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Director’s Foreword
The Maimonides Institute for Biomedical Research of Córdoba (IMIBIC) continues its development, pursuing the goal of achieving excellence in research and innovation, and bringing its results to the patient and the society. This is made possible by the strong, joint commitment of professionals and institutions, which provides the solid ground that enables a sustained growth in production and quality.

After 2015, a year full of changes and challenges for IMIBIC, in 2016 the Institute has consolidated the development of its regular activities in a new environment, while attaining two most important objectives: the renewal of the accreditation as a Health Research Institute by the National Institute of Health Carlos III, and the elaboration, approval and launching of the new Strategic Plan 2016-2020.

The process of re-accreditation and that of constructing and deploying the Strategic Plan 2016-2020 have shared a key, common basis, which is the involvement of all the IMIBIC community in these endeavours. From researchers focused on basic, clinical or translational science, to nurses and technicians, from personnel in core facilities, or in management and administrative areas, to the governing and scientific boards, all the professionals participated and contributed to the success of these complex and laborious processes.

The challenge will be now to maintain this enthusiastic involvement of all the research community, and to polish and improve our capacities, toward attaining higher levels
of quality, production and efficiency as an independent research center of excellence, with a translational nature and a vocation to improve the quality of life of patients.

This 2016 Scientific Report summarizes the main figures of the research and innovation activities developed by the scientific teams and research support areas of the IMIBIC. A steady growth in the main areas of activity is reflected in the indexes and graphs, but, most importantly, the data depicts the efforts of our research community towards increasing their standards of quality, international collaboration, translation, and innovation. In 2016, IMIBIC continued increasing its scientific output, with 401 publications and a global impact factor of 1528 points.

The Strategic Plan 2016-2020 provides a solid and valuable roadmap for the next years, for it defines our mission, our main and specific goals, and the tools to achieve them, in a precise and specific manner. It is now the time to pursue and achieve these objectives.

To this end, our next challenge will also be to foster and enhance the five Scientific Programs, oriented to major health problems, which will pave the way to the future success of truly translational research at IMIBIC. The integrated enthusiastic work of our scientists and institutions will hopefully enable to bring the best results from biomedical research to the patient.

Justo P. Castaño
Scientific Director
Human, Technological and Economic Resources
2. Human, Technological and Economic Resources. Facilities

2.1. Organization Chart

IMIBIC’s governing and representative bodies are detailed below:

A. Collegiate Bodies

The collegiate bodies composing IMIBIC are the Governing Board, the Scientific Board and the External Scientific Board. Each body has its competencies and is composed of several specialists.

**Governing Council**

The Governing Council is the uppermost governing body of IMIBIC. The Governing Council is composed of the following members:

Two representatives from the Regional Ministry of Equity, Health and Social Policies of the Andalusian Regional Government
- Mª Isabel Baena Parejo. General Director of Research and Management of Knowledge of the Health Council
- Marina Álvarez Benito. Managing Director of the Reina Sofia University Hospital and President of FIBICO.

Two representatives from the Regional Ministry of Economy, Innovation, Science and Employment
- Manuel García León. General Director for Research, Technology and Business

Two representatives of the University of Córdoba
- Antonio Cubero Atienza. Vicerector of Institutional Coordination and Infrastructures
- Luisa M. Rancaño Martín. Managing Director

IMIBIC’s Scientific Director
- Justo P. Castaño Fuentes

One representative from the Progress and Health Foundation
- Ana Madera Molano. Managing Director
IMIBIC's General Manager
José Miguel Guzmán de Damas

Scientific Council
The Scientific Council is an advisory body to the Scientific Director. It is composed of the Scientific Director, the Deputy Scientific Director of IMIBIC, the Principal Investigators (PI), the Emerging Researchers (ER), the Associated Researchers (AR), a representative of the Reina Sofia University Hospital Board of Directors (RSUH), the IMIBIC’s General Manager and representatives of the technical and management staff. It was established on July 9, 2009.

External Scientific Advisory Board
The External Advisory Board is a body appointed by the Governing Council, whose mission is to assist the Scientific Director in the performance of his duties. It is an advisory body to the Scientific Direction but its decisions are not legally binding. It was established on July 9, 2009 under the name of External Advisory Board, and it was ratified by the Governing Council on December 21, 2009

B. Individual Bodies
The Management Team is responsible for ensuring the correct performance, in order to increase the quality and impact of IMIBIC’s research activity.

Scientific Director
Justo P. Castaño Fuentes. Full Professor of Cell Biology of University of Cordoba. He was named scientific director of IMIBIC by the Governing Council at a meeting held on April 08, 2015.

Deputy Scientific Director of Basic Research
Manuel Tena Sempere. Full Professor of Physiology at the Faculty of Medicine of the University of Córdoba. He was re-named scientific director of IMIBIC by the Governing Council at a meeting held on April 08, 2015.

Deputy Scientific Director of Clinical Research
José López Miranda. Full professor of the University of Cordoba and Head of the Internal Medicine Unit at Reina Sofia University Hospital. He was named scientific director of IMIBIC by the Governing Council at a meeting held on April 08, 2015.

General Manager
José Miguel Guzmán de Damas. Hospital Pharmacist. He holds a BSc in Pharmacy and a BSc in Business Administration. He also holds a MsC in Health Economics and a Health Care Management and an Executive MBA from the IESE Business School. He was appointed General Manager of IMIBIC by the Governing Council at a meeting held on December 21, 2010.

2.2. Scientific Structure
The scientific structure of IMIBIC is based on its research groups, which cooperate in the development of the Scientific Programs approved by the Governing Council on July 12, 2013. These programs have been compiled following the recommendations of the Strategic Health Action Plan 2013-2016, which are oriented towards the European Union’s ‘Horizon 2020’ program. The aim of this structure is to define the horizon that should guide researchers towards translational and clinical research into human health. We aim to encourage interaction and cooperation through it, as well as foster participation to increase talent and critical mass and improve young people’s training, which will make it easier for them to find a job. Our Scientific Programs are therefore a reflection of the strength of our research teams and show the unique specialization of IMIBIC. The programs are as follows:

2.2.1. Active ageing and Frailty
This program is oriented towards understanding the molecular pathogenic basis of the aging process, its relation to quality of life and the search for new strategies for patience care assistance. It includes the following lines of research:
• Immunology and senescence
• Attention and care of the chronically ill
• Frailty and quality of life in the elderly

2.2.2. Nutrition and endocrine and metabolic diseases
This program is oriented towards studying diseases of the metabolism and the endocrine system, with particular interest in the role of nutrition in the prevention and management of these processes at different stages of life. It also focuses on the study of reproductive health and neuroendocrine tumors. It includes the following lines of research:
• Metabolic syndrome
• Reproductive Health
• Pediatric and perinatal diseases
• Neuroendocrine Tumors

2.2.3. Infectious and immunological diseases and organ transplants
This program focuses on the study of diseases by different infectious agents, with a special emphasis on the infections in immunocompromised patients. It includes the following lines of research:
• HIV + Hepatitis C Virus
• Transplants
• Multi-drug resistance

2.2.4. Cancer (Oncology and Oncohematology)
This program focuses on the study of neoplastic diseases, including both solid tumors and hematologic neoplasms. It includes the following lines of research:
• Lung Cancer
• Breast Cancer
• Hepatocellular carcinoma
• Leukemia and Lymphomas
• Digestive Tumors
• Other tumors

2.2.5. Chronic and Inflammatory Diseases
This program focuses on the study of a number of chronic diseases of modern society, with special emphasis on those of an inflammatory nature. This program includes both basic research and clinical studies, with the ultimate aim of promoting a better understanding of the basis of chronic/inflammatory diseases and the improvement of their therapies. It includes the following lines of research:
• Cardiovascular diseases
• Diseases of the locomotor system and connective tissue
• Neurological diseases
• Mental health
• Kidney and urologic diseases
• Liver and digestive diseases
• Chronic inflammation and signaling
## 2.3. Research Groups

**GC- Consolidated Groups – GE - Emerging Groups – GA - Associated Groups**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Researchers</th>
</tr>
</thead>
<tbody>
<tr>
<td>GC1</td>
<td>Immunology and Allergy PROGRAMS 1, 3, 5</td>
<td>Dr. Rafael Solana Lara (PI)</td>
</tr>
<tr>
<td>GC2</td>
<td>Oxidative and nitrosative stress in acute and chronic liver disease. PROGRAMS 3, 4, 5</td>
<td>Dr. Manuel De La Mata García (PI) Dr. José Antonio Bárceña Ruiz (CO-PI)</td>
</tr>
<tr>
<td>GC3</td>
<td>Infectious diseases. PROGRAMS 1, 3, 5</td>
<td>Dr. Julián De La Torre Cisneros (PI) Dr. Antonio Rivero Román (CO-PI)</td>
</tr>
<tr>
<td>GC4</td>
<td>Inflammation and cancer. PROGRAMS 2, 3, 4, 5</td>
<td>Dr. Eduardo Muñoz Blanco (PI) Dr. Marco A. Calzado (ER)</td>
</tr>
<tr>
<td>GC5</td>
<td>Systemic and chronic inflammatory autoimmune diseases of the locomotor system and connective tissue. PROGRAMS 2, 5</td>
<td>Dr. Rosario López Pedrera (PI) Dr. Eduardo Collantes Estévez (CO-PI)</td>
</tr>
<tr>
<td>GC6</td>
<td>New therapies in cancer. PROGRAM 4</td>
<td>Dr. Enrique Aranda Aguilar (PI) Dr. Antonio Rodríguez Ariza (CO-PI)</td>
</tr>
<tr>
<td>GC7</td>
<td>Nephrology. Cell damage in chronic inflammation. PROGRAMS 1.5</td>
<td>Dr. Pedro Aljama García (PI) Dr. Julia Carracedo Añón (CO-PI)</td>
</tr>
<tr>
<td>GC8</td>
<td>Hormones and cancer. PROGRAMS 2, 4</td>
<td>Dr. Justo P. Castaño Fuentes (PI) Dr. Francisco Gracia Navarro (CO-PI)</td>
</tr>
<tr>
<td>GC9</td>
<td>Nutrigenomics. Metabolic syndrome. PROGRAMS 1, 2, 4, 5</td>
<td>Dr. José López Miranda (PI) Dr. Francisco Pérez Jiménez (CO-PI) Dr. Yolanda Almadén Peña (CO-PI) Dr. Javier Delgado Lista (CO-PI) Dr. Pablo Pérez Martínez (CO-PI)</td>
</tr>
<tr>
<td>GC10</td>
<td>Hormonal regulation of energy balance, puberty and reproduction. PROGRAMS 2, 4</td>
<td>Dr. Manuel Tena Sempere (PI)</td>
</tr>
<tr>
<td>GC11</td>
<td>Metabolism and adipocyte differentiation. Metabolic syndrome. PROGRAM 2</td>
<td>Dr. María del Mar Malagón Poyato (PI) Dr. Francisco Gracia Navarro (CO-PI)</td>
</tr>
<tr>
<td>GC12</td>
<td>Epidemiological Research in Primary Care. PROGRAMS 4, 5</td>
<td>Dr. Luis Ángel Pérula de Torres (PI)</td>
</tr>
<tr>
<td>GC13</td>
<td>Calcium metabolism. Vascular calcification PROGRAMS 2, 5</td>
<td>Dr. Mariano Rodríguez Portillo (PI)</td>
</tr>
<tr>
<td>GC14</td>
<td>Cell therapy. PROGRAM 5</td>
<td>Dr. I. Concepción Herrera Arroyo (PI)</td>
</tr>
<tr>
<td>GC15</td>
<td>Invasive cardiology and cell therapy. PROGRAM 5</td>
<td>Dr. José Suárez De Lezo Cruz-Conde (PI)</td>
</tr>
<tr>
<td>GC16</td>
<td>Cell biology in hematology. Hypercoagulability. PROGRAM 4</td>
<td>Dr. Joaquín Sánchez García (PI) Dr. Francisco Velasco Gimena (CO-PI)</td>
</tr>
<tr>
<td>GC17</td>
<td>Pathophysiology of the endocrine system of vitamin D. Biotechnology and aging. PROGRAMS 1, 2</td>
<td>Dr. José Manuel Quesada Gómez (PI)</td>
</tr>
<tr>
<td>GC18</td>
<td>Translational research in surgery of solid organ transplants. PROGRAMS 4, 5</td>
<td>Dr. Javier Briceño Delgado (PI)</td>
</tr>
<tr>
<td>GC19</td>
<td>Applications of machine vision. PROGRAM 5</td>
<td>Dr. Rafael Medina Carnicer v(PI)</td>
</tr>
<tr>
<td>Code</td>
<td>Program Title</td>
<td>Lead Investigator</td>
</tr>
<tr>
<td>------</td>
<td>-------------------------------------------------------------------------------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>GC20</td>
<td>Genetics and behavioural diseases.</td>
<td>Dr. Manuel Ruiz Rubio (PI)</td>
</tr>
<tr>
<td>GC21</td>
<td>Metabolomics. Identification of bioactive components.</td>
<td>Dr. María Dolores Luque De Castro (PI) Dr. Feliciano Priego Capote (ER)</td>
</tr>
<tr>
<td>GC22</td>
<td>Epigenetics.</td>
<td>Dr. Teresa Roldán Arjona (PI)</td>
</tr>
<tr>
<td>GC23</td>
<td>Metabolism in Childhood</td>
<td>Dr. Mercedes Gil Campos (PI)</td>
</tr>
<tr>
<td>GE1</td>
<td>Oxidative stress and nutrition.</td>
<td>Dr. Isaac Túnez Fiñana (PI)</td>
</tr>
<tr>
<td>GE2</td>
<td>Knowledge Discovery and Intelligent Systems</td>
<td>Dr. Sebastián Ventura Soto (PI)</td>
</tr>
<tr>
<td>GE3</td>
<td>Skin immune mediate inflammatory diseases (SIMID)</td>
<td>Dr. Juan A. Ruano Ruiz (PI)</td>
</tr>
<tr>
<td>GE4</td>
<td>Applied Psychology</td>
<td>Dr. Carmen Tabernero Urbíeta (PI)</td>
</tr>
<tr>
<td>GE5</td>
<td>Urology and Sexual Medicine</td>
<td>Dr. María José Requena Tapia (PI)</td>
</tr>
<tr>
<td>GA1</td>
<td>Lung transplantation. Thoracic malignancies.</td>
<td>Dr. Ángel Salvatierra Velázquez (PI)</td>
</tr>
<tr>
<td>GA2</td>
<td>Comprehensive care nurses - a multidisciplinary perspective.</td>
<td>Dr. María Aurora Rodríguez Borrego (PI)</td>
</tr>
<tr>
<td>GA3</td>
<td>Pneumology</td>
<td>Dr. Bernabé Jurado Gámez (PI)</td>
</tr>
<tr>
<td>GA4</td>
<td>Endocrinology and Nutrition. Insulin resistance, diabetes and metabolism.</td>
<td>Dr. Mª Ángeles Gálvez Moreno (PI)</td>
</tr>
<tr>
<td>GA5</td>
<td>Study of growth. Endocrinology and Child Nutrition.</td>
<td>Dr. Ramón Cañete Estrada (PI)</td>
</tr>
<tr>
<td>GA6</td>
<td>Clinical Analysis.</td>
<td>Dr. Fernando Rodríguez Cantalejo (PI)</td>
</tr>
<tr>
<td>GA8</td>
<td>Radiology</td>
<td>Dr. Daniel López Ruiz (PI)</td>
</tr>
<tr>
<td>GA9</td>
<td>Cardiology Cardiovascular</td>
<td>Dr. Ignacio Muñoz Carvajal (PI)</td>
</tr>
<tr>
<td>GA10</td>
<td>Nuclear Medicine</td>
<td>Dr. Juan A. Vallejo Casas (PI)</td>
</tr>
<tr>
<td>GA11</td>
<td>Learning and Artificial Neural Networks-AYRNA</td>
<td>Dr. César Hervás Martínez (PI)</td>
</tr>
</tbody>
</table>

### 2.4.- Economic Resources

The year 2016 marks the start of the period covered by IMIBIC’s Second Strategic Plan. It also saw IMIBIC’s re-accreditation as a Health Research Institute by the Carlos III Health Institute, as occurred in 2011. The evolution of the income obtained by IMIBIC in recent years has been marked by the funding of Innovative Public Procurement projects, in the total amount of 9 million euros in the years 2013-2015. The increase in overall funds raised was as follows:
The increase in investments, notably the inauguration of the new IMIBIC headquarters in 2015, as well as the launching of two areas dedicated to clinical research within the Reina Sofia University Hospital in Cordoba. The investment in these facilities and in the purchase of scientific equipment for fundamental research has exceeded 20 million euros. At the same time, it is necessary to maintain a balance between public and private funds obtained. Public funding is obtained from various sources, but it is important to highlight the increase in recent years in international funding, mainly at European level. The breakdown of the funds raised by source is as follows:

As with fundraising in general, this is particularly the case with private funds, which have doubled in just four years. A balance has not yet been achieved public vs. private funding, remaining at 66-33% during the analyzed period 2012-2016. However, as indicated previously, the work that is being done to capture private funding is bearing fruit. Not only has it been doubled in recent years, the sources of such funding have also diversified, and measures have been taken to facilitate private fundraising. In this sense, it is worth highlighting the increase in income obtained from clinical studies, which will surely continue to increase significantly in the coming years thanks to the creation of two units dedicated to clinical research with centralized resources.
The previous sections have all referred to annual fundraising activities, which therefore include funding for several years. As a general rule, research projects receive funding for 3 years on average. All the annuities for research projects, together with the Institute's income and structural expenses (called “centralized resources” - Management and UCAIBs), form the annual budget of the Institute. The total budget for the financial year 2016 amounted to more than 9.6 million euros, which in turn was subdivided into 6 million to finance research activities and 2 million to finance the structure and centralized resources.
The breakdown of the sources of the income making up the budget for the year 2016 is as follows:

<table>
<thead>
<tr>
<th>Source</th>
<th>Public</th>
<th>Private</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research projects</td>
<td>3.144.140,22</td>
<td>0</td>
<td>3.144.140,22</td>
</tr>
<tr>
<td>Clinical Studies</td>
<td>0</td>
<td>1.797.330,76</td>
<td>1.797.330,76</td>
</tr>
<tr>
<td>Partner contributions</td>
<td>900.000,00</td>
<td>0</td>
<td>900.000,00</td>
</tr>
<tr>
<td>HR Groups Financing</td>
<td>897.943,74</td>
<td>0</td>
<td>897.943,74</td>
</tr>
<tr>
<td>Donations and Agreements</td>
<td>0</td>
<td>598.060,86</td>
<td>598.060,86</td>
</tr>
<tr>
<td>HR UCAIB Financing</td>
<td>502.396,54</td>
<td>0</td>
<td>502.396,54</td>
</tr>
<tr>
<td>Contracts for Services Rendered</td>
<td>0</td>
<td>442.268,54</td>
<td>442.268,54</td>
</tr>
<tr>
<td>RETICS/CIBER</td>
<td>385.751,33</td>
<td>0</td>
<td>385.751,33</td>
</tr>
<tr>
<td>UCAIB Services</td>
<td>0</td>
<td>92.054,79</td>
<td>92.054,79</td>
</tr>
<tr>
<td>Intensifications</td>
<td>252.000,00</td>
<td>0</td>
<td>252.000,00</td>
</tr>
<tr>
<td>Other</td>
<td>5.870,00</td>
<td>36.894,45</td>
<td>42.764,45</td>
</tr>
<tr>
<td>Financial Income</td>
<td>0</td>
<td>7.687,28</td>
<td>7.687,28</td>
</tr>
</tbody>
</table>
3

Goals achieved in 2016
# 3. Goals achieved in 2016

<table>
<thead>
<tr>
<th>Objective for 2016</th>
<th>Current 2016 Status</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1</strong> Obtain renewal of accreditation by ISCIII as a Health Research Institute.</td>
<td>Obtain</td>
</tr>
<tr>
<td><strong>2</strong> Develop strategies to improve the quality and number of scientific publications and the status of IMIBIC researchers as lead authors.</td>
<td>≥ 27% articles in first decile</td>
</tr>
<tr>
<td><strong>3</strong> Promote and improve clinical research at IMIBIC, fostering the development, quality and efficiency of independent clinical research projects.</td>
<td>≥ 7 trials with IMIBIC as promoter</td>
</tr>
<tr>
<td><strong>4</strong> Encourage institutional integration.</td>
<td>Opening of IMIBIC animal facility Implementation of direct costs Economic returns via IP</td>
</tr>
<tr>
<td><strong>5</strong> Strengthen and improve IMIBIC’s self-sustainability, optimising the management of its own resources by obtaining more European funding and competitive state funding, and by fostering partnerships with the business sector.</td>
<td>Structural income ≥ 2.2 million euros</td>
</tr>
<tr>
<td><strong>6</strong> Develop a strategy for incorporating new clinical and university groups, and for promoting existing groups.</td>
<td>≥ 1 group ≥ 1 group</td>
</tr>
<tr>
<td>7</td>
<td>Attract more research talent and promote professional development.</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>8</td>
<td>Foster, arrange and consolidate international alliances and cooperative ventures.</td>
</tr>
<tr>
<td>9</td>
<td>Promote and enhance the protection of the knowledge generated and the transfer of technology to the business sector.</td>
</tr>
<tr>
<td>10</td>
<td>Assure the quality of the service provided by UCAIBs and Institute management units and promote transversal innovation through them.</td>
</tr>
</tbody>
</table>
4

External Scientific Advisory Board
The composition of the External Scientific Advisory Board was modified in 2014. The annual ordinary meeting took place in December 16, 2014. Its structure is as follows:

**Dr. Lina Badimon Maestro.** Director of the Cardiovascular Research Centre (CSIC-ICCC) (Barcelona)

**Dr. Carlos Diéguez González.** Director of the Centre for Research in Molecular Medicine and Chronic Diseases (CIMUS) (Santiago de Compostela)

**Dr. José María Ordovás.** Senior Scientist and Director for the Nutrition and Genomics Laboratory and Chair of the Functional Genomics Core of the Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University (USA). Scientific Director of IMDEA Food (Madrid)

**Dr. Francisco Sánchez Madrid.** Professor of Immunology at the Universidad Autónoma de Madrid and Scientific Director of La Princesa Research Institute (Madrid)

**Dr. Carlos López-Otín.** Professor of Biochemistry and Molecular Biology at the University of Oviedo (Oviedo)

**Mr. Jorge Barrero Fonticoba.** General Director of La Fundación Cotec (Zaragoza).

According to the internal operation procedure, the main contents of the meeting were focused on mandatory matters. The members forwarded their opinions on the management of the Institute, such as the incorporation of new research groups, the implementation of strategic initiatives, the master plan to change the scientific structure and the approval of the budget for 2016.
Participation in Networks
5.-Participation in Networks

IMIBIC researchers are involved in a wide range of strategic initiatives coordinated by the Health Institute Carlos III and they participate in its National Research Networks program, through the Networks for Cooperative Research in Health (RETsCs in Spanish) and the Biomedical Research Networking Centers (CIBERs in Spanish). In addition, IMIBIC is member of the new platforms that support research in health sciences and technologies. In fact, among the 38 groups integrated in the IMIBIC, 18 participate in partnership programs related to different ISCIII strategic initiatives. 8 groups are involved in 8 RETICs. Additionally, 10 groups are involved in 5 CIBERs and there are 32 groups involved in the Andalusian Plan for Research, Development & Innovation (PAIDI Program).

List of CIBER* projects with IMIBIC participations

* (Network Biomedical Research Center)

Our researchers lead the following CIBERs’ nodes:

<table>
<thead>
<tr>
<th>CIBER</th>
<th>Principal Investigator (PI) /Collaborators</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIBER on Obesity and Nutrition (CIBERobn)</td>
<td>José López Miranda (PI)</td>
</tr>
<tr>
<td></td>
<td>Manuel Tena-Sempere (PI)</td>
</tr>
<tr>
<td></td>
<td>Mercedes Gil Campos (PI)</td>
</tr>
<tr>
<td></td>
<td>Mª Mar Malagón Poyato</td>
</tr>
<tr>
<td></td>
<td>Justo P. Castaño Fuentes</td>
</tr>
<tr>
<td>CIBER on Liver and Digestive Diseases (CIBERehd)</td>
<td>Manuel de la Mata García (PI)</td>
</tr>
<tr>
<td>CIBER on Rare Diseases (CIBERER)</td>
<td>Eduardo López Laso</td>
</tr>
<tr>
<td></td>
<td>Rafael Camino León</td>
</tr>
<tr>
<td>*CIBER on Fragility and Healthy Aging (CIBERFES)</td>
<td>Jose Manuel Quesada Gómez (PI)</td>
</tr>
<tr>
<td></td>
<td>Feliciano Priego Capote</td>
</tr>
<tr>
<td>CIBER on Cancer (CIBERONC)</td>
<td>Enrique Aranda Aguilar (PI)</td>
</tr>
</tbody>
</table>

Platforms

IMIBIC has become member of the new platforms that support research in health sciences and technologies of the Health Institute Carlos III:

- Medical Technology Innovation Platform (ITEMAS)
- Biomolecular and Bioinformatics Resources Platform
- Clinical Research and Clinical Trials Units Platform — SCReN
- Biobanks Platform

RETICS Program

List of ISCIII thematic network centers that the IMIBIC is involved in:

<table>
<thead>
<tr>
<th>Name of the Network</th>
<th>Principal Investigator (PI)/Collaborators</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS Research Network (RIS)</td>
<td>Antonio Rivero Román (PI)</td>
</tr>
<tr>
<td>Spanish Renal Research Network (REDinREN)</td>
<td>Pedro Aljama García (PI)</td>
</tr>
<tr>
<td></td>
<td>Mariano Rodríguez Portillo</td>
</tr>
</tbody>
</table>
Spanish Network for Research into Infectious Pathologies (REIPI)  
Julión de la Torre Cisneros (PI)  
Luis Martinez Martinez

Research Network on Preventive and Health Promotion in Primary Care (RedIAPP)  
Luis A. Pérula de Torres

Spanish Network for asthma, adverse reactions and allergic (ARADYAL)  
Carmen Moreno Aguilar (PI)

Spanish Network for Research in inflammation and rheumatic disease (RIER)  
Eduardo Collantes Estévez (PI)

Spanish Multiple Sclerosis Network (REEM)  
Isaac Túnez Fiñana

Prevention, Early detection, Treatment and Rehabilitation of Ocular Pathologies  
José Mª Gallardo Galera (PI)

Others Networks

Development of novel targeted or immune therapies directed against luminal, HER2-positive and/or triple negative breast cancer.  
Juan de la Haba Rodríguez

Spanish Myelodysplastic Syndrome Registry (Resmd)  
Joaquín Sánchez García

Observational Immune Tolerance Induction research program (ObsITI)  
Francisco Velasco Gimena

Big Data y Análisis de Datos Escalable (BigDADE)  
Sebastián Ventura Soto

PAIDI Groups

Many IMIBIC researchers belong to or lead groups formed under the Andalusian Plan for Research, Development and Innovation (PAIDI, in Spanish).

<table>
<thead>
<tr>
<th>Group</th>
<th>Principal investigator</th>
</tr>
</thead>
<tbody>
<tr>
<td>CTS-208</td>
<td>José Peña Martínez</td>
</tr>
<tr>
<td>BIO 216</td>
<td>José Antonio Bárcena Ruiz</td>
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<tr>
<td>CTS-647</td>
<td>Julián Carlos de la Torre Cisneros</td>
</tr>
<tr>
<td>BIO-304</td>
<td>Eduardo Muñoz Blanco</td>
</tr>
<tr>
<td>CTS-1004</td>
<td>Eduardo Collantes Estévez</td>
</tr>
<tr>
<td>CTS-234</td>
<td>Enrique Aranda Aguilar</td>
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<tr>
<td>CTS-260</td>
<td>Pedro Aljama García</td>
</tr>
<tr>
<td>BIO-139</td>
<td>Justo P. Castaño Fuentes</td>
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<td>BIO-310</td>
<td>Manuel Tena Sempere</td>
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<td>Escolástico Aguilera Tejero</td>
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<td>José Manuel Quesada Gómez</td>
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<tr>
<td>TIC-161</td>
<td>Rafael Medina Carnicer</td>
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<tr>
<td>BIO-272</td>
<td>Manuel Ruiz Rubio</td>
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<td>HUM-924</td>
<td>Juan Antonio Moriana</td>
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<tr>
<td>FQM-227</td>
<td>María Dolores Luque de Castro</td>
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<td>BIO-301</td>
<td>Rafael Rodríguez Ariza</td>
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<tr>
<td>CTS-624</td>
<td>Isaac Túnez Fiñana</td>
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<tr>
<td>CTS-985</td>
<td>José Peña Amaro</td>
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<td>Project Code</td>
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<tr>
<td>TIC-122</td>
<td>Sebastián Ventura Soto</td>
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<td>HUM-414</td>
<td>Carmen Tabernero Uribeta</td>
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<tr>
<td>CTS-666</td>
<td>Aurora Rodríguez Borrego</td>
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<tr>
<td>TIC-148</td>
<td>César Hervás Martínez</td>
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<td>CTS-639</td>
<td>María Mercedes Gil Campos</td>
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<td>CTS-452</td>
<td>Luis A. Pérlula de Torres</td>
</tr>
<tr>
<td>CTS-273</td>
<td>Manuel de la Mata García</td>
</tr>
</tbody>
</table>
Training Activities
6. Training Activities

6.1. Introduction

The Institute conceives training as a fundamental institutional tool to fulfill and improve its scientific goals. Thus, a multifaceted program is designed on an annual basis to foster and provide high-quality scientific training to our researchers, which is adapted to the different stages of their scientific career. This includes from the organization of an annual program of seminars by known national and international leaders in trending scientific topics, to courses that cover concepts related to our current lines of research as well as practical applications on the latest technologies. Along with these activities, the Institute maintains two key training activities: the annual Young Investigators Meeting, aimed at fostering the interaction and exchange of knowledge among our youngest researchers, and the “Maimonides Commemorative Lecture” which includes lectures by leading experts in Biomedicine, and is intended to recognize and award our top scientists. Finally, the IMIBIC is responsible of a PhD Program in Biomedicine and also participates in two additional PhD programs of the University of Cordoba, that, in all, are aimed to obtain highly qualified researchers, promote teaching and favor professional qualification in the field of biomedical sciences.

The Training Program Director: Prof. Mª del Mar Malagón, PhD.

6.2. Training

The following sections list the research training activities developed at the IMIBIC during 2016.

6.2.1. PhD in Biomedicine

IMIBIC leads a unique PhD Program in Biomedicine. This program, coordinated by Prof. Dr. María M. Malagón, aims to qualify human resources and to promote the development of professional skills in the field of biomedical sciences.

Website: http://www.uco.es/idep/doctorado/programas/biomedicina

6.2.2. Master’s Degrees

The Master’s Degree Program associated to the IMIBIC encompasses three master’s degrees that are led by Academic Directors who are members of the IMIBIC:

- **Translational Biomedical Research**
  Academic Director: Prof. Socorro García Navarro, PhD. (2015-16) - Prof. Raúl M Luque Huertas, PhD. (2016-17)
  Website: http://www.uco.es/estudios/idep/masteres/investigacion-biomedica-traslacional

- **Human Nutrition**
  Academic Director: Prof. Rafael Moreno Rojas, PhD.
  Website: http://www.uco.es/estudios/idep/masteres/nutricion-metabolismo

- **Biotechnology**
  Academic Director: Prof. Nieves Abril Díaz, PhD.
  Website: https://www.uco.es/estudios/idep/masteres/biotecnologia

6.2.3. COURSES and other training activities

Specific courses, seminars and other training activities in different research areas have been held during 2016 at the IMIBIC.

6.2.3.1. Training activities

Along the 2016 a number of activities have been organized at the IMIBIC:

<table>
<thead>
<tr>
<th>Type of Activity</th>
<th>Title</th>
<th>Duration *(h)</th>
</tr>
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<tbody>
<tr>
<td>COURSE</td>
<td>Curso de Bioinformática: Introducción al análisis en biología de sistemas</td>
<td>6h</td>
</tr>
<tr>
<td>Type of Activity</td>
<td>Title</td>
<td>Duration *(h)</td>
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<tr>
<td>COURSE</td>
<td>Curso de Bioinformática: Introducción al análisis en biología de sistemas</td>
<td>6h</td>
</tr>
<tr>
<td>CONGRESS</td>
<td>XVI Jornadas Científicas de Medicina Familiar y Comunitaria de Córdoba</td>
<td>11h</td>
</tr>
<tr>
<td>CONGRESS</td>
<td>Manejo de la Terapia Biológica en procesos dependientes de iGe</td>
<td>3h</td>
</tr>
<tr>
<td>SEMINAR</td>
<td>Determinación de tamaño muestral en estudios biosanitarios</td>
<td>9h</td>
</tr>
<tr>
<td>SEMINAR</td>
<td>El desafío de la medición de desigualdades sociales en salud</td>
<td>9h</td>
</tr>
<tr>
<td>INSTITUTIONAL EVENTS</td>
<td>VII Jornada de Jóvenes Investigadores</td>
<td>14h</td>
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<tr>
<td>CONGRESS</td>
<td>Alternativas de financiación de empresas innovadoras en el Sector Salud y Agroalimentario</td>
<td>2h</td>
</tr>
<tr>
<td>SEMINAR</td>
<td>Bienvenida Residentes</td>
<td>3h</td>
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<tr>
<td>CONGRESS</td>
<td>Jornada de Inmunoterapia</td>
<td>4h</td>
</tr>
<tr>
<td>COURSE</td>
<td>New Insights for Multicolor panel design</td>
<td>3h</td>
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<tr>
<td>CONGRESS</td>
<td>Premios IMIBIC-ROCHE</td>
<td>3h</td>
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<tr>
<td>COURSE</td>
<td>Data Visualization Course</td>
<td>4.5h</td>
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<tr>
<td>CONGRESS</td>
<td>“La Nueva Economía del Conocimiento y la Universidad: el Sector eHealth”</td>
<td>6h</td>
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<tr>
<td>CONGRESS</td>
<td>40 Años de excelencia en alergia a himenópteros</td>
<td>4.5h</td>
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<tr>
<td>CONGRESS</td>
<td>Diagnóstico del RAS a través de la Biopsia Líquida; beneficios y práctica clínica</td>
<td>3h</td>
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<tr>
<td>CONGRESS</td>
<td>International workshop on laparoscopic liver surgery</td>
<td>12.5h</td>
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<tr>
<td>MEETING</td>
<td>Oncología Médica Radioterápica y Urología</td>
<td>11h</td>
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<tr>
<td>SEMINAR</td>
<td>Microbiota, Dieta y Lácteos</td>
<td>4h</td>
</tr>
<tr>
<td>CONGRESS</td>
<td>Proyecto Diferenciar</td>
<td>8h</td>
</tr>
<tr>
<td></td>
<td>Meeting Multidisciplinar en Artritis Reumatoide y Enfermedad Pulmonar Intersticial Difusa</td>
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<tr>
<td>SYMPOSIUM</td>
<td>Symposium Nacional sobre Avances en Especialidades Pediátricas</td>
<td>19h</td>
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<tr>
<td>CONGRESS</td>
<td>Actualización de nuevas evidencias en CPRCm</td>
<td>2.5h</td>
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<tr>
<td>CONGRESS</td>
<td>Creación y puesta en marcha de SPIN-OFF (2ª Edición )</td>
<td>25h (online)</td>
</tr>
<tr>
<td>SYMPOSIUM</td>
<td>I Symposio Internacional Transplante Pulmonar</td>
<td>2.5h</td>
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<tr>
<td>MEETING</td>
<td>Reunión multidisciplinar sobre Cáncer de Próstata Resistente a Castración y con metástasis Óseas.</td>
<td>6h</td>
</tr>
<tr>
<td>COURSE</td>
<td>Curso de Gilead</td>
<td>2h</td>
</tr>
<tr>
<td>CONGRESS</td>
<td>Jornada Enfermedades Raras</td>
<td>10.5h</td>
</tr>
<tr>
<td>CONGRESS</td>
<td>I Jornada Provincial de cronicidad</td>
<td>6.5h</td>
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<tr>
<td>MEETING</td>
<td>2ª Reunión multidisciplinar sobre el manejo del paciente con Cáncer Colorrectal Metastásico</td>
<td>3.5h</td>
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<tr>
<td>CONGRESS</td>
<td>New Frontiers in Obesity</td>
<td>26.5h</td>
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<tr>
<td>COURSE</td>
<td>Taller Consumo de Oxígeno</td>
<td>4.5h</td>
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<td>INSTITUTIONAL EVENTS</td>
<td>VI Lección Conmemorativa Maimónides</td>
<td>2h</td>
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<tr>
<td>WORKSHOP</td>
<td>Recovering life wellbeing through pain self-management techniques involving ICTs</td>
<td>5h</td>
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</table>

### 6.2.3.2. IMIBIC Research Seminars

Regular seminars and research events offer the opportunity to meet recognized national and international speakers covering a diverse range of topics in biomedicine. IMIBIC research seminars promote networking and contribute to strengthen the knowledge of the research community of the Institute. The Institute launches yearly cycle of seminars aimed at promoting interactions, sharing ideas, and strengthening the bonds among IMIBIC scientists. In 2016, a total of 23 seminars were presented.
In addition, young researchers (preferentially postdocs) of our Institute have the opportunity to present their ongoing studies in a fortnight-scheduled cycle of intramural seminars, which was launched for the first time in 2015. In 2016, a total of 14 seminars have been presented.

The seminars organized by the Institute during the course 2016 were:

<table>
<thead>
<tr>
<th>Month</th>
<th>Week</th>
<th>Seminarios Intramurales</th>
<th>Seminarios Externos</th>
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<tr>
<td>JANUARY</td>
<td>4-10</td>
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<td>Date: 14/01/2016</td>
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<tr>
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<td>Speaker: Natividad Cuende</td>
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<tr>
<td></td>
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<td>Institution: Iniciativa Andaluza en Terapias Avanzadas. Junta de Andalucía</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Title: Soporte a la traslación clínica de la terapia génetica y celular: la Iniciativa Andaluza en Terapias Avanzadas.</td>
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<tr>
<td></td>
<td>11-17</td>
<td>-</td>
<td>Date: 21/01/2016</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Speaker: Matti Poutanen</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Institution: Department of Physiology, Institute of Biomedicine. University of Turku. (Finlandia)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Title: Regulation of tissue-specific sex steroid action: role of the HSD17B-enzymes in reproductive and metabolic medicine</td>
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<tr>
<td></td>
<td>18-24</td>
<td>Date: 19/01/2016</td>
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<td></td>
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<td>Speaker: Sebastián Ventura</td>
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<tr>
<td></td>
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<td>Group: GE-02</td>
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<tr>
<td></td>
<td></td>
<td>Title: Introducción al análisis de datos y sus aplicaciones a biomedicina</td>
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<tr>
<td></td>
<td>25-31</td>
<td>Date: 28/01/2016</td>
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<td></td>
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<td>Speaker: Albert Quintana</td>
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<tr>
<td></td>
<td></td>
<td>Institution: Departamento de Biología Celular, Fisiología e Inmunología. Universidad Autónoma de Barcelona</td>
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<td>Title: Mecanismos moleculares de la susceptibilidad neuronal a la enfermedad mitocondrial</td>
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<td>FEBRUARY</td>
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<td>Speaker: Yolanda Jiménez</td>
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<td>Title: Estudio de los mecanismos celulares y moleculares de las vías inflamatoria y osteoproliferativa en la espondilitis anquilosante. Nuevas dianas terapéuticas</td>
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<td>8-14</td>
<td>Date: 11/02/2016</td>
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<td>Speaker: Elena Navarro González</td>
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<td>Institution: Hospital Universitario Virgen del Rocío de Sevilla</td>
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<tr>
<td></td>
<td></td>
<td>Title: Epidemiología del cáncer de tiroides</td>
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<tr>
<td></td>
<td>15-21</td>
<td>Date: 16/02/2016</td>
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<td>Speaker: Maribel Lara Chica</td>
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<td>Title: CHK2 stability is regulated by the E3 ubiquitin ligase SIAH2</td>
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<td>22-28</td>
<td>Date: 25/02/2016</td>
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<td>Speaker: Miguel Ángel Martínez</td>
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<td>Institution: Universidad de Navarra</td>
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<tr>
<td></td>
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<td>Title: La importancia de la investigación en epidemiología clínica para mejorar la práctica clínica.</td>
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<tr>
<td>Month</td>
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<td>Seminarios Externos</td>
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| MARCH | 29-6 | Date: 01/03/2016  
Speaker: Victoria García Ortiz  
Group: GC-22  
Title: Modificación del epigenoma en células tumorales mediante expresión de desmetilasas vegetales | Date: 03/03/2016  
Speaker: Miguel Ángel Quintela-Fandiño  
Institution: Unidad de investigación clínica del cáncer de mama del CNIO  
Title: Mecanismos de resistencia a tratamientos antiangiogénicos |
|       | 7-13 | Date: 08/03/2016  
Speaker: Valeria Barresi  
Group: Department Human Pathology, University of Messina  
Title: Role of pathologist in targeted cancer therapy | Date: 10/03/2016  
Speaker: Ana Vivancos Prellezo  
Institution: Grupo genómica del cáncer del instituto de oncología del Vall D’Hebron  
Title: Biopsia Líquida: conceptos, tecnología y aplicaciones clínicas. |
|       | 14-20| Date: 15/03/2016  
Speaker: Manuel Gañete Ortiz  
Group: GC-08  
Title: Los sistemas somatostatina y ghrelina como ejemplo de convergencia entre hormonas, metabolismo y cáncer | - |
|       | 21-27| Date: 29/03/2016  
Speaker: Pablo López Soto  
Group: GA-02  
Title: “Diurnal and twenty-four hour patterning of human diseases: findings in falls in the elderly” | Date: 29/03/2016  
Date: 07/04/2016  
Speaker: Prof. José Verdu Soriano  
Institution: Universidad de Alicante  
Title: “El cuidado de heridas y el paradigma del biofilm bacteriano” |
| APRIL | 28-3Apr | - | Date: 30/03/2016  
Speaker: Dr. Sollinger  
Institution: University of Wisconsin School of Medicine and Public Health  
Title: Terapia génica de la Diabetes |
|       | 4-10 | - | Date: 07/04/2016  
Speaker: Prof. José Verdu Soriano  
Institution: Universidad de Alicante  
Title: “El cuidado de heridas y el paradigma del biofilm bacteriano” |
|       | 11-17| - | - |
|       | 18-24| Date: 19/04/2016  
Speaker: Antonio Rivero-Jurarez  
Group: GC-03  
Title: Virus de la hepatitis E: enfermedad emergente en Europa? | - |
|       | 25-1May | Date: 26/04/2016  
Speaker: Antonio Romero  
Group: GC-10  
Title: Estudios fisiopatológicos y mejora diagnóstica en patologías reproductivas: Embarazo Ectópico, Endometriosis y Síndrome de Ovario Poliquístico | Date: 28/04/2016  
Speaker: Susana de la Luna  
Institution: CRG (Centre for Genomic Regulation) de Barcelona  
Title: La proteína quinasa DYRK1A como un nuevo regulador de angiogenasis |
<table>
<thead>
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<th>Month</th>
<th>Week</th>
<th>Seminarios Intramurales</th>
<th>Seminarios Externos</th>
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<tr>
<td>MAY</td>
<td>2-8</td>
<td>-</td>
<td>Date: 05/05/2016</td>
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<td>Speaker: Luis Carlos Silva Ayçaguer.</td>
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<td>Institution: Centro Nacional de Información de Ciencias Médicas. INFOMED.</td>
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<tr>
<td></td>
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<td>Title: El uso ritual de la estadística y sus efectos sobre la construcción de conocimiento.</td>
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<td>MAY</td>
<td>9-15</td>
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<td>Speaker: Luke Selth</td>
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<td>Institution: The University of Adelaide</td>
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<td>Title: &quot;Novel microRNA regulators of prostate cancer epithelial plasticity and metastasis&quot;.</td>
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<td>Speaker: Rafael Simó Canonge</td>
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<td>Institution: Diabetes Research and Metabolism Unit</td>
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<td>Title: Neurodegeneración y retinopatía diabética: implicaciones terapéuticas</td>
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<td>JUNE</td>
<td>23-29</td>
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<td>Speaker: Juanjo Giner</td>
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<td>JUNE</td>
<td>30may-5</td>
<td>Date: 02/06/2016</td>
<td>Speaker: Marina Pollán</td>
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<td></td>
<td></td>
<td>Institution: Centro Nacional de Epidemiología (Instituto de Salud Carlos III)</td>
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<tr>
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<td>Title: Epidemiología del cáncer de mama y densidad mamográfica</td>
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<tr>
<td>JUNE</td>
<td>6-12</td>
<td>-</td>
<td>Date: 09/06/2016</td>
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<tr>
<td></td>
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<td>Speaker: Leocadio Rodríguez Mañas</td>
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<tr>
<td></td>
<td></td>
<td>Institution: Jefe de Servicio de Geriatría. Hospital Universitario de Getafe. Coordinador de la Red Temática de Investigación Cooperativa en Envejecimiento y Fragilidad (RETICEF)</td>
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<td>Title: El anciano con diabetes: un abordaje distinto para un paciente diferente.</td>
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<td>JUNE</td>
<td>13-19</td>
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<td>Date: 16/06/2016</td>
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<td></td>
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<td>Speaker: María D. Mayán Santos</td>
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<tr>
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<td>Title: Conexinas y panexinas nuevas dianas en el diagnóstico y la terapéutica.</td>
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<tr>
<td>JUNE</td>
<td>20-26</td>
<td>Date: 22/06/2016</td>
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<td>Speaker: Francisco Gómez Garcia</td>
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<td></td>
<td>Title: 10 claves prácticas para publicar una revisión sistemática y un meta-análisis en red en 2016</td>
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<tr>
<td>JUNE</td>
<td>27-3jul</td>
<td>Date: 29/06/2016</td>
<td>Speaker: Domingo Barber Hernandez.</td>
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<tr>
<td></td>
<td></td>
<td>Institution: Director del Instituto de Medicina Molecular Aplicada de la Facultad de Medicina de la Universidad San Pablo-CEU.</td>
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<tr>
<td></td>
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<td>Title: Inmunoterapia en Alergia</td>
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<tr>
<td>JUNE</td>
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<td>Date: 23/06/2016</td>
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<tr>
<td></td>
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<td>Seminarios Intramurales</td>
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<td>4-10</td>
<td><strong>Title:</strong> Aproximaciones clásicas y proteómicas para el descubrimiento de biomarcadores predictivos de respuesta a terapias antiangiogénicas.</td>
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<td>11-17</td>
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<td>25-31</td>
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<td>AUGUST</td>
<td></td>
<td><strong>Date:</strong> 05/09/2016</td>
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<td><strong>Speaker:</strong> Francisco Borrego Rabasco</td>
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<tr>
<td></td>
<td></td>
<td><strong>Institution:</strong> Instituto de Investigación Sanitaria BioCruces</td>
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<tr>
<td></td>
<td></td>
<td><strong>Title:</strong> Receptores CD300: Papel en la regulación de la activación de basófilos mediada por IgE.</td>
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<td>SEPTEMBER</td>
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<td>3-9</td>
<td><strong>Date:</strong> 07/10/2016</td>
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<td></td>
<td>10-16</td>
<td><strong>Speaker:</strong> Edgardo Carosella</td>
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<tr>
<td></td>
<td>17-23</td>
<td><strong>Institution:</strong> Jefe del Departamento de Inmunología Aplicada del Hospital Saint Louis</td>
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<tr>
<td></td>
<td>24-30</td>
<td><strong>Title:</strong> La molécula HLA-G: Check Point en la Respuesta Inmune</td>
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<td></td>
<td></td>
<td><strong>Date:</strong> 25/10/2016</td>
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<td></td>
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<td><strong>Speaker:</strong> César Hervás Martínez</td>
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<td></td>
<td><strong>Group:</strong> GA11</td>
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<tr>
<td></td>
<td></td>
<td><strong>Title:</strong> Modelos de redes neuronales computacionales: Aplicación a problemas de asignación donante receptor en biomedicina de transplantes.</td>
<td></td>
</tr>
<tr>
<td>Month</td>
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<td>Seminarios Intramurales</td>
<td>Seminarios Externos</td>
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<td>NOVEMBER</td>
<td>31Oct-6</td>
<td>-</td>
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| | 7-13 | Date: 08/11/2016  
Speaker: Sara Cantisán Bohorquez  
Group: GC03  
Title: Valor de la monitorización inmunológica en el manejo de la infección por citomegalovirus en pacientes trasplantados | - |
| | 14-20 | - | - |
| | 21-27 | Date: 24/11/2016  
Speaker: Ángel Nadal Navajas  
Institution: Universidad Miguel Hernández  
Title: Regulación de la célula beta por disruptores endocrinos y riesgo de diabetes | - |
| DECEMBER | 28-4Dec | - | - |
| | 5-11 | - | - |
| | 12-18 | - | - |
| | 19-25 | Date: 20/12/2016  
Speaker: Dimitrios P. Mikhailidis  
Institution: University College London, Department of Clinical Biochemistry  
Title: How to write a scientific paper. | - |
| | 26-1Jan | - | - |
The IMIBIC Young Investigator Meetings is intended to provide the ideal environment to strengthen the skills and knowledge of young scientists, fostering translational research by facilitating the interface between experimental basic science and clinical medicine to improve health and the quality of life. By sharing the results obtained by young researchers at the IMIBIC and related centers, such as other groups of the University of Cordoba, we intend to encourage inter-disciplinarity and, especially, quality training.

The objectives of the Meetings are:

- To provide a platform to discuss the latest knowledge and methods in translational medical research.
- To promote and encourage the exchange of ideas between pre- and post-doctoral scientists and strengthen the bonds among research groups.
- To facilitate interdisciplinary actions and communication to bring together basic and clinical research.
- To foster and provide high-quality scientific training to young researchers.
- To consolidate the annual IMIBIC Conference of Young Researchers as a youthful and fresh reference forum for the research community and, in particular, for our young researchers.

The 7th IMIBIC Conference of Young Researchers took place at the IMIBIC Building, 10-11 May, 2016. The Meeting program included different sessions encompassing the IMIBIC Scientific Programs, as follows:
6th Maimonides Commemorative Lecture and IMIBIC awards 2016

The aim of this initiative is to recognize the biomedical research carried out by IMIBIC staff and to emphasize the importance of the work carried out at the Institute. Additionally, in each edition, a professional of recognized international prestige in the field of biomedicine is invited to give the so-called “Maimónides Lecture”, a conference focusing on the latest knowledge on biomedical subjects of special interest in which the lecturer is an expert.

This year, the guest was Dr. Antonio Vidal Puig, PhD in Medicine and Professor of Molecular Nutrition and Metabolism at the University of Cambridge and Honorary Consultant in Metabolic Medicine at Addenbrooke Hospital, Cambridge. Dr. Vidal is a Senior Research Fellow at the BHF Cambridge Cardiovascular Centre for Research Excellence at the University of Cambridge. Dr. Vidal has developed his career at Harvard University and, since 2000, at the University of Cambridge. His works have contributed fundamentally to our current knowledge on obesity and the development of associated metabolic diseases, which has been recognized through different distinctions, such as the Distinguished Career Award in the field of Endocrinology, Nutrition and Obesity, granted by The Lilly Foundation at its 2015 Biomedical Research Awards. Dr. Vidal has also contributed to the training of numerous young researchers, including some members of IMIBIC, receiving them at his laboratory in Cambridge during their research placements.

In addition to the IMIBIC awards conference, the winning studies participating this year for each of the IMIBIC awards, including the “Enrique Aguilar Benítez de Lugo” Prize for the most relevant scientific publication in collaboration with international groups, the Award for the best master’s degree thesis, and the Awards for the most relevant translational research results, were given. Another prize was awarded for the journalistic news report most valuable to IMIBIC.

In addition to the aforementioned prizes, a special prize was awarded to the Reina Sofía University Hospital in Córdoba, for its contribution to the advancement of biomedical and health research, commemorating the 40th anniversary of its creation.
6.3. Results of Training Activities

6.3.1. Doctoral Theses

The Institute offers the PhD Program in Biomedicine, which helps prepare young scientists in biomedical and clinical research. Experienced mentors in the IMIBIC supervise the research training in health and health-related areas of a considerable number of predoctoral students. In total 27 researchers of IMIBIC completed their Doctoral Thesis during 2016. Of those 16 were PhD in Biomedicine supervised by senior researchers from the Institute, and 11 in other PhD programs of the University of Cordoba.

PhD Program in Biomedicine

<table>
<thead>
<tr>
<th>Author</th>
<th>Title</th>
<th>Supervisor(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alonso García, Pedro Enrique</td>
<td>Implicación de los alcaloides de las solanáceas comestibles en la etiopatogenia del prurito cicatricial</td>
<td>Rodriguez Portillo, Juan Mariano</td>
</tr>
<tr>
<td>Baeza Garzón, Mª Flor</td>
<td>Seguimiento a largo plazo de pacientes con miocardiopatía dilatada idiopática tras infusión intracoronaria de células de médula ósea</td>
<td>Romero Moreno, Miguel Angel</td>
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<tr>
<td>Gallardo, José María</td>
<td>Estado de los marcadores tumorales en el cáncer de colon obstrucente.</td>
<td>Gallardo Valverde, José María</td>
</tr>
<tr>
<td>Castro Villegas, María del Carmen</td>
<td>Cambios en la expresión de los niveles de micrornas en suero de pacientes con artritis reumatoide en respuesta al tratamiento con la terapia bloqueadora del factor de necrosis tumoral alfa</td>
<td>Collantes Estevez, Eduardo</td>
</tr>
<tr>
<td>Delgado Domínguez, Carlos Jesús</td>
<td>Bases temperamentales del sentido del humor y actividad de la enfermedad en pacientes con espondilitis anquilosante y artritis reumatoide</td>
<td>Collantes Estevez, Eduardo</td>
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<tr>
<td>Haro Mariscal, Carmen María*</td>
<td>The dysbiosis of the bacterial population of the digestive system (intestinal microbiota) in patients with metabolic syndrome improves after two models of healthy diets. a diet rich in complex carbohydrates and a Mediterranean diet. CORDIOPREV study</td>
<td>Perez Jimenez, Francisco Francisco Antonio, Jose Manuel</td>
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<td>Khraiwesh, Husam Mohammad*</td>
<td>Adaptación metabólica y estructural de tejidos mitóticos y postmitóticos a condiciones de restricción calórica en el ratón. Efecto del tipo de grasa en la dieta</td>
<td>Gonzalez Reyes, Jose Antonio</td>
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<td>Martínez-Dueñas, Loreto</td>
<td>Prevalencia del virus de la hepatitis e en pacientes infectados por vih</td>
<td>Rivero Román, Antonio Antonio Rivero Juárez</td>
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<tr>
<td>Moreno Fernández, Jesús</td>
<td>Utilidad clínica de la introducción precoz de la monitorización continua de glucosa en tiempo real combinada con infusión subcutánea continua de insulina en el tratamiento de pacientes con diabetes mellitus tipo 1</td>
<td>Galvez Moreno, Maria Angeles</td>
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<tr>
<td>Rincón Fernández Pacheco, David*</td>
<td>Papel y regulación de las nuevas variantes de splicing hss5tmid4 and 11f-ghrelin en cáncer de mama.</td>
<td>Cañete Fuentes, Justo Pastor</td>
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<td>Salido Vallejo, Rafael</td>
<td>Sirolimus tópico en el tratamiento de angiofibromas faciales asociadas a esclerosis tuberosa</td>
<td>Velez Garcia Nieto, Antonio Jose</td>
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<tr>
<td>Valverde Estepa, Araceli María</td>
<td>Inhibición combinada del receptor del factor de crecimiento epidérmico y de la ciclooxigenasa-2 en cáncer colorectal: mecanismos celulares y moleculares e implicaciones terapéuticas</td>
<td>Rodriguez Ariza, Antonio</td>
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**Other PhD Programs**

<table>
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<th>Author</th>
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<th>Supervisor(s)</th>
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<tr>
<td>Villa Osaba, Alicia</td>
<td>Papel fisiológico e implicaciones fisiopatológicas y terapéuticas de los sistemas somatostatina, cortistatina y sus receptores en el cáncer de mama y obesidad</td>
<td>Castaño Fuentes, Justo Pastor, Luque Huertas, Raúl Miguel</td>
</tr>
</tbody>
</table>

*Theses with International Mention*

### 6.4 Research Stays

IMIBIC is committed to foster training of our PhD students in national and international centers of reference in biomedical research in order to allow the opportunity to experience research in a foreign environment, facilitate the integration of graduates into the scientific community and create networks. Seventeen researchers from the IMIBIC completed a research stay in national or international centers in 2016. Likewise, external visitors are invited to carry out their research in our Institute. Specifically, the number of professional from other national and international centers that stay at IMIBIC is 18.

<table>
<thead>
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<th>Type of Internship</th>
<th>Public Scheme</th>
<th>Private Scheme</th>
<th>Internal Scheme</th>
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<td>STAYS</td>
<td>Researchers</td>
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<td>2</td>
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<tr>
<td></td>
<td>Duration (months)</td>
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<tr>
<td>VISITORS</td>
<td>Researchers</td>
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<td></td>
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<tr>
<td></td>
<td>Duration (months)</td>
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7

Biomedical Research Support Units
7. Biomedical Research Support Units

In 2016 the new Strategic Plan of The Maimonides Institute of Biomedical Research of Córdoba (IMIBIC) 2016-2020 was approved, coinciding in turn with IMIBIC’s re-accreditation as a Health Research Institute by the Carlos III Health Institute. This has logically led to the renewal of the Infrastructure Plan which forms part of the Strategic Plan. In contrast to the objectives set in the previous Plan covering the period 2011-2015, which envisaged the creation of different Central Biomedical Research Support Units (“Unidades Centrales de Apoyo a la Investigación Biomédica” - UCAIBs - in Spanish), the new Plan foresees the development and consolidation of the existing units.

At the date of presentation of IMIBIC’s scientific report, the UCAIBs (Central Biomedical Research Support Units) were configured as follows:

- Methodology and Biostatistics Unit: 1 senior technician
- Microscopy, Cytomics, and Scientific Imaging Unit: 1 senior technician
- Proteomics Unit: 2 senior technicians and 2 technical support
- Service Animal Experimentation: 1 veterinarian and 2 technical support
- Bioinformatics and technological innovation Unit: 4 senior technicians
- Isotope Unit: 1 Technical support
- Genomics Unit: 1 technician and 1 Technical support
- Biobank Unit: 3 Technical support
- Clinical Research Unit: 3 senior technicians, 2 Nurses and 1 Nurse Assistant

The UCAIBs have been assigned different goals in the New Infrastructure Plan, relating to both scientific research and for budgetary balance purposes, for example. These UCAIBs receive institutional support to enable them to carry out their activities in support of the Institute’s research groups, as well as for the development of new techniques related to the area of experience of each unit and even for the performance of different training activities aimed at IMIBIC researchers and for the development of technical staff.

1. Isotope Unit

1.1. Composition
The Isotope Unit personnel is composed of:

Supervisor:
Eduardo Muñoz Blanco PhD
filmuble@uco.es

Operator:
Antonia Sánchez Arroyo
antonia.sanchez@imibic.org

1.2. Equipment and Facilities
In IMIBIC, we possess two laboratories dedicated to working with radioactive isotopes both γ and β. One is located on the -2 floor and the other on the third floor. We have had the authorization of the Nuclear Safety Council since December of 2014 to work with the following isotopes:

<table>
<thead>
<tr>
<th>Isotopes</th>
<th>Maximum Activity (Mbq)</th>
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<tr>
<td>Carbon (C-14)</td>
<td>370</td>
</tr>
<tr>
<td>Tritium (H-3)</td>
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<tr>
<td>Phosphorous (P-32)</td>
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<tr>
<td>Phosphorous (P-33)</td>
<td>370</td>
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<tr>
<td>Sulfur (S-35)</td>
<td>370</td>
</tr>
<tr>
<td>Chrome (Cr-51)</td>
<td>370</td>
</tr>
<tr>
<td>Iodine (I-125)</td>
<td>370</td>
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</table>
The Radiological Protection Service of the University of Córdoba is responsible for the supervision of this Unit and its operative procedures. This Service is also responsible for checking that the laboratories are free from contamination and is in charge of waste management and removal.

**Equipment**

- **Gamma Counters 3 units:**
  - Brand: Wizard
  - Model: 2470-0100 Beta counter

- **UN Beta Counter (1 unit)**
  - Brand: Tricard
  - Model: 2810 TR

- **Microbeta Counter (1 unit)**
  - Brand: Microbeta2
  - Model: 2450-0020

- **Harvester Cell**

- **A sample preparer**
  - Brand: Janus

- **Two refrigerated ultracentrifuges with capacity for 200 samples.**

- **Three exclusive gas cabinets for working with radioactive isotopes, two of which are used with a lead guillotine and the third with a methacrylate guillotine.**

- **Two radiation detectors**
  - Brand: Lamse
  - Model: RM 10013-RDM

**1.3. Portfolio of Services**

- Training in the handling of $\beta$ and $\gamma$ counters.
- Labeling of proteins with I-125.
- Identification of protein levels in serum, plasma and other biofluids using the RIA technique.
- In situ hybridization (ISH) with P-33 labelled probes.
- Radioactive techniques for analysis of cell death and proliferation.
- Consultation regarding the different isotopic techniques that are employed in the laboratory.
- Optimization of protocols.

**1.4. Highlights**

During 2016, the main milestone achieved by this unit was the implementation of state-of-the-art ultrasound equipment for use of the development of clinical research projects through the combination of resonance and ultrasound images, which undoubtedly represents a breakthrough in diagnostic imaging-related research.

**2. Animal Experimentation Unit**

The animal experimentation unit in the IMIBIC is within the Biomedical Research Central Support Units, and is associated to the Animal Experimentation Service (SAEX) of the University of Córdoba.

The unit provides integral support to its users, at consultation and experimental levels, with the objective of carrying out research for the Institute and other associated organizations through the use of animal subjects, mainly rodents (mice and rats) and pigs.
2.1. Composition
The Animal Experimentation Unit personnel is composed of:

Director of SAEX
Ana Mª Molina López

and two technicians and a veterinarian:

Anabel Pozo Salas
sae@imibic.org

Estefanía Escudero Jabonero
estefania.escudero@imibic.org

Rafael Pineda Reyes
rafael.pineda@imibic.org

2.2. Equipment and Facilities
IMIBIC’s animal experimentation unit comprises:
- 7 rooms for housing rodents.
- 1 healing / metabolism room: This room has a respirometry system and two racks for metabolic cages.
- 5 multi-purpose rooms: These rooms have optogenetics and quantitative analysis equipment as well as a bodily composition MRI, among other equipment.
- Operating Room: Suitable for surgery in both rodents and larger animals, consisting of: 3 3D laparoscopy towers, 7 TV video monitors, 3 anesthesia machines for large animals, 6 surgery tables, 2 rodent anesthesia system with 4 seats, 1 rodent anesthesia system with 2 seats, 6 gas towers, 1 surgical microscope for large animals, 1 high-end ultrasound, 3 magnifiers, 1 microscope and 1 C-arm.
- Quarantine Zone: 4 ventilated racks for rats / mice, 1 replacement cabinet and 1 triple gate SAS.

2.3. Highlights
In 2016, many different pieces of equipment were acquired, installed and put into use. Accordingly, the technicians have taken training courses with the aim of opening the animal services. In addition, the multi-purpose rooms have been renovated in order to optimize these spaces.

3. Microscopy, Cytomics, and Scientific Imaging Unit
The Microscopy, Cytomics and Scientific Imaging Unit is one of the common scientific and technical support platforms used for IMIBIC’s research. This Unit is comprised of two technological areas: flow cytometry and advanced optical microscopy (confocal and fluorescence), both of which are considered to be of great importance in the field of biomedical research and health, and are powerful tools used in studies at the cellular, cellular subpopulation, and tissue levels.

Its mission is to provide the research community with advanced equipment, and to provide the technical and scientific methodological support necessary for the optimization of applications of these technologies so as to obtain high-quality results for the development of excellence in translational biomedical research. The Unit gives services to both the research staff of the Institute and other entities of the SSPA, the University, IPOs, as well as private companies that request it.

3.1. Composition
The Unit is composed of a superior specialized technician:

Esther Peralbo Santaella, PhD
microscopia.citometria@imibic.org

3.2. Equipment and Facilities
• Area of Flow Cytometry
  - This area offers an advanced infrastructure aimed at flow cytometry for the quantification, phenotypical and functional analyses of cellular populations, and cellular sorting.
  - The Unit offers the research personnel of IMIBIC the option to use flow cytometers under the “self-service” rule (i.e. without a technical operator being present).
Equipment
- Flow cytometer LSR Fortessa SORP (Becton Dickinson).
- Flow cytometer FACSCanto (Becton Dickinson).
- Flow cytometer FACSCalibur (Becton Dickinson).
- Flow cytometer Cytomics FC500 MCL (Beckman Coulter).
- Cellular Sorter FACSAria III (Becton Dickinson).

Area of Advanced Microscopic Optics
- The area of Advanced Microscopic Optics is an infrastructure designed for confocal fluorescent microscopy and the imaging associated with these techniques.
- The Unit offers the research personnel of IMIBIC the option to use the microscopic equipment under the “self-service” rule (i.e. without a technical operator present).

Equipment
- Spectral LSM 710 confocal microscope (Carl Zeiss), with inverted stand and lighting for brightfield, DIC and epifluorescence.
- LSM 5 Exciter confocal microscope (Carl Zeiss), with inverted stand and lighting for brightfield and epifluorescence.
- Inverted fluorescence microscope (Nikon Eclipse Ti-S).
- High-Content Bioimager Pathway 855 (Becton Dickinson).

3.3. Portfolio of Services
- Education and training in the management of flow cytometers and microscopic equipment, as well as the corresponding result analysis programs.
- Purification and isolation of cell subpopulations via sorting.
- Provision of technical support for the analysis of samples in flow cytometers and confocal microscopy equipment.
- Advice regarding: preparation and marking of samples for flow cytometry, sorting or confocal microscopy, experimental design and interpretation of results.
- Provision of support for data analysis by means of cytometry analysis programs available in the Unit, as well as image analysis.
- Organization of training activities (seminars, courses, etc.) related to the fundamentals and the application of the areas of flow cytometry and advanced optical microscopy.

3.4. Highlights
In 2016, the Unit provided services to 15 research groups of IMIBIC such as, “Nephrology”, “Cell biology in hematology. Hypercoagulability”, “Systemic and chronic inflammatory autoimmune diseases of the locomotor system and connective”, “Nutrigenomics”, etc.

Articles published in 2016 with IMIBIC’s groups:

4. Proteomics Unit
The Proteomics Unit is located within the IMIBIC research support platforms and provides researchers with state-of-the-art technologies in the field. Currently, the Proteomics Unit is a specialized platform in quantitative proteomics and MALDI Imaging (or Molecular Imaging).

The Proteomics Unit offers its analytical services for IMIBIC staff and University of Córdoba and to other universities, hospitals and private companies.

The Unit has two main components: (i) a high performance liquid chromatography-mass spectrometry platform that provides researchers with access to high-throughput proteomics analyses, ranging from protein identification and
characterization to label-free quantitative proteomics; and (ii) a mass spectrometry-based molecular imaging platform (MALDI-Imaging) that provides spatial information of metabolites, lipids and proteins directly from tissues and biopsies.

As a service for research assistance, the Proteomics Unit provides individualized, fit-for-purpose support including project planning, sample preparation, mass spectrometry analysis and data analysis.

4.1. Composition
The Unit is composed of two specialized technicians:
- Ignacio Ortea García, PhD
  ignacio.ortea@imibic.org
- Eduardo Chicano Gálvez, PhD
  eduardo.chicano@imibic.org

and two assistant technicians:
- Rocío Pérez
- Josune Egea (till October 2016) / Natalia Fernández (from October 2016)

4.2. Equipment and Facilities
- Q-TOF mass spectrometer, Triple TOF 5600+ (Sciex).
- Triple quadrupole mass spectrometer, XevoTQS (Waters).
- MALDI-TOF/TOF Mass spectrometer, 5800 (Sciex).
- nanoHPLC: Eksigent LC400 (Sciex).
- nanoUPLC: nanoAcquity M-Class (Waters).
- Sprayer: Sunchrom Suncollect (Sunchrom, Friedrichdorf, Germany).
- Main programs used for data analysis: Protein Pilot, Comet and X!Tandem for protein identification; Peak View, Marker View and Skyline for protein quantification; Tissue View, MSiReader and Cardinal for Maldi Imaging MS.
- Basic laboratory equipment for sample preparation.

4.3. Portfolio of Services
The Proteomics Unit offers the following services:
- Identification and characterization of proteins by MALDI-TOF/TOF.
- Identification and characterization of proteins by LC-MS/MS.
- Quantitative Proteomics:
  - SWATH.
  - SRM (Selected Reaction Monitoring)
  - pseudoSRM.
- MALDI Imaging mass spectrometry.
- Project supervision and collaboration.
- Training in software used for data analysis.

4.4. Highlights
During 2016, the Proteomics Unit increased its activities in quantitative proteomics and MALDI-Imaging (MSI) providing services to scientific community. These services range from sample preparation to project supervision, collaborations and training in software for data analysis.

Moreover, the Proteomics Unit has published two scientific articles, presented six studies at international/national congresses, and has participated in two international interlaboratory proficiency studies.

Articles published in 2016 with IMIBIC’s groups:
Articles published in 2016 with external groups:

5. Bioinformatics Unit

IMIBIC’s Bioinformatics unit offers services on two levels:
- Direct analysis of relevant research projects and technical data needed for support
- Biocomputing tools to support groups conducting relevant research projects

Bioinformatics covers varying fields and diverse applications such as:
- Analysis of nucleic acids (DNA / RNA )
- Analysis of peptide sequences, structures, functions, metabolic pathways and interactions with genes
- Generation of knowledge relative to the study of new drugs
- Design and development of software
- Construction of databases for storing biological data
- Development of algorithms

Objectives of the Bioinformatics Unit
- The mission of the Unit is to satisfy the Bioinformatic requirements that result from research projects.
- Clear and direct communication with the researchers facilitates this productive collaboration.
- Lastly, the implementation of reporting guidelines pertinent to each particular case (MIAME, MIAPE, etc.) and the use of standardized formats (MAGE-ML, MAGE-TAB, mzML, mzIdentM, etc.) is a top priority whose aim is to burnish robust reporting and facilitate the publication of findings.

6. Genomics Unit

The mission of IMIBIC’s Unit of Genomics is to make available to researchers very high level equipment and scientific and technical advice for the development of various analytical techniques to the Institute as well as the public and private spheres. Said equipment and technical knowledge is dedicated to the comprehensive study of DNA and RNA (genotyping / expression / regulation), which in turn will produce high quality results for the development of biomedical research of excellence. To this end, the Unit has peak performance platforms in the field of genomics. It is also important to note the use of interaction with other UCAIB IMIBIC Units, which are located in the same building, such as bioinformatics, proteomics or Cytometry.

6.1. Composition
The Unit is composed of a superior specialized technician, coordinator of this Core Facility, and a laboratory technician.
Álvaro Jiménez Arranz (superior specialized technician)
genomica@imibic.org / alvaro.jimenez@imibic.org
Pilar Rubín González de Canales (laboratory technician)
Email: pilar.rubin@imibic.org

6.2. Equipment and Facilities
Currently, the resources that the Genomic Unit has at its disposal are:

6.2.a. Illumina MiSeq
MiSeq is an Illumina platform sequencing technology based on SBS (Sequencing by synthesis), which is currently the most widely adopted NGS (Next-Generation Sequencing) technology in the world on account of its speed, accuracy
and quality. This sequencer can generate up to 15 Gb/run and is able to perform paired-end reads 2x300, allowing, among others, greater accuracy especially in problem areas such as homopolymeric areas. The MiSeq system allows for DNA-Seq, RNA-Seq, Methyl-Seq and ChIP-Seq, with a wide range of applications.

6.2.b. NCounter Dx/tecnología Nanostring
The NanoString NCounter system uses a novel technique of molecular barcodes linked to specific probes that allow for the detection and counting of hundreds of targets in a single reaction without amplification, thereby enabling the user to study a large number of mRNAs, miRNAs or DNAs simultaneously with sensitivity and with “gold standard” reproducibility. Among its applications are gene expression analysis, gene fusion, copy-number variation (CNV) and simultaneous analysis of mRNAs and RNAs regulators as miRNAs or IncRNAs. These applications, along with Dx / CE-IVD for conducting analysis care quality certificate, also make the NCounter a tool with high potential for clinical use. Currently there is already on the market a CE marked test for in vitro diagnostics (CE-IVD) which has approved by the FDA for breast cancer (Prosigna-PAM50), based on the molecular analysis of gene expression of 50 genes. This allows it to classify the tumor into one of 4 intrinsic subtypes, related to disease prognosis and choice of treatment. In addition, it is currently in the process of launching another validated kit for in vitro diagnostics (CE-IVD / FDA), based on the pattern of differential expression of 20 genes, aimed at determining subtypes LDBG (diffuse lymphoma of large B cells), related disease treatment.

6.2.c. Digital PCR (dPCR): QX200 Droplet Digital PCR System
The digital PCR offers a more precise and sensitive alternative to conventional qPCR for absolute quantitation and detection of rare alleles without the need for standards or endogenous controls thanks to droplet partitioning.

6.2.d. Quantitative PCR (qPCR)
The unit currently has 3 platforms aimed at genotyping PCR and gene expression study

- Light Cycler 480 (96-well platform)
- Light Cycler 96 (96-well platform)
- 7900 HT Fast (384-well platform)

In the case of IMIBIC research staff, the unit offers the possibility of using the qPCR platforms under a “self-service” scheme (without technical operator).

6.2.e. Others:
The Unit has additional appliances designed for quantification, quality analysis and determining the size of nucleic acid fragments:

- Nanodrop ND1000 (Spectrophotometer)
- DeNovix DS-11 (Spectrophotometer)
- Quantus (Fluorometer)
- 2200 TapeStation (Microelectrophoresis)

Additionally, IMIBIC has a computation cluster (bullx computing node R418-E3), for mandatory use in Next-Generation Sequencing (NGS) protocols.

6.3. Portfolio of Services

- Technical support and scientific and methodological advice on the choice and optimization of genomic techniques
- Nucleic acids quality control (spectrophotometry, fluorometry and microelectrophoresis)
- Studies of gene expression by Nanostring technology
- PAM50-signature Analysis (Prosigna™) for Breast Cancer Prognosis
- miRNAs analysis in tissue, peripheral blood cells and serum/plasma by Nanostring Technology
- Gene expression and genotyping studies using real-time PCR
- Technical and scientific support in the use of qPCR platforms and probes design
- Absolute quantification by Droplet Digital PCR System (viral load analysis…)
- NGS library preparation
- Sequencing NGS (Next Generation Sequencing) by Illumina Miseq
- Training and support in the use of data analysis software related to the Unit’s technology

6.4. Highlights
In 2016, a new pre-PCR room was designed and built. The Unit has improved the protocols and services started last year, has initiated new services indicated in this report and was validated for analysis of PAM50-signature (Prosigna™) for Breast Cancer Prognosis.

7. Clinical Research Unit

The IMIBIC Clinical Research Unit is located within the IMIBIC research support platforms. Its purpose is to promote clinical research at IMIBIC (Instituto Maimóides de Investigación Biomédica de Córdoba) and at Hospital Universitario Reina Sofía as well as to establish collaborations with other research centers. Currently, IMIBIC is part of the Spanish Clinical Research Network (SCReN).

The IMIBIC Clinical Research Unit focuses on the development of clinical trials including design, feasibility, regulatory affairs, launch, management, monitoring, pharmacovigilance, data management, statistics and delivery of clinical assistance. All operations are GCP compliant as required.

The IMIBIC Clinical Research Unit consists of two facilities: the Provincial Hospital Clinical Research Unit and the General Hospital Clinical Research Unit. Both are adapted to perform clinical trials of phases I-IV in patients.

7.1. Composition

Unit Head
Dr. Jose López Miranda
jlopezmir@uco.es

Clinical Pharmacologist
María Esther Pacheco Rodríguez, MD
esther.pacheco@imibic.org

Project Managers/CRAs
Blanca Quijano Ruiz
blanca.quijano@imibic.org
Antonio Luque Pineda
Antonio.luque@imibic.org

Nurse Coordinator
Inés Carmen Rodríguez García
inesc.rodriguez.sspa@juntadeandalucia.es

Nurse Team
Manuel Rejano Castañeda
manuel.rejano.sspa@juntadeandalucia.es
Pilar Mesa Blanco
pilar.mesa@imibic.org
Araceli Chicano Gálvez
araceli.chicano@imibic.org

Nursing Assistants
Rubén Sánchez Nieves
Rafaela Vacas Bueno

Administrative Staff
María Dolores Castro Ortiz
7.2. Equipment and Facilities

- Doctor’s offices and storehouse
- 2 hospital wards each containing: crash trolley with semi-automatic defibrillator and emergency medication, intravenous fluids, an insulin pump, healing trolleys, oxygen outlets in all positions and audiovisual system.
- 14 armchairs and rooms with 3 single beds, all with ongoing monitoring.
- A pediatric area
- 12-lead ECGs
- Measuring boards and scales
- Blood pressure meter in each office.
- 4 customized Bathrooms.
- Individual lockers for patients.
- 2 Living rooms for patients
- 2 Waiting rooms for patients and family.
- 1 multi-purpose room
- 2 Laboratories for sample processing and centrifuges.
- Freezers (-80ºC and -20ºC)
- 2 storehouse for materials
- High Definition Ultrasound Scanner
- 2 Study coordinators’ offices
- 2 CRAs’ offices
- 2 Archives

7.3. Portfolio of Services

- Methodological support
- Launch and Regulatory affairs
- Study development
- Close out
- Pharmacovigilance
- Delivery of clinical assistance

7.4. Highlights

During 2016, the Unit provided assistance and support in the start-up, coordination, data management or monitoring of 24 independent clinical research projects in the following Units, among others, Internal Medicine, Pediatrics, General Surgery, Nephrology and Rheumatology, Infectious diseases. Additionally, research activity has been increasing to 898 patients treated at the facilities of the Clinical Research Unit. 78 clinical research projects have been carried out. The main areas that have developed their activity in the unit are Oncology, Internal Medicine, Nephrology, Infectious Diseases, Dermatology and Urology.

As a member of the Spanish Clinical Research Network, the Unit has coordinated as sponsor a multicenter clinical trial and has actively participated in 6 clinical trials interacting with different groups within Spain. The Unit also collaborates with several working groups within the network.

To promote clinical research, the Unit has organized working meetings with health professionals in different areas: Neurosurgery, Intensive Care, Allergology, Otorhinolaryngology, Endocrinology, Pediatrics, Hematology, Neurology, Pulmonology. The research lines of the main pharmaceutical companies and the capacity of participation of these units have been evaluated. Meetings have been organized with the medical departments of the pharmaceutical companies.

8. Biobank Unit

The Biobank Unit of Maimonides Institute for Biomedical Research of Cordoba (IMIBIC), is one of the research support platforms whose mission is to act as a liaison between doctors, researchers and patients who donate biological samples for the purpose of biomedical research to uphold the current legal constraints and appropriate ethical safeguards. The IMIBIC Biobank is part of the Global Framework of Biobank of Andalusia Public Health System (SSPA) Initiative of the Department of Equality, Health and Social Policy. It is part of the Biobank Network Theme Hospital (National Biobank Network) Initiative Carlos III Health Institute (ISCIII), which is itself within the subprogram Thematic Networks for Cooperative Research in Health (RETICS).
8.1. Composition of Biobank Unit
-Unit’s Scientific Management
   Manuel Medina Pérez, PhD
   manuel.medina.sspa@juntadeandalucia.es

-Individual in charge of coordination
   Carmen Pérez Calle
   carmen.perez.calle.exts@juntadeandalucia.es

-Technician
   Javier Herruzo
   javier.herruzo@imibic.org

8.2. Biobank Unit Equipment
The Unit possesses its own laboratory resources for use of sample transformations (Safety booths, PCR Booths, Microtomes, Chryostate, Flotation Bath, Centrifuge, Histobath, Automatized Processor for Paraffin Inclusion, Paraffin Dispenser, etc.) as well as other machinery such as:
   - Tissue Safe: fully automated preparation of tissue samples in a vacuum.
   - Tissue Arrayer: assembles different tissue samples in a single multiple matrix for subsequent histological analysis.
   - Quiacube: Automatic, compact system for analysis of DNA, RNA, plasmids and proteins from varying samples.

For sample storage, there are currently two freezers: one for temperatures of -20 degrees Celsius, seven for -80 degrees Celsius, as well as paraffin storage rooms for room temperature.

8.3. Biobank Unit Service Portfolio
Our service portfolio is divided into four main sections:
1. Custody for storing samples at different temperatures.
2. Processes for transforming multiple types of biological samples in accordance with the procedures and technical criteria commonly used by researchers in their projects.
3. Provision of human samples and data on human health and disease research, selected according to clinical and diagnostic criteria specified by researchers.
4. Technical, scientific and ethical consulting regarding the collection, storage, and management of human samples in biomedical research.

8.4. Highlights
In 2016, the Biobank Unit experienced an increase in its activity in comparison to previous years, having given essential support to 63 research projects. This activity generated a total of 20,390 samples/bioresources, of which around 6,515 were awarded to different researchers. The degree of satisfaction of these users has been assessed via surveys to be 9.2 points (out of a possible 10).

9. Methodology and Biostatistics Unit
This Research Support Unit offers methodological consulting and statistical support for IMIBIC’s researchers and for healthcare professionals in the Public System in the Province of Córdoba.
The Unit’s main objectives are to:
   • Offering methodological consulting in the beginning or development of the studies of research in the phases prior to the presentation of proposals/reports to the relevant financial entities and in general throughout the projects’ life cycles.
   • Provide the necessary statistical support to researchers for the creation of databases, the use of statistical techniques and tools of epidemiological clinical research, through advisory or execution of statistical analysis.
   • Provide the highest quality possible in design, execution, interpretation and communication of results

9.1. Composition
   Maricarmen Muñoz Villanueva, MD, PhD.
   mc.munoz.exts@juntadeandalucia.es

9.2. Equipment and Facilities
The main statistical programs used for data analysis are:
9.3. Portfolio of Services
Through personalized consultations (face to face meetings, telematic or virtual) we cover the different stages of the research process. Specifically, the aid that they request may be:

- Research design
- Data collection instruments
- Database organization
- Technical statistics options
- Data analysis
- Results interpretation
- Written report of results
- Attention to methodological demands of copy editors.

Specifically, the consulting at the methodological level can include:

- Review of the different sections of the scientific methodology proposed in the research protocol: presentation of hypotheses, formulation of objectives, choice of epidemiological design, operational definition of variables...
- Guidance for literature search techniques
- Advice on the presentation of results for scientific dissemination
- Validation of publication requirements depending on the type of study and quality criteria of scientific publications
- Analysis of the grounds for refusal: review of articles and rejected projects

Consultation and execution of statistical analysis can include:

- Drafting of statistical analysis methodology or strategy.
- Sampling and sample size calculation.
- Design of research databases.
- Exploratory and descriptive analysis of the data.
- Inferential analysis (univariate and multivariate).
- Evaluation of diagnostic tests: sensitivity, specificity, predictive values and ratios of verosimilitudes. ROC curves.
- Validation of questionnaires and other measuring instruments.
- Other statistical techniques (Bayesian analysis, meta-analysis, etc...).

9.4. Highlights
In 2016, 107 activities were carried out, most of which (about 60%) were related to consultancy and statistical analysis for the dissemination of research results (publications and conferences, doctoral theses, master’s dissertations). Three training activities were also carried out to update the statistical and epidemiological knowledge.

Articles published in 2016 with IMIBIC’s groups:

8

Scientific Production
HIGHLIGHTS

**Team Leader**

Rafael Solana Lara  
rsolana@uco.es

**Principal Investigator (PI)**

Rafael Solana Lara  
rsolana@uco.es

*Spanish Network for Research into Infectious Pathologies (REIPI) (Collaborator)*

*Spanish Network for asthma, adverse reactions and allergic (ARADYAL) (PI: Carmen Moreno Aguilar)*

*PAIDI CTS 208 Scientific Group (Collaborator)*

**Researchers**

Alonso Diaz; Corona Barasone Villarejo; Mª José González Fernández; Rafael Jurado Roger; Aurora Moreno Aguilar; Carmen Saiz Sánchez; Vanessa Serrano Delgado; María del Pilar

**Post-Doctoral Researchers**

Campos Fernández; Carmen Castro Orgaz; Laura Manzanares Martín; Barbara Pera Rojas; Alejandra (Collaborator) Ruiz León; Berta

**Pre-Doctoral Researchers (PhD Students y MSc Students)**

Cañones Barceló; Estrella García Gallego; Azahara Hassounieh; Fakhri López Sejas; Nelson Navas Romo; Ana María Molina Alcaide; Juan Eduardo Yarce Bustamante; Oscar Alberio

**Other members of the Group (Nursing, Technical, and Administrative Staff)**

Velarde Martínez; Mª Luisa Fisichella; Marco Guerra González; Mercedes

**Publications**

13

**Impact Factor**

49,37

**Average Impact Factor**

3,796
Scientific Activity

The process of senescence of the immune system in different models: chronological aging, cancer, inflammatory diseases, viral infection and other situations of chronic activation of the immune system. In particular, we analyze the receptors involved in the regulation of cytotoxicity in T (CTL) and NK cells and their ligands in these models, and the role of CMV.

Keywords
Immunosenescence; aging; melanoma; NK cells; NKT cells; NK receptors; CMV; cytotoxic T lymphocytes (CTL).

Scientific Production

Publications

Original


Hassounhef F, Campos C, Lopez-Sejas N, Alonso C, Tarazona R, Solana R, Pera A. Effect of age and latent CMV infection on CD8+CD56+ T cells (NKT-like) frequency and function. IF:0.867 Q4

In Collaboration


Research Funding

National


Moreno C. Spanish Network for asthma, adverse reactions and allergic (ARADYAL). Funding agency: Institute of Health Carlos III (ISCIII). Reference: PI16/01615 Expected starting date: during 2017

Regional


International

Contracts with Companies

Solana Lara R. Agreement with Innogenetics Diagnostica Iberia SL. Funging Agency: Innogenetics Diagnostica Iberia SL. Reference:C- CB.0099


Moreno C. Agreement with Novartis. Funging Agency: Novartis Farmaceutica, S.A. PSS.0117


Clinical Trials

0086/15. A multinational phase IIb study to investigate the efficacy and safety of subcutaneous immunotherapy with a modified fish-parvalbumin given in single rising and maintenance doses to subjects allergic to fish.
PI Dr/a Moreno Aguilar, Carmen

0258/15. A multicenter international, randomized, double-blind, and placebo-controlled to demonstrate the clinical efficacy and safety of subcutaneous immunotherapy using gp-ASIT + TM in patients with allergic rhinoconjunctivitis induced grass pollen.
PI Dr/a Moreno Aguilar, Carmen

3031. Insect sting anaphylaxis. Search for biomarkers of early response to hymenoptera venom immunotherapy.
PI Dr/a Moreno Aguilar, Carmen

2769. Control observational study with allergic rhinitis moderate/grave in Spain.
PI Dr/a Barasona Villarejo, Mª José

2739. Effect of antihypertensive medication in the severity of anaphylaxis and side effects during venom immunotherapy. Hymenoptera insects. EADOAS.
PI Dr/a Moreno Aguilar, Carmen
### GC2 • Oxidative and nitrosative stress in acute and chronic liver disease

**HIGHLIGHTS**

<table>
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<tr>
<th>Team Leader</th>
<th>Researchers</th>
<th>Post-Doctoral Researchers</th>
<th>Pre-Doctoral Researchers (PhD Students and MSc Students)</th>
<th>Other members of the Group (Nursing, Technical, and Administrative Staff)</th>
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<tbody>
<tr>
<td><strong>Principal Investigator (PI)</strong>&lt;br&gt;Manuel de la Mata García&lt;br&gt;<a href="mailto:hepatoh2hrs.sspa@juntadeandalucia.es">hepatoh2hrs.sspa@juntadeandalucia.es</a>&lt;br&gt;CIBER on Liver and Digestive Diseases (CIBEREhd)&lt;br&gt;PAIDI CTS-273 Scientific Group&lt;br&gt;Co-Principal Investigator (Co-PI): Jose Antonio Bárcena Ruiz&lt;br&gt;PAIDI BIO-216 Scientific Group</td>
<td>Aguilar Melero; Patricia Barrera Baena; Pilar Benítez Cantero; José Manuel Costán Rodero; Guadalupe Ferrín Sánchez; Gustavo Fraga Rivas; Enrique García Sánchez; Mª Valle Gómez Camacho; Federico Martínez Galisteo; Emilia Montero Álvarez; José Luis Padilla Peña; Alicia Peinado Peinado; José Poyato González; Antonio</td>
<td>Requejo Aguilar; Raquel Rodríguez Perálvarez; Manuel Luis</td>
<td>González Rubio; Sandra Jurado García; Juan Linares Luna; Clara Isabel Vida Pérez; Luis</td>
<td>García García; Mª Luisa Medina Medina; Rosario Morcillo Ruiz; Eva María</td>
</tr>
</tbody>
</table>

**Publications**

- 24

**Impact Factor**

- 96,241

**Average Impact Factor**

- 4,010
Scientific Activity

The members of the research team are divided into the BIO-216 and the CTS-273 scientific group – within the Andalusian Research Plan – and the CIBER for liver and digestive diseases (CIBERehd) in the context of a mixed group consisting of a healthcare team made up of hepatologists, surgeons and a biomedical research team of the HURS Research Unit and Department of Biochemistry and Molecular Biology of the UCO with associated teaching activity. Our biomedical research focuses on acute and chronic hepatic cell injury, hepatocarcinoma and liver transplants, with special emphasis on post-translational modifications of the proteome as a consequence of oxidative stress (reactive oxygen species, ROS) and nitrosative stress (reactive nitrogen species, RNS) in eukaryotic cells (hepatocytes and yeasts). The intracellular cytoreaction signal for molecules of various antioxidants (N-acetylcysteine, alpha-tocopherol) or cellular redox state regulators (redoxins) have been characterized in models of cellular injury. The mitochondrial dysfunction caused by redox imbalance is at the root of a large number of pathologies. The group of proteins from the family of cellular and mitochondrial redoxins plays a major part in antioxidant defence, the maintenance of thiol systems and the interaction between reduced glutathione, ROS and RNS. For this purpose, normal and chimeric mutants and recombinant proteins are produced using techniques of molecular biology and in vitro characterization; and (second generation) targeted proteomics are carried out using biochemical analysis techniques.

The group’s proven experience in the analysis of post-translational modifications is employed in the identification of biomarkers for hepatocellular carcinoma detection and diagnosis using proteomic analysis tools. In the area of liver transplants, we have identified the cytoreaction mechanisms mediated by cardiotrophin-1 in the preservation injury in liver transplantation developed in experimental animals (rats and mini-pigs). In addition, the clinical group is involved in the development of a large number of phase II, III and IV clinical trials in the areas of viral hepatitis (boceprevir), hepatocellular carcinoma (sorafenib), liver cirrhosis (sativaptan), acute liver failure (bioartificial liver, MARS) and liver transplantation (immunosuppression strategies).

Keywords
Reactive oxygen species; nitric oxide; antioxidants; redoxins; proteomics; apoptosis; necrosis; hepatocytes; yeast; mitochondrion; liver cancer; biomarkers; liver transplantation; cirrhosis; viral hepatitis; acute and chronic liver failure.

Scientific Production

Publications

Original


IF:7.093 Q1 D1


IF:5.837 Q1 D1


IF:5.784 Q1


IF:3.057 Q1


IF:3.057 Q1


IF:2.835 Q1


IF:2.243 Q2


IF:3.699 Q2


IF:0.8 Q4


IF:0.8 Q4


IF:0.867 Q4

Q:1
In Collaboration


Contracts with Companies

De la Mata García, M. Agreement between Cibered and institution. Funding agency: Centro de Investigación Biomédica en Red en el Área Temática de Enfermedades Hepáticas y Digestivas (CIBER) and Red de Enfermedades Hepáticas y Digestivas (CIBERED). Reference: MC/CIBERED

García Sánchez, MV. Sample collection service for the Impacto project. Funding agency: Fundación Instituto de Recerca Hospital Universitari Vall D’Hebron. Reference: PSS.00321

De la Mata García, M. Agreement with Omniprex (From research to clinical practice). Funding agency: Omniprex SL. Reference: PSS.00055

Research Funding National

De la Mata García, M. Inhibition of the mTOR pathway in liver transplantation for hepatocellular carcinoma and its impact on disease recurrence. Funding agency: Instituto de Health Carlos III (ISCIII). Reference: P11/02867


De la Mata García, M. The role of the immune system activation to eliminate circulating tumour cells and to prevent hepatocellular carcinoma recurrence after liver transplantation. Funding agency: Institute of Health Carlos III (ISCIII). Reference: PI14/01469

García Sánchez V. Proteomic markers of response to infliximab biosimilars in patients with ulcerative colitis. Funding agency: Instituto de Health Carlos III (ISCIII). Reference: PI15/01352

Bárbara Ruiz, JA. Role of peroxiredoxins in the homeostasis cellular as Antioxidants and G signalling. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO) Reference: BFU2016-80006-P

Regional


Benitez Cantero, JM. Evolution after the “desintensificación” of anti-TNF in patients with inflammatory bowel disease.Funding agency: Andalusian society of digestive pathologies.Funding agency: SAPD2015_001

De la Mata García, M. Collaboration Agreement between Cibered and institution. Funding agency: Centro de Investigación Biomédica en Red en el Área Temática de Enfermedades Hepáticas y Digestivas (CIBER) and Red de Enfermedades Hepáticas y Digestivas (CIBERED). Reference: MC/CIBERED

García Sánchez, MV. Sample collection service for the Impacto project. Funding agency: Fundación Instituto de Recerca Hospital Universitari Vall D’Hebron. Reference: PSS.00321
De La Mata García, M. Contract to manage Database. Funding agency: Bayer Hispania SL. Reference: PSS.0061

García Sánchez, MV. Sponsored research agreement. Funding agency: Merck Sharp & Dohme SA. Reference: PSS.0063

García Sánchez, MV. Prognosis of patients with ulcerative colitis in sustained remission after thiopurines withdrawal. Merck Sharp & Dohme SA. Reference: PSS.0091

Rodríguez Perálvarez, ML. Support agreement for collaborators at the Digestive Tract Unit. Funding agency: Tumor Andalusian society of transplants of organs and tissues. Reference: PSS.0095

De La Mata García, M. ahCtton Project. Funding agency: OMNIPREX SL. Reference: PSS.0106

De La Mata García, M. ahCtton Project. Funding agency: Abbvie Spain S.L.U. Reference: PSS.0144

De La Mata García, M. Funding for collaborators at the Digestive Tract Unit. Funding agency: Merck Sharp & Dohme SA. Reference: CCB.0038

De La Mata García, M. Support agreement for collaborators at the Digestive Tract Unit. Funding agency: Adalia Farma S.A. Reference: CCB.0084

De La Mata García, M. Support agreement for collaborators at the Digestive Tract Unit. Funding agency: Astellas Pharma S.A. Reference: CCB.0124

De La Mata García, M. Support agreement for collaborators at the Digestive Tract Unit. Funding agency: Merck Sharp & Dohme de España SA. Reference: CCB.0130

De La Mata García, M. Support agreement for collaborators at the Digestive Tract Unit. Funding agency: Mutual Médica de Cataluña y Baleares. Reference: CCB.0132

Clinical Trials

0304/12.A phase 3, randomized, double-blind study of tivantinib (ARG 197) in subjects with met diagnostic-high inoperable hepatocellular carcinoma (HCC) treated with one prior systemic therapy. PI: Dr/a Montero Alvarez, Jose Luis

0249/14. An open, multicenter study to assess long-term effects of ABT-450/ritonavir/ABT-267 (ABT-450/r/ABT-267) and ABT-333 with or without ribavirin (RBV) in adults with chronic infection with genotype 1 (TOPAZ-I) of Hepatitis C virus (HCV). PI: Dr/a Fraga Rivas, Enrique

0349/14.A Phase Ib Study to Assess the Safety and Anti-tumour Activity of Dexamabinol Monotherapy and Dexamabinol in Combination with Chemotherapy in Patients with Advanced Tumours. PI: Dr/a Montero Alvarez, Jose Luis

0257/15.A Study of Safety, Tolerability, and Clinical Activity of MEDI4736 and Tremelimumab Administered as Monotherapy and in Combination to Subjets with Unresectable Hepatocellular Carcinoma. PI: Dr/a Fraga Rivas, Enrique

0219/15. A Phase II/III, randomized, double-blind and placebo-controlled study, to evaluate the efficacy and safety the treatment of induction and maintenance GS-5745 in which patients with active mild to moderate ulcerative colitis. PI: Dr/a García Sánchez, Valle

0259/15. Open, multicenter, randomized study to evaluate the efficacy and safety of ABT-493 / ABT-530 in adults with chronic infection with hepatitis C genotype 1 (ENDURANCE-1) study. PI: Dr/a Montero Alvarez, Jose Luis

0311/15.A phase 3b, randomized, controlled, multicenter study with oral ferric maltol (Feraccru) or intravenous iron (FCM), for the treatment of iron deficiency anemia in subjects with inflammatory bowel disease. PI: Dr/a García Sánchez, Valle

*2952*. Phase 2, randomized, double-blind, placebo-controlled study to evaluate the efficacy and safety of ENZALUTAMIDE in patients with advanced hepatocellular carcinoma. PI: Dr/a Montero Alvarez, Jose Luis

*3002.A Phase 3, randomized, double-blind, placebo-controlled, multicenter study to investigate the efficacy and safety of mongersen (GED-0301) for the treatment of subjects with active Crohn’s disease. PI: Dr/a García Sánchez, Valle

*3024.A Phase 3, randomized, double-blind, placebo-controlled, multicenter study to investigate the efficacy and safety of mongersen (GED-0301) in subjects with chronic kidney disease in stage IIIb to V, including those in dialysis, usual clinical practice in Spain. Vie-kinD Stuyd. PI: Dr/a Montero Alvarez, Jose Luis

3132. Epidemiologic study in incidence in inflammatory bowel disease in adult spanish population. PI: Dr/a García Sánchez, Valle

3194. Exploratory observational study, describing the profiles of patients with Hepatitis C with 18 age old or treated without interferon in accordance with the ribavirin addiction in Spain. ConRiba-15 Study. PI: Dr/a Montero Alvarez, Jose Luis

3278. Evidence on the effectiveness of Paritaprevir/r/Ombitasvir ± Ribavirina (REGIMEN ABBEVIE) ± Ribavirina in pacientes con chronic hepatitis C. Retrospective observational study. PI: Dr/a Poyato González, Antonio

3279. Evolution of patients with inflammatory bowel disease in remission after the exchange to infliximab biosimilar. PI: Dr/a García Sánchez, Valle

2572. Defining high risk variceal bleeding: a rational for the use of early tips in acute bleeding co-infected or not with VIH-1, GT 1 a 4, and chronic kidney disease in stage IIIb to V, including those in dialysis, usual clinical practice in Spain. PI: Dr/a Rodríguez Perálvarez, Manuel Luís

3285. Evolution following the intensification of anti-TNF treatment in patients with inflammatory bowel disease. PI: Dr/a García Sánchez, Valle

2986. Evolution following an exchange to infliximab biosimilar in patients with inflammatory bowel disease in remission. PI: Dr/a García Sánchez, Valle

3006. Cancer and seriously infections across Europe: I-CARE. PI: Dr/a Benítez Cantero, José Manuel

3044. Effectiveness and safety/tolerability of Viekirax y Exviera in diagnosed patients HCV, co-infected or not with VIH-1, GT 1 a 4, and chronic kidney disease in stage IIIb to V, including those in dialysis, usual clinical practice in Spain. Vie-kinD Stuyd. PI: Dr/a Montero Alvarez, Jose Luis

2845. Evolution following the intensification of anti-TNF treatment in patients with inflammatory bowel disease. PI: Dr/a De La Mata García, Manuel

2616. Observational, multicenter, prospective study to assess renal function in patients with liver transplants treated with tacrolimus. PI: Dr/a Rodríguez Perálvarez, Manuel Luís

2845. Evolution following the intensification of anti-TNF treatment in patients with inflammatory bowel disease. PI: Dr/a García Sánchez, Valle

2986. Evolution following an exchange to infliximab biosimilar in patients with inflammatory bowel disease in remission. PI: Dr/a García Sánchez, Valle
HIGHLIGHTS

**Publications**

36

**Impact Factor**

154,726

**Average Impact Factor**

4,201

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**Team Leader**

Principal Investigator (PI)

Julián de la Torre Cisneros

julian.torre.sspa@juntadeandalucia.es

Spanish Network for Research into Infectious Pathologies (REIPI)

PAIDI CTS-647 Scientific Group

**Co-Principal Investigator (Co-PI)**

Antonio Rivero Roman

AIDS Research Network (RIS)

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**Researchers**

Camacho Espejo; Angela Castón Osorio; Juan José García Lázaro; Milagros Gracia Ahufinger; Irene Jurado Jimenez; Rafael Kindelan Jaquotot; José Mª Machuca Sánchez; Isabel Natera Kindelan; Clara Rodríguez López; Fernando Carlos Rumbao Aguirre; José Vidal Verdu; Elisa

---

**Post-Doctoral Researchers**

Aguado Álvarez; Rocio Cantisan Bohorquez; Sara Frias Casas; Mario Perez Nadales; Elena Rivero Juarez; Antonio

---

**Pre-Doctoral Researchers (PhD Students y MSc Students)**

Paez Vega; Aurora Cano Yust; Angela Cuenca López; Francisca Rodríguez Cano; Diego López López; Pedro

---

**Other members of the Group (Nursing, Technical, and Administrative Staff)**

Añon Gámez; Mª Teresa Palomo Buitrago; María de la Encarnación Brieva Herrero; Teresa De la Torre Giménez; Julián Ruiz Torres; Laura Zafra Soto; Ismael Cantueso Méndez; Inmaculada
Scientific Activity

Our group studies infectious diseases from two approaches:

- Clinical-epidemiological studies (which include clinical trials). In these studies, our objective is to differentiate risk factors, clinical features and efficacy/safety of new treatments, thus aiming to improve the prognosis of infectious diseases.
- Studies on pathogenesis from which specific clinical strategies are planned. The most relevant are our studies on immunopathology (in collaboration with the Immunology group) and mitochondrial toxicity (in collaboration with the Clinical Analysis Service).

All our studies start with the identification of a clinical problem that we try to solve using an experimental approach. Our aim is our scientific findings to have an impact on healthcare solutions and improve disease prognosis (translational research).

In particular, our lines of research are as follows:

- Immunopathology, pathogenesis and treatment of HIV infection.
- Pathogenesis and treatment of HIV / HCV co-infection.
- Clinical and epidemiological characterization of infection in transplant patients.
- Immunopathology of cytomegalovirus infection.

Keywords

HIV, CMV, HCV; Immunopathology; Transplant; Antiretroviral therapy; Mitochondrial toxicity.

Scientific Production

Publications

Original


In Collaboration


Pascual, Julio; Royuela, Ana; Fernandez, Ana M; Herrero, Ignacio; Delgado, Juan F; Sole, Amparo; Guirado, Luis; Serrano, Trinidad; de la Torre-Cisneros, Julian; Moreno, Asuncion; Cordero, Elisa; Gallego, Roberto; Lumbrares, Carlos; Aguado, Jose M. Spanish Society of Transplantation Virological and Immune Re- response Investigation Study Group.Role of mTOR inhibitors for the control of viral infec- tion in solid organ transplant recipients.Trans- plant infectious disease : an official journal of the Transplantation Society.2016.17(10):1599-1599. IF:1.599 Q.3


Regional


International

De la Torre Cisneros, J (node). PROYECTO COMBACTE-1 (Combating Clinical resistance in Europe. Program Innovative Medicines Initiatives (IMI Call IMI-IU-6). Eol Number Eol Number 115523-1. Funding agency: European Commission. Reference: IMI Call IMI-IU-6-12

De la Torre Cisneros, J (node). PROYECTO COMBACTE-2 (Combating Clinical resistance in Europe. Program Innovative Medicines Initiatives (IMI Call IMI-IU-6). Eol Number 115523. Funding agency: European Commission. Reference: IMI Call IMI-IU-6-12


Contracts with Companies

De la Torre Cisneros, J. Contract for the provision of MSD monitoring. Funding agency: Merck Sharp & Dohme de España SA. Reference: PSS.0007

Rivero Román, A. Contract for web design. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0026

Rivero Román, A. Contract to manage BMS-FIBICO. Funding agency: Bristol-Myers Squibb International Corporation (BMSIC). Reference: PSS.0031


De la Torre Cisneros, J.C. Agreement with Brahms Iberia (Conference Infectious Pathology). Funding agency: Brahms Iberia, S.L. Reference: PSS.0045

De la Torre Cisneros, J. Agreement with Pifzer. Funding agency: PFIZER, S.L.U. Reference: PSS.0058

De la Torre Cisneros, J. Agreement with SET. Funding agency: SOCIEDAD ESPAÑOLA DE TRASPLANTES. Reference: PSS.0074

Rivero Román, A. Agreement with JANSSEN. Funding agency: JANSSEN-CILAG, S.A. Reference: PSS.0090_01

De la Torre Cisneros, J. Agreement with Roche Pharma. Funding agency: Roche Pharma, S.A. Reference: CCB.0004


Rivero Román, A. Agreement with Merck Sharp & Dohme. Funding agency: Merck Sharp & Dohme de España A Reference: CCB.0058

Rivero Román, A. Agreement with Merck Sharp & Dohme. Funding agency: Merck Sharp & Dohme de España SA. Reference: CCB.0073

Rivero Román, A. Agreement with Roche Pharma. Funding agency: Roche Pharma, S.A. Reference: CCB.0075

De la Torre Cisneros, J.C. Agreement with Roche Pharma (Publications). Funding agency: Roche Pharma, S.A. Reference: CCB.0076

De la Torre Cisneros, J. Agreement with Astellas Pharma. Funding agency: Astellas Pharma, S.A. Reference: CCB.0092

Rivero Román, A. Agreement with Abbvie. Funding agency: Abbvie Spain S.L.U. Reference: CCB.0091


Research Funding

National

De la Torre Cisneros, J. Spanish Network for Research on Infectious Diseases (REIPI). Funding agency: Instituto Carlos III Health (ISCIII). Reference: RD12/0015/0002

Gracia Ahufinger, I. Study of epigenetic modifications induced by cytomegalovirus as risk and prognostic markers. Funding agency: Instituto Carlos III Health (ISCIII). Reference: PI14/01225

De la Torre Cisneros, J. Clinical trial to stop vancomycin prophylaxis in CMV-seropositive renal transplant patients who maintain CD8+ CMV-specific cellular immunity after receiving thymoglobuline. Funding agency: Instituto Carlos III Health (ISCIII). Reference: PI15/00402 Q:3

Rivero Román, A. Agreement with JANSSEN. Funding agency: JANSSEN-CILAG, S.A. Reference: CCB.0113_01

De la Torre Cisneros, JC. Agreement. Funding Agency: FIS. Reference: CCB.0114

Rivero Román, A. Agreement with JANSSEN. Funding agency: Janssen-Cilag, S.A. Reference: CCB.0115

Rivero Román, A. Agreement with JANSSEN. Funding agency: GILEAD. Funding agency:Gilead Sciences, S.L. Reference: CCB.0123

Rivero Román, A. Agreement with GILEAD. Funding agency:Gilead Sciences, S.L. Reference: CCB.0121

Clinical Trials

0138/13.Changes in liver steatosis after replacing efavirenz with raltegravir in HIV/HCV co-infected patients treated with two nucleo-side analogs plus efavirenza: Steral study. PI: Dr/a Rivero Román, Antonio

0152/13.Follow-up study to assess the resistance and durability of response to treatment with AbbVie direct-acting antivirals in patients who participated in phase II/III studies for the treatment of chronic HIV infection. PI: Dr/a Rivero Román, Antonio

0039/14.A randomized, multicenter, open-label, controlled, phase III trial to assess the efficacy of fosfomycin vs. meropenem in targeted therapies for bacteremiacr urinary tract infection with extended-spectrum beta-lactamase (ESBL). PI: Dr/a Natera Kindelan, Clara

0062/14.Optimal duration of the antimicrobial treatment for bloodstream infections produced by Enterobacteriaceae. Clinical trial SHORTEN. PI: Dr/a Natera Kindelan, Clara

0081/14. A randomized, open-label study to assess the efficacy of darunavir/ritonavir plus lamivudine once a day vs. continuing treatment with darunavir/ritonavir once a day plus tenofovir/emtricitabine or abacavir/lamivudine in HIV patients with suppressed viremia. DUAL study. PI: Dr/a Rivero Román, Antonio

0272/14.Phase 3, randomized, active-controlled, open-label treatment to evaluate the change in treatment regimen in a single tablet taken once daily darunavir / cobicistat / emtricitabine / alafenamida tenofovir (D / C / F / TAF) front the continuation of the current regime consists of an inhibitor boosted protease (PPI) in combination with emtricitabine / tenofovir disoproxil fumarate (FTC / TDF) in patients infected with HIV type 1 (HIV-1) with virologic suppression subjects PI: Dr/a Rivero Román, Antonio

0124/15.Switch to MK-1439A in HIV-1-Infected Subjects Virologically Suppressed PI: Dr/a Rivero Román, Antonio

0141/15.Phase 3 trial, randomized, active-controlled, double-blind treatment to evaluate the safety and efficacy of the combined regimen of darunavir / cobicistat / emtricitabine / alafenamida tenofovir (D / C / F / TAF) administered once daily against the consistent treatment in the combination of darunavir / cobicistat co-administered with combination emtricitabine / tenofovir disoproxil fumarate in antiretroviral treatment naive subjects infected with human immunodeficiency virus type 1. PI: Dr/a Rivero Román, Antonio

0298/15. Clinical trial of suspension of prophylaxis with valganciclovir in CMV-seropositive kidney transplant recipients that maintain cellular immunity CMV-specific CD8+ after receiving thymoglobulin. PI: Dr/a De la Torre Cisneros, Julián Carlos

0062/15.Immune Response, and Safety Study of Clostridium difficile Toxoid Vaccine in Subjects at Risk for C. difficile Infection. PI: Dr/a De la Torre Cisneros, Julián Carlos

0369/15. A Phase 3, Randomized, Double-Blind Study to Evaluate the Safety and Efficacy of Switching From a Regimen of Dolutegravir and ABC/3TC, or a Fixed Dose Combination (FDC) of ABC/DTG/3TC to a FDC of GS-9883/F/TAF in HIV-1 Infected Subjects Who Are Virologically Suppressed. PI: Dr/a Rivero Román, Antonio

2907. Impact of specific antimicrobials and MIC values on the outcome of bloodstream infections due to ESBL- or carbapenemase-producing Enterobacteriaceae in Solid Organ Transplantation: an observational multinational study. PI: Dr/a De la Torre Cisneros, Julián Carlos

3192.A Phase III, randomised, double-blind, multicentre, parallel-group, non-inferiority study evaluating the efficacy, safety, and tolerability of dolutegravir plus lamivudine compared to dolutegravir plus tenofovir/emtricitabine in HIV-1-infected treatment-naive adults PI: Dr/a Rivero Román, Antonio

3186.A Phase 2, Multicenter, Randomized, Open-Label Study to Evaluate the Safety and Efficacy of GS-9883/Emtricitabine/Tenofovir Alafenamide in HIV-1-infected Treatment-Naive Adults. PI: Dr/a Rivero Román, Antonio

*3124.A Phase 3, Randomized, Double-Blind Study to Evaluate the Safety and Efficacy of GS-9883/Emtricitabine/Tenofovir Alafenamide Versus Abacavir/Dolutegravir/Lamivudine in HIV-1 Infected, Antiretroviral Treatment-Naive Adults. PI: Dr/a Rivero Román, Antonio

*3125.A Phase 3, Randomized, Double-Blind Study to Evaluate the Safety and Efficacy of GS-9883/Emtricitabine/Tenofovir Alafenamide Versus Dolutegravir + Emtricitabine/Tenofovir Alafenamide in HIV-1 Infected, Antiretroviral Treatment-Naive Adults. PI: Dr/a Rivero Román, Antonio

*3248.A Phase III, randomized, Multicenter, Parallel-group, Non-inferiority, Open-label Study Evaluating the Safety, Efficacy, and Tolerability of Switching to Long-acting Cabotegravir Plus Rilpivirine From Current INI- NNRTI-, or PI-based Antiretroviral Regimen in HIV-1-infected Adults Who Are Virologically Suppressed PI: Dr/a Rivero Román, Antonio

0032/08/EPA. An international, multicenter, observational, prospective study on the safety of Maraviroc in combination with an optimized background therapy in previously treated HIV-1 patients. PI: Dr/a Rivero Román, Antonio

2302. Impact of genetic variations of TLR2 and 9 on the risk of cytomegalovirus infection after transplantation and its usefulness in prevention. PI: Dr/a Cantásin Bohorquez, Sara

2548. Hepatic safety of Efavirenz in HIV/hepatitis C (HCV)-coinfected patients without HCV treatment in the The HEPAVIR HEPATIC SAFETY Cohort hEPatic study. PI: Dr/a Rivero Román, Antonio

2595. Intestinal colonization by multiresistant enterobacteria in patients with renal and liver transplant: multicenter cohort study PI: Dr/a Gracia Ahulfinger, Irene

2649. Effectiveness and safety of treatment against hepatitis C virus based on direct acting antivirals in actual use conditions: Cohort GE-HEP. PI: Dr/a Rivero Román, Antonio

2848. Evaluation of mortality associated with different clinical management strategies of Klebsiella pneumoniae baceteria resistant to carbapenems and colistin. KAPECOR study. PI: Dr/a Machuca Sánchez, Isabel María

2854.B-Lactam / B-Lactam inhibitor combinations versus carbapenems for the treatment of bacteria due to extended-spectrum B-Lactamase-producing Gram-negative bacilli in neutropenic hematologic patients. PI: Dr/a De la Torre Cisneros, Julián Carlos

2849. Effectiveness of intestinal decontamination in patients colonized by Klebsiella resistant to carbapenems and colistin pneumoniae. PI: Dr/a Machuca Sanchez, Isabel María

2933. Study of the kinetics of T CD8 positive immunity against CMV in renal transplant patients treated with thymoglobulin. PI: Dr/a De la Torre Cisneros, Julián Carlos

3044/2. Efficacy and safety/tolerability of Viekirax and Exviera in patients with diagnosed HCV, whether or not displaying coinfection with HIV-1, GT1 or GT4, and Stage IIIB-V chronic kidney disease, including patients undergoing dialysis, in routine clinical practice in Spain. ViekiID Study. PI: Dr/a Rivero Román, Antonio

3131. Rescue therapy using cefotaxime-tazobactam in infection caused by multdrug-resistant Pseudomonas aeruginosa. PI: Dr/a De la Torre Cisneros, Julián Carlos.

3162. Spanish bacteremia cohort 2016: epidemiology, clinical management and prognostic factors at diagnosis. PRO-BAC 2016 Study. PI: Dr/a Natera Kindelan, Clara

3009. Prospective observational study to assess the risk factors, clinical management outcomes of hospitalized patients with serious infections caused by carbapenem-resistant Enterobacteriaceae and acinetobacter baumannii. PI: Dr/a De la Torre Cisneros, Julián Carlos
3081. Impact of ceftazidime/Avibactam treatment on mortality associated with bacteremia caused by carbapenemase-producing Enterobacteriaceae in haematological patients. PI: Dr/a De la Torre Cisneros, Julián Carlos

3055. Experience of patients treated with ceftazidime-avibactam for infections caused by carbapenem-resistant organisms: a case series from the compassionate-use program. PI: Dr/a De la Torre Cisneros, Julián Carlos
HIGHLIGHTS

GC4 • Inflammation and cancer

PUBLICATIONS 10

IMPACT FACTOR 54,831

AVERAGE IMPACT FACTOR 5,483

Team Leaders

Principal Investigator (PI)
Eduardo Muñoz Blanco
filmuble@uco.es
PAIDI BIO-304 Scientific Group

Emerging Researcher (ER)
Marco Antonio Calzado Canale

Post-Doctoral Researchers
Cantarero Carmona; Irene García Medel; Noel Navarrate Rueda; Carmen

Pre-Doctoral Researchers (PhD Students y MSc Students)
Del Río Mercado; Carmen García González; Víctor Lara Chica; Mª Isabel Palomares Cañero; Belén

Other members of the Group
(Nursing, Technical, and Administrative Staff)
Garrido Rodríguez-Córdoba; Martín Jiménez Jiménez; Carla Millán Ortega; Estrella Carranza Valencia; Juan Collado Rojas; Juan Antonio Molina Moran; Rosario Ramírez Balsera; Carmen
Scientific Activity

The group Inflammation and Cancer is a consolidated group (GC-04) of the IMIBIC and participates in the research program Chronic Inflammatory Diseases that is described in the Institute strategic plan. Overall the research undertaken by the group is very collaborative with other national and international research groups and with SMEs. The main research lines are:

1. Study of the mechanism of action of cannabinoids (endocannabinoids, phytocannabinoids and synthetic cannabinoids) (IP. Eduardo Muñoz). In this line of research we are very focused on studying the mechanism of action of some phytocannabinoids and endocannabinoids in order to explore its therapeutic potential in inflammatory and neurogenerative diseases. On the one hand we are identifying the hyoximimetic mechanism of action of endocannabinoids type N-acyl dopamines and exploring pharmacological strategies to increase the levels of these endocannabinoids in the CNS. Also we are investigating the pharmacological potential of new semi-synthetic compounds derived from phytocannabinoids Cannabidiol and Cannabigerol by studying novel mechanisms of actions and its efficacy in different in vivo models of neuroinflammation and fibrosis.

2. Molecular identification of signaling pathways that regulate certain processes involved in inflammation and cancer (IP. Marco A. Calzado). This line is aimed to identify the role of the ubiquitin ligase SIAH2 in response to hypoxia and other endogenous mediators. One of the main objectives is to identify new molecular targets for the development of novel potential therapies. Moreover, we are studying the metabolomic profile in human lung cancer and in murine models of prostate cancer. In this research line we also have a particular interest in the study of new chemical entities able to inhibit molecular targets of pharmacological interest in cancer.

Keywords
Inflammation; cancer; tissue regeneration; cannabinoids; SIAH2; pharmacology and Nutraceuticals.

Scientific Production

Publications

Original


In Collaboration


Research Funding

National


Lopez Miranda JM (Calzado Canale, M. Co-PI). Early predictor and causes of loss of phe-


Malagón MM (Calzado Canale, M: Co-PI). Integration of platforms for the identification of therapeutic targets and the development of new products for the prevention and/or treatment of radiodermatitis. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO). Reference: RTC-2016-4589-1

Regional


Contracts with Companies

Muñoz Blanco, E. Biological screening in different biochemical and cellular tests on collection natural ingredients. Funding agency: Innovative Health Group S.L. Reference: PSS.0145

Muñoz Blanco, E. Biomolecules design through multivariate analysis process for obtaining active compounds (INTERCONNECTA). Funding agency: Vivacell Biotechnology Spain SL.

Muñoz Blanco, E. Natural Ingredientes. Funding agency: SimCosmetic Biotech S.L. Reference: 12015022

Muñoz Blanco, E. Outsourcing within the INTERCONNECTA project: ATENA-Olive oil and other healthy fats. Technological applications for the transformation of olive oil fats into high value added products. Funding agency: Phytoplant Research S.L. Reference: 12013097

Muñoz Blanco, E. Biological activity of natural biomedical products. Funding agency: Beros Consulting S.L. Reference: ccb.uc00040

Muñoz Blanco, E. Project for the production and research on hemp and derivatives. Funding agency: Phytoplant Research S.L. Reference: 12012129
## GC5 • Systemic and chronic inflammatory autoimmune diseases of the locomotor system and connective tissue

### HIGHLIGHTS

<table>
<thead>
<tr>
<th>PUBLICATIONS</th>
<th>IMPACT FACTOR</th>
<th>AVERAGE IMPACT FACTOR</th>
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<td>16</td>
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<td>4,958</td>
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</tbody>
</table>

### Team Leader

**Principal Investigator (PI)**
Rosario López Pedrera
rosario.lopez.exts@juntadeandalucia.es
Nicolás Monardes Contract

**Co-Principal Investigator (Co-PI)**
Eduardo Collantes Estévez
Professor at University of Cordoba.
Head of the Clinical Management Unit of Rheumatology
Spanish Network for Research in inflammation and rheumatic disease (RIER)
PAIDI CTS-1004 Scientific Group

### Researchers

Aguirre Zamorano; Mª Angeles Caracuel Ruiz; Miguel Ángel Escudero Contreras; Alejandro Font Ugalde; Pilar Gómez Gracia; Inmaculada Pérez Gujio; Verónica López Medina; Clementina López Montilla; Maria Dolores

### Post-Doctoral Researchers

Barbarroja Puerto; Nuria Calvo Gutiérrez; Jerusalem Castro Villegas; Mª Del Carmen Jiménez Gómez; Yolanda Ortega Castro; Rafaela Ruiz Limon; Patricia

### Pre-Doctoral Researchers (PhD Students y MSc Students)

Arias de la Rosa; Iván Jiménez Gasco; Rocío Guerrero Sánchez; Víctor Manuel Peñaifel Benavides; Manuel Perez Sanchez; Carlos

### Other members of the Group (Nursing, Technical, Student, Administrative Staff)

Abalos Aguilera; Mª Carmen Carmona Moriell; Cristina Elena Ruiz Vilchez; Desiree
Scientific Activity

Our research team works in two main investigation areas, which involve systemic autoimmune diseases (mainly Systemic Lupus Erythematosus, Primary Antiphospholipid Syndrome and Rheumatoid Arthritis) and chronic arthropaties (with special emphasis on Spondyloarthritis including Psoriatic Arthritis). We use synergistically clinical-therapeutic, molecular and cellular approaches.

1.- Research Area: Systemic autoimmune diseases
   Description: Our team studies the cellular and molecular mechanisms of atherothrombosis development in three systemic autoimmune diseases: Systemic Lupus Erythematosus (SLE), Antiphospholipid syndrome (APS) and Rheumatoid Arthritis (RA). We further analyze the regulatory mechanisms promoted by new therapeutic approaches such as Statins, biological therapies (i.e. anti-TNF, anti-IL6, anti-Blyss), biosimilars, and new drugs with antioxidant and anti-inflammatory effects (i.e. Coenzyme Q10)
   Main Objectives.-
   Study of cellular and molecular mechanisms of atherothrombosis in Systemic Autoimmune Diseases (EAS): Implementation of genomic, epigenetic and proteomics approaches to identify new biomarkers to delineate unique pathogenic mechanisms in each autoimmune condition.
   Analysis of the mitochondrial dysfunction and oxidative stress in EAS as key mechanisms in the evolution of cardiovascular disease and in the response to new therapeutic approaches.
   Study of the cellular and molecular mechanisms that regulate the effects of statins, CoQ10 and other biologic therapies in the prevention of atherothrombosis in EAS.
   Molecular and cellular mechanisms involved in the metabolic complications associated with autoimmune diseases: Systemic lupus erythematosus, Rheumatoid arthritis and antiphospholipid syndrome. Effects of mainstream and biological therapies in the prevention of these disorders.
   Description and objectives: Our research group also investigates new molecular biomarkers involved in the development of systemic autoimmune diseases. Specifically, the group conducts various research projects among which we can detach the so-called PRECISESADS (Molecular Reclassification to Find clinically Useful Biomarkers for Systemic Autoimmune Diseases), an European project funded by the Innovative Medicines Initiative (IMI). The aim of PRECISESADS is the use of -omics and bioinformatics tools for the reclassification of EAS that share common pathophysiological mechanisms. The project aims to push for personalized medicine based on clinical and molecular profiles of the individual by promoting a substantial improvement in the processes of prediction, diagnosis, and clinical developments as well as in monitoring therapeutic response.

2.- Research Area: Inflammation and Chronic Arthropathies. PI: Eduardo Collantes Estévez.
   Description: Our group has 3 lines of research in this field:
   Clinical and epidemiological aspects of ankylosing spondylitis (AS) (activity and disease severity) at local, national (Spanish Registry EA: REGISPONSER) and international levels (European and Latin American Registry of EA (E: RESPONSEIA). In the two former we are coordinators. 2) Development of a new system for evaluating the mobility of patients with AS (as an expression of structural damage and disease severity) by informatics technologies developed by our group (UCOTRACK. computerized motion capture using artificial vision; patented). 3) Study of the cellular and molecular mechanisms of the inflammatory and osteoproliferative pathways, in order to find new therapeutic targets.
   Main Objectives.-
   To describe and analyze the clinical, epidemiological, demographic, genetic, radiographic, of therapeutic and pathophysiological response of patients with AS in Spain and compare that data with the ones obtained in Latin American patients. The most interesting point will be to known if the differences in the clinical manifestations are due to the genetic load that derive from the same genotype (in relation to HLA-B27) and its relationship to the interaction with the environment.
   To apply the new patented system (UCOTRACK) to evaluate the mobility of patients with AS.
   To assess the relevance of the overall oxidative status, mitochondrial dysfunction and endoplasmic reticulum stress as agents involved in the development of inflammation and / or structural damage present in this disease.

Keywords
Systemic autoimmune diseases (Primary Antiphospholipid Syndrome, Systemic Lupus Erythematosus, Rheumatoid Arthritis); oxidative stress; microRNAs; proteomics; inflammation; cardiovascular disease; new therapies; spondyloarthropathies; epidemiology; diagnostic criteria, structural damage.
In Collaboration

IF:12,384 Q:1 D1

IF:1,072 Q:3

IF:1,072 Q:3

In Research Funding

IF:1,206 Q:3

IF:1,951 Q:1

Font Ugalde, P. Characterization of new molecular targets involved in the inflammation and bone neoformation in the ankylosing spondylitis. Therapeutic alternatives. Funda-Science Production

Original

IF: 4.557 Q:1 D1

IF:5,158 Q:1

IF:5,228 Q:1

IF:3,236 Q:2

IF:2,495 Q:2

Calvo-Gutierrez J, Garrido-Castro, J L; Gonzalez-Navas, C; Castro-Villegas, M; Ortega-Castro, R; Lopez-Medina, C; Font-Ugalde, P; Escudero-Contreras; A; Collantes-Estevez; E. Inter-rater reliability of clinical mobility mea- sures in ankylosing spondylitis. BMC Musculo- skeletal Disorders.2016.17(1):382382.
IF:1,684 Q:2

IF:1,072 Q:3

IF:1,072 Q:3

IF:1,072 Q:3
Regional


International

Collantes Estevez, E. PRECISESADS > Molecular reclassification to find clinically useful biomarker for systemic autoimmune diseases. Funding agency: European Commission Reference: IMI/00002


Contracts with Companies

Collantes Estevez, E. Agreement between MSD and the UGC of Reumatologia. Funding agency: Merck Sharp & Dohme de España SA. Reference:CCB.0042


Collantes Estevez, E. Sponsored Research Agreement ROCHE. Funding agency: ROCHE FARMA S.A. Reference: CCB.0012

Collantes Estevez, E. Sponsored Research Agreement ROCHE. Funding agency: ROCHE FARMA, S.A. Reference: CCB.0012

Clinical Trials


0320/10/2A randomized, double-blind, placebo-controlled, 52-week study to assess adverse events of special interest in adults with systemic antibody positive lupus erythematosus receiving belimumab. Pi: Dr/a Aguirre Zamorano, Mª Angeles

0106/13/A multicenter, randomized, double-blind study to compare the effectiveness and safety of continuous treatment with adalimumab vs. discontinuation of treatment with adalimumab as maintenance therapy in patients with axial spondyloarthritis. Pi: Dr/a Collantes Estevez, Eduardo

0139/13/A phase IIb study to assess the efficacy, safety, and tolerability of subcutaneous Tocilizumab (TCZ) administered alone or in combination with methotrexate (MTX) and other non-biological DMARDs in patients with rheumatoid arthritis. Pi: Dr/a Escudero Contreras, Alejandro

0248/13/A multicenter, randomized, double-blind, placebo-controlled phase III study to demonstrate the efficacy of Secukinumab after 16 weeks of treatment and assess its long-term safety, tolerability and efficacy in a period of three years in patients with active ankylosing spondylitis. Pi: Dr/a Collantes Estevez, Eduardo

0205/14/A phase 3 randomized, double-blind study assessing the efficacy and safety of PF-06410293 and adalimumab in combination with methotrexate in subjects with moderate-to-severe active rheumatoid arthritis who have had an inadequate response to methotrexate. Pi: Dr/a Escudero Contreras, Alejandro

0318/14. GO-VIBRANT A Multicenter, Randomized, Double-blind, Placebo-controlled Trial of Golimumab, an Anti-TNF alpha Monoclonal Antibody, Administered Intravenously, in Subjects with Active Psoriatic Arthritis. Pi: Dr/a Lopez Montilla, Mª Dolores

0040/15/Phase III, multicenter, randomized, double-blind, placebo-controlled secukinumab (150mg) subcutaneously with or without a loading dose subcutaneously with or without a loading dose subcutaneously to evaluate the efficacy, safety and tolerability for up to 2 years in patients with active ankylosing spondylitis. Pi: Dr/a Collantes Estevez, Eduardo

0064/15. A Phase II Multicenter, Open-Label Extension Study Assessing the Long Term Efficacy and Safety of Subcutaneous ALX-0061 in Subjects with Moderate to Severe Rheumatoid Arthritis who Have Completed One of the Preceding Phase IIb Studies with ALX-0061. Pi: Dr/a Escudero Contreras, Alejandro

0071/15.Randomized, 16-week, multi-phase, double-blind, placebo-controlled study to evaluate the safety, tolerability, and efficacy of fulranumab as adjunctive therapy in subjects with signs and symptoms of osteoarthritis of the hip or knee. Pi: Dr/a Caracuel Ruiz, Miguel Angel

0107/15/A Phase III, randomized, double-blind, placebo controlled multi-center study of subcutaneous secukinumab (150 mg and 300 mg) in prefilled syringe to demonstrate efficacy (including inhibition of structural damage), safety, and tolerability up to 2 years in subjects with active psoriatic arthritis (FUTURE 5). Pi: Dr/a Lopez Montilla, Mª Dolores

0146/15/A Phase 3, Multicenter, Randomized, Double-blind, Placebo-controlled Study Evaluating the Efficacy and Safety of Ustekinumab in the Treatment of Anti-TNF (alpha) Refractory Subjects With Active Radiographic Axial Spondyloarthritis. Pi: Dr/a Collantes Estevez, Eduardo

0253/15/Phase III study randomized, double-blind, parallel group to demonstrate equivalent efficacy and compare the safety and immunogenicity of GP2015 and Enbrel (authorized in the EU) in patients with active rheumatoid arthritis. Pi: Dr/a Escudero Contreras, Alejandro

0293/15. A Multicenter Double-Blind, Randomized Controlled Study of Etanercept and Methotrexate in Combination or as Monotherapy in Subjects With Psoriatic Arthritis. Pi: Dr/a Lopez Montilla, Mª Dolores

0271/15/A Comparative Study to Assess the Efficacy, Safety and Immunogenicity of YLBI13 and Enbrel for the Treatment of Rheumatoid Arthritis. Pi: Dr/a Escudero Contreras, Alejandro

0306/15/ A Randomized, Double-blind, Placebo-controlled, Proof-of-concept Study to Evaluate the Efficacy of UCB8587 Over 12 Weeks in Subjects With Primary Sjorgen’s Syndrome. Pi: Dr/a Escudero Contreras, Alejandro

*2953*. Randomized controlled trial, multicenter, double-blind, etanercept and methotrexate in combination or as monotherapy in patients with psoriatic arthritis. Pi: Dr/a Calvo Gutiérrez, Jerusalem

*2950. A Phase 3 Randomized, Double-blind, Placebo-controlled, Multicenter Study Of The Analgesic Efficacy And Safety Of The Subcutaneous Administration Of Tanezumab In Subjects With Osteoarthritis Of The Hip Or Knee. Pi: Dr/a Caracuel Ruiz, Miguel Angel

2959. A Phase 3, Multicenter, Long-term Observational Study Of Subjects From Tanezumab Ab Studies Who Undergo A Total Knee, Hip Or Shoulder Replacement. Pi: Dr/a Caracuel Ruiz, Miguel Angel

*2894. A Multicenter, Open-label (Part A) Followed by a Randomized, Double-blind, Parallel-group, Placebo Controlled Study (Part B) To Evaluate Maintenance of Remission in Subjects With Active Axial Spondyloarthritis (axSpA) Receiving Either Certolizumab Pegol 200 mg Q2W or 200 mg Q4W as Compared to Placebo. Pi: Dr/a Collantes Estevez, Eduardo

*3235. MAXIMIZE (Managing Axial Manifestations in Psoriatic Arthritis With SECukinumab), a Randomized, Double-blind, Placebo-con-
trolled, Multicenter, 52 Week Study to Assess the Efficacy and Safety of Secukinumab 150 mg or 300 mg s.c. in Participants With Active Psoriatic Arthritis and Axial Skeleton Involvement Who Have Inadequate Response to Non Steroidal Anti-inflammatory Drugs (NSAIDs).

PI: Dr/a López Montilla, Mª Dolores


PI: Dr/a Collantes Estevez, Eduardo


PI: Dr/a Collantes Estevez, Eduardo

2219. Beneficial effects of coenzyme Q10 treatment on the mitochondrial dysfunction and oxidative stress associated to atherothrombosis development in antiphospholipid syndrome patients.

PI: Dr/a López Pedrera, Rosario

2273. Spanish registry of patients with axial ankylosing spondylitis treated with anti-TNF.

PI: Dr/a Collantes Estevez, Eduardo

2457. Multi-Country Registry of clinical characteristics, including radiographic progression, and burden of disease over 5 years in real-life setting PROOF.

PI: Dr/a Collantes Estevez, Eduardo

2541. A study of treatment adherence in patients with rheumatoid arthritis receiving subcutaneous administration of biological agents. Arco study

PI: Dr/a Escudero Contreras, Alejandro

2686. ASCORE study about long-term experience with abatacept s.c. in habitual clinical practice.

PI: Dr/a Escudero Contreras, Alejandro

2703. Spanish Registry of psoriatic arthritis.

PI: Dr/a López Montilla, Mª Dolores

2702. Validation of the EARP questionnaire for the detection of psoriatic arthritis in the Spanish population. VALS Study.

PI: Dr/a López Montilla, Mª Dolores

2736. A non-interventional study to assess the effectiveness of Certolizumab Pegol in patients with axial Spondyloa

PI: Dr/a Collantes Estevez, Eduardo

2817. Clinical applicability of a standardised dose-reduction protocol in patients with diagnosed rheumatoid arthritis (RA) displaying persistent clinical remission with anti-TNF therapy.

PI: Dr/a Font Ugalde, Pilar

2880. Spanish Registry of adverse events in biological and biosimilar therapies in rheumatic illnesses. Phase III

PI: Dr/a Collantes Estevez, Eduardo

3160. Observational study of the reproducibility of UCOTRACK, an automated system for measuring mobility in patients with axial spondyloarthritis.

PI: Dr/a Collantes Estevez, Eduardo

3161. An Observational, Prospective Cohort Study to Evaluate Safety and Efficacy of RemsimaTM in Patients With Rheumatoid Arthritis.
HIGHLIGHTS

**Team Leaders**

**Principal Investigator (PI)**
Enrique Aranda Aguilar
earandaa@seom.org
CIBER on Cancer (CIBER-ONC)
PAIDI CTS-234 Scientific Group

**Co-Principal Investigator (Co-PI)**
Antonio Rodríguez Ariza
Nicolás Monardes Contract

**Emerging Researcher (ER)**
Juan Rafael de la Haba Rodríguez

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**Researchers**
Barneto Aranda; Isidoro C. Cano Osuna; María Teresa Fuentes Vaamonde; Elena Gomez España; María Auxiliadora Méndez Vidal; María José Moreno Vega; Alberto Luis Porras Quintela; Ignacio Rubio Pérez; María Jesús Sánchez Mauriño; Pedro Varo Sánchez; Gema Mª Villar Pastor; Carlos Martínez Peinado; Antonio Conde Perez; Francisco Manuel López Sanchez; Laura María

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**Post-Doctoral Researchers**
Cañas Rodríguez; Amanda Guil Luna; Silvia Valverde Estepa; Araceli

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**Pre-Doctoral Researchers (PhD Students y MSc Students)**
Gómez Rodríguez, Estefanía Gómez Solís, Ángel Mellado Fuentes; Ana María Mena Osuna; Rafael Morales Estévez; Cristina Navas Navas; Patricia Ortíz Morales; María José Peñarando Saez; Jon Toledano Fonseca; Marta

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**Other members of the Group (Nursing, Technical, and Administrative Staff)**
Díaz Díaz; Mª Ángeles Hernández Nieto; Vanesa Jaraba Mezquida; Isabel Leña Barranco; Amalia López García; María Marín Serrano; Jacinta Marín Serrano; María José Mesa Blanco; Mª Pilar Miranda García; Rosario Rodríguez De Julián; Sonia

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**Publications**
18

**Impact Factor**
106,713

**Average Impact Factor**
5,928
Scientific Activity

Our research group conducts its scientific activities in several areas of both clinical and experimental research. The first area is related to the identification of clinical or molecular factors useful in predicting clinical evolution, response or toxicity in cancer treatment. In this area we have reported the development of predictive biomarkers of response to antiangiogenic therapy. We participate very actively in the development of new therapeutic strategies using drugs aimed at specific targets. To achieve this, we are currently studying the association between antitumoral immune response and response to antiangiogenic therapy in cancer, to define predictive markers of response to antiangiogenic drugs. The development of these markers will optimize the use of new therapies in cancer patients. Another research area looks into the role of nitrosative stress and the regulation of nitrosothiol homeostasis in cancer. Using the latest proteomic approaches to identify posttranslational nitrosative modifications, notably the S-nitrosylation of proteins, we analyse the importance of maintaining the homeostasis of nitrosothiols and the formation of S-nitrosoproteins. Results in our laboratory data support the hypothesis that the metabolism of nitric oxide (NO) plays an important role in the onset and progression of cancer, confirming a close relationship between NO and stem/mesenchymal characteristics in tumors. Therefore the main objective in this area is to characterize the mechanisms by which NO is involved in the onset and progression of cancer, and identify new therapeutic strategies for the treatment of this disease. Finally, our group is actively performing clinical validation studies to assess whether the determination of RAS mutational status using liquid biopsy tools may optimize the rational use of anti-EGFR therapies in colorectal cancer. Likewise, our group is applying liquid biopsy tools in other gastrointestinal tumors such as pancreatic cancers. Also, more translational studies are being undertaken in our laboratory to explore other plasma components, such as miRNAs and exosomes.

Keywords
Colon Cancer; Breast Cancer, Polymorphisms; Gene Expression. Pharmacogenomics; Predictive Models; Angiogenesis; Angiotensins; anti Her-2 therapies; anti-EGFR Therapy; Clinical Trial; Nitric Oxide; Nitrosative Stress; S-nitrosylation; Proteomics; Genomics.

Scientific Production

Publications

Original

In Collaboration


In Collaboration


0048/09. A randomized, phase II study of citobin + Bevacizumab + external radiotherapy versus Capcitabine + radiotherapy as preoperative treatment in patients with resectable locally advanced rectal cancer. PI: Dr/a Aranda Aguilar, Enrique

0181/09. A randomized, double-blind, placebo-controlled trial with neratinib (HK2-272) after trastuzumab in women with initial stage breast cancer with overexpression/amplification of HER-2/neu. PI: Dr/a De la Haba Rodríguez, Juan Rafael

0226/09. A multicenter, multinational, randomized, phase II study to assess pertuzumab in combination with trastuzumab administered concomitantly or sequentially to a regular anthracycline-based chemotherapy or concomitantly to a non-anthracycline chemotherapy as neoadjuvant treatment in patients with breast cancer. PI: Dr/a De la Haba Rodríguez, Juan Rafael

0013/10. A multicenter, randomized, phase II, pilot study to assess the safety and efficacy of paclitaxel administered weekly as a single agent and two different administration regimes of SARC0550 (BSI-201), a PARP-1 inhibitor, in combination with paclitaxel administered weekly as neoadjuvant therapy in patients with stage II-IIIA triple-negative breast cancer. PI: Dr/a Aranda Aguilar, Enrique

0082/10. An open, randomized, phase II study to assess the effectiveness and safety of paclitaxel administered weekly as a single agent and two different administration regimes of SARC0550 (BSI-201), a PARP-1 inhibitor, in combination with paclitaxel administered weekly as neoadjuvant therapy in patients with stage II-IIIA triple-negative breast cancer. PI: Dr/a De la Haba Rodríguez, Juan Rafael

0215/10. A randomized, double-blind, phase III trial of paclitaxel administered weekly plus MAG386 or placebo in women with recurrent partially platinum-sensitive or platinum-resistant pretreated patients with HER2-positive breast cancer. PI: Dr/a Aranda Aguilar, Enrique

0172/11. A Randomized, Multi-Center Cross-Over Study to Evaluate Patient Preference and Health Care Professional (HCP) Satisfaction With Subcutaneous (SC) Administration of Trastuzumab in HER2-Positive Early Breast Cancer (EBC). PI: Dr/a Porras Quintela, Ignacio

0190/11/Phase II Clinical Trial of Dovitinib (TKI-258) in First-line Metastatic or Locally Advanced Non-Resectable Adenocortical Carcinoma. PI: Dr/a Méndez Vidal, María José

0198/05. An open, multicenter, randomized phase IV-III study to assess the effectiveness of maintenance treatment with capecitabine (X) in combination with two different administration regimes of mFOLFOX-6 plus cetuximab (8 cycles) followed by exclusive maintenance treatment with cetuximab as first-line treatment in patients with metastatic colorectal cancer and KRAS tumors. PI: Dr/a Aranda Aguilar, Enrique

0092/10. An open, randomized, phase II study of trastuzumab + neratinib + lapatinib in women with HER2-positive breast cancer. PI: Dr/a De la Haba Rodríguez, Juan Rafael

0254/06. A phase III trial to assess ovarian function suppression and Exemestane as adjuvant treatments for premenopausal women with endocrine-sensitive breast cancer. PI: Dr/a Aranda Aguilar, Enrique

0090/07. An open, multicenter, randomized, phase III study of lapatinib, trastuzumab sequentially administered or administered in combination as adjuvant treatment in a patient with HER2/ERBB2-positive breast cancer. PI: Dr/a De la Haba Rodríguez, Juan Rafael

0265/08. Topotecan plus carboplatin vs standard treatment (paclitaxel plus carboplatin or gemcitabine + carboplatin) in the treatment of patients with recurrent platinum-sensitive peritoneal carcinoma, fallopian tube carcinoma or epithelial ovarian carcinoma. PI: Dr/a Rubio Pérez, María Jesús

0255/08. A Randomized, Open Label, Multi-center Phase III Study to Evaluate the Efficacy and Safety of Nilotinib Versus Imatinib in Adult Patients With Unresectable or Metastatic Gastrointestinal Stromal Tumors (GIST). PI: Dr/a Aranda Aguilar, Enrique

0285/11. A randomized phase II trial to assess the efficacy and safety of an individualized neoadjuvant chemotherapy scheme based on the level of brca1 for primary her-2 negative breast cancer (BERNAQ). PI: Dr/a De la Haba Rodríguez, Juan Rafael

0071/12. A randomized, phase II clinical trial to explore the impact of BRAF and PI3K state on the effectiveness of FOLFOX + Bevacizumab or Cetuximab as first-line treatment of patients with metastatic colorectal cancer with native KRAS and less than three circulating tumor cells. PI: Dr/a Aranda Aguilar, Enrique

0073/12. A randomized, phase III clinical trial to assess the effectiveness of FOLFOX + bevacizumab versus FOLFOXIRI + bevacizumab as first-line treatment in naive patients with metastatic colorectal cancer with three or more circulating tumor cells. PI: Dr/a Aranda Aguilar, Enrique

0160/12. A randomized, multicenter, double-blind, two-part, phase II study to assess the efficacy and safety of pertuzumab in combination with standard chemotherapy vs placebo plus standard chemotherapy in women with epithelial cancer. PI: Dr/a Rubio Pérez, María Jesús

0171/12. A randomized, double-blind, placebo-controlled, phase III study of BKM120 in combination with fulvestrant in postmenopausal women with locally advanced or metastatic hormone-receptor positive and HER2-negative breast cancer with progression after a treatment with an aromatase inhibitor. PI: Dr/a De la Haba Rodríguez, Juan Rafael

0229/12. A multicenter, single-arm study of trastuzumab emtansine (TDM1) in patients with metastatic or locally advanced, HER2-positive breast cancer patients previously treated with an anti-HER2 agent-based treatment plus chemotherapy. PI: Dr/a De la Haba Rodríguez, Juan Rafael

0235/12. A randomized, double-blind, phase III trial of PROSTVAC-V/F + FEC-GM in patients with asymptomatic or minimally symptomatic castration-resistant prostate cancer. PI: Dr/a Méndez Vidal, María José

0312/12. A multicenter, randomized, double-blind, placebo-controlled, phase III trial to assess the efficacy and safety of pertuzumab in combination with trastuzumab and chemotherapy in patients with HER2-positive gastric and gastroesophageal junction cancer. PI: Dr/a Aranda Aguilar, Enrique

0347/12. An open, randomized, multicenter, phase II trial to assess the toxicity and efficacy of a hormonal and radiation therapy for patients with locally advanced breast cancer. PI: Dr/a Rubio Pérez, María Jesús

0363/12. An open, randomized, phase III trial of cisplatin and 5-FU with or without panitumumab for patients with nonresectable advanced or metastatic esophageal squamous cell cancer. PI: Dr/a Aranda Aguilar, Enrique

0020/13. ARCHER 1050. A randomized, open, phase III study of the efficacy and safety of Da-
comititin (PF-00299804) vs. Gefitinib in first-line treatment of locally advanced or metastatic non-small cell lung cancer in patients with activating mutation(s) of the epidermal growth factor (EGF) receptor.

Pl: Dr/a Barneto Aranda, Isidoro


Pl: Dr/a Aranda Aguilar, Enrique

0059/13. A phase II study ofregorafenib as single-agent for first-line treatment of fragile patients with metastatic colorectal cancer and/or not candidates for polychemotherapy.

Pl: Dr/a Aranda Aguilar, Enrique


Pl: Dr/a De la Haba Rodríguez, Juan Rafael

0132/13. A multicenter, randomized, double-blind, placebo-controlled, phase III study of maintenance therapy with Olaparib alone in patients with BRCA-positive ovarian cancer or with platinum-sensitive relapse ovarian cancer with complete response, or patients with EGF activating mutations.

Pl: Dr/a Rubio Pérez, María Jesús


Pl: Dr/a De la Haba Rodríguez, Juan Rafael


Pl: Dr/a De la Haba Rodríguez, Juan Rafael

0215/13. Phase III Palbociclib (PD-0332991) study in combination with Exemestane versus chemotherapy (capecitabine) in patients with Advanced Breast Cancer (ABC) with positive hormone receptors (HR) and negative HER2 inhibitor resistance to Aroma inhibitors.

Pl: Dr/a De la Haba Rodríguez, Juan Rafael

0246/13. Abirateron acetate maintenance in combination with docetaxel after disease progression to abirateron acetate in metastatic castration-resistant prostate cancer. Randomized phase II study.

Pl: Dr/a Méndez Vidal, María José

0281/13. Safety study retreatment radium-223 dichloride in castration-resistant prostate cancer patients with bone metastases who received an initial regimen of six doses of radium-223 dichloride 50 kBq / kg every 4 weeks.

Pl: Dr/a Méndez Vidal, María José

0312/13. A Phase II Randomized Clinical Trial Evaluating Neoadjuvant Therapy Regimens With Weekly Paclitaxel Plus Neratinib or Trastuzumab or Neratinib and Trastuzumab Followed by Doxorubicin and Cyclophosphamide With Postoperative Trastuzumab in Women With Locally Advanced HER2-Positive Breast Cancer

Pl: Dr/a De la Haba Rodríguez, Juan Rafael

0323/13. A Study of MEK162 vs. Physician’s Choice Chemotherapy in Patients With Low-grade Serous Ovarian, Fallopian Tube or Peritoneal Cancer.

Pl: Dr/a Rubio Pérez, María Jesús


Pl: Dr/a Méndez Vidal, María José

0036/14. A Phase II randomized, double-blind study of neoadjuvant letrozole plus GDC-0032 versus letrozole plus placebo in postmeno-pausal women with er positive/her2-negative, early stage breast cancer.

Pl: Dr/a De la Haba Rodríguez, Juan Rafael

0037/14. Phase III, international, randomized trial of more pegylated doxorubicin liposomal trabectedicine (DPL) compared to carboplatin plus DLP in patients with ovarian cancer who have experienced progression in the last 6-12 months following treatment.

Pl: Dr/a Rubio Pérez, María Jesús

0050/14. An open-label, phase II trial of Orerelon (TAK-700) for metastatic or advanced non-resectable granulosa cell ovarian tumors.

GreKo study II.

Pl: Dr/a Rubio Pérez, María Jesús


Pl: Dr/a De la Haba Rodríguez, Juan Rafael

0059/14. A phase III study to assess the efficacy of palbociclib (PD-0332991), a cyclin-dependent kinase 4/6 inhibitor in patients with HR positive breast cancer and normal HER2 at high risk of relapse following chemotherapy.

Pl: Dr/a De la Haba Rodríguez, Juan Rafael


Pl: Dr/a Aranda Aguilar, Enrique

0094/14. A randomised, double-blind, placebo-controlled, multicentre phase II study to compare the efficacy, safety and tolerability of olaparib versus placebo when given in addition to abiraterone treatment in patients with metastatic, castration-resistant prostate cancer who have received prior chemotherapy containing docetaxel.

Pl: Dr/a Méndez Vidal, María José

0105/14. A multinational, multicenter, phase II study to assess the efficacy of pertuzumab plus trastuzumab and neo-adjuvant chemotherapy based on anthracyclines in patients with locally advanced, inflammatory or early positive Her2 breast cancer.

Pl: Dr/a De la Haba Rodríguez, Juan Rafael


Pl: Dr/a Aranda Aguilar, Enrique


Pl: Dr/a De la Haba Rodríguez, Juan Rafael


Pl: Dr/a Aranda Aguilar, Enrique

0177/14. A multicenter, open-label, single-arm, extension study in patients with solid tumors receiving treatment with bevacizumab in any of the studies sponsored by F. Hoffmann-La Roche and/or Genentech.

Pl: Dr/a Rubio Pérez, María Jesús


Pl: Dr/a Barneto Aranda, Isidoro


Pl: Dr/a Méndez Vidal, María José

0267/14. Phase II multicenter study that analyzes the predictive value of response to EN-ZALUTAMIDE fusion gene TMRPSS2-ETS in patients with metastatic CRPC previously treated with chemotheraphy.

Pl: Dr/a Méndez Vidal, María José

0270/14. Phase II randomized double-blind study comparing treatment every 3 weeks with carboplatin (AUC 5) + 175 mg / m² of paclitaxel, with or without concomitant nintedanib and maintenance in advanced or recurrent cervical carcinoma.

Pl: Dr/a Rubio Pérez, María Jesús

0309/14.A Randomized, multicenter, open label study os MM-302 plus Trastuzumab vs. chemotheraphy of physician’s choice plus trastuzumab in anthracycline naive patients with locally advanced/metastatic HER2-Positive breast cancer

Pl: Dr/a De La Haba Rodríguez, Juan Rafael

0311/14. Phase III study, open, multicenter, randomized trial to investigate the efficacy and safety of mpd13280a (anti-pd-I) compared to chemotherapy in patients with locally advanced or metastatic uterine cervical cancer after failure based regime platinum chemotheraphy.

Pl: Dr/a Méndez Vidal, María José

0341/14. Phase III trial to compare the safety and efficacy of lapatinib plus trastuzumab plus an aromatase inhibitor (AI) versus trastuzumab plus an AI and against lapatinib plus an AI as first or second line therapy in postmenopausal patients with cancer metastatic breast cancer (MBC) HER2 positive and hormone receptor-positive who have received prior treatment with trastuzumab and endocrine therapy.

Pl: Dr/a De La Haba Rodríguez, Juan Rafael

0362/14. Phase II Clinical Trial of Pembrolizumab (MK-3475) in Subjects with Advanced/
Unresectable or Metastatic Urothelial Cancer. PI: Dr/a Méndez Vidal, María José
0358/14. A multicenter phase ii clinical trial of lurbinectedin (pm01183) in selected advanced solid tumors. PI: Dr/a Rubio Pérez, María Jesús
0005/15. Multicenter, open single-arm safety study of herceptin s.c. in combination with docetaxel PERJETA and in the treatment of patients with advanced HER2-positive (meta-
static or locally recurrent) breast cancer. PI: Dr/a De La Haba Rodríguez, Juan Rafael
0019/15. Phase III, randomized, open, mpdL3280a (anti PD-L1) in combination with BEV-
AZUMAB compared to sunitinib in patients with advanced untreated renal cell carcinoma . PI: Dr/a Aranda Aguilar, Enrique
0020/15. Phase III open randomized clinical trial pembrolizumab (MK-3475) versus paclit
axel in patients with gastric adenocarcinoma or advanced gastroesophageic which have submitted progression after first-line treat-
ment with platinum and fluoropyrimidine. PI: Dr/a Aranda Aguilar, Enrique
0026/15. Phase II study randomized, multi-
center, open to evaluate the efficacy and safety of talazoparib in breast cancer with dele-
teros in patients with HER2 negative metastatic breast cancer, ER + (PARSIFAL I) PI: Dr/a De La Haba Rodríguez, Juan Rafael
0045/15. A Randomized, Double-blind, Place-
bo-Controlled, Phase 2 Study to Assess the Efficacy and Safety of Farnetuzumab (MORAb 003) in Combination with Carboplatin plus Paclitaxel or Carboplatin plus Pegylated Lipo-
sonal Doxorubicin (PLD) in Subjects with Low CA125 Platinum-Sensitive Ovarian Cancer. PI: Dr/a Rubio Pérez, María Jesús
0055/15. A phase ii, open-label, randomized study of mpd3280a (anti-pd-1 antibody) in combination with carboplatin - paclitaxel with or without bevacizumab compared with car-
boplatin –paclitaxel -bevacizumab in chemo-
therapy naïve patients with stage iv nonsqua-
nonal-malignant small cell lung cancer. PI: Dr/a Barneto Aranda, Isidoro
0060/15. A phase iii, open-label, multicenter, randomized study evaluating the efficacy and safety of mpd3280a (anti-pd-1 antibody) in combination with carboplatin - paclitaxel or carboplatin –paclitaxel in chemotherapy naïve patients with stage iv squamous non-small cell lung cancer. PI: Dr/a Barneto Aranda, Isidoro
0066/15. Multicenter open-label study, ran-
domized controlled phase III to assess the efficacy and safety of olaparib monotherapy versus chemotherapy with single agent les-
son by her doctor in the treatment of ovarian cancer relapsed platinum-sensitive in patients carrying germline mutations BRCA1/2 PI: Dr/a Rubio Pérez, María Jesús
0145/16. Evaluation of the effect of lurbinecti-
da (PM183) in cardiac repolarization (QTc duration) in selected patients with solid tumors. PI: Dr/a Rubio Pérez, María Jesús
0144/15. A Randomized, Active-Controlled, Partially Blinded, Biomarker Select, Phase III Clinical Trial of Pembrolizumab as Monother-
apy in Combination with Cisplatin+5-Flu-
ouracil versus Placebo+Cisplatin+5- Fluoro-
uracil as First-Line Treatment in Subjects with Advanced Gastric or Gastroesophageal Junc-
tion (GEJ) Adenocarcinoma PI: Dr/a Aranda Aguilar, Enrique
0176/15. Phase II, multicenter, randomized, double-blind, parallel group study to com-
pare the efficacy and tolerability of fulvestrant (FaslodexTM) 500 mg with placebo and Ful-
vestrant (FaslodexTM) 500 mg in combination with PD-0332991 (Pablocibib) as first-line treat-
ment for postmenopausal patients with metastatic breast cancer and hormone recep-
tor positive. FLIPPER study PI: Dr/a De La Haba Rodríguez, Juan Rafael
0192/15. Phase III study, open, randomized trial to investigate the efficacy and safety of Atelzumab (anti-PD-L1 antibody) compared to different schedules in patients with advanced cisplatin-based chemotherapy in selected PD-
L1 with completely resected lung cancer pa-
tients in small cell stage IVB-IIIA. PI: Dr/a Barneto Aranda, Isidoro
0195/15. Phase III randomized trial with the monoclonal anti-PD-1 pembrolizumab (MK-
3475) antibody compared to placebo in pa-
tients with NSCLC in early stages after resec-
tion and completion of adjuvant treatment reference (PEARLS). PI: Dr/a Barneto Aranda, Isidoro
0196/15. Phase 0 study, pharmacokinetic / pharmacodynamic, multicentric, to evaluate the effect inhibitor AZD2281 (olaparib) before surgery in patients concarcinoma with the en-
dometrium located. PI: Dr/a Rubio Pérez, María Jesús
0233/15. Randomised phase ii study compar-
ing, as first-line chemotherapy, single-agent oral vinorelbine administered with two dif-
ferent schedules in patients with advanced breast cancer. TempoBreast 1. PI: Dr/a De La Haba Rodríguez, Juan Rafael
0256/15. Randomized, double-blind, phase iii trial olaparib vs. Placebo patients with ad-
vanced fgo stage ibv-iv high grade serious or endometrioid ovarian, fallopian tube, or peritoneal cancer treated standard first-line treat-
ment. PI: Dr/a Rubio Pérez, María Jesús
0261/15. A phase iii trial of postoperative che-
motherapy or no further treatment for patients with node-negative stage I-II intermediate or high risk endometrial cancer. PI Dr/a Rubio Pérez, María Jesús
0265/15. A Phase 2a Randomized, Open-label Study To Assess the Safety, Tolerability, Efficacy of BAX69 in Combination With 5-FU/ Leucovorin or Panitumumab Versus Standard of Care in Subjects With Metastatic Colorectal Cancer. PI: Dr/a Aranda Aguilar, Enrique
0265/15. Safety and efficacy of LONQEX®a (lipegfligrastim) versus pegfligrastim (Neulas-
ta®, Amgen Inc.) and placebo in patients with non-microcytic breast cancer receiving first-line chemotherapy. PI: Dr/a Barneto Aranda, Isidoro
0295/15. Multicenter randomized clinical tri-
al on maintenance of treatment based on biomarkers for first line metastatic colorectal cancer (modul). PI: Dr/a Aranda Aguilar, Enrique
0371/15. Estudio in Fase II con MPDL3280A preoperatorio en carcinoma operable de células transicionales de vejiga (ABACUS). PI: Dr/a Méndez Vidal, María José
0015/16. An Open-label, Randomised, Non-comparative Phase 2 Study Evaluating S 95005 (TAS-102) Plus Bevacizumab and Capecitabine Plus Bevacizumab in Patients With Previously Untreated Metastatic Col-
orectal Cancer Who Are Non-eligible for In-
tensive Therapy PI: Dr/a Aranda Aguilar, Enrique
0018/16. A Phase III, Multicenter, Randomized, Placebo-Controlled Study of Atezolizumab (Anti-PD-L1 Antibody) in Combination With Nab-Paclitaxel Compared With Placebo With Nab-Paclitaxel for Patients With Previously Untreated Metastatic Triple-Negative Breast Cancer PI: Dr/a De La Haba Rodríguez, Juan Rafael
*2898 A Phase III Double-Blinded, Placebo Controlled Study of Xolirox for Improving Sur-
vival in Metastatic Colorectal Cancel (Trial). PI: Dr/a Aranda Aguilar, Enrique
*2346 Estudio fase 2 de eficacia y seguri-
dad de Niraparib en hombres con cáncer de próstata metastásico resistentes a castración y anormalías en la reparación de AND. PI: Dr/a Méndez Vidal, María José
*2893 EUTROC-PISARRO. p53 Suppressor Activation in Recurrent High Grade Serous Ovarian Cancer, a Phase Ib/II Study of Systemic Doxorubicin/Pegylated Liposomal Doxorubi-
cin Combination Chemotherapy With or Without APR-246. PI: Dr/a Rubio Pérez, María Jesús
*3001. A Phase 3, Randomized, Controlled, Multi-Center, Open-Label Study to Compare Tivozanib Hydrochloride to Sorafenib in Sub-
jects With Refractory Advanced Renal Cell Carcinoma PI: Dr/a Méndez Vidal, María José
*3183. A Phase 3, Multicenter, Randomized, Open-label Study Of Avelumab (msb0010718c) Alone Or In Combination With Pegylated Liposo-
mal Doxorubicin Versus Pegylated Liposomal Doxorubi-
cin Alone In Patients With Atelizumab in Non-
resistant/Refractory Ovarian Cancer. PI: Dr/a Rubio Pérez, María Jesús
*3123. A Randomized, Multicenter, Double Blind, Phase III Study of Adjuvant Nivolumab or Placebo in Subjects With Resected Esoph-
ageal, or Gastroesophageal Junction Cancer. PI: Dr/a Aranda Aguilar, Enrique
*3240 A randomised, Parallel, Double Blinded Study to Compare the Efficacy and Safety of PF238 to Avastin in 1st line treat-
ment for patients with Advanced/Recurrent Non-Squamous non-small cell lung cancer in combination of paclitaxel and carboplatin. PI: Dr/a Barneto Aranda, Isidoro
*3267. A Study to Investigate Efficacy and Safety of Cobimetinib Plus Atezolizumab and Atezolizumab Monotherapy Versus Rego-
rafenib in Participants With Metastatic Col-
orectal Adenocarcinoma. PI: Dr/a Aranda Aguilar, Enrique
3325. A Study of Atezolizumab in Locally Advanced or Metastatic Urothelial or Non-Urothelial Carcinoma of the Urinary Tract. PI: Dr/a Aranda Aguilar, María José

3328. Multicenter, Double-Blind, Randomized, Parallel-Group Study to Assess the Efficacy and Safety of MYL-M14020 Compared with Avastin, in the First-line Treatment of Patients with Stage IV Non-Squamous Non-Small Cell Lung Cancer. PI: Dr/a Barneto Aranda, Isidoro

3347. Phase III Randomized Clinical Trial of Lurbinetcetin (PM0183)/Doxorubicin (DOX) Versus Cyclophosphamide (CTX), Doxorubicin (DOX) and Vincristine (VCR) (CAY) or Topotecan as Treatment in Patients With Small-Cell Lung Cancer (SCLC) Who Have Received Prior Trastuzumab and Taxane Based Therapy (KATE2). PI: Dr/a De La Haba Rodríguez, Juan Rafael

3389. A Study to Evaluate the Efficacy and Safety of Trastuzumab Emtansine in Combination With Atezolizumab or Atezolizumab-Placero in Participants With Human Epidermal Growth Factor-2 (HER2) Positive Locally Adv-anced or Metastatic Breast Cancer Who Have Received Prior Trastuzumab and Taxane Based Therapy (KATE2). PI: Dr/a Méndez Vidal, María José

3333. A Phase III, Multicenter, Randomized, Placebo-Controlled, Double-Blind Study of Atezolizumab (Anti-PO-L1 Antibody) as Adjuvant Therapy in Patients With Renal Cell Carcinoma at High Risk of Developing Metastasis Following Nephrectomy. PI: Dr/a Méndez Vidal, María José

3122. A Randomized Phase 2 Study Comparing Different Dose Approaches of Induction Treatment (First Cycle) of Regorafenib in Metastatic Colorectal Cancer (mCRC) Patients. PI: Dr/a Aranda Aguilar, Enrique

3320. A Phase II Trial to Assess FOLFIRI+Aflibercept Efficacy in Patients With Oxaliplatin-pretreated Metastatic Colorectal Cancer With or Without ACE Polymorphisms. PI: Dr/a Gómez España, María Auxiliadora

2059. A study to assess arterial hypertension as a predictor of effectiveness of bevacizumab (BV) associated with chemotherapy in metastatic colorectal cancer and metastatic breast cancer. PI: Dr/a Aranda Aguilar, Enrique

2178. A post-authorization, observational, prospective study to assess progression patterns of advanced EGFR-positive non-small cell lung cancer treated with erlotinib. PI: Dr/a Barneto Aranda, Isidoro

2274. Circulating markers in patients with advanced or metastatic renal carcinoma on first-line treatment. PI: Dr/a Méndez Vidal, María José

2235. An observational, prospective study to identify the management of patients with castration-resistant metastatic prostate cancer on second-line treatment after docetaxel in regular clinical practice. PI: Dr/a Méndez Vidal, María José

2524. Translational, observational and prospective study to determine factors predicting the anti-angiogenic efficacy of bemiparin in patients with advanced cancer. PI: Dr/a Sánchez Mauriño, Pedro

2683. Multicenter prospective study of prognostic factors in prostate cancer resistant to castration treated with abiraterone. PI: Dr/a Méndez Vidal, María José

2684. Multicenter prospective study of prognostic factors in castration resistant treated with docetaxel or cabazitaxel prostate cancer. PI: Dr/a Méndez Vidal, María José

2902. Prospective Development of predictive and prognostic tools for optimization Frontline therapy with Bevacizumab in Patients with Metastatic Breast Cancer HER-2 negative and aggressive illness criteria observational study. PI: Dr/a De la Haba Rodríguez, Juan Rafael

2906. Clinical profile and therapeutic management of patients with pancreas cancer; Registry of Hospital Medical Oncology services in Spain. PI: Dr/a Aranda Aguilar, Enrique

2928. European non-interventional, multicenter, prospective study to describe the efficacy of trabectedin + pegylated liposomal doxorubicin (PLD) in the treatment of patients with recurrent ovarian cancer (ROC) according to data sheet despite prior use of an anti-angiogenic drug. PI: Dr/a Rubio Pérez, María Jesús

2930. The T790M mutation detection technology by BEAMing in patients with NSCLC and EGFR mutated in stage IV. LUNGBEAM study. PI: Dr/a Barneto Aranda, Isidoro

2984. Monitoring by liquid biopsy of patients with metastatic colorectal cancer. comparison of next generation platforms for genotyping of circulating tumor DNA. PI: Dr/a Aranda Aguilar, Enrique

3074. Clinical evaluation of OncoBEAM using an extended panel of 34 RAS mutations. comparison of RAS mutation detection in circulating tumor DNA and sample tissue in patients with metastatic colorectal cancer. PI: Dr/a Aranda Aguilar, Enrique

3221. Multi-centre observational prospective study on fatigue- and hand-foot syndrome-related quality of life in patients with metastatic renal cell carcinoma receiving a tyrosine kinase inhibitor as first-line treatment. PI: Dr/a Méndez Vidal, María José

3223. Prospective registry study in patients with unresectable locally advanced or metastatic breast cancer (MBC). RegistEM Study PI: Dr/a Barneto Aranda, Isidoro

3295. Validation of the International Metastatic Renal-Cell Carcinoma Database Consortium (IMDC) prognostic model for second-line directed therapy (ITC/mTOR inhibitors) following first-line treatment with pazopanib (SPAZO-2) PI: Dr/a Méndez Vidal, María José

3252. Retrospective observational study on the treatment of metastatic colorectal cancer (mCRC) in Spain. PI: Dr/a Aranda Aguilar, Enrique
**GC7 • Nephrology. Cell damage in chronic inflammation**

### HIGHLIGHTS

#### PUBLICATIONS

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#### IMPACT FACTOR

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#### Impact Factor

- Average Impact Factor: 2,257

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#### Team Leaders

**Principal Investigator (PI)**

Pedro Aljama García  
pedro.aljama.sspa@juntadeandalucia.es

**Co-Principal Investigator (Co-PI)**

Julia Carracedo Anón  
Nicolás Monardes Contract

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#### Researchers

- Álvarez De Lara Sánchez; Mª Antonia Espinosa Hernández; Mario Navarro Cabello; María Dolores Martín Malo; Alejandro Rodríguez Benot; Alberto Santamaría Olmo; Rafael Soriano Cabrera; Sagrario

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#### Pre-Doctoral Researchers (PhD Students y MSc Students)

- Arencibia Pérez; Ney Calle Mafla; Oscar Andrés Carmona Muñoz; Andrés Crespo Montero; Rodolfo Esquivias de Motta; Elvira García Montemayor; Victoria Eugenia González Burdiel; Luis Hurtarte Sandoval; Aldo René López Andreu; María Luna Ruiz; Carlos Rabasco Ruiz; Cristina Rodelo Haad; Cristian Roberto

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#### Other members of the Group (Nursing, Technical, and Administrative Staff)

- Guerrero Pavón; Fátima Jiménez Moral; María José López López; Isabel Moyano García; Mª Rosa Robles López; Ana Isabel Sánchez-Agesta Martínez; Marina

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Scientific Activity

1.-The latest technological advances in the treatment of chronic kidney disease have helped minimize the inflammation associated with the disease and improve our patients’ survival rates and quality of life. However, in these patients a microinflammatory state persists accompanied by a high percentage of activated cells that are capable of producing a sustained inflammatory response and can produce pathological complications when combined with other low-intensity stimuli. Our team assesses the effectiveness of pharmacological therapies, hemodilution and kidney transplantation in improving this chronic microinflammatory state associated with kidney disease.

2.-Mechanisms of cell damage and repair conditioning the response to stress caused by chronic inflammation. The working model focuses on immunocompetent cells and vascular wall cells. In addition, we analyze the mechanisms regulating the stress response in circulating progenitor cells in peripheral blood.

Keywords
Cell activation; chronic renal failure; microinflammation; cell therapy; renal transplantation; inflammation; cellular stress; genomic damage; endothelium.

Scientific Production
Publications

Original


In Collaboration


Research Funding

National


Regional


Martín Malo, A.Artificial Intelligence: a new alternative to analyze the associations among the concentrations of calcium, phosphorous and PTH in hemodialysis patients as well as predicting cardiovascular risk. Funding agency: Andalusian Progress and Health Foundation (FPS) Reference: PI-0311-2014


Contracts with Companies

Aljama García, P.Agreement FMC. Funding agency: FMC. SERVICES ANDALUCIA, S.A. Reference: CCB.0114 2

Aljama García, P. Agreement FRESENIUS. Funding agency:FRESENIUS MEDICAL CARE ESPANA, S.A. Reference: CCB.0125

Clinical Trials

0083/13. A randomized, prospective, open, parallel-group, multicenter study with masked assessment of evaluation criteria (PROBEI Design) to compare the efficacy of administering enalapril 20 mg plus lercanidipine. PI: Dr/a Santamaría Olmo, Rafael

0096/13. A randomized, cross-over, double-blind, placebo-controlled study. Modulation of endothelial damage and repair mediators through the inhibition of xanthine oxidase in patients with chronic kidney disease. PI: Dr/a Santamaría Olmo, Rafael

0184/13. A phase 2 multicenter, randomized, open label, multiple dose study of intravenous and subcutaneous administration of sorateccept (ACE-011) in replacement of hematopoiesis - stimulating agents in patients with end stage renal nephropathy. PI: Dr/a Alvarez de Lara Sánchez, Mª Antonia

0190/13. An international, multicenter, randomized, double-blind, parallel-group, placebo-controlled study of the effect of atrasentan on kidney outcomes in subjects with diabetes type 2 and nephropathy. SONAR. trial of diabetic nephropathy. PI: Dr/a Santamaría Olmo, Rafael

0239/13. Randomized open and controlled phase III study with active treatment to assess the efficacy and safety of FG-4592 in the treatment of anemia in patients with chronic renal insufficiency untreated by dialysis. PI: Dr/a Sagrario Soriano, Sagrario

0263/13. An observer-blind study to assess the immunogenicity and safety of GSK Biologicals’ subunit GSK1437173A vaccine against Herpes Zoster (HZ/su) in kidney transplantation recipients aged >18. PI: Dr/a Agüera Morales, Mª Luisa

0048/14. A randomized, multicenter, controlled, open-label study to assess the efficacy of sequential treatment with Tacrolimus-Rituximab vs. steroids plus Cyclophosphamide in patients with primary membranous nephropathy. PI: Dr/a Espinosa Hernández, Mario

0145/14. A randomized, double-blind, placebo-controlled, phase II study to assess the efficacy and safety of the ASP0113 vaccine in CMV-seronegative donors. PI: Dr/a Navarro Cabello; María Dolores

0229/14. A randomized, open, phase III study controlled with an active treatment to assess the efficacy and safety of rosuvastatin in patients with end-stage renal failure patients receiving stable dialysis. PI: Dr/a Alvarez De Lara Sánchez; María Antonia

0024/15.Multi centered open randomized study of two parallel groups to assess the efficacy and safety of Envarsus compared to tacrolimus used in accordance with current clinical practice as initial maintenance in-patient treatment. PI: Dr/a Rodríguez Benot, Alberto Manuel

1855. A multicenter, prospective, observational study to analyze progression factors in chronic renal disease in diabetic patients vs non-diabetic patients. PI: Dr/a Santamaría Olmo, Rafael

2079/2. A multinational, multicenter, observational, non-interventional study of patients with atypical hemolytic uremic syndrome (SHUA register). PI: Dr/a Espinosa Hernández, Mario

2932. Scrutiny of FABRY disease in patients with genetic mutations. PI: Dr/a Espinosa Hernández, Mario

2591. ADAPTATION. Observational Study of Correction of Anaemia with Darbepoetin Alfa at Monthly Dose Frequency in EU and Australian patients with Chronic Kidney Disease not on Dialysis. PI: Dr/a Soriano, Sagrario

2612. A long-term follow-up study involving adults who received kidney and liver allografts and had previously taken part in a trial with Tacrolimus (Advagraf). A multicenter, non-interventional, post-authorization study. PI: Dr/a Rodríguez Benot; Alberto Manuel

1762. National Registry of Humoral Rejection. An epidemiological, multicenter, observational, prospective study to assess the clinical, serological and histological characteristics and five-year evolution of humoral rejection after renal transplantation in Spain. PI: Dr/a Agüera Morales, Mª Luisa
HIGHLIGHTS

**Publications**
22

**Impact Factor**
75,696

**Average Impact Factor**
3,440

**Team Leaders**

Principal Investigator (PI)
Justo P. Castaño Fuentes
justo@uco.es
IMIBIC’s Scientific Director
CIBER on Obesity and Nutrition (CIBERobn) (Collaborator)
PAIDI BIO-139 Scientific Group

Co-Principal Investigator (Co-PI)
Francisco Gracia Navarro

Co-Principal Investigator (Co-PI)
Raúl M. Luque Huertas

**Researchers**
Martínez Fuentes; Antonio Jesús

**Post-Doctoral Researchers**
Gahete Ortiz; Manuel David
Ibáñez Costa; Alejandro
Moreno Fernández; Jesús
Rincón Fernández-Pacheco; David
Villa Osaba; Alicia

**Pre-Doctoral Researchers (PhD Students y MSc Students)**
Alhambra Expósito; María Rosa
Alors Pérez; Emilia Mª
Bathan; Mansfield
Blanco Acevedo; Cristobal José
Borges de Souza; Patricia
Cabral Morais Sarmento Borges; André
Del Río Moreno; Mercedes
Fuentes Fayos; Antonio Carlos
Gómez Gómez; Enrique
Gómez Marin; María del Señor
Herrera Martínez; Aura Dulcinea
Herrero Aguayo; Vicente
Hormaechea Aguila; Daniel

**Other members of the Group (Nursing, Technical, and Administrative Staff)**
Rivero Cortés; Esther
López López; Fernando

Jiménez Vacas; Juan Manuel
Martínez López; Ana
Moreno Moreno; Paloma
Pedraza Arevalo; Sergio
Sáez Martínez; Prudencio
Sánchez Medianero; Mª Teresa
Spina; Andrea
Toledano Delgado; Álvaro
Vázquez Borrego; Mª Carmen
**Scientific Activity**

Our group investigates the cellular and molecular mechanisms underlying the physiological regulation neuroendocrine-metabolic processes and their dysfunctions in tumours and cancer. Special emphasis is dedicated to the role played by key neuropeptide-receptor systems and their receptors, and to emerging molecular regulatory mechanisms in cancer such as alternative splicing. From original studies of pituitary somatotropes producing growth hormone (GH), our group has developed a Research Area focused on the analysis of extracellular signals (somatostatin, cortistatin, GHRH, ghrelin, Kisspeptins, etc.), receptors (sst1–5, GHRH-R, GHS-R, Kiss1r) and signalling pathways involved in the regulation of this cell type, as well as other neuro-endocrine cell types (e.g. corticotropes, gonadotropes, pancreatic beta cells, prostate and breast cells, etc.) and the global role of these molecules in metabolic homeostasis and the development of tumour pathologies, including pituitary and neuroendocrine tumors, and prostate and breast cancer, etc.

To achieve these aims, we use a wide range of techniques, including primary cultures of normal and tumour cells, cell lines, genetically modified animals, hormone secretion measurements, quantification of second messengers, measurements of protein and gene expression levels, dynamics of association/dissociation studies and membrane protein trafficking using FRET, confocal microscopy in living cells, etc. Our studies have led to the discovery and characterization of new ligands, receptors, functions and mechanisms of action for different neuroendocrine-metabolic signals and drugs involved in the control of hormone secretion, tumorigenesis, or cell survival and death in various normal and pathological cell types (e.g. pituitary tumours, breast and prostate cancer, diabetes, obesity), with the ultimate aim of contributing to the future design of innovative therapeutic strategies.

**Keywords**

Cellular and Molecular Endocrinology and Endocrine Oncology; Hypothalamus; Pituitary; Somatostatin, cortistatin, ghrelin, GHRH, kisspeptins and their receptors; Expression and secretion of hormones (GH, PRL, IGF-I, insulin) and intracellular signalling pathways; Regulation of the somatotropic axes; Obesity and Diabetes; Pituitary tumours; Neuroendocrine tumors; Prostate cancer; Breast cancer.

**Scientific Production**

**Publications**

**Original**


Gathe MD, Vaquez-Borrego MC, Martinez-Fuentes AJ, Tena-Sempere E, Castano
JP, Luque RM. Role of the Kiss1/Kiss1r system in the regulation of pituitary cell function. Molecular and Cellular Endocrinology. 2016; (438):100-106. IF:3.859 Q2


In Collaboration


Messineo S, Laria AE, Arcidiacono B, Chiefari E, Huertas RML, Foti DP, Brunetti A. Cooperation between HMGA1 and HIF-1 Contributes to Hypoxia-Induced VEGF and Visfatin Gene Expression in 3T3-L1 Adipocytes. Frontiers in Endocrinology. 2016;7:73. IF:0

Research Funding

National


Luque Huertas, RM. Molecular, cellular, Endocrine-Metabolic and inflammatory factors involved in the pathological interaction between obesity and prostate cancer. Funding agency: Instituto Carlos III Health (ISCIII). Reference: PI16/00264. Expected starting date: 2017

Regional


Gahete Ortiz, MD. Determining the molecular footprint of predictive splicing in the development of prostate cancer and application in the diagnosis and treatment of the disease. Funding agency: Regional Ministry of Health and Social Policy (CISPS). Reference: PI-0541-2013


Luque Huertas, RM. Grant Mobility II: Protection of research results of Galileo innovation and technology transfer II Plan from University of Córdoba. Funding agency: Universidad de Córdoba. Reference: II Plan Propio GALILEO


GC9 • Nutrigenomics. Metabolic syndrome

HIGHLIGHTS

Publications
47

Impact Factor
171,119

Average Impact Factor
3,719

Team Leader
José López Miranda
jlopezmir@uco.es

Principal Investigator (PI)
José López Miranda

IMIBIC Deputy Scientific Director
CIBER on Obesity and Nutrition (CIBERobn)

PAIDI CTS-525 Scientific Group

Co-Principal Investigator (CO-PI)
Francisco Pérez Jiménez
PAIDI CTS-212 Scientific Group

Co-Principal Investigators (CO-PI)
Yolanda Almadén Peña
Nicolás Monardes Contract
Javier Delgado Lista
Pablo Pérez Martínez

Emerging Researchers (ER):
Antonio Camargo García
Carmen Marín Hinojosa

Researchers
Arenas De Larriva; Antonio Blanco Molina; Mª Ángeles Fernández De La Puebla; Rafael Ángel Fuentes Jiménez; Francisco Herruzo Gómez; Ezequiel López Jiménez; Luciano Navarro Martos; Vanesa Montero Pérez-Barquero; Manuel Pérez Caballero; Anabel Sánchez García; Esther Torres Peña; José David Torres Roldan; Amalia Yubero Serrano; Elena Roncero Ramos; Irene

Pre-Doctoral Researchers (PhD Students y MSc Students)
Alcalá Díaz; Juan Francisco Corina Baba; Andreaa Jiménez Lucena; Rosa Santos Marcos; José Antonio Blancas Sánchez; Isabel María López Moreno; Javier Vaquero Álvarez; Manuel León Acuña; Ana Gcia-Carpintero Fdez-Pacheco; Sonia Jiménez Izquierdo; Rafael Manuel

Post-Doctoral Researchers
Blanco Rojo; Ruth Criado García; Juan Cruz Teno; Cristina Delgado Casado; Nieves García Rios; Antonio Gómez Delgado; Francisco Gómez Luna; Purificación Haro Mariscal; Carmen Mª Jiménez Morales; Anabel Peña Orihuela; Patricia Judith Rangel Zuñiga; Oriol Alberto

Other members of the Group
(Nursing, Dietists, Technical, and Administrative Staff)
De Lara Santos; Gloria Gavilán Sánchez; José Gutiérrez González; Antonio Manuel Morales Martínez; José Andrés Pérez Corral; Isabel Quintana Navarro; Gracia Mª Redondo Garrido, Ana
Our group studies the effect of dietary components on cardiovascular risk from a dual approach: nutrigenetics and their biological action on factors and mechanisms related to the development of atherosclerosis, preferably in patients with metabolic syndrome. Through nutrigenetics, we investigate how common genetic variants modulate the influence of diet on markers such as postprandial metabolism, endothelial function, obesity or glucose metabolism. While investigating their biological effects, we analyze the action of nutrients and gut microbiota on atherogenic mechanisms such as oxidative stress, inflammation, endothelial function, hemostasis, cellular signalling mechanisms and the activation of genes involved in atherogenesis. Finally we have ongoing a clinical trial to rest the comparative effects of two healthy directs on clinical events in a coronary heart disease population.

**Keywords**
Atherosclerosis; metabolic syndrome; Mediterranean diet; endothelium; inflammation; oxidative stress; cholesterol; polyphenols; gene expression; proteomics; nutrigenetics; nutrigenomics.

**Scientific Production**

**Publications**

**Originals**


IF:2.591
Q:1


IF:3.98
Q:2


IF:2.731
Q:2


IF:2.686
Q:2


IF:2.495
Q:1


IF:1.633
Q:2


IF:1.267
Q:2


IF:0.76
Q:3


IF:0.76
Q:3


IF:0.76
Q:3


IF:0.44
Q:4

Research Funding

National


Pérez Martínez, P. Developing a technological platform to evaluate the ageing level and establish an individualized treatment regime based on the clinical, biological and genetic profile of the patient. Funding agency: Institute Carlos III Health. (ISCIII).Reference: PI13/00185

Pérez Jiménez, F. Identifying the bowel microbiota pattern to predict the development of the metabolic syndrome and diet-based modulation. Funding agency: Institute Carlos III Health. (ISCIII).Reference: PI13/00619


López Miranda, J.(CO-IP) Understanding obesity (OB), metabolic syndrome (MetS), type 2 diabetes (T2DM) and fatty liver disease (FL): a multidisciplinary approach. Funding agency: Institute Carlos III Health. (ISCIII).Reference: PIE 14/00031


Regional


International


Contracts with Companies

Montero Pérez-Barquero, M. Pizfer agreement. Funding agency: Pfizer, S.L.U. Reference: CCB007

Pérez Jiménez, F. Nutritional Intervention Study to assess the evolution of health benefits derived from the consumption of hake in populations at high cardiovascular risk. PESCANOVA project. Funding agency:Centro de Investigación Biomédica en Red de la Fisiopatología de la Obesidad y Nutrición (CIBERobn). Reference: PSS.0011

Montero Pérez-Barquero, M. Laboratories Servier Agreement. Funding agency: Laboratorios Servier, S.L. Reference: PSS.0051


Clinical Trials

0021/08. Two-year extension of a global, multicenter, randomized, placebo-controlled, 76-week study to assess the tolerability andEffectiveness of anacetrapib added to an ongoing statin-based treatment in patients with heart disease or equivalent risk of developing a heart disease. Extension of the reversibility period from 12 weeks to one year.
Pt: Dr/a López Jiménez, Luciano

0267/11. A global, multicenter, double-blind, randomized, parallel-group, placebo-controlled, one-year study to assess the effectiveness and tolerability of Anacetrabip added to an ongoing statin-based treatment, combined or not with other lipid modifying agents in patients with heterozygous familial hypercholesterolemia.
Pt: Dr/a López Miranda, José

0166/12. A multicenter, randomized, double-blind, placebo-controlled study to assess the effect of a further reduction of LDL cholesterol in major cardiovascular events when AMG 145 is used in combination with statins in patients with clinically evident heart disease.
Pt: Dr/a López Miranda, José

Pt: Dr/a Pérez Jiménez, Francisco

0314/12. EA randomized, double-blind, placebo-controlled, parallel-group trial to assess the effect of SAR236553/REGN727 on the occurrence of cardiovascular events in patients who recently had acute coronary syndrome.
Pt: Dr/a Fuentes Jiménez, Francisco

0032/13. A multicenter, open study to assess the safety, tolerability, and long-term efficacy of AMG 145 in C-LDL cholesterol in subjects with severe heterozygous familial hypercholesterolemia.
Pt: Dr/a Fuentes Jiménez, Francisco

0086/13. An open label extension (OLE), controlled, multicenter study to assess the safety and long-term efficacy of AMG 145.
Pt: Dr/a López Miranda, José

Pt: Dr/a Fuentes Jiménez, Francisco

0216/13. A randomized, double-blind, parallel-group, active-control trial to assess the efficacy and safety of LCZ696 versus Valsartan on morbidity and mortality in patients with heart failure NYHA Class II-IV.
Pt: Dr/a Montero Pérez-Barquero, Manuel

Pt: Dr/a Fuentes Jiménez, Francisco

Pt: Dr/a Pérez Martínez, Pablo

0295/13. A randomized, multicenter, double-blind, double-blind, placebo-controlled, parallel-group study to assess the efficacy, safety and tolerability of PF-04950615 in reducing the number of severe cardiovascular events in high-risk patients.
Pt: Dr/a Pérez Martínez, Pablo

0296/13. A randomized, multicenter, double-blind, double-blind, placebo-controlled, parallel-group study to assess the efficacy, safety and tolerability of PF-04950615 in reducing the number of severe cardiovascular events in high-risk patients.
Pt: Dr/a Pérez Martínez, Pablo

Pt: Dr/a Fuentes Jiménez, Francisco

0090/15. Randomized, double-blind, multicenter, placebo-controlled, parallel group to describe the efficacy, safety and tolerability of evolocumab administered for 24 weeks, as adjunctive therapy of diet and lipid-lowering therapy in reducing the colesteroilagado to LDL density (LDL-C) in pediatric subjects 10-17 years of age with heterozygous familial hypercholesterolemia (HeFH).
Pt: Dr/a Fuentes Jiménez, Francisco

0049/15. Long-term study, randomized, double-blind, placebo-controlled trial to determine the effect of albiglutide, when added to standard glucose-lowering therapy on cardiovascular events in patients with Type 2 Diabetes Mellitus.
Pt: Dr/a Delgado Lista, Francisco Javier

0197/15. Multinational, Multicenter, Single Group and Open Study to document the safety, tolerability and effect on atherogenic lipoproteins Alirocumab in High-Risk Cardiovascular Patients with Severe Hypercholesterolemia not adequately controlled with Conventional Treatments Lipid.
Pt: Dr/a López Miranda, José

*3121 . Open-label, Single-Arm, Multicenter Study to Evaluate the Safety, Tolerability and Efficacy of Evolocumab for LDL-C Reduction, as Add-on to Diet and Lipid-lowering Therapy, in Pediatric Subjects From 10 to 17 Years of Age With Heterozygous Familial Hypercholesterolemia (HeFH) or Homozygous Familial Hypercholesterolemia (HoFH).
Pt: Dr/a Fuentes Jiménez, Francisco

*3237 . An 8-Week Open-Label, Sequential, Repeated Dose-Finding Study to Evaluate the Efficacy and Safety of Alirocumab in Children and Adolescents With Heterozygous Familial Hypercholesterolemia Followed by an Extension Phase.
Pt: Dr/a Fuentes Jiménez, Francisco

*3245. Safety and Efficacy of the Combination of Loop Diuretics With Thiazide-type Diuretics in Patients With Decompensated Heart Failure. A Double-blind, Randomized, Placebo-controlled Trial (CLOROTIC Trial).
Pt: Dr/a Montero Pérez-Barquero, Manuel

2488. Protocol Gaucher Registry
Pt: Dr/a Fernández De La Puebla Giménez, Rafael Ángel

2847. Global anticoagulant registry in the field observing treatment and outcomes in patients with treated acute venous thromboembolic events in the real world.
Pt: Dr/a López Jiménez, Luciano
**GC10 • Hormonal regulation of energy balance, puberty and reproduction**

### HIGHLIGHTS

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**Team Leader**

*Principal Investigator (PI)*
Manuel Tena-Sempere
fitesem@uco.es

*IMIBIC Deputy Scientific Director*
*CIBER on Obesity and Nutrition (CIBERobn)*

*PAIDI BIO-310 Scientific Group*

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**Researchers**
Gaytán Luna; Francisco Pinilla Jurado, Leonor

**Post-Doctoral Researchers**
Avedaño Averrado; Mª Soledad Castellano Rodríguez, Juan Manuel Franssen; Delphine García Galiano; David Manfredi Lozano; María Roa Rivas; Juan Romero; Antonio Ruchorian; Suvi (visiting fellow) Sánchez-Garrido Nogueras; Miguel Vázquez Villar; María Jesús

**Pre-Doctoral Researchers (PhD Students y MSc Students)**
Barroso Romero; Alexia Gizem Erkan; Leman (visiting fellow) Fernandois Vicencio, Daniela (visiting fellow) Heras Domínguez; Violeta Lobato Delgado; Bárbara López Rodríguez; Carmen María Perdices López; Mª Cecilia Pineda Reyes; Beatriz Ruíz Pino; Francisco Ruiz Rodríguez; José Manuel Torres Jiménez; Encarnación Velasco Aguayo; Inmaculada

**Other members of the Group**
(Nursing, Technical, and Administrative Staff)
Onieva Jiménez; Rocío Rodríguez Sánchez; Ana Sánchez Tapia; Mª Jesús
Scientific Activity

Our research group studies the neuroendocrine mechanisms responsible for the integrated control of food intake, body weight, puberty and reproductive function. By using various analytical methods and animal models, in recent years our group has identified new neuropeptides and hormones involved in the joint regulation of metabolic status and reproduction. In this context, we have made substantial contributions to the characterization of the physiological role, mechanisms of action, and pathophysiological and therapeutic implications of kisspeptins in the control of puberty, ovulation, the secretion of gonadotropins and the metabolic regulation of fertility. In addition, we have characterized the actions of different gastrointestinal hormones (ghrelin, PYY) and adipose tissue factors (leptin, resistin, adiponectin) in the regulation of puberty and reproductive function. Additionally, we have defined the role in the reproductive axis of different neuropeptides (GALP, neuromedin, 26/43RFa, VGF) primarily involved in the control of food intake.

More recently, we have undertaken research activities on the regulatory roles of microRNAs and cellular energy sensors in the control of puberty, fertility and metabolism. Even if our research activity is basic in nature, our projects have allowed us to identify novel mechanisms of action and pharmacological effects of practical interest for a broad group of neuroendocrine factors, with high potential for translation in the context of increasingly prevalent diseases such as obesity and other body weight disorders, changes of puberty and various forms of infertility. In addition, translational studies in the fields of gynaecology, urology and paediatrics have been recently initiated in close collaboration with clinical groups within IMIBIC.

Keywords
Body weight; obesity; puberty; fertility; kisspeptins; GPR54; gonadotropins; GnRH; leptin; ghrelin; adipokines; neuropeptides; microRNAs; Polycystic ovary syndrome (PCOS).

Scientific Production

Publications

Original


Tena-Sempere M. Defining a novel leptin-me


IF:5,363

Ten-years our group has identified new neuropeptides and hormones involved in the joint regulation of metabolic status and reproduction. In this context, we have made substantial contributions to the characterization of the physiological role, mechanisms of action, and pathophysiological and therapeutic implications of kisspeptins in the control of puberty, ovulation, the secretion of gonadotropins and the metabolic regulation of fertility. In addition, we have characterized the actions of different gastrointestinal hormones (ghrelin, PYY) and adipose tissue factors (leptin, resistin, adiponectin) in the regulation of puberty and reproductive function. Additionally, we have defined the role in the reproductive axis of different neuropeptides (GALP, neuromedin, 26/43RFa, VGF) primarily involved in the control of food intake.

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Scientific Production

Publications

Original


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Keywords
Body weight; obesity; puberty; fertility; kisspeptins; GPR54; gonadotropins; GnRH; leptin; ghrelin; adipokines; neuropeptides; microRNAs; Polycystic ovary syndrome (PCOS).

Research Funding

National


López Miranda, J (This project was funded as a collaborative initiative among different research groups). Early predictors and causes of loss of phenotypic flexibility as individual risk factor of metabolic disease: towards a personalized medicine (FLEXI-MET). Funding agency: Institute Carlos III Health (ISCIII). REF: PIE14000005


Expected starting date 2017

Regional


International


Tena-Sempere, M. New Frontiers in Reproductive medicine: Exploring novel mechanisms for the control of puberty and fertility, and their interplay with metabolic homeostasis and disease. Funding agency: FidiPro Program (Finnish Distinguished Professorship Program) 2015-2020, Academy of Finland


Contracts with Companies

Tena-Sempere, M. Physical, chemical and biological characterization of active compounds (BIONATURIS). Funding agency: Bioorganics Research and Services, S.A. Reference: PSS.0044
HIGHLIGHTS

**Publications**

4

**Impact Factor**

16,378

**Average Impact Factor**

4,094

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**Team Leaders**

**Principal Investigator (PI)**
Mª del Mar Malagón Poyato
bc1mapom@uco.es
CIBER on Obesity and Nutrition (CIBERobn) (Collaborator)
PAIDI BIO-139 scientific group (Collaborator)

**Co-Principal Investigator (PI):**
Francisco Gracia Navarro

---

**Researchers**

García Navarro, Socorro
Vázquez Martínez, Rafael

**Post-Doctoral Researchers**

Cayuela Marín, Angelina
Guzmán Ruiz, Rocío

---

**Pre-Doctoral Researchers (PhD Students and MSc Students)**

Baker, Matthew
Díaz Del Moral, Sandra
Fernández Vega, Alejandro
Navarro Ruiz, Mª Del Carmen
López Alcalá, Jaime
Tercero Alcázar, Carmen
Travéz García, Andrés
Sá Gomes, Andreia Cristina
Sánchez Ceinos, Julia
Soler Vázquez, Mª Del Carmen

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**Other members of the Group (Nursing, Technical, and Administrative Staff)**

Molero Murillo, Laura
Scientific Activity

This research group investigates the cellular and molecular mechanisms that control adipose tissue function. Thus, this group is focused on the central role of adipose tissue in the regulation of lipid metabolism and in the response to insulin and other hormonal regulators of metabolic homeostasis, as well as on its role as an endocrine organ. Specifically, this group analyzes the different components of adipose tissue, mature adipocytes and the stromal vascular fraction, including the study of preadipocytes and adipogenesis. In particular, this group is interested in the identification and characterization of novel biomarkers related to fundamental processes in adipocytes, including the control of lipid transport, accumulation and mobilization, as well as the signaling/metabolic pathways underlying these processes. In addition, the relationship between cell stress processes (oxidative stress, endoplasmic reticulum stress, inflammation, mechanical stress, fibrosis, etc) is analyzed using in vitro models of insulin resistance. These studies are performed in the context of disorders associated with adipose tissue dysfunction, obesity and lipodystrophy, which result in the development of metabolic disease. Finally, this group also investigates the effects of interventions that improve the metabolic profile of morbidly obese subjects (bariatric surgery, lifestyle or pharmacological interventions).

To address these goals, this group employs multiple experimental approaches, including the application of comparative proteomics and lipidomics (including MALDI imaging) to the adipose tissue under different experimental conditions and model organisms. In addition, gene expression studies, protein interaction analyses, confocal microscopy and real-time videomicroscopy, and functional studies (gene overexpression or silencing) using primary cells or cell lines are also carried out.

Keywords
Adipose tissue, adipocyte, lipid metabolism, adipogenesis, proteomics, lipidomics, intracellular trafficking, intracellular signaling, adipokines, receptors, obesity, lipodystrophy, insulin resistance, metabolic syndrome.

Scientific Production

Publications

Original


In Collaboration


Research Funding

Regional


National

Malagón MM (Calzado Canale, M: Co-PI). Integration of platforms for the identification of therapeutic targets and the development of new products for the prevention and/or treatment of radiodermatitis. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO). Reference: RTC-2016-76711-R


López Miranda, J (This project was funded as a collaborative initiative among different research groups). Early predictors and causes of loss of phenotypic flexibility as individual risk factor of metabolic disease: towards a personalized medicine (FLEXI-MET). Funding agency: Institute Carlos III Health (ISCIII). REF: PIE/1400005


Malagón MM (Calzado Canale, M: Co-PI). Integration of platforms for the identification of therapeutic targets and the development of new products for the prevention and/or treatment of radiodermatitis. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO).Reference: RTC-2016-4589-1
GC12 • Epidemiological Research in Primary Care

HIGHLIGHTS

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Publications

Impact Factor

Average Impact Factor

Team Leaders

Principal Investigator (PI)
Luis Ángel Pérlula de Torres
langel.perula.sspa@juntadeandalucia.es
Research Network on preventive actions and health promotion in primary care (RedIAPP)
PAIDI CTS-452 Scientific Group

Researchers
Acosta García; María José Aquado Taberne; Cristina Alba Dios; María Antonia Aycáquero Silva; Luis Carlos Blanco Hungría; Antonio Fernández Fernández; Miguel Ángel Fernández García; José Ángel Fonseca del Pozo; Francisco Javier González Carretero; Juan Ignacio González Lama; Jesús Hidalgo Requena; Antonio Jiménez García; Celia Jiménez Rodríguez; J. M. (Collaborator) Jodral Segado; Antonio Manuel Olaya Caro; Inmaculada Parras Rejano; Juan Manuel Perula De Torres; Carlos Prados Castillejo; José Antonio Ranchal Sánchez; Antonio Redondo Sánchez; Juana Martín Rioboo; Enrique Roldán Villalobos; Ana R. De Castroviejo Del Campo; Joaquín Ruiz Moruno; Fco. Javier Valero Martin; Antonio Vaquero Abellán; Manuel Varas Fabra; Francisco José

Post-Doctoral Researchers
Blanco Aguilera; Antonio Rich Ruiz; Manuel Romero Rodríguez; Esperanza María

Pre-Doctoral Researchers (PhD Students y MSc Students)
Leiva Cepas; Fernando Ortega Millán; Carlos Serrano Merino; Jesús Criado Larumbe; Margarita Marín González; Beatriz
**Scientific Activity**

Preventive activities, promotion and protection of health in Primary Health Care (PHC). Validation of measuring instruments in PHC. Communication in healthcare, clinical interviews. Medical education.

**Keywords**

Epidemiology; Preventive Medicine and Public Health; Primary Health Care.

**Scientific Production**

**Publications**

**Original**


**In Collaboration**


**Contracts with Companies**

Rich Ruiz. M. Efficacy of the Otago Exercise Program (OEP) delivered as group training versus individually tailored training in community-dwelling adults between 65 and 80 years old. Funding Agency: Universidad De Cordoba. Reference: PSS.0164

**Clinical Trials**

2929. Retrospective and prospective study on the degree of GEMA compliance with 2009 guidelines vs the 2015 guidelines, and its impact on the degree of control of asthma patients in primary care. PI Dr/a Ruiz Moruno, Francisco Javier

3249. Glycemic control in patients with high cardiovascular risk and type 2 diabetes mellitus in primary care and cardiology consultation. PI Dr/a Martin Ribobo, Enrique

3010. Prospective, multi Centre, international registry of male and female patients newly diagnosed with atrial fibrillation and treated with Rivaroxaban. PI Dr/a Gonzalez Lama, Jesus

**Research Funding**

**National**

Rich Ruiz, M. Efficacy of the Otago Exercise Program (OEP) delivered as group training versus individually tailored training in community-dwelling adults between 65 and 80 years old. Funding Agency: Instituto Carlos III Health (ISCIII). Reference: PI16/01520


**Regional**

Pérola de Torres, LA. Effect on the quality of life from treatment with positive pressure devices (PPDs) in patients older than 65 with apnoea-hypopnea (SAH5). Funding Agency: Andalusian Progress and Health Foundation (FPS). Reference: PI-0281-2014

Pérola de Torres, LA. Effect on the quality of life from treatment with positive pressure devices (PPDs) in patients older than 65 with apnoea-hypopnea (SAH5). Funding Agency: Andalusian Progress and Health Foundation (FPS). Reference: PI-0025-2015
## GC13 • Calcium metabolism. Vascular calcification

### HIGHLIGHTS

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### Team Leader

Principal Investigator (PI)
Mariano Rodríguez Portillo  
juanm.rodriguez.sspa@juntadeandalucia.es

Spanish Renal Research Network (REDinREN) (Collaborator)
PAIDI CTS-179 Scientific group (Collaborator)

### Researchers

Aguilera Tejero; Escolástico  
Canalejo Raya; Antonio (Collaborator)  
Raya Bermúdez; Ana Isabel  
López Villalba; Ignacio  
Muñoz Castañeda; Juan Rafael  
(Nicolas Monardes Contract)

### Post-Doctoral Researchers

Pineda Martos; Carmen María  
Herencia Bellido; Carmen  
Martínez Moreno; Julio Manuel  
Pendón Ruiz de Mier; Mª Victoria  
Rodríguez Ortiz; Mª Encarnación

### Pre-Doctoral Researchers (PhD Students y MSc Students)

Pendón Ruiz de Mier; Mª Victoria  
Ríos Varo; Rafael  
Salmerón Rodríguez; María Dolores  
Tocados Díaz; Juan Miguel  
Vergara Segura; Noemí

### Other members of the Group (Nursing; Technical; and Administrative Staff)

García Valdivia; Sandra  
Ruiz Mora; Erena  
López Baltanás; Rodrigo
This group is focused on several aspects of calcium metabolism and vascular calcification. Our primary area of research is centered on the pathogenetic mechanisms of secondary hyperparathyroidism associated with renal failure. In this sense, this group investigates the parathyroid function, both at cellular and molecular level (PTH synthesis and secretion and cell proliferation) of normal and hyperplastic parathyroid glands.

More recently, this group has incorporated into its research activity both in vivo (experimental models with rats) and in vitro studies (vascular smooth muscle cells) of the mechanisms underlying the development of vascular calcification in chronic kidney disease. Thus, in the context of vascular calcification this group is centered on analyzing the role of different diets (with different contents of phosphorus, calcitriol, micronutrients such as magnesium or calcium, calorie diets...) in FGF23 regulation and in cardiovascular disease progression.

This group has opened a new line of research centered on the study of the involvement of bone marrow mesenchymal stem cells in vascular calcification. Basing on a stem cell-based approach, this group analyses the signalling pathways by which vascular calcification progresses. Mesenchymal stem cells are also used to investigate how the chronic kidney disease or its treatments may affect bone regarding the formation of new osteoblasts. From this line also derives the study of the regulation of bone production of FGF23. The lines of research group listed above involve the study of gene expression of vitamin D, calcium or FGF23 receptors, and the analysis of different intracellular signaling pathways.

Research derived from each of these lines can lead to the proposal and use of new therapeutic targets for preventing and reversing vascular calcification and associated complications.

Keywords
Calcium; phosphorus; metabolism; parathyroid; calcification; uremia; Mineral metabolism; parathyroid hormone; HPTH2º; vascular calcification; renal failure VDR; CaR. Mesenchymal stem cells; Wnt / beta-catenin.

Scientific Production
Publications
Original

In Collaboration


Herencia C, Diaz-Tocados JM, Jurado L de Oca AM, Rodriguez-Ortiz ME, Martin-Alonso C, Martinez-Moreno JM, Vergara N, Rodriguez M, Almaden Y, Munoz-Castaneda JR. Procaine Inhibits Osteo/Odontogenesis through Wnt/beta-Catenin Inactivation. PLOS ONE. 2016.11(6)-e0156788. IF:3,057 Q:1


Institute Carlos III Health (ISCIII). Reference: PI11-02059


Institute Carlos III Health (ISCIII). Reference: DTS.16/00061

Expected starting date:2017

Research Funding
National

Muñoz Castañeda, JR. New therapy for the treatment of degenerative osteoarthrosis based on a modification of adipose-tissue-derived mesenchymal stem cells. Funding agency: Institute Carlos III Health (ISCIII). Reference: PI14/00467

Muñoz Castañeda, JR. In vivo and in vitro studies of oxidative stress, inflammation and vascular calcification in chronic kidney disease: application of mesenchymal stem cells to the...

López Villalba, I. Conexiones entre el metabolismo mineral y el metabolismo energético: efecto de la dieta hipercalórica en el balance del fosfuro y la función renal. Funding Agency: Andalusian Progress and Health Foundation (FPS). Reference: PI-0272-2014

**International**


**Contracts with Companies**

Rodríguez Portillo, JM. Effect of paricalcitol on vascular smooth muscle cells. Funding agency: AbbVie Farmaceutica S.L.U. Reference: PSS.0015

Muñoz Castañeda, JR. Preclinical Research Program Agreement for anti-PCSK9 mAb1. Funding agency: JYC Ediciones Medicas. Reference: PSS.0162

**Clinical Trials**

0010/14. A multicenter, single-arm, extension study to assess long-term safety of AMG 416 (Velcalcetide) for secondary hyperparathyroidism in patients with chronic renal failure undergoing hemodialysis. PI: Dr/a Rodríguez Portillo, J. Mariano

0039/15. Open phase II clinical trial for assessment of the effectiveness of the decrease of intestinal absorption of phosphorous in the progression of kidney disease in patients with metabolic syndrome. PI: Dr/a Rodríguez Portillo, J. Mariano
GC14 • Cell therapy

HIGHLIGHTS

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Team Leader
Principal Investigator (PI)
Inmaculada C. Herrera Arroyo
inmaculada.herrera.sspa@juntadeandalucia.es

Researchers
Canis López; Miguel Cañadillas López; Mª Sagrario Martín Palanco; Vanesa Nogueras Martín; Sonia Ortega Salas; Rosa Centeno Haro; Macarena García-Revillo García; José

Pre-Doctoral Researchers (PhD Students y MSc Students)
Carmona Luque; María Dolores Trujillo Aquilai; Cristina López Gálvez; Laura Muñoz Calero; María Paco Meza; Luis Miguel

Post-Doctoral Researchers
Jiménez Moreno; Rosario

Other members of the Group (Nursing; Technical; and Administrative Staff)
Castilla Rodríguez; María Luisa De la Torre Murillo; Antonia Gutiérrez Fernández; Rosario Luque Zafra; María Muñoz Liñán; Teresa
Scientific Activity

The Cell Therapy Unit centres its main activity on clinical research in this area by carrying out different clinical trials. This Unit is currently conducting clinical trials with adult stem cells in autologous bone marrow in acute myocardial infarction, chronic ischemic heart disease, idiopathic dilated cardiomyopathy and chronic critical ischemia of the lower limbs. From 2011, we will be in a position to produce mesenchymal cells in GMP conditions for the initiation of new clinical trials with these cells.

At the same time, we are carrying out several translational studies both in vitro and with animal models, particularly in therapeutic angiogenesis of mononuclear bone marrow cells.

Keywords
Stem cells; cell therapy; regenerative medicine; myocardial regeneration; chronic ischemia; therapeutic angiogenesis.

Scientific Productions

Publications

In Collaboration


Research Funding

National


Regional


Contracts with Companies

Herrera Arroyo, Inmaculada C. Agreement with Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0040

Herrera Arroyo, Inmaculada C. Agreement with Roche (SESION CLINIC). Funding agency: Roche Reference: PSS.0066

Herrera Arroyo, Inmaculada C. Agreement with Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0103


Herrera Arroyo, Inmaculada C. Agreement with JANSSEN. Funding agency: Janssen-Cilag, S.A. Reference: CCB.0113_02


Clinical Trials

0274/13: Phase II clinical trial to evaluate the efficacy of obinutuzumab (R05072759)+ bendamustine in patients with relapsed or refractory leukemia linfaticacronica. PI: Dr/a Herrera Arroyo, Inmaculada C.
**HIGHLIGHTS**

**IMIBIC SCIENTIFIC REPORT 2016**

**Publications**

20

**Impact Factor**

79,301

**Average Impact Factor**

3,965

**GC15 • Invasive cardiology and cell therapy**

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**Team Leader**

**Principal Investigator (PI)**

José Suárez de Lezo Cruz-Conde

jose.suarezlezo.sspa@juntadeandalucia

PAIDI BIO 208 Scientific Group

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**Other Researcher**

Manuel Pan Álvarez-Ossorio

---

**Researchers**

Mazuelos Bellido; Francisco Ojeda Pineda; Soledad Pavlovic Djurovic; Djordje Romero Moreno; Miguel Ángel Segura Saint-Gerons; José Mª Suarez De Lezo Herreros De Tejada; Javier
Scientific Activity

Our group studies the effect of cell therapy in myocardial regeneration. We mainly deal with patients with 2 types of heart pathologies: those with ventricular dysfunction secondary to myocardial infarction, both in acute and in chronic phases, and those with dilated cardiomyopathy of non-ischemic origin.

There are two well-defined lines of study: first, the recovery of ventricular function and its clinical impact: here, we study global and regional contractility, potentiation, diastolic function and coronary reserve. The other line looks at the influence of biological parameters (cell lines, migration, distribution, nesting capabilities, etc.) in functional improvement. All the patients enrolled in the various studies are followed up periodically from the clinical, ultrasonic, ergonomic and angiographic viewpoints.

Keywords

Ventricular dysfunction; cell therapy; stem cells; acute myocardial infarction and dilated cardiomyopathy.

Scientific Production

Publications

Original


Lopez-Aguilera J, Saint-Gerons JMS, Bellido DM, de Tejada JSCH, Pinedo S0, Alvarez-Ossorio MP, Moreno MAR, Pavlovic D, Conde JSDL.Effect of New-Onset Left Bundle Branch Block After Transcatheter Aortic Valve Implantation (CoreValve) on Mortality, Frequency of Re-Hospitalization, and Need for Pacemaker. American Journal Of Cardiology. 2016.118(9):1380-1385. IF:3.154, Q:2

In Collaboration


European study of coronary bifurcations: a randomized study to compare the provision-
al stenting strategy vs the systematic implan-
tation of two stents in true bifurcation lesions
located in large vessels. 
Pt: Dr/a Pan Álvarez-Ossorio, Manuel

Ambulatory electrocardiographic
monitoring for the detection of high-de-
gree atrio-ventricular block in patients with
new-onset persistent left bundle branch block
after transcatheter aortic valve implantation.
Pt: Dr/a Romero Moreno; Miguel Ángel

EBC MAIN: Study conducted by the
European Bifurcation Club: randomized com-
parison of the implementation of one or two
stents to treat bifurcation lesions of the com-
mon trunk of the left coronary artery.
Pt: Dr/a Pan Álvarez-Ossorio, Manuel

Research Funding

National

Pan Álvarez-Ossorio, M. Use of the jailed
guidewire technique in the percutaneous
treatment of coronary bifurcation stenting: A
randomized study of stereoscopic microcosy.
Funding agency: Institute Carlos III Health (IS-
CIII).Reference: PI12/00440

Clinical Trials

0063/13. An open, single-center, randomized,
controlled, phase III clinical trial of intra-arteri-
al infusion of autologous bone marrow mono-
nuclear cells in patients with chronic coronary
occlusion and ventricular dysfunction.
Pt: Dr/a Pan Álvarez-Ossorio, Manuel

0150/13. A multicenter, randomized, double-blind,
placebo-controlled, phase III trial to assess the ef-
cicacy of intra-arterial infusion of adult unexpand-
ed autologous bone marrow mononuclear cells
on the functional recovery of patients with dilated
cardiomyopathy and heart failure.
Pt: Dr/a Romero Moreno; Miguel Ángel

*3341. An Open-label, 2 x 2 Factorial, random-
ized controlled, clinical trial to evaluate the
safety of apixaban vs Vitamin K antagonist and
aspirin placebo in patients with atrial fibrilla-
tion and acute coronary syndrome or percuta-
neous coronary intervention.
Pt: Dr/a Pavlovic Djurovic; Djordje

*3126. A Phase III, Double-blind, Randomized
Placebo-controlled Study to Evaluate the Ef-
fects of Dalcetrapib on Cardiovascular (CV)
Risk in a Genetically Defined Population With a
Recent Acute Coronary Syndrome (ACS): The
Dal-GenE Trial.
Pt: Dr/a Pavlovic Djurovic; Djordje
GC16 • Cell biology in hematology. Hypercoagulability

HIGHLIGHTS

**Publications**

13

**Impact Factor**

73,750

**Average Impact Factor**

5,673

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**Team Leader**

Principal Investigator (PI)

Joaquín Sánchez García

Joaquin.sanchez.garcia.sspa@junta-deandalucia.es

Spanish Myelodysplastic Syndrome Registry (Resmd) (Collaborator)

---

**Researchers**

Arqueros Martínez; Víctor García Torres; Estefanía Martín Calvo; Carmen Molina Hurtado; José Ramón Rodríguez Villa; Antonia Rojas Contreras; Rafael Serrano López; Josefina

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**Pre-Doctoral Researchers (PhD Students y MSc Students)**

Álvarez Rivas; Miguel A. Flores Mesa; David Martínez Losada; Carmen Casaño Sánchez; Javier

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**Post-Doctoral Researchers**

Gutiérrez Mariscal; Francisco Miguel Serrano López; Juana

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**Co-Principal Investigator (CO-PI)**

Francisco Velasco Gimena

Observational Immune Tolerance Induction research program (ObsITI) (Collaborator)

PAIDI CTS-620 Scientific Group
Scientific Activity

Our cell biology group in Hematology works in two areas:
1. The immunological mechanisms of the phenomena of graft versus host disease and graft versus leukemia occurring after hematopoietic transplantation for hematologic malignancies. This study covers antigen presenting cells, lymphocyte effectors and regulatory populations in quantitative and functional studies.
2. In addition, the group studies the mechanisms of leukemogenesis through the study of normal and leukemic primitive quiescent precursors (GO, Side population). The main methods used are cell culture, multiparameter flow cytometry with cell sorting and complete Western blot proteomics for intracellular signalling proteins.

The group also studies the mechanisms of hypercoagulability associated with onc hematologic processes. Its members participate in groups of the region (GASMD, GALA, GNIL), of the country (PETHEMA, SEHOP, GETH, RESMD) and in the international group focused on transplantation (EBMT) for the study and treatment of hemopathies in children and adults.

Keywords
Inmunology of hematopoietic transplantation; Cell biology of acute leukemias.

Scientific Production

Publications

Original
IF:22,387
Q:1 D1

IF:5,299
Q:1 D1

IF:5,228
Q:1

IF:3,022
Q:2

IF:1,267
Q:2

Chic-Acevedo, Garcia-Torres E, Alvarez-Rivas MA. Cold agglutinin disease of IgA class as an early manifestation of multiple myeloma and resolution after treatment with new anti-myeloma drugs. Medicina Clinica.2016.147(11):e63-e64.
IF:1,267
Q:2

In Collaboration

IF:12,104
Q:1 D1

IF:5,812
Q:1

IF:5,812
Q:1

IF:4,919
Q:1

IF:3,96
Q:2

IF:2,673
Q:2

IF:0

Research Funding

National
Sánchez García, J. Analysis of Phenotype, genotype, and sensitivity to new leukemia stem cell pharmaceutical products in LAM and LAL. Funding Agency: Sociedad Española de Hematology-Hemoterapia. Reference: FEHH15_001
García Torres, E. Effect of immunomodulators (lenalidomide and pomalidomide) in lymphoid populations and their impact on the development of the disease. Funding Agency: Asociación Andaluza de Hematología y Hemoterapia. Reference: AAHH2015_001


Regional


Contracts with Companies


Molina Hurtado, J. Collaboration agreement with Pfizer. Funding agency/Pfizer, S.L.U. Reference: PSS.0043

Álvarez Rivas, MA. Collaboration agreement with Celgene. Funding agency: Celgene, S.L.U. Reference: PSS.0104

Sánchez García, J. Identification of biomarkers and new therapeutic cell targets of graft-versus-host disease by gene-expression arrays of t-lymphocytes. Funding agency: Pfizer Gep SLU. Reference: PSS.0116

Álvarez Rivas, MA. Collaboration agreement with Celgene. Funding agency: Celgene International SARL. Reference: PSS.0120

Sánchez García, J. Gene expression analysis and MYD88 L265 mutation in paraffin embedded samples of diffuses large B cell lymphomas. Celgene S.L.U. Reference: PSS.0152

Serrano López J. Collaboration agreement with Pfizer. Funding agency/Pfizer, S.L.U. Reference: CCB.0068

Clinical Trials

0070/11. A multicenter, prospective, open-label, single-arm, phase I-II clinical trial to analyze the induction treatment with a combination of fludarabine, idarubicin, cytarabine, G-CSF andplerixafor for the treatment of young patients with recurrent or resistant LMR. PI: Dr/a Serrano López, Josefnia

0079/11. Intergroup trial for children or teens with LNHB o LLA-B (LLA-1.3). Evaluation of the efficacy and safety of Rituximab for high-risk patients. PI: Dr/a Gómez García Pedro

0020/12. Ofatumumab as part of the reduced intensity conditioning system (RIC) in patients at high risk of developing non-Hodgkin's lymphoma B receiving allogeneic hematopoietic stem cell transplantation. PI: Dr/a Martin Calvo, Mª Carmen

0293/12. A randomized, double-blind, placebo-controlled, phase 3 study of the efficacy and safety of oral azacitidine plus the best supportive treatment vs. the best supportive treatment as maintenance therapy in patients with acute myelogenous leukaemia i complete remission. PI: Dr/a Serrano López, Josefnia

0313/12. CLLM-Protocol of the German CLL-Study Group (GCLLSG) A Phase 3, Multicenter, Randomized, Double-Blind, Placebo-Controlled, Parallel-group Study of the Efficacy and Safety of Lenalidomide (Revlimid®) as Maintenance Therapy for High-risk Patients With Chronic Lymphocytic Leukemia Following First-line Therapy. PI: Dr/a Arqueros Martínez; Víctor

0213/13. Phase 3 randomized, double-blind, placebo-controlled study to evaluate the protective efficacy and safety of a therapeutic vaccine, ASP0113, recipients seropositive for cytomegalovirus (CMV) underwent allogeneic cell. PI: Dr/a Rojas Contreras, Rafael

0218/13. Multicenter phase IIIB study, international, open-label, single treatment group to assess the safety of obinutuzumab as a single agent or in combination with chemotherapy in patients with lymphatic leukemia relapsed / refractory chronic. PI: Dr/a Molina Hurtado José Ramón

0165/13. An open, phase IIIB trial to assess the safety and efficacy of rituximab in combination with subcutaneous rituximab in the course of first-line treatment of CD20+ Follicular and Diffuse Non-Hodgkin's Large B-Cell Lymphoma. PI: Dr/a Sánchez García, Joaquin

0202/13. A randomized, double-blind, phase 3 study to assess the efficacy of rituximab plus lenalidomide (CC-5013) vs. rituximab plus placebo in subjects with indolent relapsed / resistant lymphoma. PI: Dr/a Sánchez García, Joaquin

0041/14. Clinical trial, phase III, case series on the reversal of the antiangiogenic effect of dabigatran, by intravenous administration of 5.0 g of idarucizumab (BI 655 075) in patients treated with dabigatran etexilate. PI: Dr/a Velasco Gimena, Francesco

0112/14. A Phase III, randomized, placebo-controlled, double-blind, double-blind maintenance treatment with oral citrate izoximib (MLN9708) in patients with multiple myeloma after autologous stem cell transplantation. PI: Dr/a Álvarez Rivas, Miguel Ángel

0048/14. Phase III, multicenter, randomized, open-azacitidine (Vidaza®) versus fludarabine and cytarabine (fluga scheme) in elderly patients with acute myeloid leukemia new diagnostic. PI: Dr/a Serrano López, Josefnia

0071/14. A Phase II, randomized, double-blind, placebo-controlled study of azacitidine with or without birinapant with an open-run-in phase one group in patients with myelodysplastic syndrome or highest risk chronic myelomonocytic leukemia. PI: Dr/a Sánchez García, Joaquin

0181/14. A Phase Ib / II trial to evaluate the safety and efficacy of PF 04449913, oral inhibitor of the Hedgehog pathway, in combination with intensive chemotherapy, low dose ara-C or decitabine, given to patients with acute myeloid leukemia or syndrome. PI: Dr/a Serrano López, Josefnia

0298/14. A phase II multicenter study of carfilzomib, lenalidomide and dexamethasone (KRD) plus high-dose therapy with melphalan-200 and autologous stem cell transplantation, followed by consolidation with KRD, and maintenance with lenalidomide and dexamethasone in patients with high risk smoldering multiple myeloma (SMM) under 65 years. PI: Dr/a Álvarez Rivas, Miguel Ángel

0310/14. A Phase 3, Randomized, controlled, open-label study of VELCADE (Bortezomib) Melphalan-Prednisone (VMP) Compared to Dexamethasone in Combination with VMP (D VMP) in subjects with previously untreated multiple myeloma who are ineligible for high-dose-therapy-ALCYONE. PI: Dr/a Álvarez Rivas, Miguel Ángel

0024/16. Estudio piloto (Fase II) de combinación de pomalidomide/dexametasona asociado a baja dosis de ciclofosfamida en pacientes con mieloma múltiple refractario que han recibido lenalidomide y bortezomib. PI: Dr/a Álvarez Rivas, Miguel Ángel

*3269. A Phase 2/3 Multi-center Study to Evaluate the Safety and Efficacy of Binatumab in Subjects With Relapsed/Refractory Aggressive B-Cell Non Hodgkin Lymphoma. PI: Dr/a Sánchez García, Joaquin

*3218. A Phase 3, Double-Blind, Placebo-controlled Study of Quizartinib (AC220) Administered in Combination With Induction and Consolidation Chemotherapy, and Administered As Maintenance Therapy in Subjects 18 to 75 Years Old With Newly Diagnosed FLT3-ITD (+) Acute Myeloid Leukemia. PI: Dr/a Serrano López, Josefnia


2109. An observational, post-authorization study to assess the evolution in regular clinical practice of patients newly diagnosed with myelodysplastic syndrome (MDS) or myelomono- cytic leukemia (MML) according to the time of treatment initiation. PI: Dr/a Sánchez García, Joaquin

2257. A study to validate an ex vivo individualized test for acute lymphoblastic leukemia. PI: Dr/a Serrano López, Josefnia

2570. Prospective observational study to identify clinical aspects leading to therapeutic decision making in patients with myelofibrosis. PI: Dr/a Molina Hurtado, José Ramón

2634. Ex vivo pharmacology study treatments in hematological malignancies characterization by using automated flow cytometry platform ExViTCh. PI: Dr/a Sánchez García, Joaquin

2638. PASS-Post-Authorization Safety Study (PASS) prospective, non-interventionist, de-
signed as Disease Registry of patients with myelodysplastic syndromes (MDS) low risk (IPSS low and intermediate-1) with isolated 5q deletion and transfusion dependence.
PI: Dr/a Sánchez García, Joaquin

2641. Non-interventional post-authorization registration patients with relapsed and refractory multiple myeloma treated with pomalidomide, who have received at least two prior treatments including lenalidomide and bortezomib, and who have experienced a prior autologous hematopoietic stem cell transplant (VERSA STUDY).
PI: Dr/a Álvarez Rivas, Miguel Ángel

2678. Post-authorization safety study (PASS) ma25101. observational cohort study of the safety of brentuximab vedotin in the treatment of relapsed or refractory cd3o Hodgkins lymphoma and systemic anaplastic large relapsed or refractory cells.
PI: Dr/a Molina Hurtado, José Ramón

2699. A Study to the validation of a test ex vivo personalized medicine in Multiple Myeloma.
PI: Dr/a Álvarez Rivas, Miguel Ángel

2852. A retrospective study of clinical, phenotypic and genetic factors of peripheral T-cell lymphomas in the Spanish population.
PI: Dr/a Sánchez García, Joaquin
GC17 • Pathophysiology of the endocrine system of vitamin D. Biotechnology and aging

HIGHLIGHTS

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Team Leader

Principal Investigator (PI)
José Manuel Quesada Gómez
md1qugoj@uco.es
CCIBER on Fragility and Heathy Aging (CIBERFES) (Collaborator)

Researchers
Casado Díaz; Antonio Mata Granados; José María Santiago Mora; Raquel Serrano Alférez; Ignacio

Pre-Doctoral Researchers (PhD Students y MSc Students)
Cuenca Acevedo; Rafael
Scientific Activity

Our group studies:
1. Osteoporosis: related risk factors, genetics and epidemiology. Endocrine system of vitamin D, other liposoluble vitamins, carotenoids, fatty acids related to osteoporosis and aging.
2. Differentiation of mesenchymal stem cells into osteoblasts, adipocytes or vessels. Study of genes and related factors. Its application in human clinical medicine.
   a) Evaluation of compounds that may influence the differentiation of mesenchymal stem cells to osteoblasts and adipocytes. By following this line, we intend to evaluate the differentiation capacity of mesenchymal stem cells into adipocytes and osteoblasts in drugs and natural compounds in order to determine what may favour or hinder the formation of new bone. The results obtained in this area may open up new therapeutic strategies to prevent and counter osteoporosis.
   b) Studies of gene expression of genes related to osteogenesis and adipogenesis. The aim of this research is to identify human stem cells, which are genes involved in the differentiation into osteoblasts and adipocytes, and associated with osteoporosis. To achieve this, we hope to carry out functional genomics studies to compare gene expression profiles between stem cells originating from both osteoporotic and non-osteoporotic women.

Keywords
Osteoporosis; vitamin D; carotenoids; fatty acids, human mesenchymal stem cells (MSCh) of adult adipocytes; osteoblasts; polyphenols; gene expression; proteomics; nutrigenetics; and nutrigenomics.

Scientific Production

Publications

Original

Research Funding
National
Quesada Gómez, JM. RETICEF. Funding agency: Carlos III Health Institute (ISCIII). Reference: RD12/0043/0028
Quesada Gómez, JM. Effect of the PTH (1-34) and vitamin D3 on mobilization of endothelial precursor cells and their role in regenerative medicine applied to the skin ulcers healing in diabetics. Funding agency: Carlos III Health Institute (ISCIII). Reference: PI15/01857
Quesada Gómez, JM. Fragility and Healthy Aging (Ciberfes). Funding agency: Carlos III Health Institute (ISCIII). Reference: PI15/01857
Quesada Gómez, JM. Effect of the PTH (1-34) and vitamin D3 on mobilization of endothelial precursor cells and their role in regenerative medicine applied to the skin ulcers healing in diabetics. Funding agency: Fundación Española de investigación ósea y del metabolismo mineral. Reference: FEIOMM2016_001
Quesada Gómez, JM. Fragility and Healthy Aging (Ciberfes). Funding agency: Carlos III Health Institute (ISCIII). Reference: CB16/10/00501 Expected starting date:2017

Regional

Contracts with Companies
Quesada Gómez JM. Collaboration agreements with Lilly SA (Formation). Funding Agency: LILLY, S.A. Reference: CCB.0079

Clinical Trials
3071. Non-interventional study with Binosto 70 mg effervescent tablets once weekly investigating gastro-intestinal events and medication errors. PI: Dr’a Quesada Gómez, José Manuel
GC18 • Translational research in surgery of solid organ transplants

HIGHLIGHTS

**PUBLICATIONS**  **IMPACT FACTOR**  **AVERAGE IMPACT FACTOR**

12  37,932  3,161

Team Leader
Principal Investigator (PI):
Francisco Javier Briceño Delgado
javibriceno@hotmail.com

Researchers
Ciria Bru; Rubén Rufián Peña; Sebastián Leva Vallejo; Manuel López Cillero; Pedro Muñoz Casares; Francisco Cristobal Padial Aguado; Ana Cristina Pozo Laderas; Juan Carlos Regueiro López; Juan Carlos Robles Ariza; Juan Carlos Ruiz Rabelo; Juan

Post-Doctoral Researchers
Arjona Sánchez; Álvaro Pleguezuelo Navarro; María

Pre-Doctoral Researchers (PhD Students y MSc Students)
Gómez Gómez; Irene Jiménez Gómez; Jesús Navarro Rodríguez; Elena
Scientific Activity

Our group studies aspects related to the increase in the donor pool and technological innovations in solid organ transplants. It also aims to establish guidelines to improve the use of expanded criteria donors, and to develop and implement improvements in surgical techniques and technological innovations in the transplant of solid organs.

Keywords

Liver transplant; pancreas transplant; kidney transplant; lung transplant; heart transplant; living donor transplantation, pediatric transplantation; split transplantation; expanded criteria donors.

Scientific Production

Publications

Original


In Collaboration


Research Funding

National

Ciria Bru, R.Condition mechanisms discarded teatotic liver grafts after cold storage by nor mo or subnormo thermic machine perfusion. Funding Agency: Institute Carlos III Health (IS CIII).Reference: PI14/01559


Regional


Contracts with Companies

Briceño Delgado, FJ. Stand in course on advanced liver surgery. Funding agency: Covidien Spain, S.L. Reference: PSS.0041

Briceño Delgado, FJ. Agreement with Microgenics. Funding agency: Microgenics GMBH. Reference: PSS.0105

Briceño Delgado, FJ. Agreement with ADALIA. Funding agency: ADALIA FARMA S.L. Reference: CCB.0085

Clinical Trials

0218/14. Efficacy and safety of early postoperative intraperitoneal chemotherapy (EPIC) with paclitaxel in the radical surgical treatment of ovarian peritoneal carcinomatosis.
PI: Dr/a Muñoz Casares, Francisco C.

0131/15. Multicenter randomized clinical trial to evaluate the efficacy and safety of hyperthermic intraperitoneal chemotherapy (HIPEC) with mitomycin C associated with surgery in the treatment of locally advanced colorectal carcinoma.
PI: Dr/a Arjona Sánchez, Álvaro
GC19 • Applications of machine vision

HIGHLIGHTS

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Team Leader

Principal Investigator (PI):
Rafael Medina Carnicer
rmedina@uco.es
PAIDI TIC-161 Scientific Group

Researchers
Carmona Poyato; Ángel Fernández García; Nicolás Luis Garrido Castro; Juan Luis Madrid Cuevas; Francisco José Marín Jiménez; Manuel Jesús Muñoz Salinas; Rafael Yeguas Bolívar; Enrique

Post-Doctoral Researchers
Romero Ramírez; Francisco José

Pre-Doctoral Researchers (PhD Students y MSc Students)
Cazzato; Dario
Scientific Activity

The main line of research of this group is focused on fundamental problems in artificial vision, which supports all the technology developed in the lines applied. The activity of this group is centred on some basic topics and results in the publication of papers in impact reviews. The topics are as follows: Unsupervised segmentation of scenes, Tracking, unsupervised recognition of objects in a scene, Volumetric Reconstruction, Augmented Reality, Virtual Reality. This group develops practical lines of research related to 2D and 3D Vision Systems Design for specific applications in biomedical or industrial environments. The latest activities of the Group were centred on unsupervised evaluation of human mobility, automatic calculation of the geometry of irregular objects for an optimal waste storage, fall risk prediction in the elderly and the development of automated X-ray analysis systems supporting the diagnosis of any type disease.

Keywords
Unsupervised Segmentation; Edge detection; Tracking; Object Recognition 3D-Vision; Augmented Reality; Gesture Recognition.

Scientific Production

Publications

Original


In Collaboration


Research Funding

National

Medina Carnicer, R. Vision system for tracking and mapping, fusing markers, characteristic points, 3D information and color, and its application to 3-dimensional reconstruction and augmented reality. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO). Reference: TIN2015-75279-P


Regional

### GC20 • Genetics and behavioural diseases

| HIGHLIGHTS |
|----------------|----------------|----------------|
| **Publications** | **Impact Factor** | **Average Impact Factor** |
| 5               | 9,463          | 1,892          |

#### Team Leader
**Principal Investigator (PI)**  
Manuel Ruiz Rubio  
ge1rurum@uco.es  
PAIDI BIO-272 Scientific Group  
PAIDI HUM-924 Scientific Group (PI: Juan Antonio Moriana)

#### Researchers
- Moriana; Juan Antonio  
- Alejandro Duran; Encarna  
- Alós Cívico, Francisco José  
- Burgos Marín; Rafael  
- Guijarro Granados; Teresa  
- Jiménez Romero; Mª Salud  
- Martín Borreguero; Pilar  
- Romero Balsera; María Auxiliadora  
- Sánchez Raya; Mª Araceli  
- Sánchez Vázquez; Vicente

#### Post-Doctoral Researchers
- García Torres; Francisco Mariano  
- Gámez Del Estal; M Del Mar

#### Pre-Doctoral Researchers (PhD Students y MSc Students)
- Osuna Luque; Jaime  
- Rodríguez Ramos, Ángel
Scientific Activity

Significant progress is being made nowadays in our understanding of the genetic basis of autism. Many of the genes involved encode proteins which are involved in synaptic function. Caenorhabditis elegans is an organism which constitutes an ideal model for studying synapse interactions because it only has about 300 neurons, and these are well characterized. In C. elegans there are genes which are orthologous to the human genes involved in autism, which encode proteins involved in the synapse. We have characterized mutants in some of these genes by observing changes in behaviour, as well as in response to chemical compounds that interfere with neurotransmitters, such as gamma-aminobutyric acid (GABA) or acetylcholine. The use of C. elegans as a model organism allows us to create an experimental setting that facilitates the genetic study of synaptic components. With the results obtained, our long term aim is to extrapolate them to humans and be able to explain the neurobiological mechanisms involved in the etiology of autism and other developmental diseases.

On the other hand, the members of the Unit for Child and Adolescent Mental Health (USMI-J) are conducting a detailed phenotypic analysis of a sample of patients diagnosed with autism in order to establish distinctive features and to determine whether autism can be associated in the future with specific genetic or environmental alterations.

Keywords
Autism; pervasive developmental disorders; neuronal synapses; postsynaptic density; C. elegans as a model organism in synaptic function.

Scientific Production

Publications

Original


In Collaboration


Research Fundings

National


Regional


Contracts with Companies


Moriana, J.A. New smartphone app for early detection of autism and the development of therapeutic activities on the part of parents and keepers. Funding agency: Fundación Privada Cajasur

Sánchez-Raya, A., Luque, B. y Moriana, J.A. Agreement with the CISPS for the creation of the Early Child Care Center (Centro de Atención Infantil Temprana) of the University of Cordoba.
**GC21 • Metabolomics. Identification of bioactive components**

**HIGHLIGHTS**

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**Publications**

**Impact Factor**

**Average Impact Factor**

---

**Team Leader**

**Principal Investigator (PI):**
Mª Dolores Luque de Castro
qa1lucam@uco.es

**PAIDI FQM-227 Scientific Group**
Emerging Researcher (ER)

**CIBER on Fragility and Healthly Aging (CIBERFES) (Collaborator)**

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**Emerging Researcher (ER)**
Feliciano Priego Capote

---

**Researchers**
Delgado Povedano; Mª del Mar Fernández Peralbo; María Auxiliadora Ledesma Escobar, Carlos Augusto Mena Bravo; Antonio Molina Calle; María Peralbo Molina; Angela

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**Post-Doctoral Researchers**
Calderón Santiago; Mónica Delgado De La Torre; María Pilar Sánchez De Medina Baena; Verónica

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**Pre-Doctoral Researchers (PhD Students y MSc Students)**
Castillo Peinado; Laura Luque Córdoba; Diego
Scientific Activity

This group deals mainly with the development of analytical methods in which the preparation stage of the sample, as required, is fully or partially automated with the help of dynamic systems and is accelerated by auxiliary energies such as microwaves, ultrasound or pressure + temperature (overheated liquids). In the analysis stage, the very latest equipment is used (GC-MS/MS, Quad-triple HPLC, HPLC-Q-TOF) to achieve maximum sensitivity, selectivity and precision. The group carries out research in the area of metabolomics and to a lesser extent, in proteomics. In the former, most of its contributions have been aimed at lipidomics, nutrimetabolomics and the search for biomarkers of bone metabolism. One research line linked to this is the utilization of agricultural residues and feeding industries to obtain high value-added products for the production of nutraceuticals, food supplements and natural dyes.

Another area of interest for the group is the study of the degradation pathways of toxic compounds using auxiliary energy.

Keywords

Metabolomics; proteomics; metabolites; biomarkers; analytical platforms; nutraceuticals; food supplements; preparation of samples; degradation assisted by auxiliary energy.

Scientific Production

Publications

Original


In Collaboration

Serrano-Rodriguez JM, Gomez-Diez M, Esgueva M, Castejon-Riber C, Mena-Bravo A,

**Research Funding**

**National**

López Miranda, J (Priego Capote F (CO-PI) This project was funded as a collaborative initiative among different research groups). Early predictors and causes of loss of phenotypic flexibility as individual risk factor of metabolic disease: towards a personalized medicine (FLEXI-MET). Funding agency: Institute Carlos III Health (ISCIII). REF: PIE/1400005


**Regional**


**International**


**Contracts with Companies**


Luque de Castro, MD. Identification by LC-QTIF, measurement by triple quadrupole LC-MS/MS and ionization by APCI of compounds in vegetable extracts. Funding Agency: Phyto-plant Research, S.L. Reference: 12014165

Priego Capote, F. Extraction of stevia plants: identifying the components of the extract and optimizing the extraction and purification of the compounds of interest. Funding agency: Consortium with “Campus de Excelencia Internacional en Agroalimentación (ceiA3)” (Agrifood Campus of International Excellence)


Luque de Castro, MD. Determination of vitamin D and its 25(OH)D 1,25(OH)2D and 24,25(OH)2D metabolites (potentially also the C3 epimer) in serum samples provided by the organisation. Funding agency: Ospedale San Raffaele S.R.L. Reference: PSS.0112

Luque de Castro, MD. Determination of vitamin D and its 25(OH)D 1,25(OH)2D and 24,15(OH)2D metabolites in serum samples provided by the Organisation. Funding Agency: Ospedale San Raffaele S.R.L. Reference: PSS.0146

GC22 • Epigenetics

HIGHLIGHTS

ACTIVE PROJECTS

4

Team Leader
Principal Investigator (PI):
Teresa Roldán Arjona
ge2roarm@uco.es
PAIDI BIO-301 Scientific Group

Researchers
Rodríguez Ariza; Rafael

Post-Doctoral Researchers
Cordoba Cañero; Mª Dolores García Ortiz; Mª Victoria Morales Ruiz; Mª Teresa Parrilla Doblas; Jara Teresa Oliveira Ricon; Raphael

Pre-Doctoral Researchers (PhD Students y MSc Students)
Arroyo de Alba; Noelia Barbado García-Gil; Casimiro Devesa Guerra; Iván Dorado León; Macarena
Scientific Activity

Our scientific activity is focused on the study of the mechanisms involved in maintaining genome and epigenome stability. Our group has found genetic and biochemical evidence for the existence of a mechanism for active demethylation of DNA in plants. We have identified a family of proteins, whose prototype is ROS1 and DME, which exhibit mecitosina 5-DNA glycosylase activity, and initiate the deletion of 5-mec by a mechanism analogous to the Base Excision Repair (BER). Using genetic and molecular approaches, we have characterized in detail the biochemical activity of this new family of enzymes. In addition we have identified other proteins involved in this mechanism of epigenetic reprogramming. We are currently investigating the relevance of the base repair system in the maintenance and control of genetic and epigenetic information. In addition, we intend to analyze the relationship between this new route for demethylation of DNA and different modifications in the structure of chromatin. Finally, we are exploring the feasibility of using ROS1 and DME to initiate a controlled demethylation of DNA in human cells.

Keywords
Genetics; Epigenetics; Mutagenesis; DNA repair; DNA methylation; gene regulation.

Research Funding
National

Roldán Arjona, Mª T. DNA demethylation: basic molecular mechanisms and their relevance to the reversal of epigenetic silencing. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO).Reference: BFU2013-43269-P

Roldán Arjona, Mª T. Dynamization Actions Europe Researchs.Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO). Reference 201460000027968

Roldán Arjona, Mª T. DNA repairs by base excision: from genome maintenance to epigenome issue. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO). Reference: BFU2016-80728-P. Expected starting date:2017

Regional


International


Contracts with Companies

Roldán Arjona, Mª T. Services provided for Canvax. Funding agency: Canvax Biotech S.L. Reference:PSS.0032
**GC23 • Metabolism in Childhood**

## HIGHLIGHTS

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### Team Leader
**Principal Investigator (PI)**
Mercedes Gil Campos  
ho2gicam@uco.es  
CIBER on Obesity and Nutrition (CIBERobn)  
CIBER on Rare Diseases (CIBERER)  
(Collaborator : Eduardo López Laso)  
PAIDI CTS-639 Scientific Group

### Researchers
- Pérez Navero; Juan Luis Antón  
- Gimeno; Montserrat De La Torre Aguilar; Mª José Fernández Gutiérrez; José Fernando Flores Rojas; Katherine Ibarra De La Rosa; Ignacio López Laso; Eduardo Mateos González; María Elena Ulloa Santamaría; María Esther Velasco Jabalquinto; María José

### Post-Doctoral Researchers
- Llorente Cantarero; Francisco Jesús Ordoñez; María Dolores

### Pre-Doctoral Researchers (PhD Students y MSc Students)
- Ordoñez; María Dolores
Scientific Activity

Our group studies infectious diseases from two approaches: Our group has initiated work in various sub-areas within Pediatrics to form a research group. Previously with other groups, and now with the group we have created, the research is based on understanding the role of metabolism in various pediatric diseases. Basically, this group works on nutritional aspects, as well as in the study of hormonal factors, inflammation and oxidative stress. In recent years we have focused on the study of childhood obesity and the metabolic syndrome currently associated with other pediatric illnesses too, such as prematurity or intra and extra-uterine growth retardation. In addition, the group also carries out research into the genetics of obesity. In future research, we expect to address neuropediatrics, and particular, the inborn errors of metabolism.

Keywords
Obesity; metabolic syndrome; arteriosclerosis; inflammation; oxidative stress; gene expression; proteomics; nutrigenetics, nutrigenomics.

Scientific Production

Publications

Original


In Collaboration


Research Funding

National

Ordeñez MD. Research Grant: Clinical trial to effectiveness lactoferrin assessment. Funding agency: Fundacion Agrupacion Mutua. Reference: FAGRUPACIO_002


Gill Campos, M. Volumetric Measuring System. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO). Reference: RTC-2016-5661-1_02 Expected starting date: 2017

Regional


International


Contracts with Companies
Gil Campos, M. Design and development of nutritionally balanced foods, appealing and comfortable/easy to handle specified for nutritionally balanced foods, appealing and comfortable/easy to handle specified for...
Clinical Trials

0061/11. European Neuroblastoma Treatment Protocol for low or intermediate risk / European Low and Intermediate Risk Neuroblastoma. PI: Dr/a Mateos González, María Elena

0316/15. An International Prospective Study on Clinically Standard-risk Medulloblastoma in Children Older Than 3 to 5 Years With Low-risk Biological Profile (PNET 5 MB-LR) or Average-risk Biological Profile (PNET 5 MB-SR). PI: Dr/a Mateos González, María Elena

2060. An international registry which collects data on disease manifestations, interventions and outcomes in patients with tuberous sclerosis complex. PI: Dr/a López Laso, Eduardo

*International patients registration with Niemann-Pick tipo C. PI: Dr/a López Laso, Eduardo

**Patient Registry of International working group on inborn errors of neurotransmitter metabolism. PI: Dr/a López Laso, Eduardo
### GE1 • Oxidative stress and nutrition

#### HIGHLIGHTS

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#### Team Leader

**Principal Investigator (PI)**
Isaac Túnez Fiñana
fm2tufii@uco.es

Cooperative Research Thematic Network on Aging and Frailty (RETICEF) (Collaborator)
PAIDI CTS-624 scientific group
Spanish Multiple Sclerosis Network (REEM) (Pt: Eduardo Agüera Morales)

#### Researchers

Agüera Morales; Eduardo Cruz Guerrero; Antonio Gascón Luna; Félix Jimena Medina; Ignacio Lillo Roldán; Rafael Luque Carabot; Evelio Peña Amaro; José Ruiz Villen; María Concepción

#### Post-Doctoral Researchers

Sánchez López; Fernando

#### Pre-Doctoral Researchers (PhD Students y MSc Students)

Aguilar Luque; Macarena Bahamonde Román; María del Carmen Conde Gavilán; Cristina Galván Jurado; Alberto

#### Other members of the Group (Nursing; Technical; and Administrative Staff)

Giraldo Polo; Ana Isabel Gómez Chaparro; José María La Torre Luque; Manuel
Scientific Activity

Our group studies the effect of different antioxidant agents, as well as transcranial magnetic stimulation on neuroplasticity (neurogenesis and synaptogenesis), cell death, oxidative stress and behavioural phenotype in models of neurodegeneration induced by neurotoxins and neuropsychiatric models induced by olfactory bulbectomy. Through these models, we analyze the role played by reactive oxygen and nitrogen species in the abovementioned phenomena, as well as the possibility of using the properties of the different agents used as new therapeutic strategies. Recently, the scope of the study has covered the analysis of transcription factors and vitagenes involved in the anti-oxidant response.

Additionally, the group is currently studying the role of nitrate and oxidative status, as well as and inflammation in vitagene activation in patients with different neurodegenerative diseases. Finally, the group is involved in intense horizontal research in partnership with other groups in the assessment, analysis and interpretation of oxidative status in different study models and processes.

Keywords
Oxidative stress, inflammation, mitochondria, cell death, neuroplasticity, antioxidant systems, vitagenes, Nrf2.

Scientific Production

Publications

Original


Research Funding

National

Túnez Fiñana, I. Drug development against tumor cells mothers (CSC) by screening libraries using synthetic kinase inhibitors of GPCRs and NFAT - calciurenininteracción. Funding Agency: Ministry of Economy and Competitiveness (MINECO). Reference: RTIC-2015-3386-1_1


Contracts with Companies

Túnez Fiñana, I. Development of in vitro CNS disease models and trial of the activity of active compounds identified using FRIDA. Funding agency: Canvax S.L. Funding: PSS.0056

Túnez Fiñana, I. Agreement with MBT. Funding agency: MBT S.L. Reference: PSS.0115


Túnez Fiñana, I. Agreement with Canvax. Funding agency: Canvax Biotech S.L. Reference: PSS.0135

Clinical Trials

0133/09.A multicenter, extension, blind-dose study to determine the safety and efficacy of long-term monotherapy dose of BG00012 in patients with relapsing-remitting multiple sclerosis
PI: Dr/a Sánchez López, Fernando

0106/11.A long-term, prospective, observational safety study of patients with multiple sclerosis who participated in clinical trials with cladribine
PI: Dr/a Sánchez López, Fernando

0145/11. A multicenter, extension, dose-blind frequency study to determine the safety and efficacy of long-term pegylated interferon beta-1a (BiB0107) therapy in patients with relapsing multiple sclerosis.
PI: Dr/a Sánchez López, Fernando

PI: Dr/a Águera Morales, Eduardo

0031/13. An open, multicenter, extension study to assess the long-term efficacy and safety of BIIB019, Daclizumab obtained using a high-yield process (DAC HYP) in monotherapy in patients with multiple sclerosis who have completed the 205MS301 study. PI: Dr/a Sánchez López, Fernando

92/13A randomized, double-blind, placebo-controlled, parallel group, dose-finding study to assess the efficacy, safety, tolerability and pharmacokinetics of biib033 in patients with relapsing multiple sclerosis when used in combination with avonex.
PI: Dr/a Sánchez López, Fernando

0227/13. A prospective, single-arm study in a clinical setting to assess the efficacy, tolerability and convenience of teriflunomide according to patient reported outcomes (PRO) in patients with multiple sclerosis.
PI: Dr/a Sánchez López, Fernando

0243/13. A multicenter, randomized, parallel-group, observer-blind, phase II study to assess the efficacy, safety and tolerability of placebo acetate 0.5, 3, 10 and 20 mg vs Copaxone in patients with relapsing-remitting multiple sclerosis.
PI: Dr/a Sánchez López, Fernando

0301/13A prospective, multicenter, randomized, double-blind, parallel-group, placebo-controlled, phase III 96-week duration study to assess the efficacy and safety of mistibisf 4.5mg/kg/day vs placebo.
PI: Dr/a Águera Morales, Eduardo

0011/14 A multicenter, randomized, double-blind, placebo-controlled study to assess the safety and efficacy of eculizumab in patients with recurrent optic neuromyelitis (NMO).
PI: Dr/a Sánchez López, Fernando

0082/14 An open, multicenter study to assess the efficacy of oral Tecfidera™ (dimethyl fumarate) in EM activity and in patient reported outcomes in patients with remitting-relapsing multiple sclerosis in real practice (PROTECT). PI: Dr/a Sánchez López, Fernando

0235/14 An open, multicenter, aletorizumab study to assess the impact of natalizumab...
against tissue damage fingolimod in central nervous system and in recovery of subjects with multiple sclerosis
Pl: Dr/a Sánchez López, Fernando

Pl: Dr/a Agüera Morales, Eduardo

0321/15. Multicenter Follow-Up Study to Assess Long-Term Electrophysiological and Clinical Outcomes in Subjects Previously Enrolled in Study 215ON201.
Pl: Dr/a Agüera Morales, Eduardo

*3268. Open-Label, Randomized, Multicenter, Multiple-Dose, Active Controlled, Parallel-Group, Efficacy and Safety Study of BCG00012 in Children from 10 to less than 18 years of age with relapsing-remitting multiple sclerosis, with optional open-label extension.
Pl: Dr/a Agüera Morales, Eduardo

*3069. A 24-Month, multicenter, randomized, double-blind, placebo-controlled, parallel-group, efficacy, safety, tolerability, biomarker, and pharmacokinetic study of AZD3293 in early Alzheimer’s disease (the amaranth study).
Pl: Dr/a Agüera Morales, Eduardo

*3066. An International, Double-blind, Randomized, Placebo-controlled Phase IIb Trial to Assess the Efficacy, Safety, and Pharmacokinetics of GNbAC1 in Patients With Relapsing Remitting Multiple Sclerosis.
Pl: Dr/a Agüera Morales, Eduardo

*3120. An Open-Label Study To Evaluate the Efficacy and Safety of Ocrelizumab in Patients With A Suboptimal Response to an Adequate Course of Disease-Modifying Treatment.
Pl: Dr/a Agüera Morales, Eduardo

2660. A retrospective, observational, multicenter, national study to assess the use of fingolimod Gilenya in patients with remitting-relapsing multiple sclerosis in clinical practice. Estudio NEXT
Pl: Dr/a Agüera Morales, Eduardo

2681. A retrospective, observational to describe the tolerability of Gilenya (Fingolimod) at the start of treatment in clinical practice habituate. MS Right Study
Pl: Dr/a Agüera Morales, Eduardo

2813. Multi-centre, observational, non-interventional, prospective study to evaluate patient satisfaction with the Extavia treatment administered using a new autoinjector, ExtraviProTM, in patients with multiple sclerosis. (EXCHANGE)
Pl: Dr/a Sánchez López, Fernando

2878. Evaluation of patient preferences towards different options disease modifying treatments in multiple sclerosis relapsing-remitting.
Pl: Dr/a Sánchez López, Fernando

2879. Prospective, multicenter, observational post-authorization safety study to evaluate the long term safety profile of lemtrada® (alemtuzumab) treatment in patients with relapsing forms of multiple sclerosis.
Pl: Dr/a Agüera Morales, Eduardo

2882. Observational study to collect information on safety and to document the drug utilization of Fampyra when used in routine medical practice (LIBERATE).
Pl: Dr/a Agüera Morales, Eduardo

3007. Spanish patient registration treated with glatiramer acetate (Copaxone®) 40mg/ml.
Pl: Dr/a Agüera Morales, Eduardo

3012. Retrospective epidemiological study to analyse clinical and radiological disease activity in patients with relapsing-remitting multiple sclerosis following withdrawal of Natalizumab in routine medical practice.
Pl: Dr/a Agüera Morales, Eduardo

3163. Plegridy (peginterferon) Real World Effectiveness and Safety Observational Program.
Pl: Dr/a Agüera Morales, Eduardo

3196. Retrospective study of adherence to the Spanish consensus to treatments for spasticity in multiple sclerosis in Spain.
Pl: Dr/a Agüera Morales, Eduardo

3222. A multicenter, global, retrospective, observational study to characterize real-world clinical outcomes in patients with relapsing-remitting multiple sclerosis treated with disease-modifying therapies (Tecfidera, Copaxone, Aubagio, or Gilenya) (EFFECT)
Pl: Dr/a Agüera Morales, Eduardo
# GE2 • Knowledge Discovery and Intelligent Systems

## HIGHLIGHTS

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**Team Leader**

**Principal Investigator (PI)**
Sebastián Ventura Soto
sventura@uco.es
PAIDI TIC-122 Scientific Group

**Researchers**

García Martínez; Carlos Gibaja Galindo; Eva Lucrecia Romero Morales; Cristóbal Romero Salguero; José Raúl Zafra Gómez; Amelia

**Post-Doctoral Researchers**

Cano Rojas; Alberto Luna Ariza; José María Olmo Ortiz; Juan Luis

**Pre-Doctoral Researchers (PhD Students y MSc Students)**

Delgado Osuna; José Antonio Guerrero Enamorado; Alain Ramírez Quesada; Aurora Reyes Pupo; Oscar Gabriel Robles Berumen; Hermes
Scientific Activity

In the KDIS research group, our interests mainly focus on the development of knowledge discovery methods, and its application to different real problems.

We are devoted to the development of algorithms for solving classification problems in different types of problems:
- Conventional data problems.
- Multi-label data problems.
- Multi-instance problems.
- Multi-view problems.

From the applications perspective, we are interested in applying our algorithms to several real problems, focusing on aspects such as scalability or interpretability of the obtained results. Our wider expertise has been in the field of educational data, although in the last years we have also work in several health problems, like predicting diabetes from clinical data and the analysis of clinical histories to develop automatic diagnosis methods.

Keywords
Data Mining; Big Data Mining; Machine Learning; Classification; Clustering; Association; Educational Data Mining; Clinical Data Mining; Health Informatics.

Scientific Production

Original

Luna JM, Cano A, Sakalauskas V, Ventura S. Discovering useful useful patterns from multiple instance data. Information Sciences. 2016. 357:23-38. IF:3.364 Q:1 D:1


Research Funding

National

**GE3 • Skin immune mediated inflammatory diseases (SIMID)**

**HIGHLIGHTS**

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**Publications**

**Impact Factor**

**Average Impact Factor**

**Team Leader**

**Principal Investigator (PI)**
Juan A Ruano Ruiz
juanruanorui@mac.com

**Researchers**
Gay Mimbreva; Jesús Hernández Romero; José Luis Isla Tejera; Beatriz Vélez García-Nieto; Antonio

**Post-Doctoral Researchers**
González Padilla; Marcelino

**Pre-Doctoral Researchers (PhD Students y MSc Students)**
Aguilar Luque; Macarena Carmona Fernández; Pedro Jesús Gómez García; Francisco Lorente Lavirgen; Ana Sanz Cabanillas; Juan Luis

**Other members of the Group (Nursing; Technical; and Administrative Staff)**
Alcalde Mellado; Patricia (Collaborator)
López García; María Maestre López; Beatriz (Collaborator)
Scientific Activity

Our research group is focused on prevalent or severe inflammatory skin diseases such as psoriasis. Psoriasis is a chronic inflammatory disease that is genetically complex and primarily affects skin and other organs such as joints. It is estimated that psoriasis affects 2-3% of the population and it is one of the most prevalent types of immunological diseases worldwide.

Our research group has developed a strategic plan including several lines of action.

1: Several research projects have been developed to identify the clinical, sociodemographic and molecular factors that influence variability in response to biological drugs in patients with psoriasis. To such purpose, we have created the largest collection of biological samples donated by patients with moderate to severe psoriasis that are currently stored at the reinaSofía University Hospital of Córdoba, Spain, which belongs to the Spanish National Biobank Network (Red Nacional de Biobancos). In the coming years, we are determining the role of some genetic polymorphisms, as well as of some patterns of CpG methylation of CpG sites in different genes, plasma concentrations of certain interleukins, or the profile of circulating miRNA.

2: We are interested in the development of new drugs for psoriasis. In 2015, we established a collaboration agreement with Canvax Biotech S.L within the framework of a project funded by public entities to carry out pre-clinical and clinical phase I trials to assess the efficacy and safety of the new compound CVX-785 for the treatment of psoriasis.

3: Being aware that translational medicine involves a multidimensional, multidisciplinary approach, we have integrated experts from different areas such as Immunology, Pharmacy, Genetics or Health Economics in diverse research groups through collaboration with the Department of Applied Economics of the University of Granada, the Laboratory of Investigative Dermatology, The Rockefeller University, New York (EEUU) o el Pharmacogenomics Laboratory, College of Pharmacy, Pharmacotherapy Education and Research Center (PERC), and the University of Texas Health Science Center at San Antonio (UTHSCSA), (TX, EEUU).

4: Finally, it is worth mentioning our commitment to innovation materialized in the form of collaboration agreements with the IT industry, namely, Canvax Biotech S.L. and Lynhce Diagnostics S.L. A spin-off company called info4CURE S.L has been set up to exploit patent licenses or the potential utility models resulting from such patents.

Keywords:

Scientific Production

Publications

Original

IF:6,724 Q:1 D:1

IF:4,706 Q:1

IF:3,029 Q:1

IF:3,029 Q:1

IF:2,503 Q:2

IF:1,488 Q:3

IF:1,488 Q:3

IF:1,488 Q:3

IF:1,415 Q:3

IF:1,268 Q:3

IF:0,933 Q:4

IF:0,88 Q:4

Salido-Vallejo R, Garnacho-Saucedo G, Velez A. Elucidation of the mTOR Pathway and Ther-
International

Clinical Trials
0140/12 A phase III study to assess the efficacy and safety of induction and maintenance treatment with brodalumab versus placebo and ustekinumab in patients with moderate to severe plaque psoriasis. AMAGINE-2
PI: Dr/a Ruano Ruiz, Juan A.
0251/14 Phase 3, Multicenter, Randomized, Double-blind, Placebo and Active Comparator-controlled Study Evaluating the Efficacy and Safety of Guselkumab in the Treatment of Subjects With Moderate to Severe Plaque-type Psoriasis
PI: Dr/a Ruano Ruiz, Juan A.
0032/15 Long Term Clear Skin Maintenance Treatment Optimization in Patients With Moderate to Severe Chronic Plaque Psoriasis: A Randomized, Multicenter, Open-label With Blinded-assessment, Comparative, 52 Week Study to Evaluate the Efficacy, Safety and Tolerability of Secukinumab 300 mg s.c. PI: Dr/a Ruano Ruiz, Juan A.
0104/15 A multicenter, randomized, double-blind, placebo and active-controlled phase 2b dose-finding study of QGE031 as add-on therapy to investigate the efficacy and safety in patients with Chronic Spontaneous Urticaria (CSU) PI: Dr/a Ruano Ruiz, Juan A.
0020/16 An Open Label, Multicenter, Extension Study to Evaluate the Long-term Safety of QGE031 240 mg s.c. Given Every 4 Weeks for 52 Weeks in Chronic Spontaneous Urticaria Patients Who Completed Study CQGE031C2201 PI: Dr/a Ruano Ruiz, Juan A.
*3247 A Multicentre, Randomised, Double-blind, Parallel-group, Controlled Study, to Assess the Efficacy and Safety of P-3074 in Chronic Urticaria
PI: Dr/a Ruano Ruiz, Juan A.
2401 Influence of genetic polymorphisms associated with cardiovascular immunity and disease in relation to the effectiveness of anti-TNF-a drugs in moderate to severe psoriasis and the presence of cardiovascular risk factors PI: Dr/a Ruano Ruiz, Juan A.
2550 An observational study to assess relapse in patients with moderate to severe psoriasis treated with biological drugs according to clinical practice in Spain PI: Dr/a Vélez García-Nieto, A.
2700 Construction of a model to predict the response to anti-TNF drugs used for the treatment of moderate-to-severe psoriasis in routine medical practice PI: Dr/a Ruano Ruiz, Juan Alberto
2702 Validation of the EARP questionnaire for the detection of psoriatic arthritis in the Spanish population. VALS Study PI: Dr/a Vélez García-Nieto, A.

Research Funding
National

In Collaboration
IF:3.029
Q1

IF:3.029
Q1

IF:1.857
Q2

IF:0

IF:0


2719. World-wide antihistamine-refractory chronic urticaria patient evaluation. AWARE Study PI: Dr/a Ruano Ruiz, Juan A.

2740. Application of genomic techniques and image processing using artificial intelligence to obtain a predictor model for risk of melanoma PI: Dr/a Ruano Ruiz, Juan A.

2883. Multi-centre observational study to establish the prevalence, clinical profile and therapeutic management of patients with supplicative hydradenitis in hospital dermatology units and health centres in Spain PI: Dr/a Lorente Lavirgen, A.I.

157
IMIBIC.
SCIENTIFIC
REPORT
2016

IF:0
### HIGHLIGHTS

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#### Team Leader
**Principal Investigator (PI)**  
Carmen Taberner Uribeta  
carmen.taberner@uco.es  
PAIDI HUM-414 Scientific Group

#### Researchers
Antolí Cabrera; Adoración Arenas Moreno; Alicia Luque Salas; Bárbara Pérez Dueñas; Carolina Rubio García; Sebastián

#### Post-Doctoral Researchers
Cuadrado; Esther Castillo Mayén; Rosario Moyano Pacheco; Manuel

#### Pre-Doctoral Researchers (PhD Students y MSc Students)
Gutiérrez Domingo; Tamara
Scientific Activity

Our research group investigates the influence of psychosocial variables (age, sex, socioeconomic status, educational level, perceived social support) and motivational processes (cognitive, affective and personality variables) on dietary adherence, life satisfaction and quality of life of patients with cardiovascular disease. We analyze the behavior of patients with cardiovascular disease from a cognitive approach to develop social intervention programs based on health promotion.

More specifically, we intend to validate a structural equation model that allows us to determine the weight and interaction of psychosocial and motivational variables in adherence to diet, quality of life and well-being of patients with cardiovascular disease. Subsequently, we intend to test the effectiveness of an intervention program based on self-monitoring assessment processes of patients with cardiovascular disease. We present a management training program for the regulation of emotions to cope with stressful events. The intervention program will provide to patients the keys to self-regulation of emotions through e-HEALTH platforms. Finally, we propose to evaluate the relationship and impact of psychosocial and motivational variables with other biomedical variables analyzed from other IMIBIC research teams. This is a first collaboration project; however our research team seeks greater openness and collaboration with different IMIBIC teams and research areas.

Keywords
Motivation, self-efficacy, positivity, emotions, diet, cardiovascular disease, cope with stress, emotional self-regulation, management training programs, e-health

Scientific Productions

Publications

Original


Cuadrado E, Tabernero C, Steinel W. Prosocial behaviour, inclusion and exclusion: why and when do we behave prosocially?. Revista de Psicología Social. 2016. 31(3):463-499. IF:0,458 Q:4


In Collaboration


Research Funding

National

## Highlights

**Publications** 10

**Impact Factor** 22,463

**Average Impact Factor** 2,246

### Team Leader

**Principal Investigator** María José Requena Tapia  
josefa.requena.sspa@juntadeandalucia.es

### Researchers

- Anglada Jurado
- Francisco Campos Hernández
- Juan Pablo Prieto Castro
- Rafael

### Post-Doctoral Researcher

- Blanca Pedregosa
- Ana María Carrasco Valiente
- Julia

### Pre-Doctoral Researchers (PhD Students y MSc Students)

- Gil Contreras
- Daniel Márquez López
- Javier Ruiz García
- Jesús Sanchez-Bayton Griffith
- Christian Valero Rosa
- José
Scientific Activity

This Group is centered on the study of urologic tumors from a new epidemiological approach and the search for diagnostic/prognostic markers. Additionally, this Group is involved in research on renal transplantation and developing new strategies to improve prognosis after organ transplantation.

In the field of sexual medicine, our group has focused its efforts on the study of erectile dysfunction (ED), especially on secondary ED, which is associated with radical prostatectomy. At present, we are looking for new invasive pharmacological therapeutic lines.

Keywords
Bladder cancer; prostate cancer; lower urinary tract symptomatology; renal cancer; renal transplant; erectile dysfunction; kidney stone.

Scientific Production

Publications

Original


In Collaboration


Research Funding

Regional


National

Requena Tapia, MJ. Improved patient well-being and safety in management procedures using collaborative systems. m-LISTABLE. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO). Reference:RTC-2016-5149_003


Contracts with Companies


Requena Tapia, MJ. Agreement with Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0079

Requena Tapia, MJ. Agreement with Mewcins. Bayerische Institut. Funding agency: Mewcins S.A. Reference: PSS.0114

Requena Tapia, MJ. Agreement with Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0124

Requena Tapia, MJ. Agreement with Janssen. Funding agency: Janssen-Cilag, S.A. Reference: PSS.0125

Requena Tapia, MJ. Agreement with Fundación para la investigación en Urología. Funding agency: Fundación para la investigación en Urología. Reference: PSS.0126

Requena Tapia, MJ. Agreement with Bayer. Funding agency: Bayer Hispania S.L.. Reference: PSS.0157

Clinical Trials

0280/12. A randomized, double-blind, comparative study of ZYTIGA (abiraterone acetate) plus prednisone at low dose plus androgen deprivation therapy (ADT) against TPA alone in subjects with a new diagnosis of high-risk metastatic hormone-naive prostate cancer (mHNPC).

IP: Dr/a Requena Tapia, Maria Jose

0344/14. Phase III, randomized, placebo-controlled, double-blind JNJ-56021927 in combi-
nation with abiraterone acetate and prednisone compared with abiraterone acetate and prednisone in patients with metastatic-resistant prostate cancer
IP: Dr/a Requena Tapia, María José

0215/15. Phase 3 randomized, double-blind, placebo-controlled JNJ-56021927 more androgen deprivation therapy (TPA) versus TPA in patients with prostate cancer metastatic-hormone-sensitive (PCmHS) low tumor burden.
IP: Dr/a Requena Tapia, María José
GA1 • Lung transplantation. Thoracic malignancies

HIGHLIGHTS

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Team Leader
Ángel Salvatierra Velázquez
angel.salvatierra.sspa@juntadeandalucia.es

Principal Investigator
Ángel Salvatierra Velázquez
angelsalvatierra.sspa@juntadeandalucia.es

Researchers
Algar Algar; Francisco Javier Álvarez Kindelan; Antonio Ayala Montoro; José Baamonde Laborda; Carlos Cerezo Madueno; Francisco Espinosa Jimenez; Dionisio Moreno Casado

Post-Doctoral Researchers
Paula

Pre-Doctoral Researchers (PhD Students y MSc Students)
Carrasco Fuentes; Guadalupe Gonzalez Garcia; Francisco Javier Guaman Arcos; Hugo Dario Murillo Brito; Diego Alejandro
Scientific Activity

Our research activity is focused on the effect of different molecules on lung preservation for transplantation. Additionally, we study the mechanism of chronic lung rejection and its effect on the regulation of different molecules. In our studies on lung preservation and chronic lung rejection we investigate the biological effects of different molecules especially serine-protease inhibitors on oxidative stress, inflammation, the endothelial function and cell signalling mechanisms.

Keywords
Lung preservation; chronic rejection; bronchiolitis obliterans; endothelium; inflammation; oxidative stress; proteomics; genomics.

Scientific Production

Publications

Original

In Collaboration


In Collaboration


Research Funding

Regional


Contracts with Companies
Salvatierra Velazquez, A. 20 years of Andalusian lung transplant program functionality. Funding agency: Novartis farmaceutica, S.A. Reference: PSS.003

Clinical Trials
2812. Study on the incidence of pulmonary thromboembolism in patients surgically intervened on by bronchogenic carcinoma PI: Dr/a Alvarez Kindelan, Antonio
GA2 • Comprehensive care nurses - a multidisciplinary perspective

HIGHLIGHTS

**Publications**

3

**Impact Factor**

3.23

**Average Impact Factor**

1.076

---

**Team Leader**

**Principal Investigator**

María Aurora Rodríguez Borrego
en1robom@uco.es

**PAIDI CTS-666 scientific group**

---

**Researchers**

Bretones, José Miguel (Collaborator)
Cuevas Pareja, Francisca (Collaborator)
Gonçalves Nitschke, Rosane
Muñoz Alonso, Adoración (Collaborator)
Redondo Pedraza, Rosa (Collaborator)
Ruiz Gándara, África

---

**Post-Doctoral Researchers**

Florez Almonacid, Clara Inés
Dios Guerra, Caridad
Hidalgo Lopezosa, Pedro
Guerra Martin, Dolores
López Soto, Pablo Jesús
Carmona Torres, Juan Manuel

---

**Pre-Doctoral Researchers (PhD Students y MSc Students)**

Miñarro Del Moral, Rosa
Luque Carrillo, Patricia
Ruiz Cañete, Macarena
Rodríguez Muñoz, Pedro Manuel
Morales Cané, Ignacio
Peinado Valeriano, Ángeles
Fernández Luna, Jesús
Scientific Activity

The scientific activity of this research group is based on four basic principles that allow flexibility in the composition of and topics addressed by this group. The four basic principles are:

1. To promote research activity among nursing professionals to foster evidence-based nursing care practice. This Group is a vehicle for nursing professionals interested in research.
2. To promote the professional development of nursing professionals by generating knowledge that serves as a guideline for nursing care practice.
3. To make a commitment to provide scientific training for future nursing professionals.
4. To adopt a comprehensive and integral approach to how the human being experiences health and disease.

Keywords

Integral nursing care; nursing care philosophy; professional development of nursing professionals; assessment of training methods in Higher Education; nursing service management; evidence-based nursing care; health and disease; disease experience; health communication; integral human being; female nurses; healthcare in old age; aging-life quality; fragility.

Scientific Production

Publications

Original


Research Fundings

National

Rodríguez Borrego, Mª A. Violence in couples formed by health professionals working at the Spanish National Health System. Funding agency: Institute Carlos III Health (ISCIII). Reference: PI13/01253

International

Rodríguez Borrego, Mª A. The chronobiological pattern as a causative factor of falls in the population older than 65 years. Funding Agency: MAPFRE FOUNDATION – 2014 Ignacio Hernando de Larramendi research funds. Reference: BIL/14/P2/089
GA3 • Pneumology

HIGHLIGHTS

**PUBLICATIONS**

11

**IMPACT FACTOR**

46,447

**AVERAGE IMPACT FACTOR**

4,222

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**Team Leader**

**Principal Investigator**
Bernabé Jurado Gámez
big01co@hotmail.com
PAIDI CTS-992 Scientific Group

**Researchers**
Arenas de Larriva, Marisol
Arenas Vacas, Antonio Pablo
Entrenas Costa, Luis M
Feu Collado, Nuria
Gil García, Francisco Luis
Lama Martínez, Rafael
Muñoz Cabrera, Luis
Pascual Martínez, Natalia
Redel Montero, Javier
Santos Luna, Francisco

**Pre-Doctoral Researchers (PhD Students y MSc Students)**
Castillo Jurado, Montserrat
García Porcuna, Inmaculada
Scientific Activity

Our line of research is focused on three key points, the effect of hypoxemia on metabolism and lung cancer, early diagnosis of lung cancer and the effect of new drugs and respiratory therapies basing on new technologies (TICs).

Objectives:
1. The effect of hypoxemia, chronic or intermittent on metabolism and vascular impact.
2. Search for markers basing on new technologies (metabolomics, proteomics, epigenetics) for early diagnosis of lung cancer.
3. Application of metabolomics in the development of new drugs in chronic respiratory diseases (COPD, asthma, HPP, FQ).
4. Application of TICs in the diagnosis and control of respiratory disease.

In addition, our research team collaborates in the investigation on the effect of intermittent hypoxemia with the research group of Dr. José López Miranda (Internal Medicine) in patients with vascular risk factors to determine the impact of hypoxemia on the effect of Mediterranean diet and vascular risk.

With the research group of Dr. Teresa Roldán Arjona (epigenetics), Dr. Antonio Rodriguez Ariza (oncology, Coordinator of the Oncover group) and Dr. Mª Dolores Luque de Castro (metabolomics and proteomics) in the identification and quantification of compounds useful in the diagnosis of lung cancer in exhaled breath condensate. In this line, this group also collaborates with the research group of Dr M. Dolores Luque de Castro in the performance of metabolomic studies for the identification of clinical phenotypes in exhaled breath condensate, and in the search for new lung cancer markers in different biological fluids.

Keywords
Cancer; hypoxemia; cell damage; chronic respiratory disease; epigenetics; metabolomics; proteomics; telecare; telemedicine; respiratory therapies.

Scientific Production

Publications

Original


In Collaboration


Research Funding

Regional


Contracts with Companies

Entrenas Costa, LM. Collaboration with Novartis. Funding agency: Novartis Farmacéutica SA. Reference: CCB.0060

Clinical Trials

0108/15. Randomized, double-blind, placebo-controlled, parallel group to evaluate the efficacy and safety of dupilumab in patients with persistent asthma
PI: Dr/a Entrenas Costa, Luis Manuel

2850. Prospective study of a single branch and longitudinal cohort to evaluate biomarkers in patients with severe asthma in usual clinical practice conditions
PI: Dr/A Entrenas Costa, Luis Manuel

2711. Randomized clinical trial on the effect of a program of aerobic exercise in patients with moderate to severe sleep apnea.
PI: Dr/a Feu Collado, María Nuria

2856. Phase IV observational, multinational study on disease control. Findings reported by patients treated with inhalers of a dosage combination set for persistent asthma and COPD in clinical practice (SPRINT)
PI: Dr/a Entrenas Costa, Luis Manuel

2741. Prevalence of breathing disorders during sleep in patients with COPD.
PI: Dr/a Feu Collado, María Nuria

3011. Retrospective observational study to evaluate the pharmaco-economic impact of omalizumab treatment in severe persistent allergic asthma in routine clinical practice in the autonomous communities of Andalusia and Extremadura.
PI: Dr/a Entrenas Costa, Luis Manuel.
GA4 • Endocrinology and Nutrition. Insulin resistance, diabetes and metabolism

HIGHLIGHTS

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**Team Leader**

**Principal Investigator**
María Ángeles Gálvez Moreno
mariaa.galvez.sspa@juntadeandalucia.es

**Researchers**
Alhambra Expósito, María Rosa
Bellido Muñoz, Enrique
Berral de la Rosa, Francisco José
Calañas Continente, Alfonso
Corpas Jiménez, Mª Sierra
Gutiérrez Alcántara, Carmen
Molina Puertas, Mª José
Palomares Ortega, Rafael
Vigara Madueño, Remedios

**Post-Doctoral Researchers**
Romero Jimenez, Magdalena
Herrera Martínez, Aura Dulcinea

**Pre-Doctoral Researchers (PhD Students y MSc Students)**
Escandell Morales, Juan Manuel
Fernández Bedmar, Zahira Noemi

**Other members of the Group (Others Researchers, Nursing, Technical, and Administrative Staff)**
Torres Roldán, María del Rosario
Scientific Activity

This research group investigates the effect of different nutrients on insulin resistance and body fat distribution in patients with metabolic syndrome from two points of view:

1.- Line of research of Endocrinology and Nutrition, on which several groups work:
Along with Dr. Justo Castaño Fuentes’ group, we investigate the expression of different hormone receptors and intracellular mediators in the onset and development of pituitary tumors. In line with transactional research principles, this group applies the findings of its research to real clinical practice using inhibitors or stimulators in order to inhibit hormone production and / or reduce their size when surgery is not fully successful.

Also, this group collaborates with Dr. Quesada Gómez’s group in the investigation of osteoporosis, particularly, vitamin D and bone stem cells.

This group also collaborates with Dr. Soriguer in the performance of epidemiological studies of diabetes mellitus type 2 and in the prevention of diabetes through a behaviour modification programme which is being implemented in a village in southern Cordoba. This group also collaborates with Dr. Caballero in the study of bone metabolism in pregnant women with diabetes.

2.- Line of research: insulin resistance, diabetes and metabolism. This group studies the effect of diet components and pharmacologic interventions on the insulin resistance syndrome and the risk of developing diabetes in patients with “prediabetes”. For such purpose, this group characterizes the specific effect of macronutrients on the release of digestive tract incretins and the subsequent signalling. In addition, this group also investigates the effect of diets with different macronutrient contents on body composition and body fat redistribution, and its relationship with insulin sensitivity and secretion. This group studies the role of adipose tissue expansion as a pathogenic factor of insulin resistance, beta-cell failure and diabetes. Finally, this group examines the transcription of metabolic, inflammatory and adipokine pathways in peripheral adipose tissue into diet models, macronutrients and different pharmacologic agents.

Keywords

Insulin resistance; β-pancreatic dysfunction; prediabetes; metabolic syndrome; and adipotoxicidad adipose tissue; inflammation, oxidative stress; gene expression; metabolomics; Pituitary Adenoma; Somatostatin receptors; Vitamin D; Metabolic Sindrome Prevalence of Diabetes Mellitus Type 2; Diabetes Mellitus and Pregnancy.

Scientific Productions

Publications

Original


Vallejo Casas JA, Mena Bares LM, Galvez Moreno MA, Moreno Ortega E, Marlowe RJ, Maza Muret FR, Albala Gonzalez MD. Thyroid remnant ablation success and disease outcome in stage III or IV differentiated thyroid carcinoma: recombinant human thyrotropin versus thyroid hormone withdrawal. Quarterly Journal of Nuclear Medicine and Molecular Imaging. 2016. 60(2):163-171. IF:2.413 Q2


In Collaboration


Contracts with Companies

Gálvez Moreno, MA. Development of advanced fats. Funding agency: Aceites Del Sur-Coosur S.A. Reference: ITC-20151323

Gálvez Moreno, MA. Agreement with JYC. Funding agency: JYC Ediciones Medicas. Reference: PSS.0163

Calañas Continente A. Agreement with Nutri. Funding agency: Nutricia Nutricia. Reference: CCB.0116

Clinical Trials

0082/15. Phase III trial, multicenter, randomized, open and controlled comparator to evaluate the safety and tolerability of weekly TV-1106 dose compared with rhGH (Genotropin) at daily doses in adults with growth hormone deficiency
PI: Dr/a Gálvez Moreno, MA

*2980*. A Phase III, multicenter, randomized, double-blind, placebo-controlled study to evaluate the efficacy, safety and tolerability of TV-1106 in adults with deficiency of growth hormone are not currently treated with recombinant human growth hormone (rHGH).
PI: Dr/a Gálvez Moreno, MA

0303/15. Intravenous versus subcutaneous basal insulin in diabetic non-critical hospitalized patients receiving total parenteral nutrition.
PI: Dr/a Molina Puerta, MJ

0230/15. Pragmatic real-world test, 26 weeks with 6-month extension, randomized, open, 2 parallel arms, to evaluate the results of clinical and health benefits of the transition to Toujeo® compared to d insulins
PI: Dr/a Gálvez Moreno, MA

3216. An open-label study to assess the safety and efficacy of COR-003 (2S,4R-ketoconazole) in the treatment of endogenous Cushing’s Syndrome.
PI: Dr/a Galvez Moreno, MA

3043. Study to assess blood-sugar monitoring in patients receiving enteral nutrition in routine clinical practice. Novadi-Control Study
PI: Dr/a Molina Puerta, MJ

3164. International multi-centre observational study to assess the efficacy in daily clinical practice of lanreotide autogel 120 mg during a prolonged dosage period (over 4 weeks) for the treatment of acromegaly: SOMAC Study.
PI: Dr/a Galvez Moreno, MA
# GA5 • Study of growth. Endocrinology and Child Nutrition

## HIGHLIGHTS

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<tr>
<th>Team Leader</th>
<th>Researchers</th>
<th>Post-Doctoral Researchers</th>
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<tr>
<td><strong>Principal Investigator</strong></td>
<td>Cañete Vázquez, Mª Dolores</td>
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<td>Ramón Cañete Estrada</td>
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<td><a href="mailto:em1caesr@uco.es">em1caesr@uco.es</a></td>
<td>Guzmán Cabañas, Juana Mª</td>
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<td><strong>PAIDI CTS-329 Scientific Group</strong></td>
<td>Jimenez Reina, Luis</td>
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Scientific Activity

Among other lines of research, this group studies obesity in prepubertal children, focusing on children with metabolic syndrome, inflammatory factors, vascular risk biomarkers and adipose tissue gene expression, diet effects on these factors, study of steatohepatitis and physical activity.

Another line of research is centered on aspects related to nutrition in children with extrauterine growth retardation, especially in those that might later develop metabolic syndrome.

This group also carries out comparative cord blood proteomic analyses of healthy term neonates and neonates with IUGR to identify potential differences that might with associated with IUGR and the likelihood of adverse nutritional effects.

This group also investigates growth-hormone producing cells and morphological, structural and production modifications in animals.

Finally, this group are developing one line of research centered on food allergies, and second line based on the possible health impact on workers in solar thermal plants daily exposed to polycyclic aromatic hydrocarbons.

Keywords
Child obesity; metabolic syndrome in children; diet; endothelium; inflammation; cardiovascular biomarkers; gene expression; proteomics; neonates with intrauterine growth retardation (IUGR); metabolic syndrome in IUGR; basic research on growth producing cells with different external stimuli; food allergy.

Scientific Production

Publications

Original


IF:1.859
Q:3


IF:1.689
Q:4


IF:0.795
Q:4


IF:0.307
Q:4

In Collaboration


IF:1.791
Q:2


IF:1.661
Q:4


IF:0.773
Q:4

Clinical Trials

0291/11. A randomized, multicenter, blind trial with topiramato vs. placebo for the treatment of newborns with perinatal asphyxia treated with moderate whole-body hypothermia.

PI: Dr/a Guzman Cabañas, JM.

2876. Observational cross-sectional study to assess the quality of life of patients with a diagnosis of seasonal allergic rhinitis or rhinoconjunctivitis with or without asthma caused by pollen olive or olive more grasses treated with immunotherapy.

PI: Dr/a Torres Borrego, J.

2079.Observational, non-interventional, multi-centre, multi-national study of patients with atypical hemolytic-uremic syndrome (AHUS Registry)

PI: Dr/a: Garcia Martinez, E.

3013. Tolerance to the introduction of a formula based on highly hydrolised whey proteins enriched with Lactobacillus fermentum (Damira-Pro®) in children with allergy to cow’s milk protein.

PI: Dr/a Torres Borrego, J.
GA6 • Clinical Analysis

HIGHLIGHTS

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</table>

Team Leader

Principal Investigator
Fernando Rodríguez Cantalejo
fernando.rodriguez.c.sspa@juntade-andalucia.es

Researchers
Caballero Villarraso, Javier
Martínez Peinado, Antonio
Molero Payan, Rafael
Scientific Activity

Our group is currently developing two lines of research related to the assessment of the diagnostic accuracy of new technologies. On the one hand, we are assessing the diagnostic efficacy of the methodologies used for prenatal diagnosis of aneuploidy such as chorionic villus sampling in screening for aneuploidy in the first trimester and the karyotype study in the first and second trimester of pregnancy. On the other hand, we are assessing new point-of-care testing (POCT) methodologies as gas, blood metabolite and ion determination; diagnosis and evolution of celiac disease, and use of POCT methods in coagulometry for to the follow-up of anticoagulated patients.

Keywords
New methodologies; chorionic villus sampling; prenatal screening; karyotype; POCT.

Scientific Production

Publications

In Collaboration


HIGHLIGHTS

<table>
<thead>
<tr>
<th>Team Leader</th>
<th>Principal Investigator</th>
<th>Researchers</th>
<th>Other members of the Group (Nursing, Technical, and Administrative Staff)</th>
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<tr>
<td></td>
<td>Daniel López Ruiz</td>
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**Publications**

1

**Impact Factor**

2,959

**Average Impact Factor**

—

Impact Factor

2,959

Average Impact Factor

—

Publications

1

Other members of the Group (Nursing, Technical, and Administrative Staff)

Amate Rivas, Cristina

Researchers

Álvarez Benito, Marina Benito Ysamat, Alberto Cano Sánchez, Antonio Cara García, María Delgado Acosta, Fernando García Ortega, María José García-Revillo García, José Izquierdo Palomares, Lucia Nuria Muñoz Carrasco, Rafaela Roldán Romero, Elisa Santos Romero, Ana Luz Ysamat Marfa, Roser

Team Leader

Daniel López Ruiz
danieljlruiz@gmail.com

Principal Investigator

Daniel López Ruiz
danieljlruiz@gmail.com

Impact Factor

2,959

Average Impact Factor

—

Publications

1

Other members of the Group (Nursing, Technical, and Administrative Staff)

Amate Rivas, Cristina

Researchers

Álvarez Benito, Marina Benito Ysamat, Alberto Cano Sánchez, Antonio Cara García, María Delgado Acosta, Fernando García Ortega, María José García-Revillo García, José Izquierdo Palomares, Lucia Nuria Muñoz Carrasco, Rafaela Roldán Romero, Elisa Santos Romero, Ana Luz Ysamat Marfa, Roser

Team Leader

Daniel López Ruiz
danieljlruiz@gmail.com

Principal Investigator

Daniel López Ruiz
danieljlruiz@gmail.com

Impact Factor

2,959

Average Impact Factor

—

Publications

1
Scientific Activity

Continuous advances in diagnostic imaging techniques have allowed physicians to make highly accurate diagnoses, perform a close follow-up of the evolution of the disease, and assess TIE response of a large number of nosologic entities to a range of drugs and therapies. The collaboration of the Diagnostic Radiology Unit has allowed to assess the effect of new drugs on the evolution of a large number of neoplasms, reumatologic diseases, demyelinating diseases of the central nervous system or inflammatory diseases of the digestive tract. In other cases, this Unit has helped our researchers to quantify the prevalence of certain complications associated to different therapies such as corticosteroids-based therapies.

Apart from strictly diagnostic scans, the Diagnostic Radiology Unit also performs innovative interventional procedures. Among them, it is worth mentioning the intraarterial infusion of autologous bone marrow mononuclear cells in diabetic and non-diabetic patients with chronic critical ischemia of the lower limbs.

Keywords
Stem cells; arterial ischemia of the lower limbs; therapeutic angiogenesis; neoplasms; demyelinating diseases; rheumatic diseases; pathochrony; radiological assessment of response to drugs; diagnostic radiological scans; therapeutic radiological scans.

Scientific Production
Publications
In Collaboration

Resercher Funding
National

*In Collaborations with others IMIBIC’s Group:
*Rodríguez Ariza, A. Role of nitric oxide and nitrosothiols homeostasis in the generation and maintenance of tumor stem cells: new approaches to colon and breast cancer. Funding agency: Carlos III Health Institute (ISCIII). Reference: PI12/00553

Contracts with Companies

Clinical Trials
2802. Pilot endovascular recanalization study of stroke beyond 8 hours from the selected start via imaging techniques
Pl: Dr/a Delgado Acosta, F.
GA9 • Cardiology Cardiovascular

HIGHLIGHTS

ACTIVE PROJECTS

1

Team Leader
Ignacio Muñoz Carvajal
ignacio.munoz.carvajal.sspa@juntade-andalucia.es
PAIDI TEP-226 PRINIA Scientific Group (Collaborator)

Principal Investigator

Researchers

Pre-Doctoral Researchers (PhD Students y MSc Students)
Conejero Jurado, María Teresa Valencia Núñez, Diana

Other members of the Group (Nursing, Technical, and Administrative Staff)
Canales Ruiz, Rafael Recio Rufián, Manuel Riballo Cortes, Raquel Romero Mata, Noelia Mª Romero Morales, María del Carmen
Research Funding

International

Contracts with Companies
Muñoz Carvajal, I. PROYECTO CARELINK. Funding agency: C.S.A. Tecnicas Médicas. Reference: CCB.0065

Clinical Trials
2610. Pre-operation factors that exert influence in the presence of complications and post-surgery cardiac morbidity in patients with severe ventricular dysfunction. Prospective observational study. PI: Dr/a Muñoz Carvajal, I.

3276. European multi-centre registry to assess outcomes in patients undergoing coronary artery bypass graft surgery: treatment of vascular conduits with DuraGraft®, a novel endothelial damage inhibitor. PI: Dr/a Muñoz Carvajal, I.

3128. Acute study on extravascular defibrillation, electrostimulation and electrograms. ASD2. PI: Dr/a Muñoz Carvajal, I.
GA10 • Nuclear Medicine

HIGHLIGHTS

PUBLICATIONS  IMPACT FACTOR  AVERAGE IMPACT FACTOR
1  2,413

Team Leader
Principal Investigator
Juan Antonio Vallejo Casas
jantonio.vallejo.sspa@juntadeandalucia.es

Researchers
Carmona Asenjo, Elvira
Maza Muret, Francisco Roberto
Mena Bares, Luisa

Pre-Doctoral Researchers (PhD Students y MSc Students)
Guiote Moreno, María Victoria
Rodríguez Caceres, Esther

Other members of the Group
(Nursing, Technical, and Administrative Staff)
Lesmes Porras, M del Carmen
Moreno Ortega, Estefenia
Martin Ruiz, Antonio
Rojas Arroyo, Anahi

Publications
Impact Factor
Average Impact Factor
1
2,413
-
Scientific Activity

The Group is now in the development of new treatment lines for Differentiated Thyroid carcinoma, as active part of SEMNIM Group, and also, participating in International meetings. Also, we continue with the clinical trials activity, and specifically in the use of new radioisotopic treatment for Prostate Cancer and Lymphoma. We were initiated this year the collaboration with others groups for the implementation of PET/CT in clinicals situation, especially in the evaluation of therapeutic response.

Scientific Production

Publications

Original

Vallejo Casas JA, Mena Bares LM, Galvez Moreno MA, Moreno Ortega E, Marlowe RJ, Maza Muret FR, Albala Gonzalez MD. Thyroid remnant ablation success and disease outcome in stage III or IV differentiated thyroid carcinoma: recombinant human thyrotropin versus thyroid hormone withdrawal. Quarterly Journal of Nuclear Medicine and Molecular Imaging. 2016. 60(2):163-171. IF:2.413 Q2
GA11 • Learning and Artificial Neural Networks-AYRNA

HIGHLIGHTS

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<tr>
<th>TEAM LEADER</th>
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<tbody>
<tr>
<td><strong>Cesar Hervás Martínez</strong></td>
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<tr>
<td><a href="mailto:chervas@uco.es">chervas@uco.es</a></td>
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<td>PAIDI TIC-148 Scientific Group</td>
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<td><strong>Becerra Alonso, David</strong></td>
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<td><strong>Carbonero Ruz, Mariano</strong></td>
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<th>PRE-DOCTORAL RESEARCHERS (PhD STUDENTS y MSc STUDENTS)</th>
</tr>
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<tbody>
<tr>
<td><strong>Dorado Moreno</strong></td>
</tr>
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<td><strong>Manuel Durán Rosal</strong></td>
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<td><strong>Antonio M</strong></td>
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Publications: 9
Impact Factor: 17,011
Average Impact Factor: 1,890
Scientific Activity

The Learning and Artificial Neural Networks AYRNA research group (code TIC-148 - Junta de Andalucía) was founded mainly focused in the field of Artificial Neural Networks (ANNs). In the last years, the group has diversified its interest areas working on the resolution of different problems through soft computing techniques (artificial neural networks, evolutionary algorithms and other pattern recognition algorithms). Regarding the biomedical field, we work on artificial neural networks in donor-recipient matching in liver and lung transplants.

Keywords
Data science; multiobjective evolutionary algorithms; machine learning; ordinal classification; teaching innovation; time series segmentation; time series prediction; new basis functions for artificial neural networks; evolutionary artificial neural networks; distributed systems;

Scientific Production

Publications

Original


Dorado-Moreno M, Sianes A, Herras-Martinez C. From outside to hyper-globalisation: an Artificial Neural Network ordinal classifier applied to measure the extent of globalisation. Quality & Quantity. 2016. 50(2):549-576. IF:0,867 Q:3


Research Funding

National

GH • Other scientific Contributions from the Hospital divisions

Anesthesia Unit

Research Funding
Galan Cabezas, A. Improved patient wellbeing and safety in management procedures using collaborative systems. m-LISTABLE . Funding agency: Ministry of Economy and Competitiveness (MINECO). Reference: RTC-2016-5149_001


Contracts with Companies
Herrador Montiel, I. Grünlenthal Agreement Funding Agency: GRÜNENTHAL PHARMA, S.A. Reference: FSS.0159

Clinical Trials

Q:1 IF:4,596

Cardiology Unit

PUBLICATIONS
15

IMPACT FACTOR
100,593

AVERAGE IMPACT FACTOR
6,72

Scientific Production

Publications

Original


In Collaboration


Clinical Trials

*3327. A Double-blind, Randomized, Placebo-controlled, Multicenter Study to Assess the Efficacy and Safety of Omecamtiv Mecarbil on Mortality and Morbidity in Subjects With Chronic Heart Failure With Reduced Ejection Fraction (GALACTIC-HF) PI: Dr/a Arizon Del Prado, José María

0063/14.A prospective, multicenter, double-blind, randomized, placebo-controlled, parallel group, 12-week study to evaluate the safety and tolerability of macitentan in subjects with combined pre- and post-capillary pulmonary hypertension (CpcPH) due to left vent PI: Dr/a Arizon Del Prado, José María

0146/13. A Multicenter, Randomized, Double-blind, Placebo-controlled Phase III Study to Evaluate the Efficacy, Safety and Tolerability of Serelaxin When Added to Standard Therapy in Acute Heart Failure Patients. PI: Dr/a Arizon Del Prado, José María

2602. An observational and cross-sectional study to evaluate the sociodemographic and clinical characteristics of patients treated with rivaroxaban in the usual clinical practice of hematologists, cardiologists and internists through the Spanish Society of Haemostasis and Thrombosis (SEH). PI: Dr/a Ruiz Ortiz, Martin

2594. Global review of long-term oral antithrombotic therapy in patients with atrial fibrillation (Phase II/III EU/ESA Member States) PI: Dr/a López Granados, Amador

1568. Monitoring resynchronization in cardiac patients PI: Dr/a Arizon Del Prado, José María

2816. Internacional registry to assess medical practise with longitudinal observation for treatment of heart failure PI: Dr/a Arizon Del Prado, José María

2881. An observational study to evaluate the relationship between CMV infection and the survival and evaluation of graft vascular disease in a cohort of transplanted cardiac patients: 8 years of follow-up. EVICARD study. PI: Dr/a Arizon Del Prado, José María

2218. Impact of the genotype and phenotype of Staphylococcus aureus on clinical characteristics and evolution of infective endocarditis. PI: Dr/a Anguita Sánchez, Manuel

2174. “Fantasia” Study: Influence of the type of adequacy of oral anti-coagulation on the incidence of thromboembolic and hemorrhagic events in an unselected Spanish population of patients with non-valvular atrial fibrillation. PI: Dr/a Anguita Sánchez, Manuel

2615. Long-term general register of atrial fibrillation. EORP Register PI: Dr/a Anguita Sánchez, Manuel

2931. Epidemiological study to evaluate the management, quality of life and therapeutic adherence of patients with stable coronary disease. “AVANCE II” STUDY. PI: Dr/a López Aguilera, Jose
**General and Digestive Surgery Unit**

**Scientific Production**

**Publications**

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**In Collaborations**


**Clinical Trials**

- 3119. A multicenter, randomized, placebo-controlled, double-blind study to evaluate the efficacy and tolerability of 2% diltiazem hydrochloride in the treatment of chronic anal fissure, and open-label extension of 24 weeks. PI: Dr/a Gallardo Valverde, José María
- 2601. Surgical strategy in the cylindrical abdominoperineal amputation of the rectum due to cancer. Lithotomy vs prone-jackknife position. Multicenter randomized prospective study. PI: Dr/a Gómez Barbadillo, José
- 2810. Evaluation of the quality of life and satisfaction of an elderly patient with chronic pain and irruptive pain, under treatment with opioids. SAND study. PI: Dr/a Collazo Chao, Eliseo
- 2811. Epidemiological study to evaluate the prevalence of breakthrough pain in patients with chronic pain secondary to chronic low back pain. COLUMBUS study. PI: Dr/a Collazo Chao, Eliseo

**Maxillofacial Surgery Unit**

**Scientific Production**

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**Original**


**Plastic Surgery Unit**

**Scientific Production**

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**Original**

Dermatology Unit

Scientific Production

Publications

Original


IF:5,621
Q:1 D1


IF:5,92
Q:1

In Collaboration


IF:0

Pharmacy Unit

Contracts with Companies

Del Prado Llergo, JR.ROCHE Agreement. Funding Agency: ROCHE FARMA, S.A. Reference: CCB.0129

Del Prado Llergo, JR.ROCHE Agreement. Funding Agency: ROCHE FARMA, S.A. Reference: CCB.0090

Del Prado Llergo, JR.ROCHE Agreement. Funding Agency: ROCHE FARMA, S.A. Reference: CCB.0077

Del Prado Llergo, JR.TEVA Agreement. Funding Agency: TEVA PHARMA, S.L. Reference: CCB.0106

Del Prado Llergo, JR.BOEHRING Agreement. Funding Agency: BOEHRING INGELHEIM ESPAÑA, S.A. Reference: CCB.0086

Del Prado Llergo, JR.MERCK SHARP Agreement. Funding Agency: MERCK SHARP & DOHME DE ESPAÑA S.A. Reference: CCB.0027

Del Prado Llergo, JR.Gilead Agreement. Funding Agency:GILEAD SCIENCES, S.L. Reference: PSS.0160

Del Prado Llergo, JR.Novartis Agreement. Funding Agency:NOVARTIS FARMACEUTICA, S.A. Reference: PSS.0149

Del Prado Llergo, JR.Sanofi Agreement. Funding Agency:SANOFI-AVENTIS, S.A. Reference: PSS.0139

Del Prado Llergo, JR.Consultoria Agreement. Funding Agency:CONSULTORIA DE EVENTOS MT GLOBAL. Reference: PSS.0037

Clinical Trials

3072. The prospective study of clinical toxicity with different formulations of docetaxel. PI: D r/ a Gago Sanchez, Ana Isabel

3130.Impact of the PROVAUR stewardship program on linozid resistance in a tertiary university hospital: A before-after interventional study PI: Dr/ a Garcia Martinez, Lucrecia
Medical Physics and Radiological Protection Unit

Scientific Production
Publications
In Collaboration
IF: 3.64
Q: 1

Gynecology & Obstetrics Unit

Scientific Production
Publications
Original
IF: 1.413
Q: 4

IF: 1.413
Q: 4

Contract with Companies
Arjona Berral, JA. Johnson Agreement. Funding Agency: JOHNSON & JOHNSON S.A Reference:

Guisado Lopez, R. Medtronic Agreement. Funding Agency: MEDTRONIC IBERICA, S.A. Reference: PSS 0151

Guisado Lopez, R. Takeda Agreement. Funding Agency: TAKEDA FARMACEUTICA ESPAÑA S.A. Reference: PSS 0148

Guisado Lopez, R. Takeda Agreement. Funding Agency: TAKEDA FARMACEUTICA ESPAÑA S.A. Reference: PSS 0097

Guisado Lopez, R. Takeda Agreement. Funding Agency: TAKEDA FARMACEUTICA ESPAÑA S.A. Reference: PSS 0049

Clinical Trials
0284/14. Phase III multicenter, international, randomized, double-blind, double-simulated, parallel-group, active-comparator-controlled, placebo-controlled clinical trial to assess the analogic efficacy and safety of ibuprofen arginine/tramadol 400.
PI: Dr/a Arjona Berral, José Eduardo

0033/14. Extension Study to Evaluate the Long-Term Safety and Efficacy of Elagolix in Subjects With Moderate to Severe Endometriosis-Associated Pain.
PI: Dr/a Arjona Berral, José Eduardo

PI: Dr/a Lorente Gonzalez, Juan

2003. Protocol for clinical study, use of transvaginal ultrasound to confirm placement of Essure® microinserts in women: demonstration of efficacy.
PI: Dr/a Arjona Berral, José Eduardo

2885 Effectiveness of induction methods in IUFR fetuses.
PI: Dr/a Duro Gomez, Jorge

2887. Effectiveness of intravaginal Misoprostol (25 mg) and intracervical double balloon as methods of induction of childbirth in postterm pregnancies.
PI: Dr/a Duro Gomez, Jorge

2447. An international multi-center clinical study to evaluate the safety and efficacy of the Essure health product (Model ESS505) to prevent pregnancy in women seeking permanent contraception.
PI: Dr/a Arjona Berral, José Eduardo
Digestive Unit

Scientific Production
Publications

In Collaboration

Clinical Trials
2600. Treatment with ligation without resection of the short segment of Barrett’s esophagus. PI: Dr/a Antonio Narango Rodríguez
2242. Comparative prospective randomized multi-centric study of the endoscopic treatment of stenosis in Crohn’s disease: Self-expanding metal prosthesis vs. balloon dilatation. PI: Dr/a Antonio Narango Rodríguez

Immunology & Allergy Unit

Scientific Production
Contracts with Companies

Santamaria Ossorio, M. Clinic Agreement Funding Agency: CLINICORD, S.L. Reference: CCB.0002

Clinical Trials
*3040. A Multi-center, Open-label, Single-arm Trial to Evaluate Efficacy, Pharmacokinetics, and Safety and Tolerability of IGSC 20% in Subjects with Primary Immunodeficiency. PI: Dr/a Santamaria Ossorio, Manuel
2927. PID-RSV study: etymological study on the incidence of acute respiratory infections (ARI) caused by respiratory syncytial virus (RSV) requiring hospitalization in pediatric populations with primary immunodeficiency (PID). PI: Dr/a Santamaria Ossorio, Manuel

Infectious Diseases Unit

Scientific Production
Publications

Original
2853. Epidemiología y eficacia de tratamiento con fosfomicina en la infección del tracto urinario causada por Klebsiella pneumoniae resistente a carbapenemas y colistina. Estudio KAPECOR-ITU. PI: Dr/a Rodríguez Gómez, Jorge

Intensive Medicine Unit

Scientific Production
Publications

In Collaboration

Clinical Trials
2685. Antiplatelet treatment in acute coronary syndrome. PI: Dr/a Alonso Muñoz, Gema
Internal Medicine Unit

Scientific Production

Clinical Trials

2767. Multicentric observational study to determine the profile and management of antithrombotic treatment of patients with non-valvular atrial fibrillation who are attended by the internal medicine services of Spanish hospitals.
PI: Dr/a Jurado Porcel, Ana

Emergencies Unit

Scientific Production

Publications

Original

IF:2,917 Q:1

In Collaboration

IF:2,917 Q:1

Clinical Trials

*3270. Study Design and Rationale of A Multi-center, Open-Labeled, Randomized Controlled Trial Comparing Midazolam Versus MORphine in Acute Pulmonary Edema: MIMO Trial
PI: Dr/a Calvo Rodriguez, Rafael

2905. Retrospective observational study of actual use in practice and treatment outcomes of patients treated with tolvaptan for hyponatremia due to SIADH (SAMPLE)
PI: Dr/a Berlango Jiménez, Antonio

Microbiology Unit

Scientific Production

Publications

In Collaboration

IF:4,919 Q:1
Nephrology Unit

Scientific Production

Clinical Trials

1715. Study to assess humoral immunity and its impact on survival functionality of graft in patients with a kidney transplant in Spain in e.
Pt: Dr/a Del Castillo Caba, Domingo

Neurology Unit

Scientific Production

Publications

In Collaboration

Munoz I, Hernandez MS, Santos S, Jurado C, Ruiz L, Toribio E, Sotelo EM, Guerrero AL, Molina V, Uribe F, Cuadrado ML.Personality traits in patients with cluster headache: a compar-

ison with migraine patients.Journal Of Head-
ache And Pain.2016.17:25 IF:3,497 Q:1

Sepulveda M, Armangue T, Sola-Valls N, Arr-
rambide G, Meca-Lallana JE, Oreja-Guevara C, Mendibre M, de Arcaya AA, Aladro Y, Casano-
va B, Olascoaga J, Jimenez-Huete A, Fernandez-Fournier M, Ramio-Torrenta L, Cobo-Cal-
vo A, Vinals M, de Andres C, Meca-Lallana V.Neuromyelitis optica spectrum disorders Comparison according to the phenotype and serostatus.Neurology-Neuroimmunology &
Neuroinflammation.2016.3(3):-
IF:0

Clinical Trials

*3067.A randomized, double-blind, placebo-controlled study to evaluate the efficacy and safety of sage-547 injection in the treat-
ment of subjects with super-refractory status epilepticus
Pt: Dr/a Estévez María, José Carlos

0255/13. Phase II, multicenter, open, con-
trolled and randomized clinical trial to evaluate the effectiveness of intra-arterial infusion of autologous bone marrow mononuclear cells in patients with ischemic stroke.
Pt: Dr/a Valverde Moyano, Roberto

2347. A 24-month prospective observational study to describe the regular long-term use of BOTOX for the symptomatic treatment of adults with chronic migraine and to measure the use of health resources and outcomes.
Pt: Dr/a Jurado Cobo, Carmen

2569. An observational prospective study to evaluate the effectiveness of injections of botulimum toxin type A (BoNT-A) in patients with spasticity of upper and/or lower limbs after a stroke, in the early phase of spastic develop-
ment.
Pt: Dr/a Ochoa Sepúlveda, Juan José

2855. Impact of eslicarbazepine acetate on lip-
id metabolism and vascular risk factors.
Pt: Dr/a Estévez Maria, José Carlos

Neurosurgery Unit

Scientific Production

Publications

In Collaboration

Heredero S, Solivera J, Garcia B, Dean A.Os-
teomyocutaneous peroneal artery perfora-
tor flap for reconstruction of the skull base.
British Journal Of Oral & Maxillofacial Sur-
IF:1,237 Q:3

Research Fundings

Solivera Vela, J. Diagnosis and post-operative forecast of human gliomas using a new inter-
actomic approach. Funding agency: Regional
Ministry of Health and Social Policy (CISPS).
Reference: PI-0143-2016
Preventive Medicine Unit

Scientific Production
Publications

**Original**


IF: 1.527

Q: 3

Pneumology Unit

Scientific Production
Publications

**Original**


IF: 1.527

Q: 3

In Collaboration


IF: 3.057

Q: 1

Contracts with Companies


Oncology Unit

Scientific Production
Clinical Trials


PI: Dr/a Serrano Blanch, Raquel

*3068. Phase II study to evaluate the efficacy of sunitinib retreatment in patients with advanced or metastatic well-differentiated (G1/2) pancreatic neuroendocrine tumors (pNET) who have already failed prior sunitinib therapy.

PI: Dr/a Serrano Blanch, Raquel
Onco-radiotherapy Unit

Scientific Production

Publications

Original

García-Cabezas S, Rodríguez-Linan M, Otero-Romero AM, Bueno-Serrano CM, González-Barbañillo J, Palacios Eto A. A response to treatment and interval to surgery after pre-operative short-course radiotherapy in rectal cancer. Cirugía Espanola. 2016. 94(8):460-466. IF: 1.00 Q: 3

Contracts with Companies

Palacios Eto A. Janssen Agreement. Funding Agency: JANSSEN-CILAG, S.A. Reference: PSS.0133

Clinical Trials

2901 Measurement of the impact of radiation therapy with combined or non-hormonal therapy on quality of life in clinical practice in localized prostate cancer. VEPI-ORT study. PI: Dr/a Palacios Eto, Amalia

Radiotherapy Unit

Scientific Production

Publications

Original


In Collaboration


Contracts with Companies

Palacios Eto A. Elekta Agreement. Funding Agency: eLEKTA MEDICAL, S.A. Reference: CCB.0117

Clinical Trials

2925 A Phase III Clinical Trial of Intra-arterial TheraSphere® in the Treatment of Patients With Unresectable Hepatocellula. PI: Dr/a Zurera Tendero, Luis

Ophthalmology Unit

Scientific Production

Research Funding

Gallardo Galera JM. Improved patient well-being and safety in management procedures using collaborative systems. m-LISTABLE. Funding agency: Ministry of Economy and Competitiveness (MINECO). Reference: RTC-2016-5149_001


Contracts with Companies


Clinical Trials

0260/12. Phase IV, open, randomized, 3-arm, multi-center, 12-month clinical trial to evaluate the efficacy and safety of two treatment regimes, bimonthly or flexible PRN individually tailored to the treat-and-extend regime. PI: Dr/a Caballos Castilla, Rafael

0360/14. The Efficacy and Safety of Bimatoprost SR in Patients With Open-angle Glaucoma or Ocular Hypertension. PI: Dr/a Giménez Gómez, Rafael

0184/11. Multicenter clinical trial for the evaluation of the safety and feasibility of an allogeneic tissue engineering drug (human artificial nanostructured cornea) in patients with advanced trophic-type corneal ulcers. PI: Dr/a Gallardo Galera, José María

0236/13. Evaluation of THE safety of Monoprost (l utanoprost without preservative) compared to Lumigan 0.01% and Lumigan 0.03% in the Emergency Unit, in patients with primary open-angle glaucoma or ocular hypertension, stabilized with Lumigan 0.01%. PI: Dr/a Giménez Gómez, Rafael
Pathological Anatomy Unit

Scientific Production
Contracts with Companies

Medina Pérez M. Roche Agreement. Funding agency: ROCHE FARMA, S.A. Reference: CCB.0012

Medina Pérez M. AstraZeneca Agreement. Funding agency: ASTRAZENECA FARMACEUTICA S.P.A. S.A.

Pediatrics Unit

Scientific Production

Clinical Trials

*3215. A Phase 1, open-label, single-dose, non-randomized study to evaluate pharmacokinetics and pharmacodynamics of edoxaban in pediatric patients. PI: Dr/a Tejero Hernández, María Ángeles

*2718. Effects of probiotic supplementation during the neonatal period on pre-term infants. PI: Dr/a De La Camara Morano, Carmen

Psychiatry Unit

Scientific Production

Publications

Original


Research Funding

Sarraimea F. Efficacy in patients with severe mental disorders of an intensive motivational interventional programme offering individualized information on respiratory damage for smoking cessation. Funding agency: Instituto Carlos III Health (ISCIII). Reference: PI16/00802

Contracts with Companies

Prada Carrasco, C. Janssen Agreement. Funding Agency: JANSSEN-CILAG, S.A. Reference: CCB.0113_03


Clinical Trials

*3330. An Open-label Long-term Extension Safety Study of Intranasal Esketamine in Treatment-resistant Depression. PI: Dr/a Prados Ojeda, Juan Luis

*3272. A randomized, double-blind, multi-center, active-controlled study to evaluate the efficacy, safety, and tolerability of flexible doses of intranasal esketamine plus an oral antidepressant in adult subjects with treatment-resistant depression. PI: Dr/a Prados Ojeda, Juan Luis

*3273. A randomized, double-blind, multicenter, active-controlled study of intranasal esketamine plus an oral antidepressant for relapse prevention in treatment-resistant depression. PI: Dr/a Prados Ojeda, Juan Luis

2904. Cross-sectional, multi-centric, observational study to describe the functional capacity of patients with schizophrenia treated with Paliperidone Palmitate for at least six months. PICTURE PI: Dr/a Alcala Partera, Jose Angel

In Collaboration


Research Funding

Sarraimea F. Efficacy in patients with severe mental disorders of an intensive motivational interventional programme offering individualized information on respiratory damage for smoking cessation. Funding agency: Institute Carlos III Health (ISCIII). Reference: PI16/00802

Contracts with Companies

Prada Carrasco, C. Janssen Agreement. Funding Agency: JANSSEN-CILAG, S.A. Reference: CCB.0113_03


Clinical Trials

*3330. An Open-label Long-term Extension Safety Study of Intranasal Esketamine in Treatment-resistant Depression. PI: Dr/a Prados Ojeda, Juan Luis

*3272. A randomized, double-blind, multi-center, active-controlled study to evaluate the efficacy, safety, and tolerability of flexible doses of intranasal esketamine plus an oral antidepressant in adult subjects with treatment-resistant depression. PI: Dr/a Prados Ojeda, Juan Luis

*3273. A randomized, double-blind, multicenter, active-controlled study of intranasal esketamine plus an oral antidepressant for relapse prevention in treatment-resistant depression. PI: Dr/a Prados Ojeda, Juan Luis

2904. Cross-sectional, multi-centric, observational study to describe the functional capacity of patients with schizophrenia treated with Paliperidone Palmitate for at least six months. PICTURE PI: Dr/a Alcala Partera, Jose Angel
Rehabilitation Unit

Scientific Production
Contracts with Companies
Mayordomo Riera, F. Ams Agreement. Funding Agency: AMS CENTRO MEDICO DE EJERCICIO SL. Reference: ITC-20151244
Mayordomo Riera, F. Magtel Agreement. Funding Agency: MAGTEL OPERACIONES S.L.U. Reference: ITC-20151115

Clinical Trials
3005. Effectiveness of a Homebased Cardiac Rehabilitation Program of Mixed Surveillance Using NUUBO Monitoring Vest in Patients With Ischemic Heart Disease at Moderate Cardiovascular Risk
PI: Dr/a Heredia Torres, Ángela

Quality Unit

Scientific Production
Publications
Original

Research Funding

Orthopaedics Unit

Scientific Production
Publications
Original

Clinical Trials
3041. Multicenter Register of Treatment of Scoliosis Patients in Andalusia. PI: Dr/a Fuentes Caparros, Simón
2543. Spanish register of osteoporotic femoral fractures. PI: Dr/a Carpintero, Pedro
Urology Unit

Scientific Production

Publications

In Collaboration


IF:1,455
Q:4
Facts & Figures
9. Facts & Figures

9.1 Research Activity

9.1.1 Publications

The scientific activities carried out by researchers in their respective groups have led to the following global production:

The following graph shows the evolution of IF over the past five years:

**Evolution in the last 5 years**

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<tr>
<td>2015</td>
<td>400</td>
<td>1376</td>
<td>3,439</td>
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<tr>
<td>2016</td>
<td>401</td>
<td>1528</td>
<td>3,810</td>
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Of note, more than half of these publications appeared in journals within the first quartile, and of those, 15.46% in the first decile, which underscores the growing rates of scientific quality of the published papers. Regarding the authorship of the works, 57.90% of the published articles have an IMIBIC researcher at the first/last author and corresponding author, whereas the remaining 39.20 % corresponds to co-authorships in the frame of collaborative research projects.

**Distribution of publications per quartiles and first decile**

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<td>28.93%</td>
</tr>
<tr>
<td>1</td>
<td>15.46%</td>
</tr>
</tbody>
</table>
Nº Of Publications | Total IF | Average IF | %
--- | --- | --- | ---
Q1 | 201 | 1135,644 | 5,650 | 50,12%
Q2 | 84 | 227,3727 | 2,707 | 20,95%
Q3+Q4 | 116 | 165,027 | 1,423 | 28,93%

Nº Of Publications | Total IF | Average IF | %
--- | --- | --- | ---
D1 | 62 | 491,559 | 7,92837097 | 15,46%

### Distribution of national and international journals

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<td>International</td>
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Regarding the affiliation of the authors, the papers published in collaboration with groups from other research centers are shown in the table below:

### Distribution of affiliation of the authors

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<thead>
<tr>
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<td>126</td>
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<td>National Groups</td>
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<td>Local Groups</td>
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<td>Among IMIBIC Groups</td>
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### International Collaborations

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### 9.1.2 Research projects & networks

#### Ongoing Projects in 2016

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<td>Regional Ministry of Economy, Innovation, Science and Employment (CEICE)</td>
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<tr>
<td>Andalusian Progress and Health Foundation (FPS)</td>
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<td>Icahn School Of Medicine Mount Sinai</td>
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<tr>
<td>Academy Of Finland</td>
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<tr>
<td>Private Entities</td>
<td>1</td>
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</table>

#### Granted Projects & Networks in 2016

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<th>National</th>
<th>No. of granted projects</th>
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<td>Ministry of Economy and Competitiveness (MINECO)</td>
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<td>Ministry of Education, Culture and Sport (MECD)</td>
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<tr>
<td>Private Entities</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Regional</th>
<th>No. of granted projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIBICO. Research Programme</td>
<td>18</td>
</tr>
<tr>
<td>Regional Ministry of Health (CS)</td>
<td>14</td>
</tr>
<tr>
<td>Private Entities</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>International</th>
<th>No. of granted projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Commission</td>
<td>2</td>
</tr>
<tr>
<td>Icahn School Of Medicine Mount Sinai</td>
<td>1</td>
</tr>
<tr>
<td>Foundation For Research In Rheumatology</td>
<td>1</td>
</tr>
</tbody>
</table>
## Outgoing Humans Resources in 2016

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>SENIOR RESEARCHERS</td>
<td>23</td>
</tr>
<tr>
<td>POST-MIR RESEARCHERS</td>
<td>5</td>
</tr>
<tr>
<td>POSTDOCTORAL RESEARCHERS</td>
<td>3</td>
</tr>
<tr>
<td>PREDOCTORAL RESEARCHERS</td>
<td>5</td>
</tr>
<tr>
<td>SUPPORT STAFF</td>
<td>21</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>57</strong></td>
</tr>
</tbody>
</table>

### SENIOR RESEARCHERS
- Nicolas Monarde - Andalusian Health Service: 6
- Miguel Servet Programme II: 5
- Juan Rodés Programme: 1
- Juan de la Cierva Programme: 1
- Strengthening of research activity Programme - (ISCIII) - SNS: 4
- Strengthening of research activity Programme - Regional Ministry of Health (CS): 6

### POSTDOCTORAL RESEARCHERS
- SAS Postdoctoral Programme: 1
- Sara Borrell: 1
- Marie Curie: 1

### POST-MIR RESEARCHER
- Rio Hortega Programme: 5

### PREDOCTORAL RESEARCHERS
- PFIS: 1
- FPU: 1
- I-PFIS: 1
- Research Programme FEHH: 1
- Predoctoral Programme Ministry of Economy and Competitiveness (MINECO): 1

### SUPPORT STAFF
- Ministry of Economy and Competitiveness (MINECO): 14
- Institute of Health Carlos III (ISCIII) - GIS: 1
- Andalusian Health Service: 6

**Total**: 57
9.1.3 Clinical Trials

Ongoing Clinical Trials in 2016
*Classified according to the Trial Phase & Study Observational

<table>
<thead>
<tr>
<th>PHASE I</th>
<th>PHASE II</th>
<th>PHASE III</th>
<th>PHASE IV</th>
<th>MEDICAL ADVICE</th>
<th>Study Observational</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>79</td>
<td>167</td>
<td>20</td>
<td>14</td>
<td>141</td>
</tr>
</tbody>
</table>

Total 424

Funding (M€)

Clinical trials

<table>
<thead>
<tr>
<th>PHASE I</th>
<th>PHASE II</th>
<th>PHASE III</th>
<th>PHASE IV</th>
<th>MEDICAL ADVICE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>12,18 €</td>
<td>297,57 €</td>
<td>1,316,46 €</td>
<td>99,01 €</td>
<td>4,98 €</td>
<td>1,730,18 €</td>
</tr>
</tbody>
</table>

Clinical Trials classified according to promoter

70% INDUSTRY 295
24% OTHER FOUNDATIONS/GROUPS 102
6% FIBICO 27

424

Clinical Trials Submitted to CEIC in 2016

<table>
<thead>
<tr>
<th>Clinical Trials</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observational Studies</td>
<td>51</td>
</tr>
<tr>
<td>Research Projects</td>
<td>150</td>
</tr>
<tr>
<td>TFGs</td>
<td>77</td>
</tr>
<tr>
<td>PAS Amendments</td>
<td>30</td>
</tr>
<tr>
<td>TOTAL</td>
<td>320</td>
</tr>
</tbody>
</table>
9.1.4. Media

Website imibic.org

<table>
<thead>
<tr>
<th>VISITED PAGES</th>
<th>SINGLE USERS</th>
<th>FREQUENT USERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>263,469</td>
<td>114,276</td>
<td>149,193</td>
</tr>
</tbody>
</table>

Social Media

<table>
<thead>
<tr>
<th>FOLLOWERS</th>
<th>PAGE LIKES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1899</td>
<td>1895</td>
</tr>
</tbody>
</table>

Awards

The Instituto Andaluz de la Juventud award

9.1.5. Training Activities

9.1.5.1. IMIBIC Scientific Seminars

<table>
<thead>
<tr>
<th>Consolidated Groups</th>
<th>Associated Groups</th>
<th>Emergent Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>External Seminars</th>
<th>Intramural Seminars</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>
9.1.5.2. Master’s Degrees (2015-16)
The Master’s Degree final projects “NO IMIBIC” refer to those supervised by researchers from the University of Córdoba or Reina Sofia University Hospital (Córdoba) that are not associated to the IMIBIC.

A. Master’s Degree in Translational Biomedical Research

Background of enrolled student

<table>
<thead>
<tr>
<th>Master’s degree in Translational Biomedical Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemistry</td>
</tr>
<tr>
<td>Biology</td>
</tr>
<tr>
<td>Medicine</td>
</tr>
<tr>
<td>Nursing</td>
</tr>
<tr>
<td>Physiotherapy</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>
Master’s Degree final projects presented in each call

Call | July | October | December | Total MPs presented 15/16
--- | --- | --- | --- | ---
No. of Students enrolled in the Masters’s Degree in Translational Biomedical Research | 5 | 7 | 19 | 31

Master’s Degree final projects supervised by researchers from IMIBIC groups 15/16

<table>
<thead>
<tr>
<th>IMIBIC Groups</th>
<th>Master’s Degree in Translational Biomedical Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consolidated Groups</td>
<td>24</td>
</tr>
<tr>
<td>Associated Groups</td>
<td>5</td>
</tr>
<tr>
<td>No IMIBIC</td>
<td>1</td>
</tr>
<tr>
<td>Emergent Groups</td>
<td></td>
</tr>
</tbody>
</table>
B. Master’s Degree in Human Nutrition

Background of enrolled student

Master’s Degree in Human Nutrition

<table>
<thead>
<tr>
<th>Field</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nursing</td>
<td>10</td>
</tr>
<tr>
<td>Human Nutrition and Dietetics</td>
<td>7</td>
</tr>
<tr>
<td>Primary Education</td>
<td>2</td>
</tr>
<tr>
<td>Physical Activity and Sports</td>
<td>2</td>
</tr>
<tr>
<td>Primary Education-Sports</td>
<td>2</td>
</tr>
<tr>
<td>Medicine</td>
<td>2</td>
</tr>
<tr>
<td>Social Work</td>
<td>1</td>
</tr>
</tbody>
</table>

Master’s Degree final projects presented in each call

<table>
<thead>
<tr>
<th>Call</th>
<th>July</th>
<th>October</th>
<th>December</th>
<th>Total MPs presented 15/16</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Students enrolled in the Masters’s Degree in Human Nutrition</td>
<td>13</td>
<td>0</td>
<td>16</td>
<td>29</td>
</tr>
</tbody>
</table>
Master’s Degree final projects supervised by researchers from IMIBIC groups 15/16

![Bar chart showing the number of projects supervised by IMIBIC groups.]

<table>
<thead>
<tr>
<th>IMIBIC Groups</th>
<th>Master’s Degree in Human Nutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>No IMIBIC</td>
<td>18</td>
</tr>
<tr>
<td>Consolidated Groups</td>
<td>10</td>
</tr>
<tr>
<td>Emergent Group</td>
<td>1</td>
</tr>
<tr>
<td>Associated Groups</td>
<td></td>
</tr>
</tbody>
</table>

C. Master’s Degree in Biotechnology

Background of enrolled student

![Bar chart showing the background of enrolled students.]

<table>
<thead>
<tr>
<th>Master’s Degree in Biotechnology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology</td>
</tr>
<tr>
<td>Biochemistry</td>
</tr>
<tr>
<td>Biosciences and Biotechnology</td>
</tr>
<tr>
<td>Veterinary</td>
</tr>
</tbody>
</table>
Master’s Degree final projects presented in each call

![Bar chart showing the number of projects presented in July, October, and December.]

<table>
<thead>
<tr>
<th>Call</th>
<th>July</th>
<th>October</th>
<th>December</th>
<th>Total MPs presented 15/16</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Students enrolled in the Master’s Degree in Biotechnology</td>
<td>10</td>
<td>10</td>
<td>9</td>
<td>29</td>
</tr>
</tbody>
</table>

Master’s Degree final projects supervised by researchers from IMIBIC groups 15/16

![Bar chart showing the number of projects supervised by researchers from IMIBIC groups.]

<table>
<thead>
<tr>
<th>IMIBIC Groups</th>
<th>Master’s Degree in Biotechnology</th>
</tr>
</thead>
<tbody>
<tr>
<td>No IMIBIC</td>
<td>22</td>
</tr>
<tr>
<td>Consolidated Groups</td>
<td>8</td>
</tr>
<tr>
<td>Emergent Groups</td>
<td>1</td>
</tr>
<tr>
<td>Associated Groups</td>
<td></td>
</tr>
</tbody>
</table>
D. Master’s Degree in Research Methodology

Master’s Degree final projects presented in each call

![Bar chart showing the distribution of projects by month: 5 in July, 0 in October, 41 in December.]

<table>
<thead>
<tr>
<th>Call</th>
<th>July</th>
<th>October</th>
<th>December</th>
<th>Total MPs presented 15/16</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Students</td>
<td>5</td>
<td>0</td>
<td>41</td>
<td>46</td>
</tr>
<tr>
<td>enrolled in the</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Master’s Degree</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>in Research</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methodology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Master’s Degree final projects supervised by researchers from IMIBIC groups 15/16

![Bar chart showing the distribution of projects by group and month: 29 in Consolidated Groups, 16 in No IMIBIC, 3 in Emergent Groups, 3 in Associated Groups.]

<table>
<thead>
<tr>
<th>IMIBIC Groups</th>
<th>Master’s Degree in Research Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consolidated</td>
<td>29</td>
</tr>
<tr>
<td>NO IMIBIC</td>
<td>16</td>
</tr>
<tr>
<td>Emergent Groups</td>
<td>3</td>
</tr>
<tr>
<td>Associated Groups</td>
<td>3</td>
</tr>
</tbody>
</table>
Doctoral Programme in Biomedicine

Results of the Doctoral Programme in Biomedicine during the academic year 2015/16:

<table>
<thead>
<tr>
<th>Doctoral Programme in Biomedicine</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of new admissions</td>
<td>55</td>
</tr>
<tr>
<td>Total number of students in the PhD programme</td>
<td>149</td>
</tr>
<tr>
<td>Foreign students</td>
<td>10</td>
</tr>
<tr>
<td>Part-time enrolled students</td>
<td>37</td>
</tr>
<tr>
<td>Number of Thesis defended</td>
<td>16</td>
</tr>
<tr>
<td>Supervisors of Thesis defended</td>
<td>26</td>
</tr>
<tr>
<td>Percent of PHD students drop-out</td>
<td>6%</td>
</tr>
<tr>
<td>Cum Laude</td>
<td>89.36%</td>
</tr>
</tbody>
</table>
Doctoral theses supervised by researchers from IMIBIC groups

<table>
<thead>
<tr>
<th>IMIBIC Groups</th>
<th>Number of Thesis defended</th>
<th>Other PhD Programs UCO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consolidated Groups</td>
<td>12</td>
<td>11</td>
</tr>
<tr>
<td>NO IMIBIC</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Associated Groups</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Emergent Groups</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>
Knowledge Transfer
10. Knowledge Transfer

IMIBIC is aware that one of the key issues to the institute is to promote that the results of research as well as the ideas generated, have a direct impact on improving patient care and, therefore, on their health. Thus, IMIBIC has the commitment to encouraging its researchers to take an innovative culture within the Institute from a global perspective, with the specific objective that this innovation affect directly or indirectly to the quality of patient care as well as improving the praxis of professionals who belong to the Institution.

During 2016, one of the priority challenge from the Innovation Management area has been to promote the Technology Innovation area. Main emphasis was set to include the participation of the Technology Innovation area in the research projects where application of technologies was needed. Their participation in research and innovation projects has increased during 2016, as more researchers became aware of the importance of ICTs and data analysis applied to their research projects.

In this context, the Innovation Department has carried out the following activities during 2016:

1. IMIBIC is part of ITEMAS platform (Innovation Platform in Medical and Health Technologies) funded by ISCIII (Instituto de Salud Carlos III) that seeks to promote innovation in health technology as a key tool to provide sustainability to the National Health System since 2013. As part of ITEMAS platform, the Innovation Management Area has actively participated in two of the Work Groups established on this platform: Entrepreneurship and Innovative Public Procurement. Furthermore, Innovation Management area and it is collaborating actively on their activities.
2. The Innovation Management area has started the implementation of a management quality system according to the ISO 166.002:2014 standard.
3. With the purpose of promote an innovation culture, the Innovation Department, several presentation took place in different Medical Services to the hospital, allowing us to get more than 120 contacts with healthcare professionals and researchers. During these meetings, basics of innovation and technology transfer process were explained to them. Innovation culture was disseminated through those meetings, and insights were shared regarding the process of detecting ideas, innovations and research results that could potentially be protected by means of intellectual property.
4. Annual trade fairs meeting and conferences were attended, with the purpose of networking with company representatives and with other research centers allowing to establish links with them and enabling future collaboration between entities:
   a. BIOSPAIN 28th-30th September, BILBAO, (Spain).
   b. Workshop “Open Market Consultation” of the PCP (Pre Commercial Procurement) project Relief. 14th December, Córdoba (Spain).
   d. WeHealth meetings. WeHealth is an interdisciplinary community where developers, healthcare professionals, researchers...come together with the aim of promoting initiatives to improve healthcare and quality of life through ICT’s.
5. The Innovation Management area is participating in one European project, which started in 2015 in the modality of Coordination Support Actions (CSA), for the preparation of Pre Commercial Procurement tenders on the fields of e-health solutions. Furthermore, they collaborated in a PCP (Pre Commercial Procurement) project on the field of chronic pain management that started in 2016. Also they had collaborated in the consortium creation of another PCP (Pre Commercial Procurement) project on the field of stress reduction and measurement management that was requested and got funded during 2016. This PCP project will start in 2017.
6. Participation in FIPSE call “Feasibility studies for Healthcare Innovations”. Three projects were presented to this call and one of them obtained funding. This call will help to do the validation and feasibility studies needed to achieve successfully the transfer the project to the market and finally one of them was funded.
7. The Innovation Management area has promoted the participation of different research groups from IMIBIC in private-public collaboration calls. Specifically, they have requested funding for 4 RETOS projects, 3 DTS projects and 4 INNTERCONECTA projects. Finally, 2 RETOS and 1 DTS projects had been funding during 2016.
8. Aiming to strengthen IMIBIC links with the industrial network, the Innovation Management area has
started a program where companies come to IMIBIC and present their main R+D activities to the researchers in order to encourage synergies between the companies and IMIBIC. Specifically, during 2016, the Innovation Department has carried out meetings with Indra, Magtel, Roche and Philips.

9. Related with start ups promotion, Innovation Management area had been supporting two important projects, in areas of regenerative medicine and surgical robotics, negotiating with investors and looking for additional funds for their development.

As a result of all the activities above described, the following results were obtained:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Patents</td>
<td>6</td>
<td>8</td>
<td>13</td>
<td>11</td>
<td>14</td>
<td>9</td>
</tr>
<tr>
<td>PCTs</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>Licenses</td>
<td>0</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Companies</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Industrial and intellectual property patents**

During 2016, a total of 15 industrial property patents were applied for:

<table>
<thead>
<tr>
<th>Title</th>
<th>Registry type</th>
<th>Owner Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circulating microRNAs as biomarkers of Primary Antiphospholipid Syndrome.</td>
<td>National Patent</td>
<td>SAS, UCO</td>
</tr>
<tr>
<td>Biomarkers for the screening and diagnosis of Prostate Cancer.</td>
<td>National Patent</td>
<td>SAS, UCO</td>
</tr>
<tr>
<td>Decompressive Craniectomy device</td>
<td>National Patent</td>
<td>SAS</td>
</tr>
<tr>
<td>Method for obtaining useful data for predicting and forecasting of the development of interferon-induced thrombocytopenia.</td>
<td>PCT</td>
<td>SAS, UCO</td>
</tr>
<tr>
<td>Robotic Surgical System and Method for managing a Robotic Surgical System.</td>
<td>PCT</td>
<td>SAS, UCO, TECNALIA, UMA</td>
</tr>
<tr>
<td>Laparoscopic Extractor</td>
<td>PCT</td>
<td>SAS</td>
</tr>
<tr>
<td>Derivatives of retinoic acid for the treatment of cholestasis.</td>
<td>PCT</td>
<td>SAS, CIBER, UCO</td>
</tr>
<tr>
<td>Using the GOAT enzyme levels as a marker of prostate cancer. &quot;Ghrelin -O - acyltransferase (GOAT) and its uses.&quot;</td>
<td>PCT</td>
<td>SAS, UCO</td>
</tr>
<tr>
<td>Biomarkers in exhaled breath condensate for the diagnosis, classification and monitoring of lung cancer.</td>
<td>PCT</td>
<td>SAS, UCO</td>
</tr>
<tr>
<td>Method and kit for predicting or forecasting response to antiangiogenic.</td>
<td>National Phases</td>
<td>SAS, UCO</td>
</tr>
</tbody>
</table>
11

Goals for 2017
## 11. Goals for 2017

<table>
<thead>
<tr>
<th>Objective for 2017</th>
<th>Achieve</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Foster and consolidate institutional integration with regard to human resources (See Plan Integración _ OE.1 actions 5 to 7), and enhance access to the services provided by institutions to their professionals.</td>
<td>Achieve</td>
</tr>
<tr>
<td>2. Develop strategies to improve the quality and number of scientific publications and the status of IMIBIC researchers as lead authors.</td>
<td>≥ 27% articles in first decile</td>
</tr>
<tr>
<td>3. Promote and improve clinical research at IMIBIC, fostering the development, quality and efficiency of independent clinical research projects.</td>
<td>≥ 10 trials with IMIBIC as promoter</td>
</tr>
<tr>
<td>4. Strengthen and improve IMIBIC’s self-sustainability, optimising the management of its own resources by obtaining more European funding and competitive state funding, and by fostering partnerships with the business sector.</td>
<td>Structural income ≥ 2.3 million € Private/public income ≥ 46%</td>
</tr>
<tr>
<td>5. Develop a strategy for incorporating new clinical and university groups, and for promoting existing groups.</td>
<td>2 new groups (at least one emerging group)</td>
</tr>
<tr>
<td>6. Attract more research talent and promote professional development.</td>
<td>Active competitively-funded HR &gt; 8% of 2016 value</td>
</tr>
<tr>
<td>7. Foster, arrange and consolidate international alliances and cooperative ventures.</td>
<td>Apply for &gt; 24 projects</td>
</tr>
<tr>
<td>8. Promote and enhance the protection of the knowledge generated and the transfer of technology to the business sector.</td>
<td>&gt;20% patents in exploitation</td>
</tr>
<tr>
<td>9. Assure the quality of the service provided by UCAIBs and Institute management units and promote transversal innovation through them.</td>
<td>User satisfaction ≥ 85%</td>
</tr>
<tr>
<td>10. Develop and implement an action plan for promoting research by residents.</td>
<td>70%</td>
</tr>
<tr>
<td>11. Develop and implement an action plan for promoting primary research and research in nursing.</td>
<td>70%</td>
</tr>
</tbody>
</table>