

- Grup Català de Citologia Hematològica (GCCH)
- Grup Català de Citometria Hematopatològica (FLOWCAT)
- Grup de treball Tromboc@at de la Societat Catalana d'Hematologia i Hemoteràpia
- Societat Catalana d'Hematologia i Hemoteràpia (SCHH)

DOCTORAL THESES

Thesis author: Nazly Yesenia Santos Carvajal

Title: Estudio del impacto de UGT2B17 y PD-1 en el trasplante alogénico de progenitores hematopoyéticos a partir de donante emparentado HLA idéntico

Thesis directors: David Gallardo Giralt

European mention: No

Thesis author: Johana Diaz Santa

Title: Caracterización de polimorfismos genéticos implicados con

Metabolism and cancer

MEMBERS DISTRIBUTED BY GENDER

W: 62,5%

M: 37,5%

Part of a consolidated research group recognized by AGAUR (Generalitat de Catalunya) - 2017 SGR 673.

KEYWORDS

Metabolism

Cancer

Aging

RELATED DISEASES

Cancer

Aging-related diseases

GROUP LEADER - R4

Javier Abel Menéndez Menéndez (ICO)

ESTABLISHED RESEARCHERS - R3

Elisabet Cuyàs Navarro (IDIBGI)

Begoña Martín Castillo (ICO)

POST-DOCTORAL RESEARCHERS - R2

Eila Serrano Hervas (IDIBGI)

PRE-DOCTORAL RESEARCHERS - R1

Aina Arbusà Roca (IDIBGI)

Sara Verdura Martínez (IDIBGI)

COLLABORATORS

Joaquim Bosch Barrera (ICO)

Eugenio López Bonet (ICS/Trueta)



OVERVIEW

PROBLEM

The link between metabolism and cancer is well recognized, but many fundamental questions about this relationship are still unanswered. It is not yet clear whether metabolic changes cause cancer to develop and progress, or if they are simply a consequence of it. This uncertainty has made it difficult to predict the success of novel approaches aimed at targeting metabolism for cancer treatment. Despite this, there have been significant advances in our understanding of the role of metabolic alterations in cancer, leading to ongoing research into metabolic-targeted therapies. Some studies focus on using inhibitors to target specific metabolic pathways in cancer cells, while others aim to enhance the body's immune response to cancer by taking advantage of its unique metabolic features. The efficacy of these approaches, however, is still an open question.

APPROACH

Our team utilizes a blend of cellular biology, molecular biology, and biochemistry methods to examine the impact of altered metabolism on cancer models both in vitro cell cultures and in vivo animal models. By utilizing computational strategies, the team aims also to accelerate the discovery and development of new anti-cancer therapeutics, including the in silico testing on virtual patients. A significant goal of the group is to design and conduct proof-of-concept clinical trials to evaluate the efficacy of their metabolic treatments on cancer patients.

IMPACT

To accelerate the advancement of innovative metabolism-based anti-cancer therapeutics.

MAIN RESEARCH LINES

- Metabolism and cancer therapeutic resistance
- Autophagy and mitochondrial dynamics in cancer
- Natural biocompounds and cancer
- Metabolism and cancer immunotherapy
- Computational and systems biology in cancer and aging

PUBLICATIONS

ORIGINALS / I.F.: 68.56

1. Bosch Barrera J, Roqué A, Teixidor E, Carmona Garcia MC, Arbusà A, Brunet J, Martín Castillo B, Cuyàs E, Verdura S, Menéndez JA. Clinical Management of COVID-19 in Cancer Patients with the STAT3 Inhibitor Silibinin. *Pharmaceuticals.* 2022. 15. (1):19. IF:5,215. (Q1).
2. Yang L, Vander Steen T, Espinoza I, Cuyàs E, Verdura S, Menéndez JA, Lupu R. Nuclear moonlighting of the secreted growth factor heregulin drives endocrine-resistant breast cancer independently of HER2/HER3 signaling. *Am. J. Cancer Res.* 2022. 12. (5):p. 2173-2188. IF:5,942. (Q2).
3. Espinoza I, Kurapaty C, Park CH, Vander Steen T, Kleer CG, Wiley E, Rademaker A, Cuyàs E, Verdura S, Buxó M, Reynolds C, Menéndez JA, Lupu R. Depletion of CCN1/CYR61 reduces triple-negative/basal-like breast cancer aggressiveness. *Am. J. Cancer Res.* 2022. 12. (2):p. 839-851. IF:5,942. (Q2).
4. Espinoza I, Yang L, Steen TV, Vellon L, Cuyàs E, Verdura S, Lau L, Menéndez JA, Lupu R. Binding of the angiogenic/senescence inducer CCN1/CYR61 to integrin alpha(6)beta(1) drives endocrine resistance in breast cancer cells. *Aging-US.* 2022. 14. (3):p. 1200-1213. IF:5,955. (Q2).
5. Planellas P, Cornejo L, Farrés R, Pigem A, Timoteo A, Ortega N, Pellino G, Rodríguez Hermosa JI, López Bonet E, Fernández Real JM, Codina Cazador A. Prognostic significance of the microbiome-adipose tissue axis in rectal cancer: protocol of a prospective observational study. *BJS Open.* 2022. 6. (2):zrac009. IF:3,875. (Q1).
6. Temprana Salvador J, López García P, Castellví Vives J, de Haro L, Ballesta E, Rojas Abusleme M, Arrufat M, Marques F, Casas JR, Gallego C, Pons L, Mate JL, Fernández PL, López Bonet E, Bosch R, Martínez S, Ramón Cajal YS, Matías Guiu X. DigiPatICS: Digital Pathology Transformation of the Catalan Health Institute Network of 8 Hospitals-Planification, Implementation, and Preliminary Results. *Diagnostics.* 2022. 12. (4):852. IF:3,992. (Q2).
7. Cabré N, Luciano Mateo F, Chapski DJ, Baiges Gaya G, Fernández Arroyo S, Hernández Aguilera A, Castañé H, Rodríguez Tomàs E, París M, Sabench F, Castillo DD, Del Bas JM, Tomé M, Bodineau C, Sola García A, López Miranda J, Martín Montalvo A, Durán RV, Vondriska TM, Rosa Garrido M, Camps J, Menéndez JA, Joven J. Laparoscopic Sleeve Gastrectomy in Patients with Severe Obesity Restores Adaptive Responses Leading to Nonalcoholic Steatohepatitis. *Int J Mol Sci.* 2022. 23. (14):7830. IF:6,208. (Q1).

8. Verdura S, Encinar JA, Fernández Arroyo S, Joven J, Cuyàs E, Bosch Barrera J, Menéndez JA. **Silibinin Suppresses the Hyperlipidemic Effects of the ALK-Tyrosine Kinase Inhibitor Lorlatinib in Hepatic Cells.** *Int J Mol Sci.* 2022; 23: (17):9986. IF:6,208. (Q1).
9. Llop Hernández À, Verdura S, Cuyàs E, Menéndez JA. **Nutritional Niches of Cancer Therapy-Induced Senescent Cells.** *Nutrients.* 2022; 14: (17):3636. IF:6,706. (Q1).
10. Foguet Romero E, Samarra I, Guirro M, Riu M, Joven J, Menéndez JA, Canela N, DelPino Rius A, Fernández Arroyo S, Herrero P. **Optimization of a GC-MS Injection-Port Derivatization Methodology to Enhance Metabolomics Analysis Throughput in Biological Samples.** *J Proteome Res.* 2022; 21: (11):p. 2555-2565. IF:5,370. (Q1).
11. Verdura S, Encinar JA, Teixidor E, Segura Carretero A, Micó V, Cuyàs E, Bosch Barrera J, Menéndez JA. **Silibinin Overcomes EMT-Driven Lung Cancer Resistance to New-Generation ALK Inhibitors.** *Cancers (Basel).* 2022; 14: (24):6101. IF:6,575. (Q1).
12. Cuyàs E, Fernández Arroyo S, Verdura S, Lupu R, Joven J, Menéndez JA. **Metabolomic and Mitochondrial Fingerprinting of the Epithelial-to-Mesenchymal Transition (EMT) in Non-Tumorigenic and Tumorigenic Human Breast Cells.** *Cancers (Basel).* 2022; 14: (24):6214. IF:6,575. (Q1).

REVIEWS / I.F.: 13.01

1. Cejuela M, Martín Castillo B, Menéndez JA, Pernas S. **Metformin and Breast Cancer: Where Are We Now?** *Int J Mol Sci.* 2022; 23: (5):2705. IF:6,208. (Q1).
2. Menéndez JA, Lupu R. **Fatty acid synthase: a druggable driver of breast cancer brain metastasis.** *Expert Opin. Ther. Targets.* 2022; 26: (5):p. 427-444. IF:6,797. (Q1).

EDITORIALS / I.F.: 5.96

1. Cuyàs E, Martín Castillo B, Menéndez JA. **Metformin and breast cancer: an opportunity for pharmacogenetics.** *Aging-US.* 2022; 14: (14):p. 5612-5613. IF:5,955. (Q2).

GRANTS

IDIBGI Principal Investigator: Joaquim Bosch i Javier Abel Menéndez
 Project Title: A therapeutic strategy to co-target brain metastasis-initiating and hyperlipidemia-driving mechanisms in lorlatinib-treated NSCLC
 Project Code: Pfizer 2019 Joaquim Bosch

Funding Agency: PFIZER, S.L.U.
 Duration: 05/07/2019 to 36/06/2023

IDIBGI Principal Investigator: Elisabet Cuyàs
 Project Title: Ayuda de personal Miguel Servet
 Project Code: CP20/00003
 Funding Agency: INSTITUTO DE SALUD CARLOS III
 Duration: 01/01/2021 to 31/12/2025

IDIBGI Principal Investigator: Javier Abel Menéndez
 Project Title: Dependencias metabólicas y regulación dietética de los puntos de control inmunitario: Nuevas dianas contra la resistencia a la inmunoterapia del cáncer
 Project Code: PID2019-104055GB-I00
 Funding Agency: MINISTERIO DE ECONOMIA Y COMPETITIVIDAD (MINECO)
 Duration: 01/06/2020 to 31/05/2023

IDIBGI Principal Investigator: Elisabet Cuyàs
 Project Title: Modificaciones postraduccionales de PD-L1 en la inmunoterapia del cáncer: Desarrollo de nuevas estrategias terapéuticas y fármaco-diagnósticas
 Project Code: PI22/00297
 Funding Agency: INSTITUTO DE SALUD CARLOS III
 Duration: 01/01/2023 to 31/12/2025

IDIBGI Principal Investigator: Javier Abel Menéndez
 Project Title: Contracte de treball en el Marc del Programa INVESTIGO-AGAUR
 Project Code: 2022 INV-1 00001- 100001ID1
 Funding Agency: AGÈNCIA DE GESTIÓ D'AJUTS UNIVERSITATS I DE RECERCA
 Duration: 22/12/2022 to 21/12/2024

IDIBGI Principal Investigator: Joaquim Bosch
 Project Title: Organ-specific biomarkers and therapies to improve the management of brain metastasis
 Project Code: La Marató 201906-30
 Funding Agency: Fundació La Marató TV3
 Role: Coordinator
 Duration: 30/09/2020 to 29/09/2023

Precision Oncology



MEMBERS DISTRIBUTED BY GENDER

W: 65,2%

M: 34,8%

KEYWORDS

Biomarkers
Hereditary cancer
Breast cancer
Lung cancer
Colon cancer
Skin cancer
Head and neck cancer
Gynecologic cancer
Prostate cancer

RELATED DISEASES

Breast cancer
Lung cancer
Colon cancer
Pancreatic cancer
Gastro-intestinal cancer
Skin cancer
Head and neck cancer
Gynecologic cancer
Prostate cancer
Bladder cancer

GROUP LEADER - R4

Joan Brunet Vidal (ICO)

ESTABLISHED RESEARCHERS - R3

Joaquim Bosch Barrera (ICO)
Jordi Rubió Casadevall (ICO)

POST-DOCTORAL RESEARCHERS - R2

Adelaida Garcia Velasco (ICO)
Rut Porta Balanyà (ICO)
Gemma Viñas Vilaró (ICO)

PRE-DOCTORAL RESEARCHERS - R1

Pilar Barretina Ginesta (ICO)
Walter Hernan Carballo Ochoa (ICO)
Anna Carbó Bagué (ICO)
Laura Cardenas Puiggros (ICS/Trueta)
Clàudia Fina Planas (ICO)
Raquel Guardeño Sánchez (ICO)
Alejandro-Jorge Hernández Martínez (ICO)
Xavier Hernández Yagüe (ICO)
Raquel Liñán Planas (ICO)
Cristina Meléndez Muñoz (ICS/Trueta)
Helena Pla Juher (ICO)
Bernat Queralt Merino (ICO)

Ariadna Roqué Lloveras (ICO)

Èlia Sais Girona (ICO)

Núria Sala González (ICO)

Eduard Teixidor Vila (ICO)

TECHNICIANS

Marta Pardo Medrano (IDIBGI)



OVERVIEW

PROBLEM

Cancer is a huge health problem causing 25% of deaths in our environment. Cancer is not a unique disease, and our group wants to improve knowledge and therapeutic strategies for this disease. We focus our research on the individualization of treatment based on the specific characteristics of each tumor improving the personalized medicine for this disease.

APPROACH

Our research group aims to integrate clinical, epidemiological and translational research in the field of precision oncology. Our goal is to develop new therapeutic strategies and identify biomarkers for predicting the risk and clinical evolution of different cancers.

IMPACT

Provide a greater access to clinical studies with targeted drugs against different cancer types. Contribute to generate new knowledge that can improve the oncologic precision medicine to cancer patients.

MAIN RESEARCH LINES

- Individualization of systemic treatment for cancer
- Clinical research in precision oncology
- Identify biomarkers for prediction of risk and clinical evolution of cancer

PUBLICATIONS

ORIGINALS / I.F.: 524.40

1. Bosch Barrera J, Roqué A, Teixidor E, Carmona García MC, Arbusà A, Brunet J, Martín Castillo B, Cuyàs E, Verdura S, Menéndez JA. Clinical Management of COVID-19 in Cancer Patients with the STAT3 Inhibitor Silibinin. Pharmaceuticals. 2022. 15. (1):19. IF:5,215. (Q1).
2. Moreno Cabrera JM, Del Valle J, Feliubadaló L, Pineda M, González S, Campos O, Cuesta R, Brunet J, Serra E, Capellà G, Gel B, Lázaro C. Screening of CNVs using NGS data improves mutation detection yield and decreases costs in genetic testing for hereditary cancer. J. Med. Genet. 2022. 59. (1):p. 75-78. IF:5,941. (Q1).
3. OnCovid Study G, Pinato DJ, Patel M, Scotti L, Colombia E, Dolly S, Loizidou A, Chester J, Mukherjee U, Zambelli A, Dalla Pria A, Aguilar Company J, Bower M, Salazar R, Bertuzzi A, Brunet J, Lambertini M, Tagliamento M, Pous A, Sita Lumsden A, Srikantharajah K, Colombia J, Pommeret F, Seguí E, Generali D, Grisanti S, Pedrazzoli P, Rizzo G, Libertini M, Moss C, Evans JS, Russell B, Harbeck N, Vincenzi B, Biello F, Bertulli R, Ottaviani D, Lílian R, Rossi S, Carmona García MC, Tondini C, Fox L, Baggi A, Fotia V, Parisi A, Porzio G, Queirolo P, Cruz CA, Saoudi Gonzalez N, Felip E, Roqué Lloveras A, Newsom Davis T, Sharkey R, Roldán E, Reyes R, Zoratto F, Earnshaw I, Ferrante D, Marco Hernández J, Ruiz Camps I, Gaidano G, Patriarca A, Bruna R, Sureda A, Martinez Vila C, Sanchez de Torre A, Berardi R, Giusti R, Mazzoni F, Guida A, Rimassa L, Chiudinelli L, Franchi M, Krengli M, Santoro A, Prat A, Tabernero J, Van Hemelrijck M, Diamantis N, Gennari A, Cortellini A. Time-Dependent COVID-19 Mortality in Patients With Cancer An Updated Analysis of the OnCovid Registry. JAMA Oncol. 2022. 8. (1):p. 114-122. IF:33,006. (Q1).
4. Peremiquel Trillas P, Frias Gomez J, Alemany L, Ameijide A, Vilardell M, Marcos Gragera R, Paytubi S, Ponce J, Martínez JM, Pineda M, Brunet J, Matías Guiu X, Carulla M, Galceran J, Izquierdo Á, Borràs JM, Costas L, Clèries R. Predicting Ovarian-Cancer Burden in Catalonia by 2030: An Age-Period-Cohort Modelling. Int J Environ Res Public Health. 2022. 19. (3):1404. IF:4,614. (Q1).
5. Moya Alarcón C, González Domínguez A, Ivanova Markova Y, Gimeno Ballester V, BARRETINA GINESTA P, Pérez Fidalgo JA, Redondo A. Olaparib as first line in BRCA-mutated advanced ovarian carcinoma: Is it cost-effective in Spain. Gynecol. Oncol. 2022. 164. (2):p. 406-414. IF:5,304. (Q1).
6. Carbó Bagué A, Rubió Casadevall J, Puigdemont M, Sanvisens A, Oliveras G, Coll M, Del Olmo B, Perez Bueno F, Marcos Gragera R. Epidemiology and Molecular Profile of Mucosal Melanoma: A Population-Based Study in Southern Europe. Cancers. 2022. 14. (3):780. IF:6,575. (Q1).
7. Quintana I, Mur P, Terradas M, García Mulero S, Aiza G, Navarro M, Piñol V, Brunet J, Moreno V, Sanz Pamplona R, Capellá G, Valle L. Potential Involvement of NSD1, KRT24 and ACACA in the Genetic Predisposition to Colorectal Cancer. Cancers. 2022. 14. (3):699. IF:6,575. (Q1).
8. Clèries R, Buxó M, Vilardell M, Ameijide A, Martínez JM, Font R, Marcos Gragera R, Puigdemont M, Viñas G, Carulla M, Espinàs JA, Galceran J, Izquierdo Á, Borràs JM. No Excess Mortality up to 10 Years in Early Stages of Breast Cancer in Women Adherent to Oral Endocrine Therapy: A Probabilistic Graphical Modeling Approach. Int J Environ Res Public

- Health. 2022. 19. (6):3605. IF:4,614. (Q1).
- 9.** Sánchez A,Roos VH,Navarro M,Pineda M,Caballol B,Moreno L,Carballal S,Rodríguez Alonso L,Ramon Cajal YT,Llort G,Piñol V,Fernandez AL,Salces I,Picó MD,Rivas L,Bujanda L,Garzon M,Pizarro A,Martinez de Castro E,López Arias MJ,Poves C,Garau C,Rodríguez Alcalde D,Herraiz M,Alvarez Urrutia C,Dacal A,Carrillo Palau M,Cid L,Ponce M,Barreiro Alonso E,Saperas E,Aguirre E,Romero C,Bastiaansen B,Gonzalez Acosta M,Morales Romero B,Ocaña T,Rivero Sánchez L,Jung G,Bessa X,Cubilla J,Jover R,Rodríguez Moranta F,Balmaña J,Brunet J,Castells A,Dekker E,Capella G,Serra Burriel M,Moreira L,Pellise M,Balaguer F. **Quality of Colonoscopy Is Associated With Adenoma Detection and Postcolonoscopy Colorectal Cancer Prevention in Lynch Syndrome.** Clin Gastroenterol. Hepatol. 2022. 20. (3):p. 611-611. IF:13,576. (Q1).
- 10.** Shah MA,Udrea AA,Bondarenko I,Mansoor W,Sánchez RG,Sarosiek T,Bozzarelli S,Schenker M,Gomez Martin C,Morgan C,Özguroglu M,Pikiel J,Kalofonos HP,Wojcik E,Buchler T,Swinson D,Cicin I,Joseph M,Vynnychenko I,Luft AV,Enzinger PC,Salek T,Papandreuou C,Tournigand C,Maiello E,Wei R,Ferry D,Gao L,Oliveira JM,Ajani JA. **Evaluating Alternative Ramucirumab Doses as a Single Agent or with Paclitaxel in Second-Line Treatment of Locally Advanced or Metastatic Gastric/Gastroesophageal Junction Adenocarcinoma: Results from Two Randomized, Open-Label, Phase II Studies.** Cancers (Basel). 2022. 14. (5):1168. IF:6,575. (Q1).
- 11.** Rueda Domínguez A,Cirauqui B,García Castaño A,Alvarez Cabellos R,Carral Maseda A,Castelo Fernández B,Iglesias Rey L,Rubió Casadevall J,Arrazubi V,Mesía R. **SEOM-TTCC clinical guideline in nasopharynx cancer (2021).** Clin Transl Oncol. 2022. 24. (4):p. 670-680. IF:3,340. (Q3).
- 12.** Barretina Ginesta MP,Quindós M,Alarcón JD,Esteban C,Gaba L,Gómez C,Fidalgo J,Romero I,Santaballa A,Rubio Pérez MJ. **SEOM-GEICO clinical guidelines on endometrial cancer (2021).** Clin Transl Oncol. 2022. 24. (4):p. 625-634. IF:3,340. (Q3).
- 13.** Rubió Casadevall J,Ciurana E,Puigdemont M,Sanvisens A,Marruecos J,Miró J,Urbán A,Palhua RL,Martín Romero F,Ortiz Duran MR,Marcos Gragera R. **Population-Based Analysis of Trends in Incidence and Survival of Human Papilloma Virus-Related Oropharyngeal Cancer in a Low-Burden Region of Southern Europe.** Int J Environ Res Public Health. 2022. 19. (8):4802. IF:4,614. (Q1).
- 14.** Monteiro C,Miarka L,Perea García M,Priego N,García Gómez P,Álvaro Espinosa L,de Pablos Aragoneses A,Yebra N,Retana D,Baena P,Fustero Torre C,Graña Castro O,Troulé K,Caleiras E,Tezanos P,Muela P,Cintado E,Trejo JL,Sepúlveda JM,González León P,Jiménez Roldán L,Moreno LM,Esteban O,Pérez Núñez Á,Hernández Lain A,Mazarico Gallego J,Ferrer I,Suárez R,Garrido Martín EM,Paz Ares L,Dalmasso C,Cohen Jonathan Moyal E,Siegfried A,Hegarty A,Keelan S,Varešlija D,Young LS,Mohme M,Goy Y,Wikman H,Fernández Alén J,Blasco G,Alcázar L,Cabañuz C,Grivennikov SI,Ianus A,Shemesh N,Faria CC,Lee R,Lorigan P,Le Rhun E,Weller M,Soffietti R,Bertero L,Ricardi U,Bosch Barrera J,Sais E,Teixidor E,Hernández Martínez A,Calvo A,Aristu J,Martin SM,Gonzalez A,Adler O,Erez N,R,Valiente M. **Stratification of radiosensitive brain metastases based on an actionable S100A9/RAGE resistance mechanism.** Nat. Med. 2022. 28. (4):p. 752-765. IF:87,241. (Q1).
- 15.** Mateo F,He Z,Mei L,de Garibay GR,Herranz C,García N,Lorentzian A,Baiges A,Blommaert E,Gómez A,Mirallas O,Garrido Utrilla A,Palomero L,Espín R,Extremera AI,Soler Monsó MT,Petit A,Li R,Brunet J,Chen K,Tan S,Eaves CJ,McCloskey C,Hakem R,Khokha R,Lange PF,Lázaro C,Maxwell CA,Pujana MA. **Modification of BRCA1-associated breast cancer risk by HMMR overexpression.** Nat Commun. 2022. 13. (1):p. 1895-1895. IF:17,694. (Q1).
- 16.** Riudavets M,Auclin E,Mosteiro M,Dempsey N,Majem M,Lobefaro R,Lopez Castro R,Bosch Barrera J,Pilotti S,Escalera E,Tagliamento M,Mosquera J,Zalcman G,Aboubakar Nana F,Ponce S,Dal Maso A,Spotti M,Mielgo Rubio X,Mussat E,Reyes R,Benitez JC,Lupinacci I,Duchemann B,De Giglio A,Blaquier J,Audigier Valette C,Scheffler M,Nadal E,Lopes G,Signorelli D,Garcia Campelo R,Menis J,Bluthgen V,Campayo M,Recondo G,Besse B,Planchard D,Mezquita L. **Original Research Durvalumab consolidation in patients with unresectable stage III non-small cell lung cancer with driver genomic alterations.** Eur. J. Cancer. 2022. 167. p. 142-148. IF:10,002. (Q1).
- 17.** Font R,Buxó M,Ameijide A,Martínez JM,Marcos Gragera R,Carulla M,Puigdemont M,Vilardell M,Civit S,Viñas G,Espinàs JA,Galceran J,Izquierdo Á,Borràs JM,Clèries R. **Using population-based data to evaluate the impact of adherence to endocrine therapy on survival in breast cancer through the web-application BreCanSurvPred.** Sci Rep. 2022. 12. (1):p. 8097-8097. IF:4,996. (Q2).
- 18.** Cortellini A,Salazar R,Gennari A,Aguilar Company J,Bower M,Bertuzzi A,Brunet J,Lambertini M,Maluquer C,Pedrazzoli P,Lei AJ,Carmona García M,Newsom Davis T,Van Hemelrijck M,Plaja A,Zambelli A,Tondini C,Generalí D,Bertulli R,Diamantis N,Mukherjee U,Rizzo G,Yu T,Zoratto F,Bruna R,Sureda A,Martinez Vila C,Cantini L,Mazzoni F,Grosso F,Parisi A,Saponara M,Prat A,Pinato DJ,On Covid study G. **Original Research Persistence of long-term COVID-19 sequelae in patients with cancer: An analysis from the OnCovid registry.** Eur. J. Cancer. 2022. 170. p. 10-16. IF:10,002. (Q1).

- 19.** Pinato DJ,Aguilar Company J,Ferrante D,Hanbury G,Bower M,Salazar R,Mirallas O,Sureda A,Plaja A,Cucurull M,Mesia R,Townsend S,Jackson A,Dalla Pria A,Newsom Davis T,Handford J,Sita Lumsden A,Apthorp E,Vincenzi B,Bertuzzi A,Brunet J,Lambertini M,Maluquer C,Pedrazzoli P,Biello F,Sinclair A,Bawany S,Khalique S,Rossi S,Rogers L,Murphy C,Belessiotis K,Carmona García MC,Sharkey R,García Illescas D,Rizzo G,Perachino M,Saoudi Gonzalez N,Doonga K,Fox L,Roldán E,Gaidano G,Ruiz Camps I,Bruna R,Patriarca A,Martinez Vila C,Cantini L,Zambelli A,Giusti R,Mazzoni F,Caliman E,Santoro A,Grosso F,Parisi A,Queirolo P,Aujayeb A,Rimassa L,Prat A,Tucci M,Libertini M,Grisanti S,Mukherjee U,Diamantis N,Fusco V,Generali D,Provenzano S,Gennari A,Tabernero J,Cortellini A,OnCovid study G. **Outcomes of the SARS-CoV-2 omicron (B.1.1.529) variant outbreak among vaccinated and unvaccinated patients with cancer in Europe: results from the retrospective, multicentre, OnCovid registry study.** Lancet Oncol. 2022. 23. (7):p. 865-875. IF:54,433. (Q1).
- 20.** Peremiquel Trillas P,Paytubi S,Pelegrina B,Frias Gomez J,Carmona Á,Martínez JM,de Francisco J,Benavente Y,Barahona M,Briansó F,Canet Hermida J,Caño V,Vidal A,Zanca A,Baixeras N,Rodríguez A,Fernández Gonzalez S,Dueñas N,Cárdenas L,Aytés Á,Bianchi I,Pavón MÀ,Reventós J,Capellà G,Gómez D,Díaz M,Ponce J,Brunet J,Matias Guiu X,Bosch FX,de Sanjosé S,Alemany L,Pineda M,Marín F,Costas L. **An Integrated Approach for the Early Detection of Endometrial and Ovarian Cancers (Screenwide Study): Rationale, Study Design and Pilot Study.** J. Pers. Med. 2022. 12. (7):1074. IF:3,508. (Q2).
- 21.** Provencio M,Cobo M,Rodriguez Abreu D,Calvo V,Carcereny E,Cantero A,Bernabé R,Benitez G,Castro RL,Massutí B,Del Barco E,García Campelo R,Guirado M,Camps C,Ortega AL,González Larriba JL,Sánchez A,Casal J,Sala MA,Juan Vidal O,Bosch Barrera J,Oramas J,Dómíne M,Trigo JM,Blanco R,Calzas J,Moreilla I,Padilla A,Pimentao J,Sousa PA,Torrente M. **Determination of essential biomarkers in lung cancer: a real-world data study in Spain with demographic, clinical, epidemiological and pathological characteristics.** Bmc Cancer. 2022. 22. (1):p. 732-732. IF:4,638. (Q2).
- 22.** Cortellini A,Gennari A,Pommeret F,Patel G,Newsom Davis T,Bertuzzi A,Viladot M,Aguilar Company J,Mirallas O,Felip E,Lee A,Pria AD,Sharkey R,Brunet J,García MC,Chester J,Mukherjee U,Scotti L,Dolly S,Sita Lumsden A,Ferrante D,Van Hemelrijck M,Moss C,Russell B,Seguí E,Biello F,Krengli M,Marco Hernández J,Gaidano G,Patriarca A,Bruna R,Roldán E,Fox L,Pous A,Griscelli F,Salazar R,Martinez Vila C,Sureda A,Loizidou A,Maluquer C,Stoclin A,Iglesias M,Pedrazzoli P,Rizzo G,Santoro A,Rimassa L,Rossi S,Harbeck N,de Torre AS,Vincenzi B,Libertini M,Provenzano S,Generali D,Grisanti S,Berardi R,Tucci M,Mazzoni F,Lambertini M,Tagliamento M,Parisi A,Zoratto F,Queirolo P,Giusti R,Guida A,Zambelli A,Tondini C,Maconi A,Betti M,Colomba E,Diamantis N,Sinclair A,Bower M,Ruiz Camps I,Pinato DJ,OnCovid study G. **COVID-19 Sequelae and the Host Proinflammatory Response: An Analysis From the OnCovid Registry.** J Natl Cancer Inst. 2022. 114. (7):p. 979-987. IF:11,816. (Q1).
- 23.** Pinato DJ,Ferrante D,Aguilar Company J,Bower M,Salazar R,Mirallas O,Sureda A,Bertuzzi A,Brunet J,Lambertini M,Maluquer C,Pedrazzoli P,Biello F,Lee A,SNGCCT,Liñán R,Rossi S,Carmona García MC,Sharkey R,Eremiev S,Rizzo G,Bain HD,Yu T,Cruz CA,Perachino M,Saoudi Gonzalez N,Fort Culillas R,Doonga K,Fox L,Roldán E,Zoratto F,Gaidano G,Ruiz Camps I,Bruna R,Patriarca A,Shawe Taylor M,Fusco V,Martinez Vila C,Berardi R,Filetti M,Mazzoni F,Santoro A,Delfanti S,Parisi A,Queirolo P,Aujayeb A,Rimassa L,Prat A,Tabernero J,Gennari A,Cortellini A,OnCovid study G. **Vaccination against SARS-CoV-2 protects from morbidity, mortality and sequelae from COVID19 in patients with cancer.** Eur. J. Cancer. 2022. 171. p. 64-74. IF:10,002. (Q1).
- 24.** Duran A,Guerrero PE,Ortiz MR,Pérez Del Campo D,Castro E,Garcia Velasco A,Fort E,De Llorens R,Saldova R,Llop E,Peracaula R. **Characterization of Mesothelin Glycosylation in Pancreatic Cancer: Decreased Core Fucosylated Glycoforms in Pancreatic Cancer Patients' Sera.** Biomedicines. 2022. 10. (8):1942. IF:4,757. (Q2).
- 25.** Soria A,Calvo M,Casas M,Vidales Z,Muñoz Martínez S,Sapena V,Puigvehi M,Canillas L,Gardeño R,Gallego A,Mínguez B,Horta D,Clos A,Montoliu S,Roget M,Reig M,Vergara M. **Survival and adverse events of elderly patients treated with sorafenib for hepatocellular carcinoma.** Front Oncol. 2022. 12. p. 829483-829483. IF:5,738. (Q2).
- 26.** Serna Blasco R,Sánchez Herrero E,Robado de Lope L,Sanz Moreno S,Rodríguez Festa A,Ares Trotta D,Cruz Bermúdez A,Franco F,Sánchez Hernández A,Campayo MJ,García Girón C,Dómíne M,Blasco A,Sánchez JM,Oramas J,Bosch Barrera J,Sala MÁ,Sereno M,Romero A,Provencio M. **Molecular Divergence upon EGFR-TKI Resistance Could Be Dependent on the Exon Location of the Original EGFR-Sensitizing Mutation.** Cancers (Basel). 2022. 14. (18):4446. IF:6,575. (Q1).
- 27.** Sant M,Magri MC,Maurichi A,Lillini R,Bento MJ,Ardanaz E,Guevara M,Innos K,Marcos Gragera R,Rubio Casadevall J,Sánchez Pérez MJ,Tumino R,Rugge M,Minicozzi P,The Melanoma Study Working Group HR. **Association of Sentinel Node Biopsy and Pathological Report Completeness with Survival Benefit for Cutaneous Melanoma and Factors Influencing Their Different Uses in European Populations.** Cancers (Basel). 2022. 14. (18):4379. IF:6,575. (Q1).
- 28.** Verdura S,Encinar JA,Fernández Arroyo S,Joven J,Cuyás E,Bosch Barrera J,Menendez JA. **Silibinin Suppresses the Hyperlipidemic Effects of the ALK-Tyrosine Kinase Inhibitor**

- Lorlatinib in Hepatic Cells.** Int J Mol Sci. 2022. 23. (17):9986. IF:6,208. (Q1).
- 29.** Romeo M,Gil Martín M,Gaba L,Teruel I,Taus Á,Fina C,Masvidal M,Murata P,Fernández Plana J,Martínez A,Pérez C,García Y,Rodríguez V,Cros S,Parera M,Zanui M,Catot S,Pardo B,Plaja A,Esteve A,Barretina Ginesta MP. **Multicenter Real-World Data of Subsequent Chemotherapy after Progression to PARP Inhibitors in a Maintenance Relapse Setting.** Cancers (Basel). 2022. 14. (18):4414. IF:6,575. (Q1).
- 30.** Barretina Ginesta MP,Monk BJ,Han S,Pothuri B,Auranen A,Chase DM,Lorusso D,Anderson C,Abadie Lacourtoisie S,Cloven N,Braicu EI,Amit A,Redondo A,Shah R,Kebede N,Hawkes C,Gupta D,Woodward T,O'Malley DM,Gonzalez Martin A,PRIMA ENGOT 3012 I. **Quality-adjusted time without symptoms of disease or toxicity and quality-adjusted progression-free survival with niraparib maintenance in first-line ovarian cancer in the PRIMA trial.** Ther. Adv. Med. Oncol. 2022. 14. IF:5,485. (Q2).
- 31.** Saad F,Thiery Vuillemin A,Wiechno P,Alekseev B,Sala N,Jones R,Kocak I,Chiuri VE,Jassem J,Fléchon A,Redfern C,Kang J,Burgents J,Gresty C,Degboe A,Clarke NW. **Patient-reported outcomes with olaparib plus abiraterone versus placebo plus abiraterone for metastatic castration-resistant prostate cancer: a randomised, double-blind, phase 2 trial.** Lancet Oncol. 2022. 23. (10):p. 1297-1307. IF:54,433. (Q1).
- 32.** Lope V,Guerrero Zotano A,Ruiz Moreno E,Bermejo B,Antolín S,Montaño Á,Baena Cañada JM,Ramos Vázquez M,Fernández de Larrea Baz N,Chacón JI,García Sáenz JA,Olier C,Muñoz M,Antón A,Sánchez Rovira P,Arcusa Lanza A,González S,Oltra A,Brunet J,Gavilá Gregori J,Martínez MT,Calvo L,Rosell L,Bezares S,Pastor Barriuso R,Pérez Gómez B,Martín M,Pollán M. **Clinical and Sociodemographic Determinants of Adherence to World Cancer Research Fund/American Institute for Cancer Research (WCRF/AICR) Recommendations in Breast Cancer Survivors-Health-EpiGEICAM Study.** Cancers (Basel). 2022. 14. (19):4705. IF:6,575. (Q1).
- 33.** Hakkaart C,Pearson JF,Marquart L,Dennis J,Wiggins G,Barnes DR,Robinson BA,Mace PD,Aittomaki K,Andrusilis IL,Arun BK,Azzollini J,Balmana J,Barkardottir RB,Belhadj S,Berger L,Blok MJ,Boonen SE,Borde J,Bradbury AR,Brunet J,Buys SS,Caligo MA,Campbell I,Chung WK,Claes KBM,Collonge Rame MA,Cook J,Cosgrove C,Couch FJ,Daly MB,Dandiker S,Davidson R,de la Hoya M,de Putter R,Delnatta C,Dhawan M,Diez O,Ding YC,Domchek SM,Donaldson A,Eason J,Easton DF,Ehrencrona H,Engel C,Evans DG,Faust U,Feliubadaló L,Fostira F,Friedman E,Frone M,Frost D,Garber J,Gayther SA,Gehrig A,Gesta P,Godwin AK,Goldgar DE,Green MH,Hahnens E,Hake CR,Hamann U,Hansen T,Hauke J,Hentschel J,Herold N,Honisch E,Hulick PJ,Imyanitov EN,Isaacs C,Izatt L,Izquierdo A,Jakubowska A,James PA,Janavicius R,John EM,Joseph V,Karlan BY,Kemp Z,Kirk J,Konstantopoulou I,Koudijs M,Kwong A,Laitman Y,Lalloo F,Lasset C,Lautrup C,Lazaro C,Legrand C,Leslie G,Lesueur F,Mai PL,Manoukian S,Mari V,Martens JWM,McGuffog L,Mebirouk N,Meindl A,Miller A,Montagna M,Moserle L,Mouret Fourme E,Musgrave H,Nambot S,Nathanson KL,Neuhausen SL,Nevanlinna H,Yie JNY,Nguyen Dumont T,Nikitina Zake L,Offit K,Olah E,Olopade OI,Osorio A,Ott CE,Park SK,Parsons MT,Pedersen IS,Peixoto A,Perez Segura P,Peterlongo P,Pocza T,Radice P,Ramser J,Rantala J,Rodriguez GC,Ronlund K,Rosenberg EH,Rossing M,Schmutzler RK,Shah PYD,Sharif S,Sharma P,Side LE,Simard J,Singer CF,Snape K,Steinemann D,Stoppa Lyonnet D,Sutter C,Tan YY,Teixeira MR,Teo SH,Thomassen M,Thull DL,Tischkowitz M,Toland AE,Trainer AH,Tripathi V,Tung NA,van Engelen K,van Rensburg EJ,Vega A,Viel A,Walker L,Weitzel JN,Wevers MR,Chenevix Trench G,Spurdle AB,Antoniou AC,Walker LC,GEMO Study C,EMBRACE C,SWE BRCA I,kConFab I,HEBON I. **Copy number variants as modifiers of breast cancer risk for BRCA1/BRCA2 pathogenic variant carriers.** Commun. Biol. 2022. 5. (1):1061. IF:6,548. (Q1).
- 34.** Hitt R,Mesía R,Lozano A,Iglesias Docampo L,Grau JJ,Taberna M,Rubió Casadevall J,Martínez Trufero J,Morillo E,García Girón C,Vázquez Estévez S,Cirauqui B,Cruz Hernández JJ. **Randomized phase 3 noninferiority trial of radiotherapy and cisplatin vs radiotherapy and cetuximab after docetaxel-cisplatin-fluorouracil induction chemotherapy in patients with locally advanced unresectable head and neck cancer.** Oral Oncol. 2022. 134. p. 106087-106087. IF:5,972. (Q1).
- 35.** Moreno V,Roda D,Pikiel J,Trigo J,Bosch Barrera J,Drew Y,Kristeleit R,Hiret S,Bajor DL,Cruz P,Beck JT,Ghosh S,Dabrowski C,Anthony G,Duan T,Veneris J,Zografos E,Subramanian J. **Safety and Efficacy of Dostarlimab in Patients With Recurrent/Advanced Non-small Cell Lung Cancer: Results from Cohort E of the Phase I GARNET Trial.** Clin. Lung Cancer. 2022. 23. (7):p. 415-427. IF:4,840. (Q2).
- 36.** Cortellini A,Dettorre GM,Dafni U,Aguilar Company J,Castelo Branco L,Lambertini M,Gennatas S,Angelis V,Sita Lumsden A,Rogado J,Pedrazzoli P,Viñal D,Prat A,Rossi M,Berardi R,Alonso Gordoa T,Grisanti S,Dimopoulos G,Queirolo P,Pradervand S,Bertuzzi A,Bower M,Arnold D,Salazar R,Tucci M,Harrington KJ,Mazzoni F,Mukherjee U,Tsourtzi Z,Michieli O,Pommeret F,Brunet J,Vincenzi B,Tonini G,Patriarca A,Biello F,Krengli M,Tabernerro J,Penthaloudakis G,Gennari A,Peters S,Romano E,Pinato DJ. **Immune checkpoint inhibitor therapy and outcomes from SARS-CoV-2 infection in patients with cancer: a joint analysis of OnCovid and ESMO-CoCARE registries.** J Immunother Cancer. 2022. 10. (11):e005732. IF:12,469. (Q1).
- 37.** Garcia Casado Z,Oaknin A,Mendiola M,Alkorta Aranburu G,Antunez Lopez JR,Moreno Bueno G,Palacios J,Yubero

A,Marquez R, Gallego A, Sanchez Heras AB, Lopez Guerrero JA, Perez Segura C, Barretina Ginesta P, Alarcon J, Gaba L, Marquez A, Matito J, Cueva J, Palacio I, Iglesias M, Arcusa A, Sanchez Lorenzo L, Guerra Alia E, Romero I, Vivancos A. **Laboratory Cross-Comparison and Ring Test Trial for Tumor BRCA Testing in a Multicenter Epithelial Ovarian Cancer Series: The BORNEO GEICO 60-0 Study.** J. Pers. Med. 2022. 12. (11):1842. IF:3,508. (Q2).

38. Aparicio J, Manrique A, Capdevila J, Boza FM, Galvan P, Richart P, Oliveres H, Paez D, Hernando J, Serrano S, Vera R, Hernandez Yague X, Gallego RA, Riesco Martinez MC, de Albeniz XG, Maurel J. **Randomized phase II trial of FOLFIRI-panitumumab compared with FOLFIRI alone in patients with RAS wild-type circulating tumor DNA metastatic colorectal cancer beyond progression to first-line FOLFOX-panitumumab: the BEYOND study (GEMCAD 17-01).** Clin Transl Oncol. 2022. 24. (11):p. 2155-2165. IF:3,340. (Q3).

39. Herzog C, Marín F, Jones A, Evans I, Reisel D, Redl E, Schreiberhuber L, Paytubi S, Pelegrina B, Carmona Á, Peremiquel Trillas P, Frias Gomez J, Pineda M, Brunet J, Ponce J, Matias Guiu X, de Sanjosé S, Alemany L, Olaitan A, Wong M, Jurkovic D, Crosbie EJ, Rosenthal AN, Bjørge L, Zikan M, Dostalek L, Cibula D, Sundström K, Dillner J, Costas L, Widschwendter M. **A Simple Cervicovaginal Epigenetic Test for Screening and Rapid Triage of Women With Suspected Endometrial Cancer: Validation in Several Cohort and Case/Control Sets.** J Clin Oncol. 2022. 40. (33):p. 3828-3838. IF:50,717. (Q1).

40. Hendricks L, Hoogerbrugge N, Venselaar H, Aretz S, Spier I, Legius E, Brems H, de Putter R, Claes KBM, Evans DG, Woodward ER, Genuardi M, Brugnoletti F, van Ierland Y, Dijke K, Tham E, Tesi B, Schuurs Hoeijmakers JHM, Branchaud M, Salvador H, Jahn A, Schnaiter S, Anastasiadou VC, Brunet J, Oliveira C, Roht L, Blatnik A, Irmejs A, Mensenkamp AR, Vos JR, PTEN Study G. **Genotype-phenotype associations in a large PTEN Hamartoma Tumor Syndrome (PHTS) patient cohort.** Eur. J. Med. Genet. 2022. 65. (12):p. 104632-104632. IF:2,465. (Q3).

41. Polonio Alcalá E, Porta R, Ruiz Martínez S, Vásquez Dongó C, Relat J, Bosch Barrera J, Ciurana J, Puig T. **AZ12756122, a novel fatty acid synthase inhibitor, decreases resistance features in EGFR-TKI resistant EGFR-mutated NSCLC cell models.** Biomed. Pharmacother. 2022. 156. p. 113942-113942. IF:7,419. (Q1).

42. Verdura S, Encinar JA, Teixidor E, Segura Carretero A, Micó V, Cuyàs E, Bosch Barrera J, Menéndez JA. **Silibinin Overcomes EMT-Driven Lung Cancer Resistance to New-Generation ALK Inhibitors.** Cancers (Basel). 2022. 14. (24):6101. IF:6,575. (Q1).

CASE REPORTS / I.F.: 15.89

- Nogué C, Chong AS, Grau E, Han H, Dorca E, Roca C, Mosquera JL, Lázaro C, Foulkes WD, Brunet J, Rivera B. **DGCR8 and the six hit, three-step model of schwannomatosis.** Acta Neuropathol. 2022. 143. (1):p. 115-117. IF:15,887. (Q1).

GRANTS

IDIBGI Principal Investigator: Xavier Hernández

Project Title: Avaluació del grau de resposta patològica tumoral al tractament amb inhibidors de l'angiogènesi i del factor de creixement epidèrmic, en combinació a quimioteràpia, de les metàstasi hepàtiques de càncer colorectal ressecades

Project Code: VEGF/EGFR

Funding Agency: FUNDACIÓ ACADÈMIA CIÈNCIES MÈDIQUES

Duration: 11/06/2022 to 10/06/2024

IDIBGI Principal Investigator: Joan Brunet

Beneficiary: Helena Pla

Project Title: Metilació del promotor del gen TGFBI com a biomarcador de resistència a teràpies anti-HER2 en pacients amb càncer de mama HER2+

Project Code:

Funding Agency: IDIBGI-Diputació de Girona

Duration: 01/09/2022 to 01/09/2024

IDIBGI Principal Investigator: Joaquim Bosch, Javier Abel Menéndez

Project Title: A therapeutic strategy to co-target brain metastasis-initiating and hyperlipidemia-driving mechanisms in lorlatinib-treated NSCLC

Project Code: Pfizer 2019 Joaquim Bosch

Funding Agency: PFIZER, S.L.U.

Duration: 05/07/2019 to 30/06/2023

IDIBGI Principal Investigator: Joan Brunet

Project Title: Evaluación de un nuevo biomarcador pan-cáncer para mejorar la predicción de respuesta a inmunoterapia

Project Code: biomarcador pan-cáncer

Funding Agency: FUND. SEOM

Role: Coordinator

Duration: 19/10/2020 to 18/10/2022

IDIBGI Principal Investigator: Joan Brunet

Project Title: CANCER PREVENTION VS CANCER TREATMENT: THE RARE TUMOUR RISK SYNDROMES BATTLE

Project Code: PREVENTABLE

Funding Agency: EUROPEAN COMISION

Role: Partner

Duration: 01/01/2023 to 21/12/2025

IDIBGI Principal Investigator: Joaquim Bosch

Project Title: Organ specific biomarkers and therapies to improve the management of brain metastasis

Project Code: La Marató 201906-30

Funding Agency: FUNDACIÓ LA MARATO TV3

Role: Coordinator

Duration: 30/09/2020 to 29/09/2023

IDIBGI Principal Investigator: Joan Brunet, Ramon Brugada

Project Title: CGI-Clinics: Data-driven cancer genome interpretation for personalised cancer treatment

Project Code: HORIZON-HLTH-2021-CARE-05

Funding Agency: European Comission

Role: Partner

Duration: 01/11/2022 to 01/11/2022

FUNDRAISING GRANTS

IDIBGI Principal Investigator: Maria Pilar Barretina Ginesta

Project Title: Identificació de biomarcadors clínics i moleculars de predicción de llarga supervivència en càncer d'ovari

Project Code:

Funding Agency: Fundació Oncolliga Girona

MEMBERSHIP OF COLLABORATIVE RESEARCH NETWORKS

INTERNATIONAL

- CIMBA – Consortium of Investigators of Modifiers of BRCA1/2
- ERN_GENTURIS - Genetic Tumour Risk Syndromes
- The International Society for Gastrointestinal Hereditary Tumours (InSiGHT)

SPANISH

- Grupo Español de Cáncer de Pulmón (GECP)
- Grupo Español de Investigación en Cáncer de Ovario (GEICO)
- Grupo Español de Oncología Genitourinaria (SOGUG)

DOCTORAL THESES

Thesis author: Agostina Stradella Trucco

Title: Comprensión de las bases genéticas del cáncer hereditario

Thesis directors: Dr. Conxi Lázaro García / Dr. Joan Brunet i Vidal

European mention: No

Radiation Oncology and Medical Physics

MEMBERS DISTRIBUTED BY GENDER

W: 50%

M: 50%

KEYWORDS

Radiation oncology
Medical Physics
Quality of life
New technologies
Cardiotoxicity
Biomarkers
e- Health
Personalized radiotherapy

RELATED DISEASES

Cancer

GROUP LEADER - R4

Arantxa Eraso Urién (ICO)

POST-DOCTORAL RESEARCHERS - R2

Carles Muñoz Montplet (ICO)
Rafael Fuentes Raspall (ICO)

PRE-DOCTORAL RESEARCHERS - R1

Eugenio Canals Subirats (ICO)
Diego Jurado Bruggeman (ICO)
Daniel Lambisto Castro (ICO)
Jordi Marruecos Querol (ICO)
Ester Oliva Poch (ICO)
Ingrid Romera Martínez (ICO)
Hugo Javier Rosales González (ICO)
Àlvar Roselló Serrano (ICO)
Meritxell Vidal Borràs (ICO)

TECHNICIANS

Ainhoa Iguaran Perez (IDIBGI)
Montse Ventura Bujalance (ICO)
Silvia Flaquer Rife (ICO)

NON-SCIENTIFIC RESEARCH SUPPORT STAFF

Glòria Trias Guàrdia (ICO)



OVERVIEW

PROBLEM

Radiation therapy is an important treatment for cancer patients. The objective of the group is to carry out research in the hospital environment in an area in which technological advances are oriented towards the modification of clinical practice towards personalized and precision medicine: treatment for the right patient vs treatment for a disease.

APPROACH

In order to achieve this objective, the following key points will be pursued:

1. Minimize the dose received in critical organs and improve clinical outcomes.
2. Predict response and toxicity to radiation therapy.
3. Use new digital technologies to achieve the previously described (ICONnecta't).

IMPACT

The aim of this goals is to improve cancer outcomes and patients' quality of life.

MAIN RESEARCH LINES

- Prevention of cardiotoxicity and radiation therapy in breast cancer
- Technological advances in radiation therapy
- Biomarkers of response to radiation therapy
- e- Health and Humanization in the Radiation Oncology Process

PUBLICATIONS

ORIGINALS / I.F.: 234.18

1. Jurado Bruggeman D, Munoz Montplet C, Hernandez V, Saez J, Fuentes DR. Impact of the dose quantity used in MV photon optimization on dose distribution, robustness, and complexity. Med. Phys. 2022. 49. (1):p. 648-665. IF:4,506. (Q2).

2. Rubió Casadevall J, Ciurana E, Puigdemont M, Sanvisens A, Marruecos J, Miró J, Urban A, Palhua RL, Martín Romero F, Ortiz Duran MR, Marcos Gragera R. Population-Based Analysis of Trends in Incidence and Survival of Human Papilloma Virus-Related Oropharyngeal Cancer in a Low-Burden Region of Southern Europe. Int J Environ Res Public Health. 2022. 19. (8):4802. IF:4,614. (Q1).
3. Peremiquel Trillas P, Saura Lázaro A, Benavente Moreno Y, Casabonne D, Loureiro E, Cabrera S, Duran A, Garrote L, Brao I, Trelis J, Galán M, Soler F, Julià J, Cortasa D, Domínguez MÁ, Albasanz Puig A, Gudiol C, Ramírez Tarruella D, Muniesa J, Rivas JP, Muñoz Montplet C, Sedano A, Plans À, Calvo Cerrada B, Calle C, Clopés A, Carnicer Pont D, Alemany L, Fernández E. COVID-19 among workers of a comprehensive cancer centre between first and second epidemic waves (2020): a seroprevalence study in Catalonia, Spain. BMJ Open. 2022. 12. (4):e056637. IF:3,006. (Q2).
4. Fizazi K, Foulon S, Carles J, Roubaud G, McDermott R, Flechon A, Tombal B, Supiot S, Berthold D, Ronchin P, Kacso G, Gravis G, Calabro F, Berdah JF, Hasbini A, Silva M, Thiery Vuillemin A, Latorzeff I, Mourey L, Laguerre B, Abadie Lacourtoisie S, Martin E, El Kouri C, Escande A, Rosello A, Magne N, Schlurmann F, Priou F, Chand Fouche ME, Freixa SV, Jamaluddin M, Rieger I, Bossi A, PEACE 1 I. Abiraterone plus prednisone added to androgen deprivation therapy and docetaxel in de novo metastatic castration-sensitive prostate cancer (PEACE-1): a multicentre, open-label, randomised, phase 3 study with a 2 x 2 factorial design. Lancet. 2022. 399. (10336):p. 1695-1707. IF:202,731. (Q1).
5. Locquet M, Spoor D, Crijns A, van der Harst P, Eraso A, Guedea F, Fiúza M, Santos SCR, Combs S, Borm K, Mousseaux E, Gencer U, Frija G, Cardis E, Langendijk H, Jacob S. Subclinical Left Ventricular Dysfunction Detected by Speckle-Tracking Echocardiography in Breast Cancer Patients Treated With Radiation Therapy: A Six-Month Follow-Up Analysis (MEDIRAD EARLY-HEART study). Front Oncol. 2022. 12. p. 883679-883679. IF:5,738. (Q2).
6. Eraso A, Sanz J, Mollà M, Reyes V, Pedro A, Arenas M, Martinez E, Ballester R, Cambra MJ, García V, Prades JL, Borras JM, Algara M. Evidence-based guidelines for hypofractionated radiation in breast cancer: conclusions of the Catalan expert working group. Clin Transl Oncol. 2022. 24. (8):p. 1580-1587. IF:3,340. (Q3).
7. Laplana M, Garcia Marqueta M, Sanchez Fernandez JJ, Martinez Perez E, Perez Montero H, Martinez Montesinos I, Eraso A, Saldana P, Martin R, Martin MI, Pla MJ, Garcia Tejedor A, Guedea F. Effectiveness and safety of intraoperative radiotherapy (IORT) with low-energy X-rays (INTRABEAM(R)) for accelerated partial breast irradiation (APBI). Clin Transl

Oncol. 2022. 24. (9):p. 1732-1743. IF:3,340. (Q3).

8. Humbert Vidan L,Hansen CR,Fuller CD,Petit S,Van der Schaaf A,Van Dijk LV,Verduijn GM,Langendijk H,Munoz Montplet C,Heemsbergen W,Witjes M,Mohamed A,Khan AA,Querol JM,Cancio IO,Patel V,King AP,Johansen J,Urbano TG. **Protocol Letter: A multi-institutional retrospective case-control cohort investigating PREDiction models for mandibular OsteoRadioNecrosis in head and neck cancer (PREDMORN).** Radiother. Oncol. 2022. 176. p. 99-100. IF:6,901. (Q1).

GRANTS

IDIBGI Principal Investigator: Arantxa Eraso
Project Title: Contracte de treball en el Marc del Programa INVESTIGO-AGAUR
Project Code: 2022 INV-1 00001-100001TC4
Funding Agency: AGÈNCIA DE GESTIÓ D'AJUTS UNIVERSITATS I DE RECERCA-
Duration: 28/11/2022 to 27/11/2024

IDIBGI Principal Investigator: Arantxa Eraso / Sergio Moral
Project Title: Impacto de un programa estructurado de ejercicio físico y control de factores de riesgo cardiovasculares en prevención primaria de cardiotoxicidad en pacientes con cáncer de mama sometidos a tratamientos cardiotóxicos: Estudio PREV
Project Code: SEC/FEC-INV-CLI 21/005
Funding Agency: Sociedad Española de Cardiología
Duration: 01/01/2022 to 31/12/2024

IDIBGI Principal Investigator: Arantxa Eraso
Project Title: MEDIRAD "Implications of Medical Low Dose Radiation Exposure"
Project Code: MEDIRAD (EARLY-HEART)
Funding Agency: EUROPEAN COMISSION
Role: Partner
Duration: 01/06/2017 to 28/02/2022

COLLABORATIVE GRANTS

IDIBGI Principal Investigator: Arantxa Eraso
Project Title: Stereotactic Ablative Radiotherapy for Oligometastatic Breast Cancer: a radiomics, multi-omics and machine learning approach in clinical decisionmaking. The OBC-SABR multicentric international project
Project Code:
Funding Agency: ASSOCIACIÓ ESPANYOLA CONTRA EL CÀNCER
Role: Partner / Collaborator
Duration: 01/12/2022 to 03/11/2025

IDIBGI Principal Investigator: Arantxa Eraso
Project Title: Stereotactic Ablative Radiotherapy for Oligometastatic Breast Cancer: a radiomics, multi-omics and machine learning approach in clinical decisionmaking. The OBC-SABR multicentric international project
Project Code:

Funding Agency: ACCIÓN ESTRATÉGICA DE SALUD (AES 2022)

Role: Partner / Collaborator

Duration: 01/01/2023 to 31/12/2025

IDIBGI Principal Investigator: Arantxa Eraso

Project Title: Linfadenectomía axilar versus radioterapia axilar en pacientes con ganglio centinela positivo tras terapia neoyuvante. Estudio multicéntrico randomizado fase III

Project Code:

Funding Agency: ASSOCIACIÓ ESPANYOLA CONTRA EL CÀNCER

Role: Partner / Collaborator

Duration: 09/12/2022 to 09/12/2027

IDIBGI Principal Investigator: Àlvar Roselló

Project Title: Comparative effectiveness research for shared decision making on traditional and new treatment modalities in localized prostate cancer

Project Code:

Funding Agency: ASSOCIACIÓ ESPANYOLA CONTRA EL CÀNCER

Role: Partner / Collaborator

Duration: 01/12/2022 to 03/11/2025

PATENTS

Title: System for positioning patients during radiotherapy treatments

Application number: EP21382944

EPO

Applicants: ICO, IDIBGI, Compoxi

Inventors: Carles Muñoz Montplet, Ingrid Romera Martinez, Diego Jurado Bruggeman, Jordi Marruecos Querol, Salvador Bou Sanchez, Roger Grebol Canal

Licensed: No

Title: Device for positioning patients in radiotherapy treatments –

MODELO DE UTILIDAD

Application number: ES20160030997U

National Utility Model

Applicants: ICO, IDIBGI

Inventors: Carles Muñoz Montplet, Ingrid Romera Martinez, Diego Jurado Bruggeman, Jordi Marruecos Querol, Salvador Bou Sanchez, Roger Grebol Canal

Licensed: No

DOCTORAL THESES

Thesis author: Carles Muñoz Montplet

Title: Impacte clínic del càcul de la dosi absorbida en radioteràpia externa mitjançant un nou algorisme basat en la solució de l'equació de Boltzmann

Thesis directors: Dr. Joan Carles Vilanova / Dr. Rafael Fuentes Raspall

European mention: No

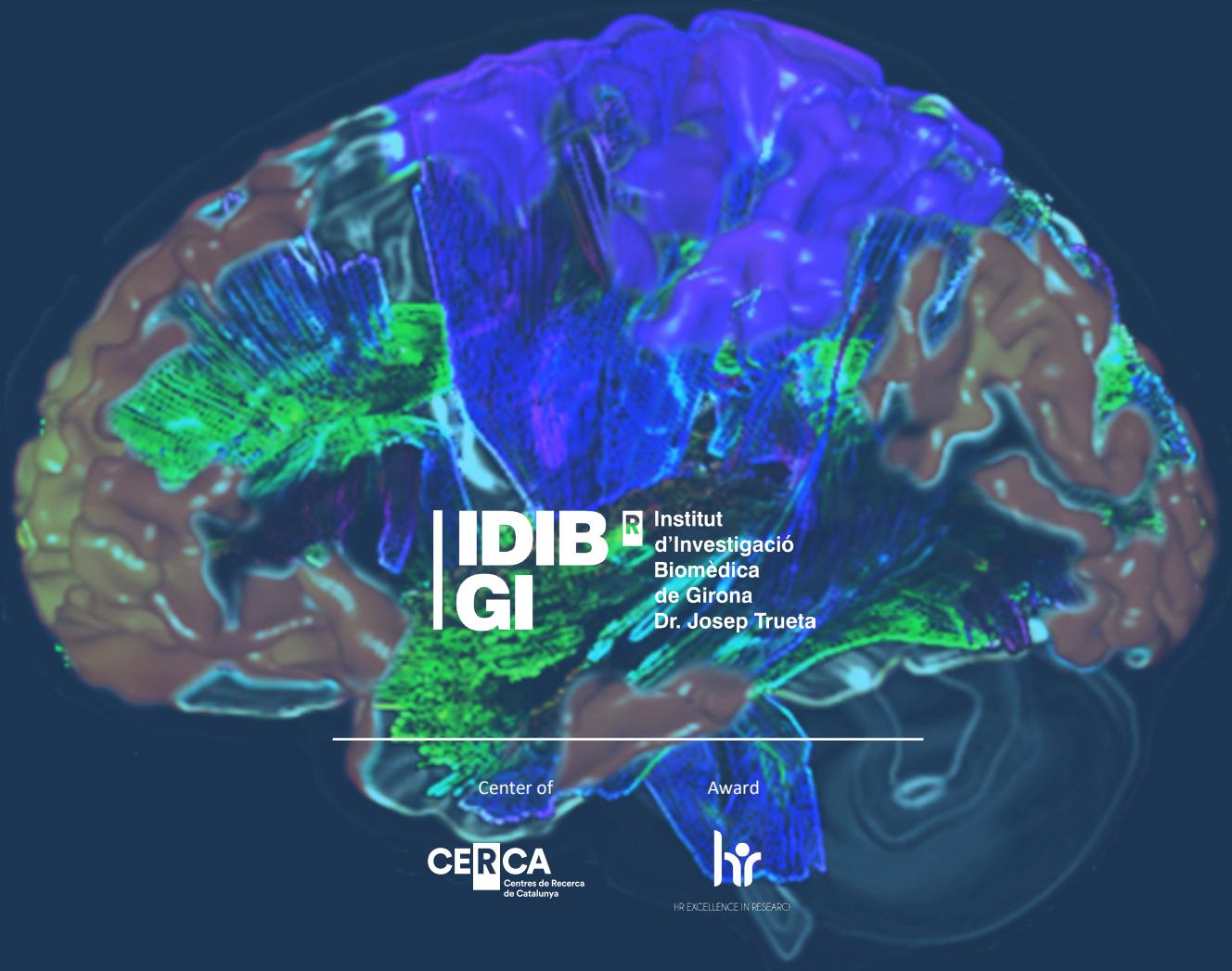


Directory

Aldeguer Manté, Xavier Digestive diseases and microbiota	77	Gallardo Giralt, David Haematology	129
Bassols Casadevall, Judit Metabolic and maternal-fetal	87	López Bermejo, Abel Obesity and cardiovascular risk in children	100
Brugada Terradellas, Ramon Cardiovascular genetics	47	Marcos-Gragera, Rafael Descriptive epidemiology, genetics and cancer prevention	118
Brunet Vidal, Joan Precision Oncology	137	Menéndez Menéndez, Javier Abel Metabolism and cancer	134
Calabria Martínez, Jordi Nephrology	90	Orriols Martínez, Ramon Respiratory	57
Castro Guardiola, Antoni Internal medicine	84	Puig Alcántara, Josep Medical imaging	63
Cid Colom, Jordi Mental Health and addictions	70	Ramió i Torrentà, Lluís Neurodegeneration and neuroinflammation	110
Codina Cazador, Antoni General and digestive surgery	124	Ramos Blanes, Rafel Research in vascular health	53
Eraso Urién, Arantxa Radiation Oncology and Medical Physics	144	Serena Leal, Joaquín Cerebrovascular pathology	106
Esteba Castillo, Susanna Neurodevelopmental disorders	72	Sirvent Calvera, Josep Maria Infection, sepsis and multi-organic dysfunction in the critically ill patient	81
Fernández-Real Lemos, José Manuel Nutrition, eumetabolism and health	93		
Frigola Mas, Jordi Chromosomal replication	116		



Institut
d'Investigació
Biomèdica
de Girona
Dr. Josep Trueta



Board of trustees

Generalitat de Catalunya
Departament de Salut

Generalitat de Catalunya
Departament de Recerca i Universitats

S/ Institut Català de la Salut

IAS Institut d'Assistència Sanitària

ICO Institut Català d'Oncologia

Universitat de Girona

Associated institutions

IDI
INSTITUT DE
DIAGNOSTIC PER
LA IMATGE

IDIAP
JORDI GOL

BANC DE SANG
I TEIXITS

EUSES
CAMPUS DE SALT
Escola Universitària de la Salut i l'Esport