SCIENTIFIC REPORT 2015
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Director’s Foreword
The Maimonides Institute for Biomedical Research of Córdoba (IMIBIC) crystallizes the integrated efforts of individuals and institutions united around the common goal of improving the health of patients and the community, through excellence in science and innovation in biomedical research. The compromise of IMIBIC with quality, talent, and cooperation as keys for translational science continues growing since the inception of the Institute, in 2008, through the integrated agreement and generous contribution of several institutions. In 2011, IMIBIC was endorsed by the Health Institute Carlos III as an accredited Health Research Institute, and the ensuing five years have witnessed a steady progression of IMIBIC in the quest to develop an independent research center of excellence with a translational nature and a vocation to improve the quality of life of patients. The growth and maturation of IMIBIC and its achievements in this intense period are those of the human team that embodies the Institute: over 500 clinicians, nurses, basic and translational researchers, and personnel in technical, management, and administrative areas; an enthusiastic and hardworking crew joined in the quest for this common praiseworthy ambition of improving patient’s health through biomedical research.

The year 2015 represented a significant landmark for IMIBIC. The transition to a novel team in the Scientific Direction of the Institute was accompanied by the crucial move to the new facilities, our flagship building for basic and translational research. The new building is located within the University Health Sciences Campus by the Reina Sofia University Hospital. With 10,000 sq, it provides new facilities for researchers, who have at their disposal 5,500 sq for laboratory space plus 900 sq for the new Experimental Animal Service facilities. The building gathers the core of research teams of IMIBIC, in a place where they have at hand everything they need to develop their research.
Along the same lines, we are especially proud of the establishment of the Clinical Research Unit, with two main facilities occupying 2,000 sq. This year 2015 has seen the inauguration of these two new facilities for Clinical Research, located in the Hospital Provincial and the General Hospital’s Clinical Research Building, respectively. More than 300 patients have been already treated at these facilities. This enables a significant improvement in the quality of care provided in clinical trials. There has been a 150% increase in independently led new clinical trials, and a 233% increase in the number of new observational studies.

The year 2015 represented a significant landmark for IMIBIC. The transition to a novel team in the Scientific Direction of the Institute was accompanied by the crucial move to the new facilities, our flagship building for basic and translational research, and the Clinical Research Unit.

As per above, the research output of the institute has grown significantly in quantity and quality over the last years. Indeed, despite the complex general situation for research funding nationwide, the intense research activity compiled and summarized in this report illustrates excellent indicators of generation and transfer of knowledge. In 2015, IMIBIC managed to continue increasing its scientific output, with 359 papers, of which 33% were published in collaboration with foreign groups and institutions. The total impact factor was 1303.75 points. The improvement in the quality of our work is commendable, for 26.5% of our publications are found within the first decile journals and 52.1% in first quartile journals.

Moreover, the Institute has made great advances in one of our main objectives: promoting biomedical innovation as a powerful engine for economic and social development. In 2015, 21 property registries were fostered at the heart of the Institute. These facts clearly show that there has been more growth compared to the previous year.

IMIBIC has continued to implement new strategies to increase fundraising through EU and international programmes. A total of 5 projects are active in 2015, including one clinical trial funded by the 7FP, one research project from the Innovative Medicines Initiative, two coordination activities on Pre-commercial Public Procurement of Innovation, and one Marie S. Curie Action. A further three proposals submitted in 2014 and 2015 have been funded, one Pre-commercial Procurement of Innovation Action, one clinical trial on paediatric oncology and one research project on e-health and diabetes. The aim is maintain a level of success that allows a steady increment of funds from international programmes.

The present Scientific Report depicts and summarizes the daily life of IMIBIC in 2015, and will hopefully serve as a portrait and ambassador of our research activity. The human team that comprises the Institute, with the unrestrained support of our institutions, will enthusiastically continue the collaborative research work that should lead us to achieve our mission.

Justo P. Castaño
Scientific Director
2 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 Health 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 Sofía University Hospital and President of FIBICO.

- Two representatives from the Regional Ministry of Economy and Knowledge
  - **Manuel García León.** General Director for Research and Knowledge Transfer
  - **Manuel Carmona Jiménez.** Provincial Delegate of Economy, Innovation, Science and Employment of Córdoba

- 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 Andalusin Public 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 deputy 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 deputy 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 obtained his PhD from the Department of Preventive Medicine and Public Health of the University of Málaga. 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

Research Groups

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Researchers</th>
</tr>
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<tbody>
<tr>
<td>GC1</td>
<td>T and NK immunosenescence. Antiviral immune response. PROGRAMS 1, 3, 5</td>
<td>Dr. Rafael Solana Lara (IR)</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 (IR) Dr. José Antonio Bárcena Ruiz (CO-IR)</td>
</tr>
<tr>
<td>GC3</td>
<td>Infectious diseases. PROGRAMS 1, 3, 5</td>
<td>Dr. Julián De La Torre Cisneros (IR) Dr. Antonio Rivero Román (CO-IR)</td>
</tr>
<tr>
<td>GC4</td>
<td>Inflammation and cancer. PROGRAMS 2, 3, 4, 5</td>
<td>Dr. Eduardo Muñoz Blanco (IR) Dr. Marco A. Calzado (IE)</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 (IR) Dr. Eduardo Collantes Estévez (CO-IR)</td>
</tr>
<tr>
<td>Code</td>
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<td>Researchers</td>
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<tr>
<td>GC6</td>
<td>New therapies in cancer. PROGRAM 4</td>
<td>Dr. Enrique Aranda Aguilar (IR) Dr. Antonio Rodríguez Ariza (CO-IR) Dr. Juan de la Haba Rodríguez (IE)</td>
</tr>
<tr>
<td>GC7</td>
<td>Nephrology. Cell damage in chronic inflammation. PROGRAMS 1,5</td>
<td>Dr. Pedro Aljama García (IR) Dr. Julia Carracedo Ahón (CO-IR)</td>
</tr>
<tr>
<td>GC8</td>
<td>Hormones and cancer. PROGRAMS 2, 4</td>
<td>Dr. Justo P. Castaño Fuentes (IR) Dr. Francisco Gracia Navarro (CO-IR) Dr. Raúl Luque (CO-IR)</td>
</tr>
<tr>
<td>GC9</td>
<td>Nutrigenomics. Metabolic syndrome. PROGRAMS 1, 2, 4, 5</td>
<td>Dr. José López Miranda (IR) Dr. Francisco Pérez Jiménez (CO-IR) Dr. Yolanda Almadén Peña (CO-IR) Dr. Javier Delgado Lista (CO-IR) Dr. Pablo Pérez Martínez (CO-IR)</td>
</tr>
<tr>
<td>GC10</td>
<td>Hormonal regulation of energy balance, puberty and reproduction. PROGRAMS 2, 4</td>
<td>Dr. Manuel Tena Sempere (IR)</td>
</tr>
<tr>
<td>GC11</td>
<td>Metabolism and adipocyte differentiation. Metabolic syndrome. PROGRAM 2</td>
<td>Dr. María del Mar Malagón Poyato (IR) Dr. Francisco Gracia Navarro (CO-IR)</td>
</tr>
<tr>
<td>GC12</td>
<td>Epidemiological Research in Primary Care. PROGRAMS 4, 5</td>
<td>Dr. Luis Ángel Pérla de Torres (IR)</td>
</tr>
<tr>
<td>GC13</td>
<td>Calcium metabolism. Vascular calcification PROGRAMS 2, 5</td>
<td>Dr. Mariano Rodríguez Portillo (IR)</td>
</tr>
<tr>
<td>GC14</td>
<td>Cell therapy. PROGRAM 5</td>
<td>Dr. I. Concepción Herrera Arroyo (IR)</td>
</tr>
<tr>
<td>GC15</td>
<td>Invasive cardiology and cell therapy. PROGRAM 5</td>
<td>Dr. José Suárez De Lezo Cruz-Conde (IR)</td>
</tr>
<tr>
<td>GC16</td>
<td>Cell biology in hematology. Hypercoagulability. PROGRAM 4</td>
<td>Dr. Joaquín Sánchez García (IR) Dr. Francisco Velasco Gimena (CO-IR)</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 (IR)</td>
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<td>GC18</td>
<td>Translational research in surgery of solid organ transplants. PROGRAMS 4, 5</td>
<td>Dr. Javier Briceño Delgado (IR)</td>
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<tr>
<td>GC19</td>
<td>Applications of Artificial Vision PROGRAM 5</td>
<td>Dr. Rafael Medina Carncier (IR)</td>
</tr>
<tr>
<td>GC20</td>
<td>Genetics and behavioural Vision PROGRAM 5</td>
<td>Dr. Manuel Ruiz Rubio (IR)</td>
</tr>
<tr>
<td>GC21</td>
<td>Metabolomics. Identification of bioactive components. PROGRAMS 2, 4, 5</td>
<td>Dr. María Dolores Luque De Castro (IR) Dr. Feliciano Priego Capote (IE)</td>
</tr>
<tr>
<td>GC22</td>
<td>Epigenetics. PROGRAM 4</td>
<td>Dr. Teresa Roldán Arjona (IR)</td>
</tr>
<tr>
<td>GC23</td>
<td>Metabolism in Childhood PROGRAMS 2, 4</td>
<td>Dr. Mercedes Gil Campos (IR)</td>
</tr>
<tr>
<td>GE1</td>
<td>Oxidative stress and nutrition. PROGRAMS 1, 2, 5</td>
<td>Dr. Isaac Túnez Fiñana (IE)</td>
</tr>
<tr>
<td>GE2</td>
<td>Knowledge Discovery and Intelligent Systems PROGRAMS 1,2,3</td>
<td>Dr. Sebastián Ventura Soto (IE)</td>
</tr>
<tr>
<td>GE3</td>
<td>Skin immune mediate inflammatory diseases (SIMID) PROGRAM 5</td>
<td>Dr. Juan A. Ruano Ruiz (IE)</td>
</tr>
<tr>
<td>GE4</td>
<td>Applied Psychology PROGRAM 1</td>
<td>Dr. Carmen Tabernero Uribeta (IE)</td>
</tr>
<tr>
<td>GA1</td>
<td>Lung transplantation. Thoracic malignancies. PROGRAM 4</td>
<td>Dr. Ángel Salvatierra Velázquez (IA)</td>
</tr>
<tr>
<td>GA2</td>
<td>Comprehensive care nurses - a multidisciplinary perspective. PROGRAMS 1, 5</td>
<td>Dr. María Aurora Rodríguez Borrego (IA)</td>
</tr>
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Table 1

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Researchers</th>
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<tbody>
<tr>
<td>GA3</td>
<td>Pneumology PROGRAMS 2, 4, 5</td>
<td>Dr. Bernabé Jurado Gámez (IA)</td>
</tr>
<tr>
<td>GA4</td>
<td>Endocrinology and Nutrition. Insulin resistance, diabetes and metabolism. PROGRAM 2</td>
<td>Dr. Juan Antonio Paniagua González (IA) Dr Mª Ángeles Gálvez Moreno (IA)</td>
</tr>
<tr>
<td>GA5</td>
<td>Study of growth. Endocrinology and Child Nutrition. PROGRAM 2</td>
<td>Dr. Ramón Cañete Estrada (IA)</td>
</tr>
<tr>
<td>GA6</td>
<td>Clinical Analysis. PROGRAM 2</td>
<td>Dr. Fernando Rodríguez Cantalejo (IA)</td>
</tr>
<tr>
<td>GA7</td>
<td>Urology and sexual medicine PROGRAM 5</td>
<td>Dr. María José Requena Tapia (IA) Dr. Rafael Prieto Castro (IA)</td>
</tr>
<tr>
<td>GA8</td>
<td>Radiology PROGRAMS 2, 4, 5</td>
<td>Dr. Daniel López Ruiz (IA)</td>
</tr>
<tr>
<td>GA9</td>
<td>Cardiology Cardiovascular PROGRAMS 2, 4,</td>
<td>Dr. Ignacio Muñoz Carvajal (IA)</td>
</tr>
<tr>
<td>GA10</td>
<td>Nuclear Medicine PROGRAMS 2, 4</td>
<td>Dr. Juan A. Vallejo Casas (IA)</td>
</tr>
<tr>
<td>GA11</td>
<td>Learning and Artificial Neural Networks-AYRNA PROGRAMS 2, 3, 4, 5</td>
<td>Dr. César Hervás Martínez (IA)</td>
</tr>
</tbody>
</table>

GC- Established Groups. GE - Emerging Groups. GA - Associated Groups

2.4. Economic Resources

The year 2015 is the culmination of the period covered by the First Strategic Plan of IMIBIC, whose start began after achievement of accreditation as an Institute of Health Research granted by the Institute of Health Carlos III in 2011. There have been numerous scientific milestones achieved during this period, which has also enabled a more remarkable increase in economic data to be obtained, all this despite having gone through a difficult economic situation in the sphere of public funding. That is why researchers have turned to new ways to finance their projects, such as Public Procurement of Innovation projects that were achieved in 2013 as well as going to the private sector to raise funds, either through commercial clinic research, or through contracts, agreements and grants to biomedicine. The increase that has occurred in global fundraising figures was as follows:

Among the funds raised include aid received to finance the acquisition of scientific equipment for the new headquarters of both fundamental research and clinical research. However, if we ignore these for a moment, the total amount of economic sources, experienced a significant increase from just 4 million euros in 2011 to 11 million in 2015, reflecting a total volume of funds raised almost reaching 38 million euros in the last 5 years, regardless of infrastructure aid.

One of the goals that had been set in the 2011-2015 Strategic Plan was to strike a balance between funding from public sources and from private sources. In this sense, it has made the impact of private funding increase...
on the annual fundraising figures, as seen in the following graph:

This increase in fundraising from private sources has its origin in the increase of clinical research conducted through clinical trials and observational studies, as well as increased fundraising through agreements, donations, and especially for the provision of scientific research groups to external companies.

As for the volume of revenue from the IMIBIC were managed since 2015, the total executed budget has exceeded 11 million euros, representing an increase of 12% compared to what was initially expected. The previous amount, a total of 2.7 million, forms the structure of the Institute, which includes general costs (maintenance and other supplies) and HR costs of BRSUs, personnel management, cost of supplies and maintenance of buildings and equipment, etc. Meanwhile, the amount allocated to R + D + I, through research projects, clinical studies, RETICs (Networks for Cooperative Research in Health), CIBERs (Biomedical Research Networking Centers), CIBERs and HR programs aimed at attracting research talent, reached 8.5 million euros. The breakdown of funds executed in 2015 based on their sources are:
Goals achieved in 2015
## 3. Goals achieved in 2015

<table>
<thead>
<tr>
<th>Goals achieved in 2015</th>
<th>Comments</th>
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<tbody>
<tr>
<td>1.- To evaluate our Strategic Plan for 2011-2015, develop our strategic plan for 2016-2020 and submit it for approval by the Governing Council.</td>
<td>For internal analysis of the new Strategic Plan it has been necessary to assess and review the previous Plan. Final data on the 2015 activity will be available in the first quarter of 2016 for final overall assessment. The new Strategic Plan for 2016 to 2020 has also been developed, which will be presented as a working paper to the various governing bodies of IMIBIC in order to receive suggestions, comments and improvements to it by members of the Governing Council and other organs of IMIBIC and complete its approval at the beginning of 2016.</td>
</tr>
<tr>
<td>2.- To move our research groups to the new experimental research building.</td>
<td>The 20 groups that had available space in the new building have moved there. The transfer process lasted from January to April 2015 and took place without incident having planned transfer depending on the origin of the group in order to minimize the effective time of the transfer and the economic cost thereof.</td>
</tr>
<tr>
<td>3.- To develop our Biomedical Research Support Units, especially the isotopes, animal testing, microscopy, cytometry and proteomics units.</td>
<td>In January 2015 the favorable authorization was achieved by the Nuclear Safety Council for the implementation of isotope rooms IMIBIC building. With respect to animal testing services, the necessary actions are being implemented for the license to open these services based on the guidelines set by the Director of Animal Experimentation Service of the University. As for the microscopy and cytometry Units, IMIBIC has acquired great technical value teams that will allow the groups to develop quality research projects. Finally, the Proteomics Unit has been reinforced with the addition of two technical support personnel, as well as the acquisition and commissioning of equipment of high scientific interest which solidify IMIBIC’s role as a leader at the regional level. Additionally, IMIBIC has launched the Genomics Unit, with the addition of two technicians, and with the acquisition of equipment for next-generation sequencing.</td>
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<tr>
<td>4.-To start up and promote the area of clinical research by increasing the development of independent research activities.</td>
<td>In 2015 the activity has been put into practice in the two facilities at the Clinical Research Institute, located in the Provincial Hospital and Clinical Research Building General Hospital, having served more than 300 patients. Patient quality of care in clinical trials has improved, and a Quality Assurance System and Functional Plan have been developed. The increase in independent clinical research sponsored by IMIBIC has been 150% in new clinical trials (from 2 in 2014 to 5 in 2015) and 233% in new observational trials (3 in 2014 to 10 in 2015). As for the other clinical trials, they have increased by 3% (from 76 in 2014 to 78 in 2015).</td>
</tr>
<tr>
<td>5.-To develop new strategies to promote IMIBIC’s image, affiliations and acknowledgement, and disseminate the scientific results obtained by its research groups.</td>
<td>As of December 2015, the number of publications affiliated correctly has doubled, from 89 in October 2014 to 193 at the end of 2015. IMIBIC is continuing with the strategy reminder of the procedure of affiliation to those Units / Research Groups in which any scientific publication is detected with inadequate affiliation.</td>
</tr>
<tr>
<td>6.- To promote new strategies to increase fundraising through EU and national calls -including project and HR calls.</td>
<td>The number of requests for international aid programs has reached a total of 16 proposals, including two individuals from human resources. During this year three proposals were resolved favorably for research projects and one for human resources in the H2020 sessions, some of which were presented in 2014. In addition, IMIBIC has begun participation in an ongoing project of 7PM. The total amount of the grant of these 5 projects is € 1,404,337.</td>
</tr>
<tr>
<td>8.- To enhance the involvement of Clinical Management Units in IMIBIC activities.</td>
<td>The portfolio of services has been presented with to all CMUs and also has conducted a situation analysis of the objectives of research and innovation for granting each unit. In 2015, the total CMUs (41) of the Hospital Universitario Reina Sofia, 31 units have achieved a new research project or a new patent (78% of the CMUs), and in 2014 30 CMUs. Of the 11 CMUs in 2014 they did not get a project or patent, eight of them have been achieved in 2015.</td>
</tr>
<tr>
<td>Goals achieved in 2015</td>
<td>Comments</td>
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<tr>
<td>9.- To continue the development of new strategies for the integration of new clinical and university research groups into the IMIBIC.</td>
<td>The group of the University of applied psychology as an emerging group, led by Dr. Carmen Tabenero Urbieta, has joined us.</td>
</tr>
<tr>
<td>10.- To develop new strategies for BRSUs to improve the quality of their research projects.</td>
<td>Presentations were raised to all research groups of the portfolio of each BRSU and meetings of technicians with PIs requesting projects in competitive calls, with a view to including services such as BRSU projects and to try to improve the quality of the projects requested by implementing innovative techniques (proteomics, bioinformatics, cytometry, etc.). In all projects that applied and for which funding is requested in competitive public calls (FPS and ISCIII) they have included items of different BRSUs. Today the final resolution of ISCIII research projects has not been published but out of 10 projects granted provisional resolution, 8 have included IMIBIC central services. Projects which were pending resolution also included the BRSUs. As of October it had exceeded 5% the amount budgeted for the billing BRSUs (31,000 €).</td>
</tr>
<tr>
<td>11.- To develop strategies to promote projects aimed at the acquisition of innovative products by public entities and foster involvement in new projects.</td>
<td>Of the total number of proposals submitted in 2015 to the FIS call none has been funded. Regarding the call for innovative public international procurement 5 projects have been requested for Horizon 2020. Three of these proposals have been funded, two are Coordination Support Action and one of them is a pre-commercial Public Procurement which has proved to be the first project of ICC International funded in Andalusia in the health sector. A team of managers has been formed at the Institute which coordinates the submission of proposals for national and international ICC. It participates in forums innovative public procurement with the aim of making IMIBIC a national benchmark in ICC.</td>
</tr>
<tr>
<td>12.- To increase IMIBIC’s autonomous management of resources.</td>
<td>The budget structure of IMIBIC has an annual value of around 2.5 million euros. Of this amount only 0.9 million is contributed by the convened entities, so one could say that of every euro invested by such entities, the Institute receives three. With respect to revenue, during the year 2015 IMIBIC has managed to increase the amount of indirect costs, financial income and billing services the BRSUs. Similarly, it has managed to maximize equipment acquired under capital grants in relation to equipment initially requested.</td>
</tr>
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4

External Scientific Advisory Board
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. Director of the Cardiovascular Research Centre (CSIC-ICCC) (Barcelona)

Dr. Carlos Diéguez. 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. General Director of La Fundación Cotec (Madrid).

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.
5
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 (RETICs 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 IS-CIII strategic initiatives. 12 groups are involved in 8 RETICs. Additionally, 6 groups are involved in 3 CIBERs and there are 28 groups involved in the Andalusian Plan for Research, Development & Innovation (PAIDI Program).

CIBER Program

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>Mª Mar Malagón Poyato</td>
</tr>
<tr>
<td></td>
<td>Justo P. Castaño</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>Mercedes Gil Campos</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

Some of our researchers lead the following network nodes:

<table>
<thead>
<tr>
<th>Name of the Network</th>
<th>Principal Investigator (P)/Collaborators</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIDS Research Network (RIS)</td>
<td>Antonio Rivero Román</td>
</tr>
<tr>
<td></td>
<td>José Peña Martínez</td>
</tr>
<tr>
<td>Cooperative Research Thematic Network on Aging and Fraility (RETICEF)</td>
<td>Jose Manuel Quesada Gómez (PI)</td>
</tr>
<tr>
<td></td>
<td>Isaac Túnez Fiñana</td>
</tr>
<tr>
<td></td>
<td>Mª Dolores Luque de Castro</td>
</tr>
<tr>
<td>Spanish Renal Research Network (REDinREN)</td>
<td>Pedro Aljama García (PI)</td>
</tr>
<tr>
<td>Spanish Network for Research into Infectious Pathologies (REIPI)</td>
<td>Julián de la Torre Cisneros (PI)</td>
</tr>
<tr>
<td></td>
<td>Rafael Solana Lara</td>
</tr>
<tr>
<td>National Biobank Network</td>
<td>Manuel Medina Pérez</td>
</tr>
<tr>
<td>Cooperative Research Thematic Network on Cancer (RETICC)</td>
<td>Enrique Aranda Aguilar</td>
</tr>
<tr>
<td>Network for Research on Mother-Child Health (RedSAMID)</td>
<td>Mercedes Gil Campos</td>
</tr>
<tr>
<td>Research Network on Preventive and Health Promotion in Primary Care (RediAPP)</td>
<td>Luis A. Pérula de Torres</td>
</tr>
</tbody>
</table>
## 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 Code</th>
<th>Principal investigator</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO-139</td>
<td>Justo P Castaño Fuentes</td>
</tr>
<tr>
<td>BIO 208</td>
<td>José Suárez de Lezo Cruz Conde</td>
</tr>
<tr>
<td>BIO 216</td>
<td>José Antonio Bárcena Ruiz</td>
</tr>
<tr>
<td>BIO-272</td>
<td>Manuel Ruiz Rubio</td>
</tr>
<tr>
<td>BIO-301</td>
<td>Rafael Rodríguez Ariza</td>
</tr>
<tr>
<td>BIO-304</td>
<td>Eduardo Muñoz Blanco</td>
</tr>
<tr>
<td>BIO-310</td>
<td>Manuel Tena Sempere</td>
</tr>
<tr>
<td>CTS-179</td>
<td>Escolástico Aguilera Tejero</td>
</tr>
<tr>
<td>CTS 260</td>
<td>Pedro Aljama García</td>
</tr>
<tr>
<td>CTS-208</td>
<td>José Peña Martínez</td>
</tr>
<tr>
<td>CTS-212</td>
<td>Francisco Pérez Jiménez</td>
</tr>
<tr>
<td>CTS-234</td>
<td>Enrique Aranda Aguilar</td>
</tr>
<tr>
<td>CTS-273</td>
<td>Manuel de la Mata García</td>
</tr>
<tr>
<td>CTS-413</td>
<td>José Manuel Quesada Gómez</td>
</tr>
<tr>
<td>CTS-452</td>
<td>Luis A Pérula de Torres</td>
</tr>
<tr>
<td>CTS-525</td>
<td>José López Miranda</td>
</tr>
<tr>
<td>CTS-651</td>
<td>Juan Antonio Paniagua González</td>
</tr>
<tr>
<td>CTS-620</td>
<td>Francisco Velasco Gimena</td>
</tr>
<tr>
<td>CTS-624</td>
<td>Isaac Túnez Fiñana</td>
</tr>
<tr>
<td>CTS-647</td>
<td>Julián Carlos de la Torre Cisneros</td>
</tr>
<tr>
<td>CTS-666</td>
<td>Aurora Rodríguez Borrego</td>
</tr>
<tr>
<td>CTS-639</td>
<td>María Mercedes Gil Campos</td>
</tr>
<tr>
<td>CTS -985</td>
<td>José Peña Amaro</td>
</tr>
<tr>
<td>FQM-227</td>
<td>María Dolores Luque de Castro</td>
</tr>
<tr>
<td>TIC-161</td>
<td>Rafael Medina Carnicer</td>
</tr>
<tr>
<td>TIC-148</td>
<td>César Hervás Martínez</td>
</tr>
<tr>
<td>TIC-122</td>
<td>Sebastián Ventura Soto</td>
</tr>
<tr>
<td>HUM-924</td>
<td>Juan Antonio Moriana</td>
</tr>
</tbody>
</table>
6
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 Córdoba, that, in all, are aimed to obtain highly qualified researchers, promote teaching and favor professional qualification in the field of biomedical sciences. The Training Coordinator Dr. Rosario López Pedrera, and, from July 2015, Prof. María del Mar Malagón.

6.2. Training
The following sections list the research training activities developed at the IMIBIC during 2015.

6.2.1. PhD in Biomedicine
IMIBIC leads a unique PhD Program in Biomedicine. This program, coordinated by Prof. Francisco Gracia Navarro, PhD, aims to qualify human resources and to stimulate professional qualification in the field of biomedical sciences.


6.2.2. Master’s Degrees
ND PHD
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**
  Website: http://www.uco.es/estudios/idep/masteres/investigacion-biomedica-traslacional

- **Research Methods in Health Sciences**
  Academic Director: **Prof. Eduardo Collantes Estévez**
  Website: http://www.uco.es/estudios/idep/masteres/metodologia-investigacion-ciencias-de-la-salud

- **Human Nutrition (with Quality Accreditation by ANECA)**
  Academic Director: **Prof. Francisco Pérez Jiménez 2014-15 academic course**
  **Prof. Rafael Moreno Rojas 2015-16 academic course**
  Website: http://www.uco.es/estudios/idep/masteres/nutricion-metabolismo

6.2.3. Courses and other training activities:
Specific courses in Research Methodology and other key research areas at IMIBIC have been held during 2015.

6.2.3.1. Courses
IMIBIC organized the following list of activities:

<table>
<thead>
<tr>
<th>Type of Activity</th>
<th>Title</th>
<th>Duration*(h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Institutional Event</td>
<td>5th Maimonides Commemorative Lecture</td>
<td>4</td>
</tr>
<tr>
<td>Institutional Event</td>
<td>6th IMIBIC Conference of Young Researchers</td>
<td>10</td>
</tr>
<tr>
<td>Seminar</td>
<td>Introduction to Systems Biology II</td>
<td>1.5</td>
</tr>
<tr>
<td>Seminar</td>
<td>Introduction to Flow Cytometry digital management software and DIVA</td>
<td>3</td>
</tr>
</tbody>
</table>
IMIBIC collaborated in the following list of activities:

<table>
<thead>
<tr>
<th>Type of Activity</th>
<th>Title</th>
<th>Duration*(h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>COURSE / WORKSHOP</td>
<td>VIII Conference on Presentation of Evidence in Infectious Diseases “empirical Management of infectious syndromes”</td>
<td>20</td>
</tr>
<tr>
<td>COURSE / WORKSHOP</td>
<td>1st Psoriasis Research Day. A 360 degree approach</td>
<td>6</td>
</tr>
<tr>
<td>COURSE / WORKSHOP</td>
<td>6th Seminar Series for Excellence in Research with Cell Trials (Biomedical in collaboration with Celeromics)</td>
<td>2</td>
</tr>
<tr>
<td>COURSE / WORKSHOP</td>
<td>Methodological route for the treatment of clinical and epidemiological data through EPIDAT</td>
<td>12</td>
</tr>
<tr>
<td>COURSE / WORKSHOP</td>
<td>Preparation and drafting of European proposals in the field of health H2020</td>
<td>11</td>
</tr>
<tr>
<td>COURSE / WORKSHOP</td>
<td>3rd Edition transcranial magnetic stimulation and Neuromodulation: present and future neurosciences</td>
<td>35</td>
</tr>
<tr>
<td>COURSE / WORKSHOP</td>
<td>New Generation of Cell-based Assays</td>
<td>1</td>
</tr>
<tr>
<td>COURSE / WORKSHOP</td>
<td>2020 Health, demographic change and well-being Framework Programme for Research and Innovation (2014-2020)</td>
<td>4</td>
</tr>
</tbody>
</table>

6.2.3.2. IMIBIC Research Seminars

IMIBIC research seminars promote networking and contribute to strengthen the knowledge of the research community of the Institute.

The seminars organized by the Institute during the course 2014-2015 were:

<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Institution</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/09/2014</td>
<td>Ernst J. Schaefer</td>
<td>Cardiovascular Nutrition Laboratory, Human Nutrition Research Center on Aging at Tufts University (Boston, EEUU)</td>
<td>The Prediction of Diabetes and CVD: Results from Framingham Study</td>
</tr>
<tr>
<td>6/11/2014</td>
<td>Pedro Medina Vico</td>
<td>Center for Genomics and Oncology Research</td>
<td>tumoral MicroARNs in tumor development</td>
</tr>
<tr>
<td>13/11/2014</td>
<td>Maximilian Bielohuby</td>
<td>Veterinary Specialist for Laboratory Animal Science. Klinikum der Universität München.Medizinische Klinik und Poliklinik IV. Endocrine Research Unit</td>
<td>Macronutrient regulation of metabolism and endocrine systems</td>
</tr>
<tr>
<td>4/12/2014</td>
<td>Rafael Fernández Chacón</td>
<td>Universidad de Sevilla-IBIS</td>
<td>Translational research in neurosciences - synaptic and extra-synaptic functions of a molecular chaperone</td>
</tr>
<tr>
<td>11/12/2014</td>
<td>Mario Fraga</td>
<td>Instituto Universitario de Oncologia. Hospital Univ. Central de Asturias</td>
<td>Epigenetic actions during the aging of adult stem cells</td>
</tr>
<tr>
<td>18/12/2014</td>
<td>Paloma Alonso Magdalena</td>
<td>Universidad Miguel Hernández (Elche)</td>
<td>New mechanisms of diabesity: Role of endocrine disruptors in the pathogenesis of diabetes</td>
</tr>
<tr>
<td>8/01/2015</td>
<td>José María Tenias Burillo</td>
<td>Escuela Valencia de Estudios para la Salud</td>
<td>Special analytical observational designs. Cross-case studies and hybrid designs</td>
</tr>
<tr>
<td>15/01/2015</td>
<td>Javier Aller</td>
<td>Hospital Universitario Puerta de Hierro</td>
<td>Neuroendocrine tumors: the molecular basis to targeted therapies</td>
</tr>
<tr>
<td>22/01/2015</td>
<td>Manuel Serrano Ríos</td>
<td>Real Academia Nacional de Medicina</td>
<td>Conference inaugural seminar series. Obesity “metabolically healthy”: Fact or Fiction?</td>
</tr>
<tr>
<td>29/01/2015</td>
<td>Vincent Prevot</td>
<td>Inserm UMR837, Jean Pierre- Aubert Research Centre, Lille (Francia)</td>
<td>Translational research in Metabolic Medicine: Tanyctyes as Gatekeepers of the Metabolic Brain</td>
</tr>
<tr>
<td>5/02/2015</td>
<td>Fátima Al-Shahrour</td>
<td>Unidad de Bioinformática, Centro Nacional de Investigaciones Oncológicas</td>
<td>Identifying druggable genetic dependencies for personalized cancer therapy</td>
</tr>
<tr>
<td>12/02/2015</td>
<td>Jesús de la Osada García</td>
<td>Universidad de Zaragoza</td>
<td>Animal models in the search for comSpeakers responsible for potential anti-atherosclerotic of olive oil</td>
</tr>
<tr>
<td>Date</td>
<td>Speaker</td>
<td>Institution</td>
<td>Title</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>26/02/2015</td>
<td>David Epstein</td>
<td>Departamento de Economía Aplicada, Facultad de Ciencias Económicas, Universidad de Granada</td>
<td>Network meta-analysis: comparing multiple interventions in Health Sciences</td>
</tr>
<tr>
<td>12/03/2015</td>
<td>Roberto Díez</td>
<td>CSIC</td>
<td>Antibiotics a la carte: a new generation of drugs against bacterial infections</td>
</tr>
<tr>
<td>26/03/2015</td>
<td>Loreto Carmona Ortells</td>
<td>Instituto de Salud Musculosquelética</td>
<td>Research Methodology in Health Sciences</td>
</tr>
<tr>
<td>9/04/2015</td>
<td>Mayte Suárez-Fariñas</td>
<td>Laboratory of Investigative Dermatology/Center for Clinical and Translational Science, The Rockefeller University (New York, USA)</td>
<td>Immunogenetic architecture of psoriasis</td>
</tr>
<tr>
<td>16/04/2015</td>
<td>Jesús Rodríguez Baño</td>
<td>Hospital Universitario Virgen Macarena-Universidad de Sevilla</td>
<td>What new scientific evidence can be translated to the treatment of infections with ESBL-producing Enterobacteriaceae and / or carbapenemases?</td>
</tr>
<tr>
<td>23/04/2015</td>
<td>Albert Lecube</td>
<td>Hospital Universitari Arnau de Vilanova</td>
<td>The lung as a target organ of diabetes-related complications: Sweet Sleep Study</td>
</tr>
<tr>
<td>30/04/2015</td>
<td>Mario Durán Prado</td>
<td>Universidad de Castilla-La Mancha (Facultad de Medicina, Ciudad Real) 4</td>
<td>Control of redox balance and bioenergetics in neurological tumors. Role of Coenzyme Q</td>
</tr>
<tr>
<td>7/05/2015</td>
<td>Emilio Fernández Espejo</td>
<td>Universidad de Sevilla</td>
<td>Nitrosative origin of Parkinson’s disease: role of the thyroid gland</td>
</tr>
<tr>
<td>14/05/2015</td>
<td>José Andrés Fernández</td>
<td>Universidad del País Vasco</td>
<td>Image by mass spectrometry: fundamentals and application in lipidomic. Xenograft colon cancer.</td>
</tr>
<tr>
<td>11/06/2015</td>
<td>Manuel Fernández Rojo</td>
<td>Royal Brisbane Hospital, Brisbane (Australia)</td>
<td>Caveolin-1 in liver physiology and disease</td>
</tr>
</tbody>
</table>

The Institute has launched a novel cycle of seminars aimed at promoting interactions, sharing ideas, and strengthening the links among IMIBIC scientists. These seminars are scheduled fortnightly and are presented by young researchers (preferentially postdocs) of our research groups. During 2015, the first seminar was presented by Dr. Víctor Navarro whose title “New insights into the neuroendocrine Control of metabolism and reproduction: a two way road”.

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### Programme

**Day 1 (4th May)**

**9:00-9:30 Opening ceremony. Inscriptions and Posters display**

**9:30-10:45. Session I. Cancer (Oncology and Oncohematology)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:30-9:45</td>
<td>Postoperative time course and utility of inflammatory markers in patients with ovarian peritoneal carcinomatosis treated with neoadjuvant chemotherapy, cytoreductive surgery and HIPEC.</td>
<td>Dimas Javier Garcilazo Arismendi</td>
</tr>
<tr>
<td>9:45-10:00</td>
<td>Identification of new substrates for DYRK2 and its implication in carcinogenesis: Cdc25A regulation in the context of lung cancer.</td>
<td>Maribel Lara Chica</td>
</tr>
<tr>
<td>10:00-10:15</td>
<td>The role of nitric oxide in generation and maintenance of cancer stem cells: new therapeutic opportunities in cancer.</td>
<td>Jon Peñarando Sáez</td>
</tr>
<tr>
<td>10:15-10:30</td>
<td>Visfatin expression is tightly regulated by metformin and could serve as a non-invasive biomarker for prostate cancer.</td>
<td>Sebastiano Messineo</td>
</tr>
<tr>
<td>10:30-10:45</td>
<td>Metformin exerts antitumoral actions in vitro and in vivo models of prostate cancer.</td>
<td>André Morais Sarmento</td>
</tr>
</tbody>
</table>

**10:45-11:15. Coffee Break. Poster Showcase**

**11:15-13:00. Session II. Nutrition, Endocrine and metabolic diseases.**

<table>
<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:15-11:30</td>
<td>Novel cannabidiol derivatives are dual pparγ/cb2 agonists that induce polarization of M2 macrophages and modulate diet-induced obesity.</td>
<td>Inmaculada Velasco Aguayo</td>
</tr>
<tr>
<td>11:30-11:45</td>
<td>Gonadotropin-inhibitory hormone signaling displays sexually dimorphic roles in the control of energy homeostasis: Studies in the NPFF1 receptor null mouse.</td>
<td>Silvia León Téllez</td>
</tr>
<tr>
<td>11:45-12:00</td>
<td>Renal damage induced by diets rich in fat and phosphate.</td>
<td>Rafael Ríos Varo</td>
</tr>
<tr>
<td>12:00-12:15</td>
<td>Bone marrow mesenchymal stem cells are morphological, functional and genetically different between patients with type 2 diabetes and healthy donors.</td>
<td>Gustavo Díez López</td>
</tr>
<tr>
<td>12:15-12:30</td>
<td>Clinical-histological and molecular characteristics of patients with gastrointestinal and pancreatic neuroendocrine tumors.</td>
<td>Aura Dulcinea Herrera Marínez</td>
</tr>
<tr>
<td>12:30-12:45</td>
<td>Metabolic phenotypes of obesity influence glucose homeostasis in coronary artery disease patients.</td>
<td>Juan Francisco Alcalá-Díaz</td>
</tr>
<tr>
<td>12:45-13:00</td>
<td>The gut microbial community in metabolic syndrome patients is modified by diet.</td>
<td>Carmen María Haro Mariscal</td>
</tr>
</tbody>
</table>
13:00-14:00. Plenary conference
Rafael F. Duarte
Hospital Universitario Puerta de Hierro

14:00-16:00. Lunch

16:00-17:45. Session II. Nutrition, Endocrine and metabolic diseases.

II.h 16:00-16:15
Central ceramide signaling as novel mediator for the metabolic regulation of puberty: interplay with leptin and kisspeptin.
Violeta Heras

II.i 16:15-16:30
Contribution of lipid droplet-associated rab proteins to the development of insulin resistance in obesity.
Yoana Rabanal Ruiz

II.j 16:30-16:45
Phosphate restriction preserves bone volume in early and late stages of CKD in rats.
Juan Miguel Díaz Tocados

II.k 16:45-17:00
Contributions to the analysis of vitamin D for the study of metabolic diseases. Antonio Mena Bravo

17:00-17:45 Conference. Alejandro Lomniczi
“Epigenetics of Puberty: New Answers to Old Questions”
Division of Neuroscience, Oregon National Primate Research Center (ONPRC)-Oregon Health Science University (OHSU)

17:45-18:15. Poster Showcase.

18:15-19:00. Session II. Nutrition, Endocrine and metabolic diseases.

II.l 18:15-18:30
Endocrine and metabolic characterization of double somatostatin and cortistatin knockout mice.
Sergio Pedraza Arévalo

II.m 18:30-18:45
Telomere length and its relation to dietary fat intake in an elderly population with cardiovascular disease: cordioprev study.
Andreea Corina Baba

II.n 18:45-19:00
The prediabetic status induces a lower metabolic flexibility in patients with established cardiovascular disease.
Ana León Acuña
Day 2 (5th May)

9:00-10:30. Session III
Chronic and Inflammatory diseases. Infectious and Immunological diseases. Organ transplantation.

III.a 9:00-9:15
Acute kidney injury in the meld era of liver transplantation. Are calcineurin inhibitors so problematic for renal function?
Irene Gómez Luque

III.b 9:15-9:30
Prevalence of urolithiasis in Spanish population aged 40 to 65: prelirene study.
Luis Angel Perula de Torres

III.c 9:30-9:45
FGF23 increases phosphate-induced smooth muscle cells calcification.
Noemi Vergara Segura

III.d 9:45-10:00
Prognosis of patients with ulcerative colitis in sustained remission after thiopurines withdrawal.
Estefanía Moreno Rincón

III.e 10:00-10:15
Circulating miRNAs as potential biomarkers of therapy effectiveness in rheumatoid arthritis patients treated with anti-TNFα.
Carlos Pérez Sánchez

III.f 10:15-10:30
Aging and chronic kidney disease oxidized albumin promotes cellular senescence and endothelial damage.
Carlos Luna Ruiz

10:30-11:00. Coffee Break. Poster Showcase

11:00-12:30. Session III
Chronic and Inflammatory diseases. Infectious and Immunological diseases. Organ transplantation

III.g 11:00-11:15
Myogenic differentiation in skeletal muscle satellite cells and interstitial mononuclear cells in the absence of injury. Fernando Leiva-Cepas

III.h 11:15-11:30
Real-time measurements of tissue oxygen microtension as a marker of bile duct viability in liver transplantation.
Elena Navarro Rodríguez

III.i 11:30-11:45
Knowledge and practices of primary care professionals about the approach of alcohol: results of alco-ap study.
Experanza María Romero

III.j 11:45-12:00
Caenorhabditis elegans as an animal model in preclinical assays for pharmacogenetic studies of the antipsychotic drugs risperidone and aripiprazole.
Jaime Osuna Luque

III.k 12:00-12:15
VCE-003.2 is a novel cannabigerol derivative that enhances neuronal stem cell prosurvival and alleviates symptomology in murine models of Huntington disease.
Carmen del Río Mercado

III.l 12:15-12:30
Role of monocytes subsets in the atherothrombosis and endothelial dysfunction associated with rheumatoid arthritis: beneficial effects of tocilizumab.
Patricia Ruiz Limón


13:30-14:00. Award-giving and Closing ceremony
Programme

11:00h Opening Ceremony

11:15h IMIBIC Awards

• Award for the best master’s degree thesis

• Prizes for the most relevant research results:
  Category 1. Better initiative involves a new addition to the portfolio of services of the result of the research or participation in a clinical practice with international quality criteria (AGREE) health work environment.

  Category 2. Award category registration, patent or “spin off” deemed more potential to improve health problems.
  Raul M. Luque Huertas-GC8. “Using levels GOAT enzyme as a marker of prostate cancer”

• Prize for the most relevant scientific publication in collaboration with international groups.

• 'Enrique Aguilar Benítez de Lugo’ Prize for the most relevant publication

12:15h Maimonides Lecture
  Dr. José María Ordovás (University of Tufts, USA)  “Nutrigenetics: in search of oneself”

13:00 Prize-giving and closing ceremony
### 6.3. Results of Training Activities

#### 6.3.1. Doctoral Theses

The training dedication of IMIBIC is also reflected by the large number of doctoral theses that are directed and supported by the IMIBIC members. A list is provided below of the 21 doctoral theses directed by researchers from the Centre during 2015 (only PhD Program in Biomedicine).

<table>
<thead>
<tr>
<th>Thesis Author</th>
<th>Title</th>
<th>Thesis Director 1</th>
<th>Thesis Director 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alejandro Ibáñez Costa*</td>
<td>Identification of novel molecular markers in pituitary tumors: contribution to pathogenesis and therapeutic potential</td>
<td>Justo Pastor Castaño Fuentes</td>
<td>Raúl Miguel Luque Huertas</td>
</tr>
<tr>
<td>Amanda Cañas Rodríguez</td>
<td>Estrés nitrosativo y alteración de la homeostasis de S-Nitrosotioles en cáncer de mama: implicaciones terapéuticas</td>
<td>Juan Rafael de la Haba Rodríguez</td>
<td>Antonio Rodríguez Ariza</td>
</tr>
<tr>
<td>Ángel Custodio Uzcategui Castillo</td>
<td>La ética, factor clave, en el éxito del liderazgo en las organizaciones educativas (hacia un modelo exiológico basado en el enfoque de la teoría históricoclinica para el éxito del liderazgo en las organizaciones educativas</td>
<td>María del Carmen Tabernero Urbieta</td>
<td>Oscar Martínez</td>
</tr>
<tr>
<td>Aquiles Lozano Rodríguez-Mancheño</td>
<td>Influencia del grado de obesidad sobre la respuesta lipémica postprandial a diferentes tipos de grasa e jóvenes sanos</td>
<td>Francisco Perez Jimenez</td>
<td>José López Miranda</td>
</tr>
<tr>
<td>Caridad Dios Guerra</td>
<td>Study of the effect or primary health nurses scheduled and protocolized home visit over and morbidity on multipathological patients of 65 or older.</td>
<td>María Aurora Rodríguez Borrego</td>
<td></td>
</tr>
<tr>
<td>Carlos Marquez Vera</td>
<td>Predicción del fracaso y abandono escolar mediante técnica de minería de datos</td>
<td>Cristóbal Romero Morales</td>
<td>Sebastian Ventura Soto</td>
</tr>
<tr>
<td>Daniel Falla Fernández</td>
<td>Enseñanza de habilidades de toma de perspectiva viso-espacial en personas con Discapacidad Intelectual: una aproximación desde el estudio de las discriminaciones condicionales.</td>
<td>Francisco José Alós Cívico</td>
<td></td>
</tr>
<tr>
<td>Esther Cuadrado*</td>
<td>Prosocial Behavior. Common, motivational determinants in contexts of social exclusion and scarcity of environmental resources.</td>
<td>María del Carmen Tabernero Urbieta</td>
<td></td>
</tr>
<tr>
<td>José López Aguilera</td>
<td>Fisiopatología de la conducción cardíaca en pacientes co estenosis aórtica severa tratados con protesi aórtica Corevalve. Análisis de predictores de necesidad de marcapasos.</td>
<td>José María Segura Saint-Gerons</td>
<td>Jose Suarez de Lezo Cruz-Conde</td>
</tr>
<tr>
<td>Juan Manuel Carmona Torres*</td>
<td>Abuse Study on vulnerable elderly in the family and community in Spain (Andalucia-Cordoba), Portugal (Porto, Azores) and Bolivia (Santa Cruz de la Sierra). Comparative study.</td>
<td>María Aurora Rodríguez Borrego</td>
<td></td>
</tr>
<tr>
<td>Julio Manuel Martinez Moreno</td>
<td>Efecto diferencial del calcitriol y del paricalcitol sobre el proceso de calcificación en células de músculo liso vascular. Mecanismos intracelulares implicados.</td>
<td>Yolanda Almaden Peña</td>
<td>Juan Rafael Muñoz Castañeda</td>
</tr>
<tr>
<td>Laura Cejudo Diaz del Campo</td>
<td>Terapia celular en la miocardiopatía dilatada.</td>
<td>Miguel Angel Romero Moreno</td>
<td>Jose Suarez de Lezo Cruz-Conde</td>
</tr>
<tr>
<td>Luis Santiago Perera Cabrera</td>
<td>Las Microempresas y Cooperativas: una propuesta alternativa para la formación para el trabajo en la Educación Secundaria en Venezuela.</td>
<td>María Aurora Rodríguez Borrego</td>
<td>Beatriz Arrieta de Meza</td>
</tr>
<tr>
<td>María del Pilar Delgado de la Torre*</td>
<td>Obtention of high-added value products from residues and winemaking waste.</td>
<td>María Dolores Luque de Castro</td>
<td>Feliciano Priego Capote</td>
</tr>
<tr>
<td>María Manfredi Lozano*</td>
<td>Analysis of the roles of neuropeptidergic system and microins in the control of puberty.</td>
<td>Leonor Pinilla Jurado</td>
<td>Manuel Tena Sempere</td>
</tr>
<tr>
<td>María Pérez Ortiz*</td>
<td>Exploiting decomposition methods, kernel algorithms and over-sampling techniques for ordinal regression.</td>
<td>Cesar Hervás Martínez</td>
<td>Pedro Antonio Gutiérrez Peña</td>
</tr>
<tr>
<td>Thesis Author</td>
<td>Title</td>
<td>Thesis Director 1</td>
<td>Thesis Director 2</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>María Victoria Noci Sánchez</td>
<td>Daño endotelial en pacientes obesos en respuesta al estrés quirúrgico.</td>
<td>Pedro Jose Carpintero Benitez</td>
<td>Julia Carracedo Añón</td>
</tr>
<tr>
<td>Natalia Rocio Moreno Castellanos*</td>
<td>Identificación de nuevos marcadores del tejido adiposo en relación a obesidad y resistencia a insulina.</td>
<td>Maria del Mar Malagon Poyato</td>
<td>Rafael Manuel Vázquez Martinez</td>
</tr>
<tr>
<td>Pablo Jesus López Soto*</td>
<td>The chronobiological pattern as a causative factor of falls in the population older than 65 years.</td>
<td>Maria Aurora Rodriguez Borrego</td>
<td></td>
</tr>
<tr>
<td>Paula María Moreno Casado</td>
<td>Marcadores predictivos en el trasplante y la carcinogénesis pulmonar. Análisis metabolómico y ruta de señalización DYRK2-SIAH2.</td>
<td>Marco Antonio Calzado Canale</td>
<td>Ángel Salvatierra Velázquez</td>
</tr>
<tr>
<td>Rafael Soler Torronteras</td>
<td>Estudio de los mecanismos de regulación del factor HIF-1 a por N-acil dopaminas. Implicaciones en neuroprotección.</td>
<td>Eduardo Muñoz Blanco</td>
<td>Marco Antonio Calzado Canale</td>
</tr>
</tbody>
</table>

*Theses with International Mention

### 6.4 Research Stays

Throughout the year 2015, 20 researchers IMIBIC completed a research stay in national and international centers. This number reflects clear research dedication and it is dedication and it is orientated towards the creation of networks. In addition, the number of professionals from other national and international centers that stay at IMIBIC is over 16 researchers.

<table>
<thead>
<tr>
<th>Type of Internship</th>
<th>Public Scheme</th>
<th>Private Scheme</th>
<th>Internal Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAYS</td>
<td>Researchers</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Duration (months)</td>
<td>66 months</td>
<td></td>
</tr>
<tr>
<td>VISITORS</td>
<td>Researchers</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Duration (months)</td>
<td>50 months</td>
<td></td>
</tr>
</tbody>
</table>
7 INFRASTRUCTURES
7. Infrastructures

In the 2015 fiscal year many of the running actions have finished that were initiated in 2013 and 2014 related to aid for infrastructure acquisition of a scientific nature for the Institute, which were granted in two years by Ministry of Health (1.5 million) and the Ministry of Economy and Knowledge (2 million).

Specifically, the target in 2015 of the investments made with these performances were as follows:

- For Clinical Research Unit
  - Completion of the work of expansion and reform of the existing space in the old building experimental HURS which was initiated in 2014.
  - Completion of the work or extension of the living freezers for sample storage and conditioning of existing air conditioning. Provision of air conditioning systems and alarm room to freezer.
  - Equipment for day hospital area (7 multiparameter monitors with central monitoring 7 chairs hospital day, two defibrillators, 2 sphygmomanometers (adult and child), an electrocardiograph and two cars stop)
  - Software or 4D ultrasound with 3 probes to be used in existing high performance ultrasound system.
  - 1-phase UPS for maintenance of electrical constant flow freezer room.
  - 1 refrigerator storage registered drug activity related to clinical trials.

- Equipment for Genomics BRSU
  - 1 laminar flow cabinet and prePCR.
  - one centrifugal
  - set of laboratory furniture for the room prePCR.

- Equipment for Animal Experimentation Service:
  - 1 anesthesia equipment for small animal.
  - brightness control system in rooms housing of animals.
  - stainless steel auxiliary furniture.

- For BRSU Microscopy and Cytometry, it has acquired the following equipment:
  - fluorescence microscope 1

- For Isotope BRSU has acquired a set of radiation detectors.

- General and computer equipment for the new headquarters of the Institute (videovigillance, leaded animal testing rooms, fiber optic links, etc.)

As for BRSUs, at year-end 2015, they were set as follows:

During 2015, the BRSU has had a total of 24 technicians, according to the following distribution:
- 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
8

Biomedical Research Support Units
8. Biomedical Research Support Units

8.1. Isotope Unit

8.1.1. Composition
The Isotope Unit personnel is composed of:

**Supervisor**
- Dr. Eduardo Muñoz Blanco
  fi1muble@uco.es

**Operator**
- Antonia Sánchez Arroyo
  antonia.sanchez@imibic.org

8.1.2. Equipment and Facilities
In IMIBIC, we possess two laboratories dedicated to working with radioactive isotopes both $\gamma$ and $\beta$. 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>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon (C-14)</td>
<td>370</td>
</tr>
<tr>
<td>Tritium (H-3)</td>
<td>370</td>
</tr>
<tr>
<td>Phosphorous (P-32)</td>
<td>370</td>
</tr>
<tr>
<td>Phosphorous (P-33)</td>
<td>370</td>
</tr>
<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>
</tr>
</tbody>
</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

8.1.3. Portfolio of Services
- Training in the handling of β and γ 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.

8.1.4. Highlights
In 2015, the Unit has become fully operational, coinciding with the settling of the two brand new laboratories for isotope handling of the new building of IMIBIC. In addition, the Unit has completed the installation of a new cell/body irradiator system, and has incorporated new imaging equipment, including a modern system of ultrasonography for clinical investigation, which is also under the supervision and operational control of the Unit. Altogether, the facilities and materials for isotope detection of the Unit make it one of the best equipped in Biomedical Research Institutes within Spain.

8.2. 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.

8.2.1 Composition
The personnel of the unit is composed of two qualified technicians and a veterinarian.
• Anabel Pozo Salas
  sae@imibic.org
• Estefanía Escudero Jabonero
  estefania.escudero@imibic.org
• Rafael Pineda Reyes
  rafael.pineda@imibic.org

8.2.2. 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.

8.2.3. Highlights
In 2015, many different pieces of equipment were acquired, installed and put into use. Accordingly, the technicians have taken training courses with the aim of opening animal services, as soon as the on-going process of administrative accreditation is completed (expectedly soon).
8.3. 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 services both the research staff of the Institute and other entities of the Andalusian Public Health System, the University, IPOs, as well as private companies that request it.

8.3.1. Composition
The Unit is composed of a superior specialized technician:
- Dr. Esther Peralbo Santaella
  microscopia.citometria@imibic.org

8.3.2. 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 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 Optic Microscopy**
  - 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).

8.3.3. 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.
8.3.4. Highlights
In 2015, the Microscopy Unit, Cytomics and scientific image expanded its equipment with the acquisition and implementation of a new flow cytometer analyzer: BD FACSCanto.
During this year, the Unit provided services to 13 of the 23 consolidated research groups of IMIBIC, as well as 3 external groups belonging to the University of Cordoba.

8.4. 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.

8.4.1. Composition
The Unit is composed of a two superior specialized technicians and two qualified technicians:
- Dr. Ignacio Ortea García
  ignacio.ortea@imibic.org
- Dr. Eduardo Chicano Gálvez
  eduardo.chicano@imibic.org
- Josune Egea Urra
- Rocío Pérez Espejo

8.4.2. 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 XITandem 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.

8.4.3. 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.
8.4.4. Highlights
During 2015, the Proteomics Unit started its activities in quantitative proteomics and MALDI-Imaging (MSI) providing services to scientific community. These services include from sample preparation to project supervision, collaborations and training in software for data analysis. Moreover, this Unit has increased its human resources to include two new technicians that are primarily involved in sample preparation and other pre-analytical procedures.

8.5. Bioinformatics Unit

8.5.1. Composition
The Unit is composed of a specialized technician:

- David Ovilde Fraile
diagnosis@imibic.org

8.5.2. Equipment and Facilities
Bioinformatics Unit 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

8.5.3 Portfolio of Services
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

8.5.4. Highlights
- The mission of the Unit is to attempt to satisfy the Bioinformatic requirements that result from research projects.
- The Unit aims to promote clear and direct communication with the researchers to facilitate a 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.

8.6. 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 other public and private institutions. 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 cutting-edge, high throughput platforms performance platforms in the field of genomics. It is also important to note the interaction with other BRSU IMIBIC Units, which are located in the same building, such as Bioinformatics, Proteomics or Cytometry.

8.6.1. Composition
The Unit is composed of a superior specialized technician and a qualified technician:

- Álvaro Jiménez Arranz
genomica@imibic.org
- Pilar Rubín González de Canales
8.6.2. Equipment and Facilities
Currently, the resources that the Genomic Unit has at its disposal are:

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 / race 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 and Methyl-Seq, with a wide range of applications.

b) NCounter Dx/tecnología Nanostring
The NanoString NCounter system uses a novel technique of molecular rod codes 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 miRNAs and RNAs regulators as lncRNAs. These applications, along with his Dx / CE-IVD for conducting analysis care quality certificate, also make the NCounter a tool with high potential for clinical use.

c) PCR Digital (dPCR): QX200 Droplet Digital PCR System
The digital PCR offers an alternative to conventional qPCR for absolute quantitation and detection of rare alleles without the need for standards or endogenous controls.

d) Quantitative PCR (qPCR)
The unit currently has 3 platforms aimed at genotyping PCR and gene expression analysis:

- Light Cycler 480 (Plataforma de Placas de 96)
- Light Cycler 96 (Plataforma de Placas de 96)
- 7900 HT Fast (Plataforma de Placas de 384)
- Open Array (Plataforma de Arrays qPCR)

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).

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

- Nanodrop ND1000 (Espectrofotómetro)
- DeNovix DS-11 (Espectrofotómetro)
- Quantus (Fluorímetro)
- 2200 TapeStation

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

8.6.3. 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 through nanostring technology
- Gene expression studies using real-time PCR and genotyping studies
- Sequencing NGS (next generation sequencing) illumina miseq
- Training and support in the use of data analysis software related to the unit’s technology
8.6.4. Highlights
In 2015, the Unit of Genomics of IMIBIC has acquired high performance equipments for NGS and expression analyses, which have become fully operational and have substantially increased the portfolio of services of the Unit during this year.

8.7. Clinical Research Unit

The IMIBIC Clinical Research Unit promotes clinical research at IMIBIC and establishes collaborations with other research centers. Currently, IMIBIC is part of the Spanish Clinical Research Network (SCReN and ECRIN (European Clinical Research Infrastructure Network)).

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: one located at the Provincial Hospital and another by the General Hospital Clinical Research Unit, which have been completed in June 2015. Both have been adapted to perform clinical trials of Phases I-IV in patients.

8.7.1. Composition

Head
• Dr. Jose López Miranda
  jlopezm@uco.es

Clinical Pharmacologist
• Dr. María Esther Pacheco Rodriguez
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Project Managers/CRAs
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Nurse Coordinator
• Inés Carmen Rodríguez García
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Nurse Team
• Pilar Mesa Blanco
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• Manuel Rejano Castañeda
  manuel.rejano.sspa@juntadeandalucia.es

Nursing Assistants
• Rubén Sánchez Nieves
• Rafaela Vacas Bueno

Administrative Staff
• María Dolores Castro Ortiz

8.7.2. 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

8.7.3. Portfolio of Services
• Methodological support
• Launch and Regulatory affairs
• Study development
• Close out
• Pharmacovigilance
• Delivery of clinical assistance

8.7.4. Highlights
During 2015, the Unit provided assistance and support in the start-up, coordination, data-management, and monitoring of 19 independent clinical trials across the following Units, including amongst others, Internal Medicine, Pediatrics, General Surgery, Nephrology, and Rheumatology. Additionally, clinical research activity has increased in 2015 to include a total of 337 patients in the Provincial Hospital Clinical Research Unit and up to 186 patients in the General Hospital Clinical Research Unit. 57 Clinical Trials are currently being conducted. The main areas of activity are Oncology, Nephrology, Dermatology, Internal Medicine and Urology.
As a member of Spanish Clinical Research Network, the Unit has actively participated in 6 clinical trials interacting with different groups within Spain. The Unit also collaborates with several working groups within the network.

8.8. Biobank Unit

The Biobank Unit of 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 Andalusian Public Health System (SSPA) Initiative of the Department of Equality, Health and Social Policy. It is part of the National Biobank Network Initiative of the National Institute of Health -Instituto de Salud Carlos III (ISCIII).

8.8.1. Composition
-Unit’s Scientific Management
  • Dr. Manuel Medina Pérez
    manuel.medina.sspa@juntadeandalucia.es
-Coordinator
  • Carmen Pérez Calle
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-Technicians:
  • Eugenia Carrillo Gil
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  • Javier Herruzo
    javier.herruzo@imibic.org
8.8.2. Equipment and Facilities
The Unit possesses its own laboratory resources for integral sample handling and processing (Safety booths, PCR Booths, Microtomes, Chryostate, Flotation Bath, Centrifuge, Histobath, Automatized Processor for Paraffin Inclusion, Paraffin Dispenser, etc.) as well as other equipment, including:
- 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 several freezer equipments, including: one for temperatures of -20 degrees Celsius, seven for -80 degrees Celsius, as well as paraffin storage rooms for room temperature.

8.8.3. Portfolio of Services
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.

8.8.4. Highlights
In 2015, the Biobank Unit experienced an increase in activity in comparison to previous years, having given essential support to 78 research projects. This activity generated a total of 110,000 samples/bioresources, of which around 18,000 were provided to different researchers. The degree of satisfaction of these users has been assessed via surveys to be 9.3 (out of a possible 10 points).

8.9. 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:
- Offering methodological consulting during the course of research projects and activities (from project and experimental design to completion). This includes methodological support in preparation of project application to competitive funding sources.
- 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.

8.9.1. Composition
- Dr. Maricarmen Muñoz Villanueva, MD.
  mc.munoz.exts@juntadeandalucia.es

8.9.2. Equipment and Facilities
The main statistical programs used for data analysis are:
- PASW Statistics 18 (Copyright 2009 by SPSS Inc.)
- IBM SPSS 19 (Copyright 2010 by SPSS Inc.)
- Epidat 4.1 (Consejería de Sanidad, Xunta de Galicia, España; Organización Panamericana da saúde (OPS-OMS); Universidad CES, Colombia. Octubre 2014).
- GranMo versión 7 (abril 2012)
- G-stat 2.0 (Copyright 2008 by GSK, SA.)
- Sinergy 3.0 (Copyright 2008 by GSK, SA.)
8.9.3. Portfolio of Services

Through personalized consultations (face to face meetings, telematic or virtual) we cover the different moments of the research process. Specifically, the aid that the Users demand include:

- 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...).

8.9.4. Highlights

In 2015, 123 activities were carried out, most of which (about 60%) were related to consulting and statistical analysis for dissemination of results of research (some publications and conferences). In addition, four teaching activities were implemented; three of which were organized locally by IMIBIC and the other at the nationwide level (collaboration in the Master of Research Methodology of the University of Barcelona). There were also five training activities for updating statistical and epidemiological knowledge.
9

Scientific Production
T and NK immunosenescence. Antiviral immune response

Team Leader

Principal Investigator (PI):
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Red Española de Patología Infecciosa (REIPI) (Collaborator)
PAIDI CTS-208 Scientific Group (Collaborator)

Researchers
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Carmen Moreno Aguilar
Berta Ruiz León
Pilar Serrano Delgado
Vanessa Saiz Sánchez

Pre Doctoral-Researchers (PhD Students y MSc Students)
Estrella Cañones Barceló
Laura Castro Orgaz
Fakhri Hassounéh
Azahara García Gallego
Nelson López Sejas
Juan Eduardo Molina Alcaide
Ana María Navas Romo
Oscar Alberio Yarce Bustamante

Other members of the Group (Nursing, Technical, and Administrative Staff)
Mercedes Guerra González
Mª Luisa Velarde Martínez
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 Papers

Original Reviews

Papers in Collaboration


Riddell NE, Griffiths SJ, Rivino L, King DCB, Teo GH, Henson SM, Cantisan S, Solana R, Kemeny DM, MacAny PA, Larbi A, Akbar AN. Multifunctional cytomegalovirus (CMV)-specific CD8(+) T cells are not restricted by telomere-related senescence in young or old adults. IMMUNOLOGY. 144(4):549-560. IF: 3.795 Q: 2


Letters in Collaboration

Research Funding

National


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

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 gpASIT + 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

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

International


Contracts with Companies

Solana Lara R. Agreement with Inogenetics Diagnostica Iberia SL. Funding Agency: Innogenetics Diagnostica Iberia SL. Reference:C-CB.0099
Oxidative and nitrosative stress in acute and chronic liver disease

Team Leader
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CIBER de Enfermedades Hepáticas y Digestivas (CIBERehd)
PAIDI CTS-273 Scientific Group

Co-Principal Investigator (Co-PI)
Jose Antonio Bárcena Ruiz
PAIDI BIO-216 Scientific Group

Researchers
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Pilar Barrera Baena
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Guadalupe Costán Rodero
Mª Valle García Sánchez
Federico Gómez Camacho
Gustavo Ferrín Sánchez
Enrique Fraga Rivas
Emilia Martínez Galisteo
José Luis Montero Álvarez
Alicia Padilla Peña
José Peinado Peinado
Antonio Poyato Gonzalez
Manuel Luis Rodríguez Perálvarez

Post-Doctoral Researchers
Raúl González Ojeda

Pre-Doctoral Researchers (PhD Students and MSc Students)
Sandra González Rubio
Juan Jurado García
Clara Isabel Linares Luna
Luis Vida Pérez

Other members of the Group
(Nursing, Technical, and Administrative Staff)
Rosario Medina Medina
Eva María Morcillo Ruiz
Mª Luisa García García
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 hepatocellular 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 cytoprotection 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’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 techniques. In the area of liver transplants, we have identified the cytoprotection mechanisms mediated by cardiotorphin-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 (soratavapan), acute liver failure (bioartificial liver, MARS) and liver transplantation (immunosuppression strategies).

Keywords

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

Scientific Production

Publications

Original Papers


Original Letters


Papers in Collaboration

Clinical Trials

0103/08: A randomized, double-blind, placebo-controlled phase II study of sorafenib as adjuvant treatment for liver cell carcinoma after surgical resection or local ablation.
PI: Dr/a De La Mata García, Manuel

0009/10: Long-term follow-up of participants in a phase II or III SCG 503034 trial for the treatment of chronic hepatitis C.
PI: Dr/a De La Mata García, Manuel

0068/11: Trial of tenofovir in the prophylaxis of hematological anti-HBC positive and AgHBs-negative patients on treatment with rituximab. PREBILIN study.
PI: Dr/a Fraga Rivas, Enrique

0232/11: A multicenter, randomized, double-blind parallel-group trial to assess the effectiveness of Adalimumab versus Azatioprine in the prevention of postsurgical recurrence of Crohn disease after 52 weeks.
PI: Dr/a García Sánchez, Valle

0015/12: A multicenter, randomized, placebo-controlled, double-blind phase IV study to assess the efficacy and safety of sorafenib in patients with advanced liver cell cancer with radiological progression.
PI: Dr/a Montero Alvarez, Jose Luis

0304/12: A phase 1, randomized, double-blind study of ABT-493 in type A hepatitis (ARQ 197) in subjects with met diagnostic-high irrepeable hepatocellular carcinoma (HCC) treated with one prior systemic therapy
PI: Dr/a Montero Alvarez, Jose Luis

0039/13: Randomized, double-blind, placebo-controlled, multicenter phase III study of regorafenib in patients with hepatocellular carcinoma (HCC) after sorafenib.
PI: Dr/a Barrera Baena, Pilar

0113/13: Multicentric, randomized, open-label, controlled study of 12 months of follow-up to assess the effect in renal fuction of a immunosuppressive treatment based on tacrolimus minimization in combination with everolimus in patients with novo liver transplation.
PI: Dr/a De La Mata García, Manuel

0201/13: Albumin administration in the prevention of hepatorenal syndrome and death in patients with cirrhosis, bacterial infections other than spontaneous bacterial peritonitis and high risk of hospital mortality.
PI: Dr/a Montero Alvarez, Jose Luis

0329/13: A randomized, open-label, multicenter, controlled study to assess safety and efficacy of elad in subjects with acute alcoholic hepatitis (AAH) who have failed steroid 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-1) of Hepatitis C virus (HCV).
PI: Dr/a Fraga Rivas, Enrique

*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

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

PI: Dr/a García Sánchez, Valle

2315: A long-term non-interventionist registration study to assess the safety and efficacy of HUMIRA (adalimumab) in patients with moderate active or very active ulcerative colitis (LEGACY).
PI: Dr/a García Sánchez, Valle

2342: Registry of Telaprevir and Boceprevir in regular clinical practice.
PI: Dr/a De La Mata García, Manuel

2567: Assessing adherence to triple therapy for Hepatitis C.
PI: Dr/a Fraga Rivas, Enrique

2572: Defining high risk variceal bleeding: a rational for the use of early tips in acute bleeding and preventing rebleeding.
PI: Dr/a De La Mata García, Manuel

0020/08/EPA: Long-term non-interventionist registration to assess the safety and effectiveness of HUMIRA (adalimumab) in patients with active mild to moderate Crohn disease (CD).
PI: Dr/a García Sánchez, Valle

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

2679: Evolution following discontinuation of anti-TNF treatment in patients with inflammatory bowel disease.
PI: Dr/a García Sánchez, Valle

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

Team Leader
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Spanish Network for Research in Infectious Pathology (REIPi)
PAIDI CTS-647 Scientific Group

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Mº José Kindelan Jaquotot
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Elisa Vidal Verdu

Post-Doctoral Researchers
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Mario Frías Casas
Ana Gordon Bermúdez-Coronel
Cristina Ogayar Luque
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Pre Doctoral-Researchers (PhD Students y MSc Students)
Ángela Cano Yuste
Francisca Cuenca López
Aurora Paez Vega
Mª Encarnación Palomo Buitrago
Diego Rodríguez Cano (Collaborator)

Other members of the Group (Nursing, Technical, and Administrative Staff)
Mª Teresa Añon Gámez
Julián de la Torre Giménez
Inmaculada Cantueso Méndez
Laura Ruiz Torres
Ismael Zafra Soto

Infectious diseases

Publications 33
Impact Factor 154,726
Average Impact Factor 4,688
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 Papers

IF: 8,886
Q: 1 D: 1


IF: 4,441
Q: 1 D: 1


IF: 3,234
Q: 1


IF: 2,668
Q: 2


IF: 2,668
Q: 2


IF: 2,172
Q: 3


IF: 2,172
Q: 3

Original Letters
Torre-Cisneros J, Aguado JM. Reply to Tien et al. CLINICAL INFECTIOUS DISEASES. 2015.61(10): 1632

IF: 8,886
Q: 1 D: 1


IF: 5,768
Q: 1 D: 1


IF: 5,768
Q: 1 D: 1


IF: 5,768
Q: 1 D: 1


IF: 5,768
Q: 1 D: 1

and Social Policies (CISPS). Reference: PI-0187-2013


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

De la Torre Cisneros, J (node). PROYECTO COMBACTE-2 (Combating Clinical resistance in Europe. Program Innovative Medicines Initiatives (IMI Call IMI-UI-6). Eol Number Eol 115523-1.Funding agency: European Commission. Reference: IMI Call IMI-UI-6-12


Contracts with Companies

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

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

Rivero Román, A. Cooperation Agreement for a scientific research grants programme. Funding agency: JANSSEN-CILAG, S.A. Reference: CCB.0113_01

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


Rivero Román, A. Agreement with MSD. Funding Agency: Merck Sharp & Dohme de España SA. Reference: CCB.0102

Clinical Trials

0044/11: A multicenter, randomized, blinded placebo-controlled study to assess the safety of Maraviroc in combination with other antiretrovirals in subjects infected with HIV-1 and hepatitis C and/or B.

PI: Dr/a Rivero Román, Antonio

0121/11: A randomized, controlled, partially-blind Phase Iib trial to assess the safety, effectiveness and dose-response relation of BMS-663068 in the treatment of HIV-1 patients previously treated followed by an open regime period with the recommended dose.

PI: Dr/a Rivero Román, Antonio

0258/11: An open, randomized, phase 3B, 48-week comparative study of antiviral effectiveness and safety of ATV/RTV + 3TC versus ATV/RTV plus TDF/FTC in naive HIV-1 patients followed by a 48-week period on ATV/RTV plus 3TC.

PI: Dr/a Rivero Román, Antonio

0101/11: Early access program, multicenter, open-label, telaprevir in combination with pegylated interferon alfa and ribavirin for the
treatment of chronic infection with genotype 1 hepatitis C virus in patients with advanced fibrosis or compensated cirrhosis. PI: Dr/a Rivero Román, Antonio

0072/12: Clinical Trial Phase IIb, randomized, controlled, partially blinded, to investigate the safety, efficacy and dose-response of BMS-986001 in patients with HIV-1 who have not received prior treatment followed by a period when open to the recommended dosage: PI: Dr/a Rivero Román, Antonio

0016/12: An open, phase IIb study to assess the effectiveness and safety of Telaprevir. Pegylated interferon-alpha-2a and ribavirin in chronic genotype 1 hepatitis C and HIV-1 co-infected patients with or without previous treatment for hepatitis C. PI: Dr/a Rivero Román, Antonio

0072/12: An open study to assess the safety, antiviral activity and pharmacokinetics of direct acting antivirals (DAAs) in combination with peginterferon alpha-2a and ribavirin (peg-ifN/RBV) in chronic HCV patients presenting virological failure in a previous study of Abbvie or Abbott in combination with DAAs. PI: Dr/a Rivero Román, Antonio

0038/12: A randomized, double-blind, placebo-controlled study to assess the efficacy and safety of ABT450/ritonavir/ABT-267 (ABT-450/a/abt-267) and ABT-333 administered in combination with ribavirin (RBV) in previously treated chronic HCV-1 adult patients (SAP-HIRE-III). PI: Dr/a Rivero Román, Antonio

0138/13: Changes in liver steatosis after replacing efavirenz with raltegravir in HIV/HCV co-infected patients with two nucleoside 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 HCV 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 bacteremic urinary tract infections 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 / alafenamide tenofovir (D / C / F / TAF) front the continuation of the current regimen consisting of an inhibitor boosted protease (PII) 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

0009/10/2: Long-term follow-up of participants in a phase II or III SCH 503034 trial for the treatment of chronic Hepatitis C. PI: Dr/a Rivero Román, Antonio

0124/15: Switch to MK-1439A in HIV-1-infected Subjects Virologically Suppressed on a Regimen of a Ritonavir-boosted Protease Inhibitor and Two Nucleoside Reverse Transcriptase Inhibitors (NRTIs). PI: Dr/a Rivero Román, Antonio

0174/15: Phase 3 trial, randomized, active-controlled, double-blind treatment to evaluate the safety and efficacy of the combined regimen of darunavir / cobicistat / emtricitabine / alafenamide 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

0032/08/2015: 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, 4 and 9 on the risk of cytomegalovirus infection after transplantation and its usefulness in prevention. PI: Dr/a Cantisán Bohorquez, Sara

2548: Hepatic safety of Entecavir 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

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

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

2851: Efficacy and Safety of Entecavir for chronic hepatitis B in patients coinfected with HIV / HBV. 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 Ahufinger, Irene

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

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

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 multina- tional study. PI: Dr/a De la Torre Cisneros, Julián Carlos

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

2851: Efficacy and Safety of Entecavir for chronic hepatitis B in patients coinfected with HIV / HBV. 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 Ahufinger, Irene

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

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

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

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
Inflammation and cancer

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Publications
11
Impact Factor
41,730
Average Impact Factor
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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 hoxoximetic 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 Papers


Research Funding

National


Journals


**JOURNAL OF CHEMISTRY**: Selenium to inhibit the release of pro-inflammatory mediators in macrophages. FITOTERAPIA. 2015. 105:73-82.


Muñoz Blanco, E. Preclinical development of VCE-003.2 for the treatment of Huntington’s Disease (CANNADERIV) Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO). Reference: RTC-2015-3364-1

Regional


Contracts with Companies

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

Muñoz Blanco, E. Outsourcing within the INNTERCONECTA 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. Prolonged. Outsourcing within the INNTERCONECTA project SNC-INTEGR. "Integration of technological platforms for the development of drugs for the treatment of central neural system diseases”. Funding agency: Vivacell Biotechnology Spain SL. Reference: 12012115
Systemic and chronic inflammatory autoimmune diseases of the locomotor system and connective tissue

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Cristina Carmona Moriel
Desiré Ruiz Vilchez
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 arthropathies (with special emphasis on Spondyloarthritis including Psoriatic Arthritis). We use synergistically clinical-therapeutic, molecular and cellular approaches.

1. Research Area: Systemic autoimmune diseases
   1.1 Atherothrombosis in Systemic autoimmune diseases. IR: Rosario López Pedrera.
   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.

   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: RESPONDIA). 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.
Scientific Production

Original Papers


Original Editorial Material / Correction


Papers in Collaboration


Reviews in Collaboration

Rodriguez-Cuenca S, Barbarroja N, Vidal-Puig A. Dihydroceramide desaturase 1, the gatekeeper of ceramide induced lipidotoxicity. BIO CHIMICA ET BIOPHYSICA ACTA-MOLECULAR AND CELL BIOLOGY OF LIPIDS. 1851(1):40-50. IF: 5,162 Q: 1 D: 2

Research Funding

National


Font Ugalde, P. Charaterization of new mole cular targets involved in the inflammation and bone neoformation in the Ankylosing Spondylitis. Therapeutic alternatives. Fund ancing agency: Fundacion Española de Reumatologia (Spanish Rheumatology Foundation). Reference: FER14.001


Regional

Pérez Guijo, V. Performing a biomechanical analysis of movement and balance to assess the effectiveness of intraarticular treatments


International

Collantes Estevez, E. PRECISESADS > ‘Molecular reclassification to find clinically useful biomarker for systemic autoimmune diseases’. Funding agency: European Commission Reference: IIM/0002

Contracts with Companies


Collantes Estevez, E. Movement as a support tool for clinical decision in rheumatology patients. Funding agency: MT Global (Specials Events). Reference: PSS.0023


Collantes Estevez, E. Agreement Rheumatoid arthritis. Funding agency: Fundacion Española de Reumatología (Spanish Rheumatology Foundation). Reference: CCB.0013

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


López Pedreña, R. Sponsored Research Agreement KANEXA. Funding agency: Kaneka Corporation. Reference: CCB.0054

Collantes Estevez, E. Sponsored Research Agreement ROCHE. Funding agency: Roche Farma SA. Reference: CCB.0067

Font Ugalde, P. Sponsored Research Agreement FER. Funding agency: FUNDACION ESPAÑOLA DE REUMATOLOGIA. Reference: CCB.0080

Collantes Estevez, E. Sponsored Research Agreement ROCHE...Funding agency: ROCHE FARMA, S.A. Reference: CCB.0100

Clinical Trials

0113/12: Assessment of the clinical utility of a standardized dose-reduction protocol in patients with axiolic spondylitis in persistent clinical remission on treatment with TNF antagonists: An open, multicenter, controlled, randomized study. PI: Dr/a Collantes Estevez, Eduardo

0125/12: A multicenter, randomized, placebo-controlled, double-blind, parallel-group phase III study to assess the efficacy and safety of Apremilast (CC-10004) in the treatment of active ankylosing spondylitis. PI: Dr/a Collantes Estevez, Eduardo

0291/12: A randomized, double-blind, placebo-controlled study to assess the safety, tolerability, pharmacokinetics, pharmacodynamic and clinical effectiveness of multiple subcutaneous doses of BI655064 in healthy subjects and patients with rheumatoid arthritis showing not satisfactory response to a previous treatment with methotrexate. PI: Dr/a Escudero Contreras, Alejandro

0320/12: A randomized, double-blind, placebo-controlled, 52-week duration study to assess adverse events of special interest in adults with systemic antibody positive lupus erythematosus receiving belimumab. PI: Dr/a Aguirre Zamorano, Mª Ángeles

0015/13: A randomized, placebo-controlled study of sarilumab and methotrexate vs etanercept in combination with MTX in patients with rheumatoid arthritis showing inadequate response after four months of treatment with adalimumab and MTX. PI: Dr/a Collantes Estevez, Eduardo

0079/13: A randomized, double-blind, placebo-controlled, phase II, dose-finding study to assess the efficacy and safety of tocitabin in patients with active ankylosing spondylitis. PI: Dr/a Collantes Estevez, Eduardo

0105/13: A multicenter, randomized, double-blind, placebo-controlled, phase IIb, dose-finding study of GLPG0634 administered for 24 weeks in combination with methotrexate to patients with active moderate to severe rheumatoid arthritis with inadequate response to methotrexate alone. PI: Dr/a Escudero Contreras, Alejandro

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

0054/14/A non-controlled study to assess the effectiveness of tocilizumab in patients with moderate or severe rheumatoid arthritis who are candidate for monotherapy with a biological agent. PI: Dr/a Escudero Contreras, Alejandro

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 moderately to severely active rheumatoid arthritis who have an inadequate response to methotrexate. PI: Dr/a Escudero Contreras, Alejandro

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

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

0220/10: Randomized, double-blind, parallel group placebo-controlled study to evaluate the safety and reduction of signs and symptoms during treatment with tocilizumab (TCZ) compared to placebo in patients with ankylosing spondylitis who have had an inadequate response to treatment study prior to TNF antagonist. PI: Dr/a Collantes Estevez, Eduardo

0219/10: Randomized, double-blind, parallel group placebo-controlled study to evaluate the safety and reduction of signs and symptoms during treatment with tocilizumab (TCZ) compared to placebo in patients with ankylosing spondylitis who have had an inadequate response to treatment study prior to TNF antagonist. PI: Dr/a Collantes Estevez, Eduardo

0363/14: Phase IIb study, multicentric, randomized, double-blind, ALX-0061 as monotherapy administered subcutaneously in sub-
jects with rheumatoid arthritis with moderate to severe intolerance to methotrexate or for whom continued treatment with medication.

PI: Dr/a Escudero Contreras, Alejandro

0029/15: A randomized, double-blind, placebo-controlled study with an open label extension to evaluate the safety and efficacy of brodalumab in subjects with axial spondyloarthritis.

PI: Dr/a Collantes Estevez, Eduardo

0040/15: Phase III, multicenter, randomized, double-blind, placebo-controlled secukinumab (150mg) po 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


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 Ángel


PI: Dr/a Collantes Estevez, Eduardo

2031: Immunogenicity in anti-TNF therapies in patients with rheumatic diseases.

PI: Dr/a Castro Villegas, Mª Carmen

2219: Beneficial effects of coenzyme Q10 treatment on the mitochondrial dysfunction and oxidative stress associated to atherosclerosis 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

2611: GEMA 2 project. Evaluation and management.

PI: Dr/a Escudero Contreras, Alejandro

2687: Assessing and certifying healthcare quality in the clinical management of rheumatoid arthritis according to the Tream to Target (T2T) strategy.

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

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

PI: Dr/a Collantes Estevez, Eduardo

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

PI: Dr/a Collantes Estevez, Eduardo
New Therapies in Cancer

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Emerging Researcher (ER)
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Publications
27
Impact Factor
144,773
Average Impact Factor
5,361

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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 published clinical evolutionary models for predicting colon and breast cancer; in addition, we have conducted studies on polymorphisms such as UGT1A1, GSTT1 and CYP2D6, and neoplasms in relation to both their toxicity and response. We participate very actively in the development of new therapeutic strategies using drugs aimed at specific targets. To achieve this, we are currently carrying out research studies to develop response markers to this type of (mostly anti-angiogenic) therapies. 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 different experimental models and diseases. Our research is aimed at exploring pathogenic mechanisms and identifying new therapeutic options and targets. 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. Our research has focused so far on different models of hepatocellular injury. However, given the importance of inflammation and nitric oxide production in cancer, we are also conducting studies in experimental models of colon and breast cancer and in clinical samples of patients with this type of neoplasm undergoing different antitumoural treatments.

Keywords

Colon Cancer; Breast 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 Papers


Q: 1 D: 1


Q: 1


Q: 2 IF: 2,734


Q: 3 IF: 3,362


Q: 3 IF: 2,734


Q: 3 IF: 4,149

IF: 18,428


Q: 2 IF: 0,077

Papers in Collaboration


Q: 1 IF: 18,428


Q: 2 IF: 10,377

Q: 1 D: 1

Treatment study of Abagovomab in patients with epithelial ovarian cancer after complete response to first-line chemotherapy.

PI: Dr/a Rubio Pérez, María Jesús

0030/07: 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

0106/07: A randomized study of adjuvant chemotherapy individualized according to BRCA1 ARNm levels in patients with non-small cell lung cancer.

PI: Dr/a Barneto Aranda, Isidoro

0165/07: An open, multicenter, randomized, parallel-group, phase III trial to compare the effectiveness and tolerability of administering Fulvestrant (FASLO-DEX®) for three years in combination with Anastrozol (ARIMIDEX®) for five years versus Anastrozol for five years as adjuvant hormone treatment in postmenopausal women with early hormone-receptor-positive breast cancer.

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

0144/08: A randomized, phase II clinical study of radiotherapy, hormone therapy and chemotherapy with docetaxel versus radiotherapy and hormone therapy in patients with high-risk localized prostate cancer (Stage III and IV).

PI: Dr/a Aranda Aguilar, Enrique

0265/08: Topotecan plus carboplatin vs standard treatment (paclitaxel plus carboplatin or gemcitabine) 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

0048/09: A randomized, phase II study of cetuximab plus Bevacizumab + external radiotherapy versus Cetuximab+external 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 of rutin (HKI-2727) 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

0002/10: A phase II study of capcitabina-trastuzumab (velox-trastuzumab) as perioperative treatment in patients with nonresectable gastric or gastroesophageal junction adenocarcinoma.

PI: Dr/a Aranda Aguilar, Enrique

0013/10: A multicenter, randomized, phase II, pilot study to assess the safety and efficacy of a treatment with mFOLFOX-6 plus cetuximab versus an initial treatment with 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

0215/10: A randomized, double-blind, phase II trial of panitumab administered weekly plus placebo in women with recurrent partially platinum-sensitive or platinum-resistant recurrent colorectal cancer. GECA.

PI: Dr/a Aranda Aguilar, Enrique

0327/10: An open, multicenter, expanded access study of RO5185426 in patients with metastatic melanoma.

PI: Dr/a Aranda Aguilar, Enrique

0259/10: Open and randomized phase II study of lapatinib plus trastuzumab plus chemotherapy compared to chemotherapy as first-line treatment of women with HER2-positive metastatic breast cancer.

PI: Dr/a Rubio Pérez, María Jesús

0152/10: Phase II Clinical Trial uncontrolled, prospective multicenter to determine the clinical benefit and toxicity of Pazopanib, multi-target inhibitor of receptor tyrosine kinase activity (VEGFR-1, -2, -3, PDGFR-beta and Alfa and C-Kit) in patients with advanced ovarian cancer resistant to platinum.

PI: Dr/a Rubio Pérez, María Jesús

0268/10: Randomized Phase II clinical trial of docetaxel-carboplatin in combination with ni-parib (BSI-201) and docetaxel-carboplatin as neoadjuvant treatment of patients with early stage breast cancer and triple-negative phenotype.

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

0054/11: A multicenter, controlled, double-blind trial by the Gynaecologic Cancer Intergroup of Cediranib (AZD 2171) in combination with platinum-based chemotherapy and as a single agent in maintenance therapy in women with relapsing ovarian cancer six months after completion of first-line platinum-based treatment.

PI: Dr/a Rubio Pérez, María Jesús

0129/11: A phase II study of Axitinib as maintenance treatment in patients with metastatic colorectal carcinoma.

PI: Dr/a Aranda Aguilar, Enrique

0198/11: A multicenter, randomized, double-blind, placebo-controlled study to compare chemotherapy plus trastuzumab and placebo versus chemotherapy plus trastuzumab and pertuzumab as adjuvant treat-
ment in HER-2 positive primary breast cancer patients.

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

0226/11: A phase II open label study of cabazitaxel in patients with advanced or metastatic transitional cell carcinoma of the urethra who have progressed 12 months after a previous platinum-based chemotherapy.

PI: Dr/a Ménendez Vidal, Maria Jose


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

0240/11: An open, multicenter, phase II study of E7080 alone or in combination with Everolimus in patients with nonresectable or metastatic renal cell cancer after a targeted anti-VEGF therapy.

PI: Dr/a Ménendez Vidal, Maria Jose

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 + bev- acizumab 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

0081/12: An open, multicenter, single-arm, non-randomized, phase II study to assess the effectiveness of oral TKI258 as second-line therapy in patients with advanced and/or metastatic endometrial cancer with mutated or wild-type FGFR2.

PI: Dr/a Rubio Pérez, María Jesús

0104/12: An expanded access study for postmenopausal women with estrogen receptor positive locally advanced or metastatic breast cancer who have progressed following prior endocrine therapy, investigating the treatment of everolimus (RAD001) in combination with exemestane.

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

0123/12: Radium-233 chloride (Alphardin) in patients with castration-resistant hormone-resistant prostate cancer with bone metastasis.

PI: Dr/a Ménendez Vidal, Maria Jose

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 in-

hibitor.

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 PROSTAVAC-VF + FEC-GM in patients with asymptomatic or minimally symptomatic castration-resistant prostate cancer.

PI: Dr/a Ménendez Vidal, Maria Jose

0312/12: A multicenter, randomized, double-blind, placebo-controlled, phase III trial to assess the efficacy and safety of pertuzumab in combination with to assess the efficacy of 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 pre-surgical chemotherapy with or without Bevacizumab in patients with advanced ovarian cancer.

PI: Dr/a Rubio Pérez, María Jesús

0363/12: An open, randomized, phase III trial of cisplatin and 5-FU with or without punitumumab 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 Dacomitinib (PF-00299804) vs. Gefitinib in first-line treatment of patients with nonresectable small-cell lung cancer in patients with activating mutation(s) of the epi-

dermal growth factor (EGF) receptor.

PI: Dr/a Barneto Aranda, Isidoro

0049/13: A randomized, double-blind, phase III study to assess the efficacy and safety of Gemcitabine in combination with TH-302 vs. Gemcitabine plus placebo in patients with locally advanced nonresectable pancreas ade-

nocarcinoma.

PI: Dr/a Aranda Aguilar, Enrique

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

PI: Dr/a Aranda Aguilar, Enrique

0132/12: A multicenter, randomized, dou-

ble-blind, placebo-controlled, phase III study of maintenance therapy with Olaparib alone in patients with BRCA-positive ovarian cancer or with platinum-sensitive relapsed ovarian cancer with complete response, or patients with EGFR activating mutations.

PI: Dr/a Rubio Pérez, María Jesús

0136/13: A multicenter, randomized, dou-

ble-blind, placebo-controlled, phase III study of maintenance therapy with Olaparib alone in patients with FIGO stage IIIB-IV ovarian cancer with complete or partial response after platinum-based first-line chemotherapy.

PI: Dr/a Rubio Pérez, María Jesús

0144/13: A randomized, multicenter, open, phase II/III study of nab-paclitaxel adminis-
tered weekly in combination with gemcitabine or carboplatin vs gemcitabine/carboplatin as first-line treatment in patients with RE-, RPg- or HER2-negative metastatic breast cancer (triple negative).

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

0181/13: Ensayo en fase III, aleatorizado, de ganetespib en combinación con docetaxel frente a docetaxel solo en pacientes con ade-
nocarcinoma de pulmón no microcitico avanzado.

PI: Dr/a Barneto Aranda, Isidoro

0230/13: A randomized, double-blind, pla-

cebo-controlled, phase III study of adjuvant regorafenib vs. placebo in patients with IV stage colorectal cancer after curative treat-

ment of liver metastasis.

PI: Dr/a Aranda Aguilar, Enrique

0252/13: An open, single-arm, pilot study to assess the association of the hormone resis-
tance biomarkers and mTOR pathway with the clinical efficacy of everolimus plus letrozol in first-line treatment of postmenopausal women with nonresectable metastatic or locally advanced hormone-receptor positive breast cancer.

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

0246/13: Ablatieronata acetate maintenance in combination with docetaxel after disease progression to abiraterona acetate in meta-

static castration resistant prostate cancer. Randomized phase II study.

PI: Dr/a Ménendez Vidal, Maria Jose

0281/13: A study of the safety of repeat-

ing treatment with Radium-233 chloride in patients with castration-resistant prostate cancer with bone metastasis receiving an ini-
tial cycle with six 50 Kd/kg doses of Radi-

um-233 chloride.

PI: Dr/a Ménendez Vidal, Maria Jose

0323/13: El estudio MILO (Inhibidor de la MEK para el Tratamiento del Cáncer Sero-

so de Ovario de Bajo Grado): Estudio fase IIIb de ovario no microcítico.

PI: Dr/a Aranda Aguilar, Enrique

065/13: Quimioterapia neoadyuvante con nab-paclitaxel en pacientes con cáncer de mama her2 negativo de alto riesgo (ETNA).

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

82/13: Estudio abierto de afatinib en paci-

entes no tratados (primera línea) o tratados previamente con quimioterapia con cáncer de pulmón no microcitico (cpnm) localmente avanzado o metastásico portadores de mutación de EGFR.

PI: Dr/a Barneto Aranda, Isidoro

97/13: Estudio de fase III, aleatorizado y doble ciego para comparar Vintafoled (EC 145) y doxorubicina liposómica pegilada (DLP-Dox-
0026/14: Estudio de fase II abierto, aleatoriza-
do, de tres grupos, de dicloruro de radio-223
de 50kBq/kg en comparación con 80 kBq/kg y
50 kBq/kg en un programa de dosis ampliado
en pacientes con cáncer de próstata resistente
da la castración con metástasis ósea.
PI: Dr/a Méndez Vidal, María Jose

0036/14: A PHASE II randomized, dou-
ble-blind study of neoadjuvant letrozole plus
GDC-0032 versus letrozole plus placebo six
months following treatment.
PI: Dr/a Rubio Pérez, María Jesús

0050/14: An open-label, phase II trial of Or-
tobrinate (ARP-700) for metastatic or advanced
non-resectable granulosa cell ovarian tumors.
GreKo study II.
PI Dr/a Rubio Pérez, María Jesús

0052/14: A multicenter, randomized, open,
controlled, phase III study to assess the effi-
cacy and safety of olaparib alone vs. chem-
otherapy of choice in patients with metastatic
breast cancer with mutations.
PI Dr/a De La Haba Rodríguez, Juan Rafael

0059/14: A phase III study to assess the efficacy
of palbociclib (PD-0332991), a cy-
cin-dependent kinase 4/6 inhibitor in pa-
tients with primary HR positive breast cancer
and normal HER2 at high risk of relapse fol-
lowing chemotherapy.
PI: Dr/a De la Haba Rodríguez, Juan Rafael

0065/14: A phase II study of Regorafenib
alone in patients with metastatic colorectal
cancer with mutations in RAS or BRAF pre-
viously treated with FOLFOXIRI PLUS beva-
cizumab.
PI Dr/a Aranda Aguilar, Enrique

0094/14: A randomised, double-blind, pla-
cebo-controlled, multicentre phase II study
to compare efficacy, safety and tolerability
of olaparib versus placebo when given in
addition to abiraterone treatment in patients
with metastatic castrate-resistant prostate
cancer who have received prior chemother-
apy containing enzalutamide.
PI: Dr/a Méndez Vidal, María José

0105/14: A multinational, multicenter, phase
II study to assess efficacy and safety of pertuzumab
plus trastuzumab and neoadjuvant chemother-
apy based on anthracyclines in patients with
locally advanced, inflammatory or early posi-
tive her2 breast cancer.
PI Dr/a De la Haba Rodríguez, Juan Rafael

0107/14: A multicenter, randomized, dou-
ble-blind phase II study to assess the efficacy
and safety of RO520985 plus FOLFx versus
bevacizumab plus FOLFx in patients with
naive metastatic colorectal cancer.
PI Dr/a Aranda Aguilar, Enrique

0124/14: A multicenter, randomized, place-
bo-controlled, parallel-group phase III study
to assess the efficacy and safety of olapar-
ib as neoadjuvant treatment in patients with
high-risk HER2 negative breast cancer.
PI: Dr/a Aranda Aguilar, Enrique

0151/14: Assessing an immunomodulatory
maintenance therapy in patients with meta-
static colorectal cancer with tumor shrinkage
during induction therapy. A phase III trial.
PI 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. Hoff-
mann-La Roche and/or Genentech.
PI: Dr/a Rubio Pérez, María Jesús

0191/14: A randomized, open-label, phase III
study to assess the effectiveness of including
denosumab in standard first-line chemother-
apy for advanced small cell lung cancer.
PI Dr/a Barneto Aranda, Isidoro

0265/14: Phase II of pazopanib and weekly
paclitaxel administration in patients with lo-
CALLY advanced metastatic squamous cell car-
inoma of the penis who have been previously
treated with chemotherapy regimens that in-
clude platinum study.
PI: Dr/a Méndez Vidal, María Jose

0267/14: Phase II multicenter study that an-
alyses the predictive value of response to
ENZALUTAMIDE fusion gene TMPRSS2-ET-S in
patients with metastatic CRPC previously
with chemotherapy.
PI: Dr/a Méndez Vidal, María Jose

0270/14: Phase II randomized double-blind
study comparing treatment every 3 weeks with
carboplatin (AUC 5) + 175 mg / m2 of
paclitaxel, within 2 concomitant nino-
ledabin and maintenance in advanced or re-
current cervical carcinoma.
PI Dr/a Rubio Pérez, María Jesús

0309/14: A randomized, double-blind, placebo-
controlled, phase II study of pertuzumab and in the
treatment of hormone receptor (HR) and negative
HER2 at high risk of relapse following treat-
ment with trastuzumab and endocrine therapy.
PI: Dr/a De La Haba Rodríguez, Juan Rafael

0362/14: Phase II Clinical Trial of Pembrol-
zumab (MK-3475) in Subjects with Advanced/
Unresectable or Metastatic Urothelial Cancer.
PI: Dr/a Méndez Vidal, María Jose

0358/14: A multicenter phase II clinical trial of
lurbinectin (pm01183) in selected advanced
solid tumors.
PI: Dr/a Rubio Pérez, María Jesús

0309/14A: A randomized, open label study as MM-302 plus Trastuzumab vs. chemotherapy of physician’s choice plus trastuzumab in antracyclines in naive patients with locally advanced/metastatic HER2-Pos-
itive breast cancer.
PI: Dr/a De La Haba Rodríguez, Juan Rafael

0194/14: A multinational randomised, dou-
ble-blind, placebo-controlled, phase III effica-
cy and safety study of ODM-201 in men with
high-risk non-metastatic castration-resistant
prostate cancer.
PI: Dr/a Méndez Vidal, María Jose

0005/15: Multicenter, open single-arm safe-
ty study of herceptin s.c. in combination with
doxetaxel PERJETA and in the treatment of
tumors receiving treatment with bevacizumab,
in any of the studies sponsored by F. Hoff-
mann-La Roche and/or Genentech.
PI: Dr/a Aranda Aguilar, Enrique

0055/15A: A phase III, open-label, randomized
clinical trial of mpd3280a (anti-pd1 antibody)
in combination with carboplatin - paclitaxel with
or without bevacizumab compared with car-
bo- paclitaxel -bevacizumab in chemotherapy
naive patients with stage iv nonsqua-
mous non-small cell lung cancer.
PI: Dr/a Barneto Aranda, Isidoro

0060/15: A phase III, open-label, randomized,
controlled phase III to assess the efficacy and safety of mpd3280a (anti-pd1 antibody)
in combination with carboplatin - paclitaxel or
mpd3280a in combination with carboplatin-
na paclitaxel versus carboplatin - nab-pa-
clitaxel in chemotherapy naive 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-
sion by her doctor in the treatment of ovarian
cancer relapsed platinum-susceptible in pa-
tients carrying germline mutations BRCA1 /2
and normal HER2 positive who have received prior
chemotherapy.
PI Dr/a Aranda Aguilar, Enrique

0144/15: A Randomized, Active-Controlled,
with locally advanced inhibitor (All) versus trastu-
zumab plus an AI and against lapatinib plus an
AI as first or second line therapy in postmeno-
pausal patients with cancer metastatic breast
(MBC) HER2 positive and hormone receptor-positive who have received prior
therapy treatment with trastuzumab and endocrine therapy.
PI: Dr/a De La Haba Rodríguez, Juan Rafael
0176/15: Phase II, multicenter, randomized, double-blind, parallel group study to compare the efficacy and tolerability of fulvestrant (FaslodexTM) 500 mg with placebo and Fulvestrant (FaslodexTM) 500 mg in combination with PD-032991 (Pallboiclib) as first-line treatment for postmenopausal patients with metastatic breast cancer and hormone receptor positive. FLIPPER study.
PI: Dr/a De La Haba Rodríguez, Juan Rafael

0226/15: Phase 0 study, pharmacokinetic / pharmacodynamic, multicenter, to evaluate the effect inhibitor AZD2281 (olapibib) before surgery in patients concarcinoma with the endometrium located.
PI: Dr/a Rubio Pérez, María Jesús

0140/15: Evaluation of the effect of luri-nectineda (PM11183) in cardiac repolarization (QTc duration) in selected patients with solid tumors.
PI Dr/a Rubio Pérez, María Jesús

0045/15: A Randomized, Double-blind, Placebo-Controlled, Phase 2 Study to Assess the Efficacy and Safety of Farletuzumab (MORAb 003) in Combination with Carboplatin plus Paclitaxel or Carboplatin plus Pegylated Lipo-somal Doxorubicin (PLD) in Subjects with Low CA125 Platinum-Sensitive Ovarian Cancer.
PI Dr/a Rubio Pérez, María Jesús

0295/15: Multicenter randomized clinical trial on maintenance treatment based on biomarkers for first line metastatic colorectal cancer (modul).
PI: Dr/a Aranda Aguilar, Enrique

0026/15: Phase II study randomized, multicenter, open to evaluate the efficacy and safety of palbociclib in combination with fulvestrant or letrozole in patients with HER2 negative metastatic breast cancer, ER + (PAR-SIFAL 1)
PI Drs.

0019/15: Phase III, randomized, open MP D12380A (anti PD-L1) in combination with BEVAZUMAB compared to sunitinib in patients with metastatic renal cell carcinoma. PI: Dr/a Méndez Vidal, María Jose

0195/15: Phase III randomized trial with the monoclonal anti-PD-1 pembrolizumab (MK-3475) antibody compared to placebo in patients with NSCLC in early stages after resec- tion and completion of adjuvant treatment reference (PEARLS).
PI Dr/a Barneto Aranda, Isidoro

0020/15: Phase III open randomized clinical trial pembrolizumab (MK-3475) versus paclitaxel in patients with gastric adenocarcino- ma or advanced gastroesopagic which have submitted progression after first-line treat- ment with platinum and fluoropyrimidine
PI: Dr/a Aranda Aguilar, Enrique

0192/15: Phase III study, open, randomized trial to investigate the efficacy and safety of Atezolizumab (anti-PD-L1 antibody) compared to tratamientooptimal support after adjuvant cisplatin-based chemotherapy in select- ed PD-L1 with completely resected lung can- cer patients in small cell stage II-IIIA .
PI Dr/a Barneto Aranda, Isidoro

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

2107: A retrospective study of the manage- ment of patients with metastatic colorectal cancer resistant to first-line oxaliplatin-based therapy.
PI: Dr/a Aranda Aguilar, Enrique

2149: Prospective observational study for the purpose of assessing the impact of the de- termination of the intrinsic subtypes of breast cancer by PAM50 technology in women with breast cancer with positive and negative lymph hormonales receptors.
NanoString study
PI: Dr/a De La Haba Rodríguez, Juan Rafael

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

PI: Dr/a Méndez Vidal, María Jose

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

2348: Register of rare sarcomas: A tool to assess the number of cases registered for each subtype and the therapeutic approach used by the Grupo Español de Investigación en Sarcomas (GEIS).
PI: Dr/a Barneto Aranda, Isidoro

2456: An epidemiologic study of the natural course and management of locally advanced or metastatic breast cancer: CASCADE study.
PI Dr/a De la Haba Rodríguez, Juan Rafael

PI Dr/a Rubio Pérez, María Jesús

2573: Molecular profiling of gestational breast cancer.
PI Dr/a De la Haba Rodríguez, Juan Rafael

2613/2: Epidemiological prospective observ- ational study for the purpose of evaluating the relationship between burnout syndrome in doctors and chronic pain relief in patients.
PI: Dr/a Barneto Aranda, Isidoro

2632: Improving the selection of patients with metastatic colorectal cancer who are candidate for biological therapies: Expanded genotyping using next-generation platforms with different sensitivities.
PI Dr/a Aranda Aguilar, Enrique

2636: A retrospective study to assess the purpput of efficacy and safety of targeted therapies follow- ing first-line therapy with pazopanib in patients with metastatic renal cell cancer in regular clinical practice.
PI Dr/a Méndez Vidal, María José

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

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

2735: Postlicensing retrospective multicenter study to analyze the efficacy and safety of the combination of trabectedin and pegylat- ed liposomal doxorubicin (PLD) for the treat- ment of patients with recurrent ovarian can- cer (ROC) sensitive to platinum, according to data sheet.
PI Dr/a Rubio Pérez, María Jesús

2902: Prospective Development of predictive and prognostic tools for optimization Frontline treatment 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: Perfil clinic y manejo terapéutico de los pacientes con cáncer de páncreas; Regis- tro en los Servicios Hospitalarios de Oncolo- gia Médica de España
PI Dr/a Aranda Aguilar, Enrique

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

2930: The T790M mutation detection tech- nology 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: compari- son of next generation platforms for genotyping of circulating tumor DNA.
PI Dr/a Aranda Aguilar, Enrique
Nephrology. Cell damage in chronic inflammation

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Luis González Burdiel

Other members of the Group
(Nursing, Technical, and Administrative Staff)
María José Jimenez Moral
Mª Rosa Moyano García
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, hemodialysis 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 Papers


Papers In Collaboration


IF: 0.982 Q: 3


Reviews In Collaboration

Alique M, Luna C, Carrasco J, Ramírez R. LDL biochemical modifications: a link between atherosclerosis and aging. FOOD & NUTRITION RESEARCH. 2015.201559:

IF: 2,162 Q: 1


IF: 0.982 Q: 3

Editorial Material in Collaboration


IF: 1,223 Q: 3

National


Regional


Clinical Trials

0083/13: A randomized, prospective, open, parallel-group, multicenter study with masked assessment of evaluation criteria (PROBE1 Design) to compare the efficacy of adminis-tering enalapril 20 mg plus lercanidipine.

PI: Dr/a Santamaría Olmo, Rafael


PI: Dr/a Santamaría Olmo, Rafael


PI: Dr/a Rodríguez Benot, Alberto


PI: Dr/a Álvarez de Lara Sánchez, Mª Antonia


PI: Dr/a Santamaría Olmo, Rafael

0219/13: A randomized, multicenter, paral-lel-group, active-controlled, dose-ranging, phase 2B study to assess the dose-response
relation of GSK1278863 within the first four weeks of treatment, and assess the safety and efficacy of GSK1278863 for 24 weeks in patients with anaemia associated with chronic kidney disease requiring hemodialysis receiving recombinant human erythropoietin.

PI: Dr/a Álvarez de Lara Sánchez, Mª Antonia


PI: Dr/a Sagrario Soriano, María

0239/13: A 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 Álvarez De Lara Sánchez; Maria Antonia

0263/13: An observer-blind study to assess the immunogenicity and safety of GSK Biologicals’ subunit GSK143773A vaccine against Herpes Zoster (H2(Z)) in kidney transplantation recipients aged >18.

PI: Dr/a Agüera Morales, Mª Luisa

0264/13: A randomized, multicenter, open-label, parallel-group study to assess the efficacy and safety of oral administration of BAY 85-3934 and an active comparator (darbepoetin alfa) as maintenance treatment for anemia prior to dialysis.

PI: Dr/a Soriano Cabrera, Sagrario

0265/13: A multicenter, open-label, parallel-group, extension study to assess the efficacy and safety of oral administration of BAY 853934 and an active comparator (darbepoetin alfa) in long-term treatment for anemia prior to stable dialysis.

PI: Dr/a Soriano Cabrera, Sagrario

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. 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. Navarro Cabello; Maria Dolores

0229/14: A randomized, open, phase III study controlled with an active treatment to assess the efficacy and safety of roxadustat as maintenance therapy for anemia in end-stage renal failure patients receiving stable dialysis.

PI: Dr/a Alvarez De Lara Sánchez; Maria Antonia

0024/15: Multicentered 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


PI: Dr/a Agüera Morales, Mª Luisa

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: A multinational, multicenter, observational, non-interventional study of patients with atypical hemolytic uremic syndrome (SHUA register).

PI: Dr/a Espinosa Hernández; Mario

2391: A multicenter, retrospective study to determine the factors affecting survival in patients who have received pancreas transplants. EFISPA study

PI: Dr/a Navarro Cabello; Maria Dolores

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 Cabrera; 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
**Hormones and Cancer**

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Juan Manuel Jiménez Vacas  
Bethan Mansfield  
Mª Eugenia Prados González  
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**Other members of the Group**
(Nursing, Technical, and Administrative Staff)
Esther Rivero Cortés  
Fernando López López
**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/disassociation 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 tumours; Prostate cancer; Breast cancer.

**Scientific Production**

**Publications**

**Original Papers**


IF: 6.359
Q: 1 D: 1


IF: 5.578
Q: 1 D: 1


IF: 5.621
Q: 1


IF: 3,234
Q: 1


IF: 4,503
Q: 1

Pedraza-Arévalo S, Córdoba-Chacón J, Pozo-Salas Al, Lopez FL, de Leea L, Gahe, MD, Cañeto, JP, Luque RM. Not so giants: Mice lacking both somatostatin and cortistatin have high GH levels but show no changes in growth rate or IGF-1 levels. ENDOCRINOLOGY. 2015. 158(6):1958-1964.

IF: 4,503
Q: 1

**Papers In Collaboration**


IF: 4,503
Q: 1


IF: 3,457
Q: 2

associates with aggressiveness in medullary thyroid carcinoma cells. ENDOCRINE. 2015. 50(2):442-452.
IF: 3.878
Q: 2

IF: 1.407
Q: 4

Cordoba-Chacon J, Majumdar N, Pokala NK, Gahe te MD, Kineman RD. Islet insulin content and release are increased in male mice with elevated endogenous GH and IGF-I, without evidence of systemic insulin resistance or alterations in beta-cell mass. GROWTH HORMONE & IGF RESEARCH. 25(4):189-195.
IF: 1.407
Q: 4

Research Funding

Regional

Luque Huertas, RM. Functional role and therapeutic potential of aberrant splicing variants of the ghrelin system (In1-ghrelin/GHS-R1b) and of the somatostatin receptor 5 (sstSTMD4/5) in pituitary tumors and in breast and prostate cancer. Funding agency: Regional Ministry of Equality, Health and Social Policies (CISPS). Reference: PI-0639-2012

Gahe te Ortiz, M D. 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


National


Luque Huertas, RM. Molecular, cellular, Endocrine-Metabolic and inflammatory factors involved in the pathological interaction between obesity and prostate cancer. Funding agency: Institute Carlos III Health (ISCIII). Reference: PI13/00651


Castaño Fuentes, JP (This project was funded as a collaborative initiative among different research groups). Detection system for volatile compounds for the precocious diagnostic of cancer (Project ONCOVER). Funding agency: MINECO/FEDER/UCO

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

Contracts with Companies

HIGHLIGHTS

IMIBIC SCIENTIFIC REPORT 2015

Publications
33

Impact Factor
125,815

Average Impact Factor
3,812

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PAIDI CTS-525 Scientific Group

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Rosa Jiménez Lucena
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José Andrés Morales Martínez
Gracia Mª Quintana Navarro
Isabel Pérez Corral

Nutrigenomics.
Metabolic syndrome
Scientific Activity

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 diets 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

Original Papers

Q: 1 D: 1

Q: 1 D: 1

Q: 1 D: 1

Q: 1

Q: 1

Q: 1

Q: 1

Q: 1

Herencia C, Rodriguez-Ortiz ME, Munoz-Castañeda JR, Martinez-Moreno JM, Canalejo R, Montes de Oca A, Diaz-Tocados JM, Peralbo-Santaella E, Marín C, Canalejo A, Rodriguez M, Almaden Y. Angiotensin II prevents the activation of genes involved in atherogenesis. Finally we have ongoing a clinical trial to rest the comparative effects of two healthy diets on clinical events in a coronary heart disease population.

Q: 1

Q: 3

Q: 3

Q: 3

Q: 3

Scientific Activity

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 diets 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.
**Original Letters**


IF: 6,526
Q: 1
D: 1

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**Papers in Collaboration**


IF: 10,377
Q: 1
D: 1

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IF: 8,095
Q: 1
D: 1

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IF: 6,209
Q: 1
D: 1

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IF: 6,209
Q: 1
D: 1

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IF: 3,234
Q: 1
D: 1

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IF: 3,491
Q: 1
D: 1

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IF: 5,630
Q: 1
D: 1

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IF: 6,209
Q: 1
D: 1

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IF: 6,209
Q: 1
D: 1

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IF: 6,209
Q: 1
D: 1

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IF: 1,04
Q: 1
D: 1

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IF: 1,425
Q: 2
D: 1

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Delgado Lista, FJ. Glucose project: developing a clinical tool for the identification, staging and individualized non-pharmacological treatment of coronary patients with high genetic risk of developing alterations in the metabolism of carbohydrates. Funding agency: Instituto Carlos III de Salud (ISCIII). Reference:PI13/00023

IF: 1,04
Q: 1
D: 1

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Research Funding

National


IF: 1,425
Q: 2
D: 1

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IF: 2,272
Q: 3
D: 1

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IF: 1,51
Q: 3
D: 1

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IF: 1,04
Q: 4
D: 1

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Pérez Martinez, P. Developing a technologi- cal 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: Instituto Carlos III de Salud (ISCIII). Reference: PI13/00185

IF: 1,04
Q: 1
D: 1

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PI13/00185

IMIBIC SCIENTIFIC REPORT 2015 | 97
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 (Met5), type 2 diabetes (T2DM) and fatty liver disease (FL): a multidisciplinary approach. Funding agency: Institute Carlos III Health (ISCIII). Reference: PIE 14/00031

Pérez Jiménez, F. Formalization of Economic Compensation Agreement. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO) Reference MCI.CIBEROBN

López Miranda, J. Effect of a Mediterranean diet rich in virgin olive oil on the risk and incidence of Type 2 Diabetes Mellitus: Cordioprev-diab. study. Funding agency: Spanish Ministry of Economy and Competitiveness (MINECO) .Reference:AGL2012-39615


International


Contracts with Companies


Montero Pérez-Barquero, M. Pzifer agreement. Funding agency: Pfizer. S.L.U. Reference: CCBE0070

Pérez Jiménez, F. Gendiag agreement. Funding agency: Gendiag Exe, S.L. Reference: 12011136

Pérez Jiménez, F. Nutritional Intervention Study to assess the evolution of health benefits derived from the consumption of half a century 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). Referen:PPS0011

López Miranda, J. Services Agreement TNO-FIBICO. Funding agency: TNO Earth, Environmental and LS. Reference: PSS0014

Montero Pérez-Barquero, M. Laboratorios Servier Agreement. Funding agency: Laboratorios Servier, S.L. Reference: PSS0051


Clinical Trials

0021/08: Two-year extension of a global multicenter, randomized, placebo-controlled, 76-week study to assess the tolerability and effectiveness of anacaprtib 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. PI: Dr/a Pérez Jiménez, Francisco

0159/11: Open label extension (OLE), controlled, multicenter study to assess the safety and long-term efficacy of AMG 145. PI: Dr/a Pérez Jiménez, José

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

0231/12: Evaluation of the clinical effects of cholesteryl ester transfer protein inhibition induced with evacetrapib in patients at a high cardiovascular risk. PI: Dr/a Pérez Jiménez, Francisco

0346/12: A multicenter, 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. PI: 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. PI: Dr/a Fuentes Jiménez, Francisco

0086/13: An open label extension (OLE), controlled, multicenter study to assess the safety and long-term efficacy of Alirocumab in patients with heterozygous familial hypercholesterolemia. PI: 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. PI: Dr/a Montero Pérez-Barquero, Manuel

0223/13: A multicenter, double-blind, placebo-controlled, parallel-group study to assess the effectiveness and safety of Alirocumab in statin-naive patients with primary heterozygous familial hypercholesterolemia. PI: Dr/a Fuentes Jiménez, Francisco

0282/13: A randomized, double-blind, double-blind, placebo-controlled, parallel-group, 52-week study to assess the efficacy, safety and tolerability of PF-04950615 in patients with heterozygous familial hypercholesterolemia. PI: Dr/a Pérez Martínez, Pablo

0295/13: A randomized, multicenter, 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. PI: Dr/a Pérez Martínez, Pablo

0296/13: A randomized, multicenter, 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. PI: Dr/a Pérez Martínez, Pablo

0314/13: A randomized, multicenter, double-blind, placebo-controlled, parallel-group study of the effects of Canaglifozin in renal
events in adult subjects with Diabetes Mellitus Type 2.
PI: Dr/a Fuentes Jiménez, Francisco

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
PI: Dr/a López Miranda, José

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 cholesterol to LDL density (LDL-C) in pediatric subjects 10-17 years of age with heterozygous familial hypercholesterolemia (HeFH).
PI: 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
PI: Dr/a Delgado Lista, Francisco Javier

2053: Xalia-Xarelto ® for initial long-term anticoagulation in venous thromboembolism (VTE).
PI: Dr/a Blanco Molina, Mª Ángeles

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

2566: Validating the ACTS questionnaire for patients with atrial fibrillation treated with oral anticoagulants in Internal Medicine and Neurology units in Spain. ALADI study.
PI: Dr/a Montero Pérez-Barquero, Manuel

2615/2: General, long-term registry of atrial fibrillation. EORP registry.
PI: Dr/a Montero Pérez-Barquero, Manuel

2717: Hydroxytyrosol influence on lipid profile, the metabolism of carbohydrates and endothelial function in individuals over 65 years of age.
PI: Dr/ Pérez Jiménez, Francisco

2766: Study tracked the clinical practice of the recommendation on the treatment with oral anticoagulants (OACs) in elderly patients with atrial fibrillation. ESPARTA study
PI: Dr/a López Jimenez, Luciano

2773: Hyperglycemia from stress as a prognostic marker in patients hospitalized for cardio-respiratory processes in internal medicine.
PI: Dr/a Montero Pérez-Barquero, Manuel

2847: Global anticoagulant registry in the field observing treatment and outcomes in patients with treated acute venous thromboembolic events in the real world.
PI: Dr/a López Jimenez, Luciano
Hormonal Regulation of Energy Balance, Puberty and Reproduction

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Responsible researcher: PAIDI BIO-310 Scientific Group

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Silvia León Téllez
María Manfredi Lozano
Juan Roa Rivas
Miguel Sánchez-Garrido Nogueras
María Jesús Vázquez Villar

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Leman Gizem Erkan (Visiting fellow)
Bárbara Lóbato Delgado
Carmen Mª López Rodríguez
Cecilia Mª Perdices López
Francisco Ruiz Pino
José Manuel Ruiz Rodríguez
Encarnación Torres Jiménez
Inmaculada Velasco Aguayo

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Ana Belén Pedraza Casado
Mª Jesús Sánchez Tapia
Ana Rodríguez Sánchez
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, neuromedins, 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; ghrelin; adipokines; neuropeptides; microRNAs; Polycystic ovary syndrome (PCOS).

Scientific Production

Publications

Original Papers

Lopez M, Tena-Sempere M. Estrogens and the control of energy homeostasis: a brain perspective. TRENDS IN ENDOCRINOLOGY AND METABOLISM. 2015.26(8):411-421. IF: 9,392 Q: 1 D: 1


Papers in Collaboration


Lomniczi A, Wright H, Castellano JM, Matagne V, Toro CA, Ramaswamy S, Plant TM, Ojeda SR. Epigenetic regulation of puberty via Zinc finger protein-mediated transcriptional repression. NATURE COMMUNICATIONS.2015. 6(10195). IF: 11,470 Q: 1 D: 1

IF: 3.318
Q: 1

Research Funding

Regional


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: PIE/1400005


International

Tena-Sempere, M. Epi-puberty-metabolic control of puberty: role of epigenetic regulatory mechanisms. Funding agency: European Commission. Reference: PI-OF-GA-2010-273034

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: Bioorganic Research and Services, S.A. Reference: PSS.0044
Metabolism and Adipocyte Differentiation. Metabolic Syndrome

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José Manuel Jiménez Pastor
Mª del Carmen Soler Vázquez
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Post-Doctoral Researchers
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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 Papers


Papers in Collaboration


Research Funding

Regional


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: PIE/1400055

Epidemiological Research in Primary Care

Team Leaders

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Research Network on preventive actions and health promotion in primary care (RedIAPP)
Responsible Researcher: GiEAP Group
PAIDI CTS-452 Scientific Group

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Antonio Blanco Hungría
Javier Fonseca del Pozo
José Ángel Fernández García
Miguel Ángel Fernández Fernández
Juan Ignacio González Carretero
Jesús González Lama
Celia Jimenez García
Antonio Manuel Jodral Segado
Enrique Martin Rioboo
Inmaculada Olaya Caro
José Antonio Prados Castillejo
Juan Manuel Parras Rejano
Carlos Perula De Torres
Antonio Ranchal Sánchez
Juana Redondo Sánchez
Roger Ruiz Moral
Francisco Javier Ruiz Moruno
Javier Serrano Merino
Luis Carlos Silva Aycaguer
Antonio Valero Martín
Manuel Vaquero Abellán
Francisco José Varas Fabra

Post- Doctoral Researchers
Manuel Rich Ruiz

Pre Doctoral-Researchers (PhD Students y MSc Students)
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Fernando Leiva Cepas
Esperanza María Romero Rodríguez
Carlos Ortega Millán
**Scientific Activity**


**Keywords**

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

**Scientific Publications**

**Original Papers**

Moral RR, Pérula de Torres LA, Pulido Ortega L, Criado Larumbe M, Roldán Villalobos A, Fernández García JA; Parras Rejano JM. Effectiveness of motivational interviewing to improve therapeutic adherence in patients over 65 years old with chronic diseases: A cluster randomized clinical trial in primary care. PATIENT EDUCATION AND COUNSELING. 2015:98:977-83. IF: 2,199 Q: 1 D:1

**Papers in Collaboration**


**Regional**


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

Pérula de Torres, LA. Effect on the quality of life from treatment with positive pressure devices (PPDs) in patients older than 65 with apnea-hypopnea (SAHS).Funding Agency: Andalusian Progress and Health Foundation (FPS). Reference: PI-0025-2015

Romero Rodríguez, E. Knowledge, attitudes and practices of primary care professionals in preventive interventions in high-risk drinkers or patients with problems related to alcohol consumption: STUDY ALCO-AP.Funding Agency: Sociedad andaluza medicina familiar y comunitaria. Reference: 130/15:

**Clinical Trials**

2883/2: Multicenter observational study to establish the prevalence, clinical profile and therapeutic management of patients with suppurative hyrdenitis from dermatology hospital services and health centers in Spain. PI Dr/a Ruiz Moruno, Francisco Javier

2883/3: Multicenter observational study to establish the prevalence, clinical profile and therapeutic management of patients with suppurative hyrdenitis from dermatology hospital services and health centers in Spain. PI Dr/a Redondo Sánchez, Juana

2742: Observational cross-sectional study to evaluate the sociodemographic and clinical characteristics of patients diagnosed with irription NVAF stroke or systemic embolism, receiving treatment for adequate control of their cloting who are also treated in primary hospital services and health centers in Spain. PI Dr/a Ruiz Moruno, Francisco Javier
care. Study SILVER-AP
PI Dr/a Martín Rioboo, Enrique

2742/2: 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 Aguado Taberné, Cristina

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
Calcium metabolism. Vascular calcification

Publications 13
Impact Factor 54,479
Average Impact Factor 4,190

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Scientific Activity

This group is focused on different aspects of calcium metabolism and vascular calcification. Our primary area of research is centered on the study of 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, caloric diets...) in FGF23 regulation and in cardiovascular disease progression.

This group has opened a new line of research centred 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 signaling 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 pathways by which vascular calcification progresses. Mesenchymal stem cells are also used to investigate how the metabolism and vascular calcification. Mesenchymal stem cells; Wnt /beta-catenin.

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; calcium; uremia; mineral metabolism; parathyroid hormone; HPTH2; vascular calcification; renal failure VDR; CaR. Mesenchymal stem cells; Wnt / beta-catenin.

Scientific Production

Publications

Original Papers


Original Review

Rodriguez M, Rodriguez-Ortiz ME. Advances in pharmacotherapy for secondary hyperparathyroidism. EXPERT OPINION ON PHARMACOTHERAPY. 2015.16(11):1703-1716. IF: 3,534 Q: 1


Papers in Collaboration


IF: 3.248
Q: 1

Research Funding

National


International


Regional


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 search for new therapeutic targets. Funding agency Regional Ministry of Economy, Innovation, Science and Employment (CEICE). Reference: CVI-7925

López Villalba, I. Conexiones entre el metabolismo mineral y el metabolismo energético: efecto de la dieta hipercaleíca en el balance del fosforo y la función renal. Funding Agency: Andalusian Progress and Health Foundation (FPS). Reference: P1-0272-2014

Contracts with Companies

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

Rodríguez Portillo, JM. Research Program Agreement for measuring AMG 416 activity against isolated rat PTG. Funding agency: Amgen Inc. S.A. Reference: PSS.0020

Clinical Trials

0002/13: A multicenter, extension, one-arm study to assess the long-term efficacy and safety of AMG 416 in the treatment of secondary hyperparathyroidism in patients with chronic renal failure undergoing hemodialysis. PI: Dr/a Rodríguez Portillo, J. Mariano

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 phosphorus in the progression of kidney disease in patients with metabolic syndrome. PI: Dr/a Rodríguez Portillo, J. Mariano
Cell Therapy

HIGHLIGHTS

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Publications 3
Impact Factor 9,419
Average Impact Factor 3,139
**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 mesenchyme 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 Production**

**Publications**

**Papers in Collaboration**


**Letters In Collaboration**


**Research Funding**

**National**

Herrera Arroyo, Inmaculada C. Cell preservation system project. Funding agency: University of Córdoba. Reference: CCB.031PM


**Regional**

Cañadillas López, MS. Combination therapy with mesenchymal stem cells and erythropoietin in the treatment of chronic renal failure in an experimental study in rats. Funding agency: Andalusian Progress and Health Foundation (SAS). Reference: PI-0141-2011

**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 (SESIÓN CLÍNIC). Funding agency: Roche Reference: PSS.0066

Herrera Arroyo, Inmaculada C. Agreement with Eusa Pharma (Professional Training) Funding agency: Eusa Pharma Iberia S.L. Reference: PSS.0068

Herrera Arroyo, Inmaculada C. Agreement with Bristol Meyers (Professional Training) Funding agency: Bristol Meyers. Reference: PSS.0069

Herrera Arroyo, Inmaculada C. Agreement with JANSSEN. Funding agency: JANSSEN-CILAG, S.A.. Reference: PSS.0075

Herrera Arroyo, Inmaculada C. Cooperation Agreement for a scientific research grants programme. Funding agency: JANSSEN-CILAG, S.A. Reference: CCB.0113_02

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

Herrera Arroyo, Inmaculada C. Conference sponsored by Pzifer Funding agency: Pzifer. Reference: CCB.0078

Herrera Arroyo, Inmaculada C. Conference sponsored by Celgene. Funding agency: Celgene Reference: CCB.0108

**Clinical Trials**

0274/13: Phase II clinical trial to evaluate the efficacy of obinutuzumab (RO5072759)+ bendamustine in patients with relapsed or refractory leukemia linfaticacronica. PI: Dr/a Herrera Arroyo, Inmaculada C.
GC15

Invasive cardiology and cell therapy

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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, ergometric and angiographic viewpoints.

Keywords

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

Scientific Production

Publications

Original Papers


Original Letters


Papers in Collaboration


Reviews in Collaboration


Research Funding

National


Regional

Rodríguez Pan Álvarez-Ossorio, M. Revascularization and Myocardial regeneration in Patients with Chronic Coronary Occlusion and Ventricular Dysfunction. Funding agency: Regional Ministry of Equality, Health and
Clinical Trials

0170/09: A clinical trial of the feasibility, safety and efficacy of cardiac resynchronization therapy and mononuclear bone marrow stem cell intracoronary transplantation in patients with acute myocardial infarction.
PI: Dr/a Suárez de Lezo Cruz-Conde, José Mª

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

0150/13: A multicenter, randomized, double-blind, placebo-controlled, phase III trial to assess the efficacy of intra-arterial infusion of adult unexpanded autologous bone marrow mononuclear cells on the functional recovery of patients with dilated cardiomyopathy and heart failure.
PI: Dr/a Suárez de Lezo Cruz-Conde, José Mª

*2961*: EBC MAIN: Study conducted by the European Bifurcation Club: randomized comparison of the implementation of one or two stents to treat bifurcation lesions of the common trunk of the left coronary artery.
PI: Dr/a Pan Álvarez-Ossorio, Manuel

1681: European study of coronary bifurcations: a randomized study to compare the provisional stenting strategy vs the systematic implantation of two stents in true bifurcation lesions located in large vessels.
PI: Dr/a Pan Álvarez-Ossorio, Manuel
Cell biology in hematology. Hypercoagulability

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PAIDI CTS-620 Scientific Group

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Josefina Serrano López

Post- Doctoral Researchers
Francisco Miguel Gutiérrez Mariscal
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Pre Doctoral-Researchers (PhD Students y MSc Students)
David Flores Mesa
Estefanía García Torres
Carmen Martínez Losada
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 (G0, 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 oncohematologic processes. Its members participate in groups of the region (GASMD, GALA, GNL), 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
Immunoology of hematopoietic transplantation; Cell biology of acute leukemias.

Scientific Production
Publications
Original Papers

Papers in Collaboration

Research Funding
National

Contracts with Companies
Sánchez García, J. Collaboration agreement with Celgene. Funding agency: CELGENE, S.L.U. Reference: PSS.0104

Clinical Trials
0167/09: A multicenter, randomized, double-blind, phase III study of Revlimid (lenalidomide) versus placebo in patients with low-risk myelodysplastic syndrome (low and intermediate-1 IPSS) with impaired SQ-and anemia without transfusion requirements. PI: Dr/a Sánchez García, Joaquín

0299/10: Maintenance treatment with 5-Azacitidine in patients with acute myelogenous leukemia ineligible for intensive treatment with partial or complete response to induction chemotherapy. PI: Dr/a Serrano López, Josefa

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

0279/11: Intergroup trial for children or teens with LNH-B or LLA-B (LLA-L3): 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

5029/12: 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 leukemia i complete remission. PI: Dr/a Serrano López, Josefa

NOTE: The scientific production, research funding, and clinical trials are listed with the relevant references and funding agencies provided for each entry.
0008/13: An open, randomized, prospective, two-arm, phase III study to assess the treatment-free remission rate in patients with Ph-positive chronic myeloid leukemia (CML) after two treatments of different durations. PI: Dr/a Molina Hurtado, José Ramón

0123/13: Phase 3 randomized, double-blind, placebo-controlled study to evaluate the protective efficacy and safety of a therapeutic vaccine, AS0P013, recipients seropositive for cytomegalovirus (CMV) underwent allogeneic cells. PI: Dr/a Rojas Contreras, Rafael

0148/13: 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 IIb trial to assess the safety of changing intravenous rituximab to 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 and safety 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 anticoagulant effect of dabigatran, by intravenous administration of 5.0 g of idarucizumab (BL 655 075) in patients treated with dabigatran etexilate. PI Dr/a Velasco Gimena, Francisco

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

0148/14: Phase III, multicenter, randomized, open-azacytidine (Vidaza®) versus fludarabine and cytarabine (fluga scheme) in elderly patients with acute myeloid leukemia new diagnostic. PI Dr/a Serrano López, Josefina

0171/14: A Phase II, randomized, double-blind, placebo-controlled study of azacytidine 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, Josefina

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

0159/15: Hematopoietic stem cell transplantation from haploidentical donors with in vitro selective depletion of allo-reactive lymphocytes in patients with high-risk hematological malignancies. PI: Dr/a Martin Calvo, Mª Carmen

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

2224: A multicenter, retrospective study to describe the effectiveness and safety of clofarabine as compassionate use treatment in adult patients with relapsed/refractory acute leukemia prior to hematopoietic stem cell transplantation. PI: Dr/a Serrano López, Josefina

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

2512: PUCHS' Study. A multicenter non-interventional, retrospective prevalence of hemophilia in Spain . PI: Dr/a Velasco Gimena, Francisco

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

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 progressive hematopoietic stem cell transplant (VERSA STUDY). PI: Dr/a Alvarez Rivas, Miguel Ángel

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

2678: Post-authorization safety study (PASS) ma25101: observational cohort study of the safety of brentuximab vedotin in the treatment of relapsed or refractory cd30 Hodgkins lymphoma 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
Pathophysiology of the endocrine system of vitamin D. Biotechnology and aging

Team Leader

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PAIDI CTS-413 Scientific Group

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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 Papers

IF: 3,628
Q: 2

IF: 1.040
Q: 4

Papers in Collaboration

IF: 2,824
Q: 1

Research Funding

National


Quesada Gómez, JM. RETICEF. Funding agency: Carlos III Health Institute (ISCIII). Reference: RD12/0043/0028

Regional


Contracts with Companies

Quesada Gómez JM. Collaboration agreements with Lilly SA (Formation). Funding Agency: LILLY, S.A. Reference: CCB.0079 GC17

Quesada Gómez, JM. RETICEF. Funding agency: Carlos III Health Institute (ISCIII). Reference: RD12/0043/0028
Translational research in surgery of solid organ transplants

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Juan Ruiz Rabelo
Juan Carlos Regueiro Lopez
Juan Carlos Robles Ariza
Sebastián Rufián Peña

Post- Doctoral Researchers
Álvaro Arjona Sánchez
María Pleguezuelo Navarro

Pre Doctoral-Researchers (PhD Students y MSc Students)
Elena Navarro Rodríguez
Scientific Activity

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

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 Papers


IF: 3,93
Q: 1 D: 1


IF: 3,747
Q: 1 D: 1


IF: 3,009
Q: 1

Papers in Collaboration


IF: 3,234
Q: 1


IF: 2,994
Q: 1


IF: 2,786
Q: 2


IF: 1,936
Q: 2


IF: 1,457
Q: 3


IF: 0,982
Q: 3


IF: 0,743
Q: 4

Research Funding

National

Ciria Bru, R. Condition mechanisms discarded teatotic liver grafts after cold storage by normo or subnormo thermal machine perfusion . Funding Agency: Institute Carlos III Health (ISCIII).Reference: P114/01559

Ciria Bru, R. Rescue paragraph liver transplant grafts discarded normothermic extracorporeal perfusion. Funding Agency: Fundacion Mutua Madrileña Reference: FMM-14-002

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 SANOFI. Funding agency: SANOFI-AVENTIS, S.A.. Reference: PSS.0080

Briceño Delgado, FJ. Agreement with TAKEDA. Funding agency: TAKEDA FARMACEUTICA ESPAÑA S.A.. Reference: PSS.0081

Membrives Obreroa, A. Agreement with J&J. Funding agency: JOHNSON & JOHNSON S.A. Reference: PSS.0082

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

Clinical Trials

0290/10: Phase IV randomized clinical trial, open, multicenter, non-inferiority for the purpose of comparing the safety and efficacy of colistin iv. with meropenem iv. in the treatment of ventilator-associated pneumonia. PI: Dr/a Pozo Laderas, Juan Carlos

0239/11: Role of intraoperative intraperitoneal paclitaxel chemotherapy in radical surgical treatment of ovarian-origin peritoneal carcinomatosis: hyperthermia versus normotemia. PI: Dr/a Rufián Peña, Sebastián

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

2168: Observational, prospective, multicenter study in intensive Care to evaluate the diagnostic reliability of PCR study (reacted in a polymerase chain) in patients receiving empirical antifungal treatment for suspected invasive candidiasis. PI: Dr/a Robles Ariza, Juan Carlos
Applications of Artificial Vision

Team Leader
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David López Fernández
Manuel Ignacio López Quintero
Víctor Manuel Mondejar Guerra
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 Papers
IF: 2,451
Q: 1

IF: 1,218
Q: 2

IF: 1,351
Q: 2

IF: 0,672
Q: 3

Papers in Collaboration

Cozar, JR; Marin-Jimenez, MJ; Gonzalez-Linares, JM; Guil, N; Gomez-Luna,  J. Calculation of dense trajectory descriptors on a heterogeneous embedded architecture. JOURNAL OF SYSTEMS ARCHITECTURE.2015.61(10); 659-667
IF: 0,44
Q: 4

Research Funding
National

Medina Carnicer, R (Co-IP). Collaboration in the development of the "BROCA" project (development of a surgical robot with 3D vision). Requena Tapia, MJ (IP) . BROCA Project. Funding agency: Collaboration Agreements between MINECO ( FEDER ) and the University of Cordoba for the implementation of a biomedical research project. Reference: CCB.029PM

Contracts with Companies

Medina Carnicer, R. Implementing a 3D vision system (SVCS) for determining irregular object geometries in CN. Jose Cabrera. Funding agency:Enresa
**HIGHLIGHTS**

**Publications**
9

**Impact Factor**
7,072

**Average Impact Factor**
0,786

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**Team Leader**
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PAIDI BIO-272 Scientific Group

**Principal Investigator (PI)**
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- Pilar Martín Borreguero
- Juan Antonio Moriana (PAIDI HUM-924 Scientific Group)
- María Auxiliadora Romero Balsera
- Mª Araceli Sánchez Raya
- Vicente Sánchez Vázquez

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

**Pre Doctoral-Researchers (PhD Students y MSc Students)**
- Ángel Rodríguez Ramos
- Jaime Osuna Luque

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**Genetics and behavioural diseases**
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 Papers


IF: 2,083
Q:2


IF: 1,120
Q:2


IF: 0,879
Q:3


IF: 0,576
Q:4


IF: 0,145
Q:4


IF: 0,186
Q:4


IF: 0,00


IF: 0,00

Research Funding


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

Contracts with Companies


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.

Clinical Trials

2013-001955-11. PSICAP Project. Pilot Project to treat emotional disorders in pri-
Metabolomics. Identification of bioactive components

Team Leader
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Emerging Researcher (ER): Feliciano Priego Capote

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María Molina Calle
Asunción López Bascón
Carlos Augusto Ledesma Escobar
Angela Peralbo Molina

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

Pre Doctoral-Researchers (PhD Students y MSc Students)
Laura Castillo Peinado
Diego Luque Córdoba
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, nutrimebolomics 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 Papers


Calderon-Santiago M, Priego-Capote F, Luque de Castro MD. Enhancing detection coverage in untargeted metabolomics analysis by solid-phase extraction on-line coupled to LC-MS/MS. ELECTROPHORESIS. 36(18):2179-2187. IF: 3.028 Q: 1


Fernandez-Peralbo MA, Calderon Santiago M, Priego-Capote F, Luque de Castro MD. Study of exhaled breath condensate sample preparation for metabolomics analysis by LC-MS/MS in high resolution mode. TALANTA. 144:1360-1369. IF: 3.545 Q: 1

Molina-Calle M, Priego-Capote F, Luque de Castro MD. Ultrasound-assisted emulsification-extraction of orange peel metabolites prior to tentative identification by LC-QTOF MS/MS. TALANTA. 141:150-157. IF: 3.545 Q: 1


Original Reviews


Papers in Collaboration


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: PIE/1400005


Regional


Contracts with Companies

Luque de Castro, MD. Completing the development of active plant compound extraction methods for their identification and quantification. Funding agency: Phytoplant Research, S. L.

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: Phytoplant Research, S. L.

Luque de Castro, MD/Priego Capote, F. Identification and quantification of components of black garlic and compared with fresh garlic. Funding Agency: La abuela Carmen


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

Epigenetics

Team Leader

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Pre Doctoral-Researchers (PhD Students y MSc Students)
- Casimiro Barbado García-Gil
- Iván Devesa Guerra
- Macarena Dorado León
- Jara Teresa Parrilla Doblas
**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.

**Scientific Production**

**Publications**

**Papers In Collaboration**


IF: 7,528

Q: 1 D: 1

**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

**International**


http://www.cost.eu/COST_Actions/cmst/Ac
tions/CM1406?management

**Regional**


**Contracts with Companies**

Roldán Arjona, Mª T. Services provided for Canvax. Funding agency: Canvax Biotech S.L. Reference: PSS.0032
HIGHLIGHTS

Publications 12
Impact Factor 26,063
Average Impact Factor 2,171

Metabolism in Childhood

Team Leader
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Research Network on Maternal and Child Health (RedSAMID) and associated Centro de Investigación Biomédica en Red de Enfermedades Raras (CIBERER)
PAIDI CTS-639 Scientific Group

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Mª José de la Torre Aguilar
José Fernando Fernández Gutiérrez
Ignacio Ibarra De La Rosa
Eduardo López Laso
María Elena Mateos Gonzalez
Juan Luis Perez Navero
Maria Esther Ulloa Santamaria
Maria Jose Velasco Jabalquinto
Katherine Flores Rojas

Post- Doctoral Researchers
Francisco Jesus Llorente Cantarero
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; nutri-genetics; nutrigenomics.

Scientific Production

Publications

Original Papers

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<td>Changes in antioxidant defense system using different lipid emulsions in parenteral nutrition in children after hematopoietic stem cell transplantation</td>
<td>NUTRIENTS. 7(9):7242-7255.</td>
<td>2015</td>
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<td>Analysis of the local and systemic inflammatory response in hospitalized infants with respiratory syncytial virus bronchiolitis</td>
<td>ALLERGOLOGIA ET IMMUNOPATHOLOGIA. 2015.</td>
<td>43(3):264-271.</td>
<td>2015</td>
<td>1</td>
<td></td>
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<tr>
<td>Low serum 25-hydroxyvitamin D levels and adipose tissue expression in prepubertal children with a history of extra-uterine growth retardation</td>
<td>NUTRIENTS. 7(9):7242-7255.</td>
<td>2015</td>
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Papers in Collaboration

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Research Funding

National

Regional

Perez Navero JL. Possibles biomonitoring of inflammatory markers, oxidative stress, intestin microbiota and exposure to heavy metals in autism spectrum disorder in childhood.
Contracts with Companies

Gil Campos, M. Design and development of nutritionally balanced foods, appealing and comfortable/easy to handle specified for ages 3 and 4. Reference ITC-20151270

Gil Campos, M. Development of advanced fats. Reference ITC-20151323

Clinical Trials

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

0106/12: A prospective, multicenter, randomized, double-blind, placebo-controlled phase 3 study to assess the pharmacokinetics, safety and efficacy of paricalcitol capsules in reducing intact Parathyroid hormone levels in serum in children and adolescents aged 10 to 16 years with chronic moderate-to-severe nephropathy.
PI: Dr/a Anton Gamero, Montserrat

1783: Register of patients with type C Niemann-Pick.
PI: Dr/a López Laso, Eduardo

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

2622: Randomized clinical trial of parallel group, double-blind, placebo control to evaluate the efficacy and safety of docosahexaenoic acid in the coajuvant treatment of children on the spectrum of the autism disorder.
PI: Dr/a Gil Campos, Maria Mercedes

2414: Nutritional intervention study, multicenter, randomized, blinded, parallel group to evaluate the effect to evaluate the effect of the consumption of Lactobacillus fermentum CECT5716 on the duration of acute diarrhea in children.
PI: Dr/a Gil Campos, Maria Mercedes

Gil Campos, M. P03S Diarrhea treatment Study of nutritional intervention. Multicenter, randomized, blind, parallel group study to evaluate the effect of consumption of Lactobacillus fermentum CECT5716 on the duration of acute diarrhea in children.
Oxidative Stress and Nutrition

Publications 8
Impact Factor 40,217
Average Impact Factor 5,027

Team Leader

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José Peña Amaro
Mª Concepción Ruiz Villen

Post-Doctoral Researchers
Fernando Sánchez López

Pre Doctoral-Researchers (PhD Students y MSc Students)
Eduardo Agüera Morale
Mª Carmen Bahamonde Román
Cristina Conde Gavilán
Antonio Cruz Guerrero
Alberto Galván Jurad

Other members of the Group
(Nursing, Technical, and Administrative Staff)
Ana Isabel Giraldo Polo
Manuel La Torre Luque
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 antioxidant response.

Additionally, the group is currently studying the role of nitrate and oxidative status, as well as inflammation in vitagen 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. Additionally, the group is currently studying the role of nitrate and oxidative status, as well as inflammation in 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 antioxidant response.

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

Scientific Production

Publications

Original Papers


IF: 3.452
Q: 1


IF: 1.397
Q: 4

Papers in Collaboration


IF: 9.977
Q: 1 D: 1


IF: 3.652
Q: 1 D: 1


Contracts with Companies

Tunez Finchana, I. Study design and clinical trial of the activity of active compounds identified using FRIDA. Funding agency Canvax Biotech S.L. Reference: INTER.0001

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

0103/11: An open, multicenter, non-randomized, parallel-group study evaluating the efficacy of fingolimod in de novo patients vs. fingolimod in patients previously treated with interferon or glatiramer acetate as assessed by measuring the number of bouts in patients with relapsing-remitting multiple sclerosis.

PI: Dr/a Agüera Morales, Eduardo

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 (BIB017) therapy in patients with relapsing multiple sclerosis

PI: Dr/a Sánchez López, Fernando

Reviews in Collaboration


IF: 3.092
Q: 2


IF: 2.702
Q: 2

Scientific Production

Papers in Collaboration


IF: 9.977
Q: 1 D: 1


IF: 3.652
Q: 1 D: 1


Contracts with Companies

Tunez Finchana, I. Development of in vitro CNS disease models and trial of the activity of active compounds identified using FRIDA. Funding agency Canvax Biotech S.L. Reference: INTER.0001

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

0103/11: An open, multicenter, non-randomized, parallel-group study evaluating the efficacy of fingolimod in de novo patients vs. fingolimod in patients previously treated with interferon or glatiramer acetate as assessed by measuring the number of bouts in patients with relapsing-remitting multiple sclerosis.

PI: Dr/a Agüera Morales, Eduardo

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 (BIB017) therapy in patients with relapsing multiple sclerosis

PI: Dr/a Sánchez López, Fernando

Reviews in Collaboration


IF: 3.092
Q: 2


IF: 2.702
Q: 2

Keywords
Oxidative stress, inflammation, mitochondria, cell death, neuroplasticity, antioxidant systems, vitagenes, Nrf2.
0295/11: A multicenter, randomized, placebo-controlled, triple-blind phase 1/II clinical trial to assess the safety, feasibility and effectiveness of intravenous therapy with three doses of autologous mesenchymal cells of adipose tissue in patients with moderate to severe Amyotrophic Lateral Sclerosis.

Pl: Dr/a Agüera Morales, Eduardo

0221/12: A multicenter, double-blind, parallel-group, placebo-controlled study to assess the efficacy, safety, tolerability and pharmacokinetics of BIIB033 in patients with a first episode of acute optic neuritis.

Pl: Dr/a Sánchez López, Fernando


Pl: Dr/a Agüera Morales, Eduardo

0031/13: An open, multicenter, extension study to assess the long-term efficacy and safety of BiIl019, Daclizumab obtained using a high-yield process (DAC HPY) in monotherapy in patients with multiple sclerosis who have completed the 205MS301 study.

Pl: Dr/a Sánchez López, Fernando

92/13: A 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.

Pl: 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 plovamer acetate 0.5, 3, 10 and 20 mg vs Copaxone in patients with relapsing-remitting multiple sclerosis.

Pl: 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.

Pl: Dr/a Sánchez López, Fernando

0255/13: An open multicenter, randomized, placebo-controlled, triple-blind phase II clinical trial to assess the effectiveness of blood mononuclear cells intra infusion of autologous bone marrow in patients with ischemic stroke.

Pl: Dr/a Sánchez López, Fernando

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

Pl: Dr/a Agüera 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).

Pl: Dr/a Sánchez López, Fernando

0012/14: An open, phase III extension study of ECU-NMO-301 to assess the efficacy and safety of eculizumab in patients with recurrent optic neuromyelitis (NMO).

Pl: Dr/a Sánchez López, Fernando

082/14: 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-remitting multiple sclerosis in real practice (PROTEC).

Pl: Dr/a Sánchez López, Fernando

0235/14: An open, multicenter, aleotorized 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

0150/15: A phase 3 multicenter, randomized, double-blind, placebo-controlled, parallel-group study to evaluate the efficacy and safety of aducanumab (biib037) in subjects with early alzheimer’s disease.

Pl: Dr/a Agüera Morales, Eduardo


Pl: Dr/a Agüera Morales, Eduardo

2085: A prospective, observational study to assess the influence of anti-JC antibodies test on risk perception in treatments with natalizumab (Tysabril®) in patients with multiple sclerosis and their attending neurologists.

Pl: Dr/a Sánchez López, Fernando

2487: An observational, multicenter , multinational paragraph gather information on security and document the pharmaceutical use of Fampyra When are US in Medical Practice .

Pl: Dr/a Agüera Morales, Eduardo

2878: Evaluation of patient preferences towards different options disease modifying treatments in multiple sclerosis relapsing-remitting .

Pl: Dr/a Sánchez López, Fernando


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

2660/2: A retrospective, observational , multicenter antional, to evaluate the experience in clinical practice Gilenya fingolimod treatment in patients with relapsing remitting multiple sclerosis. NEXT Study

Pl: Dr/a Sánchez López, Fernando
Knowledge Discovery and Intelligent Systems

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Romero Morales; Cristóbal
Romero Salguero; José Raúl

Pre Doctoral-Researchers (PhD Students y MSc Students)
Robles Berumen; Hermes
Ramírez Quesada; Aurora
Reyes Pupo; Oscar Gabriel
Guerrero Enamorado; Alain

Post-PhD Researchers
Luna Ariza; José María
Cano Rojas; Alberto
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

Article

Ramirez A, Romero JR, Ventura S. An approach for the evolutionary discovery of software architectures. INFORMATION SCIENCES. 395:234-255.

IF: 4,038
Q: 1 D: 1


IF: 3,373
Q: 1 D: 1


IF: 2,473
Q: 1 D: 1


IF: 1,782
Q: 1


IF: 2,083
Q: 2

Contracts with Companies

Ventura S. Incorporating educational processes data mining to various e-learning applications Santillana Group: Analysis and preparation of the information ... Funding Agency: Santillana Group. Reference: Contrato Art. 83.

Research Funding

National

Inflammatory immune-mediated cutaneous diseases

Team Leader

Principal Investigator (PI):
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juanruanoruizman.com

Researchers
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Antonio Vélez García-Nieto

Post-Doctoral Researchers
Marcelino González Padilla

Pre Doctoral-Researchers (PhD Students y MSc Students)
Pedró Jesús Carmona Fernández
F Jesús Gay Mimbrea
Francisco Gómez García
Ana Lorente Lavirgen
Juan Luis Sanz Cabanillas

Other members of the Group
(Nursing, Technical, and Administrative Staff)
Carmen Clemente Millán
María López García
Carmen López González
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 reina Sofia University Hospital of Cordoba, 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, Physics, Pharmacy, Genetics or Health Economics in diverse research groups through collaboration with the Department of Physics of the University of Cordoba, Department of Applied Economics of the University of Granada, the Laboratory of Investigative Dermatology, The Rockefeller University, New York (EEUU) or the Pharmacogenomics Laboratory, College of Pharmacy, Pharmacotherapy Education and Research Center (PERC), 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., The Zebra Fish Lab 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
Psoriasis, Biobank, genetic polymorphisms, predictors of therapeutic response, cost-efficiency, monoclonal antibodies, immune response, cold atmospheric plasma.

Scientific Production
Publications

Papers In Collaboration


Contracts with Companies

Research Funding
National

Ruano Ruiz, J. Sponsored Conference of Research PSORIASIS. Funding Agency: Janssen-Cilag, SA. Reference: PSS.0072


International
Ruano Ruiz, J. The expression recombinant phage proteins and labeling for use in diagnosis. Funding Agency: CANVAX BIOTECH

Clinical Trials
0140/12: Study of Efficacy and Safety of Brodalumab Compared With Placebo and Ustekinumab in Moderate to Severe Plaque Psoriasis Subjects (AMAGINE-3). ClinicalTrials.gov Identifier: NCT01708629. PI: Dr/a Ruano Ruiz, Juan Alberto
0251/14: A Phase 3, Multicenter, Randomized, Double-blind, Placebo and Active Comparator-controlled Study Evaluating the Efficacy and Safety of Guselkumab for the Treatment of Subjects with Moderate to Severe Plaque-type Psoriasis (CNOT1959PSO3001)-VOYAGE 1. EudraCT Number: 2014-000719-15. PI: Dr/a Ruano Ruiz, Juan Alberto


0104/15: A multicenter, randomized, double-blind, placebo and active-controlled phase IIb dose-finding study of QGE031 as add-on therapy to investigate the efficacy and safety in patients with Chronic Spontaneous Urticaria (CSU): (CQGE031C2201). PI: Dr/a Ruano Ruiz, Juan Alberto

0125/15: A randomized, double-blind, parallel groups and active to compare the efficacy and safety of Humira versus CHS-1420 in patients with chronic plaque psoriasis (CHS-1420-02) (PsOsim) control. PI: Dr/a Ruano Ruiz, Juan Alberto

2016: An epidemiological, observational study to assess retention in treatment of patients with moderate to severe psoriasis in clinical practice. PI: Dr/a Jimenez Puya, Rafael

2032: Effect of the immunogenicity of anti-TNF therapies on the therapeutic response in patients with moderate to severe plaque psoriasis. PI: Dr/a Jimenez Puya, Rafael

2095: Cardiovascular risk factors in a population of Spanish patients with moderate to severe plaque psoriasis vulgaris with or without associated arthritides treated with anti-TNF alfa in real clinical practice conditions. Analysing the influence of the syndrome. PI: Dr/a Ruano Ruiz, Juan Alberto

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 Alberto

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 Garcia-Nieto, Antonio

2635: Survival of etanercept among the elderly. PI: Dr/a Jimenez Puya, Rafael

2700: Development of a predictive model of response to anti-TNF used for the treatment of moderate to severe psoriasis in routine clinical practice drugs. PI: Dr/a Ruano Ruiz, Juan Alberto

2702: Validation of the EARP for detection of psoriatic arthritis in Spanish population. VALS study. PI: Dr/a Vélez Garcia-Nieto, Antonio

2719: Evaluation of patients with chronic urticaria refractory to treatment with antihistamines worldwide. Chronic urticaria observational study to collect clinical data in national practice on the impact of treatment, diagnosis and management of chronic urticaria in patients refractaries at least one course of treatment with antihistamines H1. AWARE Study. PI: Dr/a Ruano Ruiz, Juan Alberto

2740: Application of genomic techniques and image processing using artificial intelligence for obtaining a predictor melanoma risk model. PI: Dr/a Ruano Ruiz, Juan Alberto

2883: An observational multicentre study to establish the prevalence, clinical profile and therapeutic management of patients with hidradenitis suppurativa in Dermatology Hospitai Services and Health of Spain. PI: Dr/a Lorente Lavirgen, Ana Isabel
Applied Psychology

**Publications** 15

**Impact Factor** 18,394

**Average Impact Factor** 1,226

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**Principal Investigator (PI)**
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**Researchers**
Antolí Cabrera, Adoración Arenas Moreno, Alicia  
Luque Salas, Bárbara Moyano Pacheco, Manuel Pérez Dueñas, Carolina  
Rubio García, Sebastián

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**Post-Doctoral Researchers**
Cuadrado, Esther Castillo Mayén, Rosario

---

**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 analyse the behaviour 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 analysed 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 Production

Publications

Original Papers


Cuadrado E, Tabernero C, Steinel W. Determinants of prosocial behavior in included versus excluded contexts. FRONTIERS IN PSYCHOLOGY.2015.6: 1 - 16. IF: 2,560 Q: 1


Giorgi G, León-Pérez JM, Arenas A. Are bullying behaviors tolerated in some cultures? evidence for a curvilinear relationship between workplace bullying and job satisfaction among Italian workers. JOURNAL OF BUSINESS ETHICS.2015. 131(1); 227 - 237. IF: 1,33 Q: 1


Freixas, A., Luque, B., Reina, A. Sexuality in older Spanish women: Voices and reflections. JOURNAL OF WOMEN & AGING.2015. 27(1): 35-58. IF: 0,60 Q: 3


Arenas A, Leon-Pérez JM, Munduate L, Medina FJ. Workplace Bullying as a Conflict Escalation Process: The Role of Supervisor’s Power. REVISTA DE PSICOLOGIA SOCIAL.2015. 30(2): 295-322. IF: 0,286 Q: 4


Papers In Collaboration


Research Funding

National

Tabernero Urbieta, C. La influencia de la autoeficacia y otras variables motivacionales en la adherencia a la dieta, la calidad de vida y el bienestar de pacientes con enfermedad cardiovascular. Funding agency: MINISTRY OF ECONOMY AND COMPETITIVENESS (MINECO).Reference: PSI2014-58609-R
Lung transplantation. Thoracic malignancies

Team Leader

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Pre-PhD Researchers
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Hugo Dario Guamán Arcos
Francisco Javier Gonzalez García
Diego Alejandro Murillo Brito
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

Papers Original
IF: 0,833
Q: 4

IF: 0,982
Q: 3

IF: 0,982
Q: 3

Original Editorial Material
IF: 0,743
Q:4

Papers in Collaboration
IF: 3,234
Q: 1

Research Funding

Regional

Álvarez Kindelán, A.Beca Neumosur 20/2011. Funding agency: Asociación de neumología y cirugía torácica del sur. Reference: Proyecto Neumosur 4

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: D/r Álvarez Kindelán, Antonio
Comprehensive nursing care. Multidisciplinary perspective

Team Leader

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PAIDI CTS-666 scientific group

Publications 3
Impact Factor 5,567
Average Impact Factor 1,855

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Caridad Dios Guerra
Clara Inés Florez Almonacid
Dolores Guerra Martín
Pablo Jesús López Soto

Pre Doctoral-Researchers (PhD Students y MSc Students)
Jesús Fernández Luna
Patricia Luque Carrillo
Rosa Miñarro Del Moral
Ignacio Morales Cané
Ángeles Peinado Valeriano
Pedro Manuel Rodríguez Muñoz
Macarena Ruiz Cañete
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 Papers


Dios-Guerra C, Carmona-Torres JM, Ruiz-Gándara A, Muñoz-Alonso A, Rodríguez-Borrego MA. Programmed home visits by nursing professionals to older adults: prevention or treatment? Rev Lat Am Enfermagem. 2015 May-Jun;23(3):535-42. IF: 0,534 Q: 4

Research Funding

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

Local

Rodríguez Borrego, Mª A. Gambling, therapeutic strategy in administering palliative care Funding agency: University of Cordoba. Reference: 2015-2-3004

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.
Pneumology

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Antonio Pablo Arenas Vacas
Luis M. Entrenas Costa
Luis Muñoz Cabrera

Pre Doctoral-Researchers (PhD Students y MSc Students)
Montserrat Castillo Jurado
Inmaculada García Porcuna

Publications: 13
Impact Factor: 51,534
Average Impact Factor: 3,964
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 Rodríguez 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 Papers
IF: 2.482
Q: 2

IF: 2.482
Q: 2

IF: 0.982
Q: 3

IF: 1.823
Q: 3

IF: 0.982
Q: 3

Papers in Collaboration
IF: 8.582
Q: 1 D: 1

IF: 7.483
Q: 1 D: 1

IF: 4.513
Q: 1 D: 1

IF: 5.683
Q: 1 D: 1

IF: 3.436
Q: 1


IF: 1.823
Q: 3

Reviews in Collaboration


IF: 2.482
Q: 2

Research Funding

Regional

Arenas de Larriva, MS. 03/2011 Neumosur Grant. Funding agency: Asociación de Neumología y cirugía torácica del sur (Spanish Pneumology Association). Reference: Project Neumosur 5

National


Clinical Trials

0290/13: Macitentan phase IIIb, multicenter, open, one single branch in patients with pulmonary arterial hypertension to validate psychometrically French, Italian and Spanish versions of PAH-SYMPACT tm study.
Participants: Dr/a Santos Luna, Francisco

0292/13: Extension of the AC-055-310 study, phase IIIb study with Macitentan, multicenter, open, one single branch in patients with pulmonary arterial hypertension to psychometrically validate the French, Italian and Spanish PAH-SYMPACT tm.
Participants: Dr/a Santos Luna, Francisco

0044/14: Study prospective, multicenter, randomized, open, and 12 weeks to evaluate the efficacy and safety of glycopyrronium (50 micrograms 1 v / d) or fixed dose combination of indacaterol maleate and glycopyrronium bromide (110/50 microg).
Participants: Dr/a Jurado Gámez, Bernabé

0108/15: Randomized, double-blind, placebo-controlled, parallel group to evaluate the efficacy and safety of dupilumab in patients with persistent asthma.
Participants: Dr/a Entrenas Costa, Luis Manuel

2392: Multicenter prospective observational study to evaluate the specific immune response against Cytomegalovirus (CMV) measured by Quantiferon and overall immune response measured by Immuknow in lung transplant patients with serolog.
Participants: Dr/a Santos Luna, Francisco

2733: Multicenter retrospective observational study to describe the most frequent clinical phenotypes of patients with persistent asthma treated with omalizumab in routine clinical practice phenotype.
Participants: Dr/a Arenas Vacas, Antonio Pablo

2850: Prospective study of a single branch and longitudinal cohort to evaluate biomarkers in patients with severe asthma in usual clinical practice conditions.
Participants: 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.
Participants: Dr/a Feu Collado, María Nuria

2741: Prevalence of breathing disorders during sleep in patients with cop.
Participants: 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).
Participants: Dr/a Entrenas Costa, Luis Manuel

2639: Evaluation of early conversion to prolonged-release tacrolimus (advagraf) in lung transplantation.
Participants: Dr/a Santos Luna, Francisco
Endocrinology and Nutrition. Insulin resistance, diabetes and metabolism

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Other Associated Researcher
Mª Ángeles Gálvez Moreno

Publications
Impact Factor
Average Impact Factor
7
15,382
2,197

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Carmen Gutiérrez Alcántara
Mª José Molina Puertas
Rafael Palomares Ortega
Remedios Vigara Madueño

Pre Doctoral-Researchers (PhD Students y MSc Students)
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Zahira Noemi Fernández Bedmar

Post- Doctoral Researchers
Magdalena Romero Jimenez

Other members of the Group
(Nursing, Technical, and Administrative Staff)
María del Rosario Torres Roldan
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 Syndrome Prevalence of Diabetes Mellitus Type 2; Diabetes Mellitus and Pregnancy.

Scientific Production

Publications

Original Papers


Papers in Collaboration


Contracts with Companies

Gálvez Moreno, MA. Development of advanced fats Innovation. Funding agency: ACEITES DEL SUR-COOSUR S.A. Reference: ITC-20151323

Gálvez Moreno, MA. Risk of lactic acidosis associated with the use of metformin in type 2 diabetic patients with moderate to severe chronic kidney disease. Case-control study.

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 Ángeles

+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.
hormone are not currently treated with recombinant human growth hormone (rhGH).

PI: Dr/a Gálvez Moreno, Mª Ángeles

0303/15: Intravenous versus subcutaneous basal insulin in diabetic non-critical hospitalized patients receiving total parenteral nutrition.

PI: Dr/a Molina Puerta, Mª José

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 insulins and Standard Treatment in Patients with Type 2 Diabetes Mellitus Inadequately Controlled with basal insulin Treaties.

PI: Dr/a Gálvez Moreno, Mª Ángeles

2520: Assessing the effectiveness of telemedicine in achieving metabolic control in patients with type 1 mellitus diabetes taking multiple insulin doses in Andalusia.

PI: Dr/a Palomares Ortega, Rafael
Study of growth. Endocrinology and Child Nutrition

Team Leader

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Researchers
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Cristina Mata Rodríguez
Mª José Parraga Quiles
Mª Dolores Ruiz Gonzalez
Inés Tofe Valera
Javier Torres Borrego
Miguel Valle Jiménez
Fernando Vázquez Rueda
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 extraterine 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 Papers


Papers in Collaboration

Perez-Yarza, EG; Moreno-Galdo, A; Ramilo, O; Rubi, T; Escribano, A; Torres, A; Sardon, O; Oliva, C; Perez, G; Cortell, I; Rovira-Amigo, S; Pastor-Vivero, MD; Perez-Frias, J; Velasco, V; Torres-Borrego, J; Figuerola, J; Barrio, M; Garcia-Hernandez, G; Mejias, A Risk factors for bronchiolitis, recurrent wheezing, and related hospitalization in preterm infants during the first year of life. PEDIATRIC ALLERGY AND IMMUNOLOGY 2015. 26(8): 797-804 IF: 3,397 Q: 1 D:1


Contracts with Companies


Cañete Estrada, R. Protein expression of pre-pubertal children with GH deficit. Funding agency: Pfizer, S.A. Reference: CCB.UCO0051

Clinical Trials

Clinical Trials

0291/11: A randomized, multicenter, blind trial with topiramato vs. placebo for the treat-
Clinical Analysis

Team Leader

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Researchers
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Antonio Martínez Peinado
Rafael Molero Payan
**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 the follow-up of anticoagulated patients.

**Keywords**

New methodologies; chorionic villus sampling; prenatal screening; karyotype; POCT.

**Scientific Production**

**Publications**

**Papers In Collaboration**


IF: 4,036
Q: 1


IF: 2,314
Q: 1


IF: 2,734
Q: 1

**Letters in Collaboration**


IF: 5,416
Q: 1 D: 1

**Research Funding**

**National**

Team Leader

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Researcher
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Rafael Prieto Castro

Post-Doctoral Researchers
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Julia Carrasco Valiente

Pre Doctoral-Researchers (PhD Students y MSc Students)
Enrique Gómez Gómez
Javier Márquez López
Jesús Ruiz García
José Valero Rosa

Other members of the Group
(Nursing, Technical, and Administrative Staff)
Daniel Gil Contreras
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 Papers


Papers in Collaboration


Research Funding
National
Requena Tapia, M.J. BROCA Project.Funding agency: Collaboration Agreements between MINECO ( FEDER ) and the University of Cordoba for the implementation of a biomedical research project. Reference: CCB.029PM

Requena Tapia, M.J. Estudio de los niveles de expresión de las proteínas de la ruta de señalización PI3CA/akt y su papel diagnóstico y pronóstico/predictivo en cáncer de vejiga urinaria.Funding agency: Asociacion Española De Urologia. Reference: FIU14/002

Participation in other researchs projects from IMIBIC Groups
•Rodriguez Ariza, A. ONCOVER: Detection system of volatile compounds foreearly diagnosis of lung and colon cancer. Funding agency: Collaboration Agreements between entre el MINECO (FEDER) and the Univeristy of Cordoba for the implementation of a biomedical research project. Reference: CCB.030PM

Regional
Requena Tapia, M.J. Impartation transrectal prostate and bladder catherization workshop on exploration simulation dolls.Funding agency: University of Córdoba.
Contracts with Companies

Requena Tapia, Mª J. Collaboration with GSK. Bayesian Inference. Funding agency: GlaxoSmithKline, S.A. Reference: CCB.0062

Requena Tapia, Mª J. Collaboration with JANSSEN-CILAG, S.A. Bayesian Inference. Funding agency: JANSSEN-CILAG, S.A. Reference: PSS.0078

Requena Tapia, Mª J. Collaboration with MECWINS. Bayesian Inference. Funding agency: MECWINS S.A. Reference: PSS.0114

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).
PI: Dr/a Requena Tapia, María José

0344/14: Phase III, randomized, placebo-controlled, double-blind JNJ-56021927 in combination with abiraterone acetate and prednisone compared with abiraterone acetate and prednisone in patients with metastatic-resistant prostate cancer
PI: 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-hormono-sensitive (PCmHS) low tumor burden
PI: Dr/a Requena Tapia, María José

1856: An epimiological, observational study of disease progression and therapeutic approach in patients with prostate cancer.
PI: Dr/a Requena Tapia, María José

2363: A study on regular practice in patients with Bladder Pain Syndrome (BPS) in Functional Urology and Urodynamics units.
PI: Dr/a Ruiz García, Jesús Manuel

2446: Elaboration of a predictive model of Cystoscopy, based on BTA-stat test for monitoring patients with low grade non-muscle invasive bladder carcinoma. (Estudio Precis BTA)
PI: Dr/a Requena Tapia, María José

2458: Observational, prospective, longitudinal, multinational study to describe patterns of care and outcomes in men with high risk of adverse clinical outcomes after experiencing a biochemical failure following treatment of definitive prostate cancer in men with castration-resistant prostate cancer and in men with metastatic prostate cancer at the time of initial diagnosis.
PI: Dr/a Carrasco Valiente, Julia
HIGHLIGHTS

Publications | Impact Factor | Average Impact Factor
--- | --- | ---
5 | 20,964 | 4,128

Team Leader

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José García-Revillo García
María José García Ortega
Lucía Nuria Izquierdo Palomares
Rafaela Muñoz Carrasco
Ana Luz Santos Romero
Elisa Roldán Romero
Scientific Activity

Continuous advances in diagnostic imaging techniques have allowed physician to make highly accurate diagnoses, perform a close follow-up of the evolution of the disease, and assess TJEResponse 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; pathochrony; radiological assessment of response to drugs; diagnostic radiological scans; therapeutic radiological scans.

Scientific Production

Publications

Papers in Collaboration

IF:10,377
Q:1 D:1

IF:2,234
Q:1

IF:2,774
Q:1

IF:3,009
Q:1

IF:1,577
Q:2

Resercher Fundings

National

Alvarez Benito, M (PI), Cara García, A Luz Santos, A. Pilot endovascular recanalization study of stroke beyond 8 hours from the se- lected start via imaging techniques. Funding Agency: Sociedad Española de Radiología Medica. Reference:Seram14.001

Participation in other researchs projects from IMIBIC Groups

Rodríguez Ariza, A.Role of nitric oxide and nitrosithols 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:P113/00553

Clinical Trials

2802:Pilot endovascular recanalization study of stroke beyond 8 hours from the selected start via imaging techniques
PI: Dr/a Delgado Acosta, Fernando

2763: Primary post-angioplasty permeability of native dysfunctional arteriovenous fistulas in hemodialysis: treatment by means of bal- loon versus conventional pre-loaded balloon.
PI: Dr/a Garcia-Revillo García, José

 Participation in other researchers’ clinical trials from IMIBIC Groups.

0145/11: A multicenter, extension, dose-bi- blind frequency study to determine the safety and efficacy of long-term pegylated interferon beta-1a (BIBO17) therapy in patients with relapsing multiple sclerosis
PI: Dr/a Sánchez López, Fernando

0230/13: A randomized, double-blind, pla- cebo-controlled, phase III study of adjuvant regorafenib vs. placebo in patients with IV stage colorectal cancer after curative treat- ment of liver metastasis
PI: Dr/a Aranda Aguilar, Enrique

0106/13: Multicenter, randomized, dou- ble-blind study comparing the efficacy and safety of continuing versus withdrawing adalimumab therapy in maintaining remis- sion in patients with non-radiographic axial spondyloarthritis.
PI: Dr/a Collantes Estévez, Eduardo

0300/13: Randomized, double-blind, place- bo-controlled phase III study to evaluate the efficacy, safety and effect on radiographic progression of brodalumab in patients with psoriatic arthritis.
PI: Dr / Montilla López, María Dolores

0267/14: Multicenter phase II study to ana- lyze the predictive value of response to En- zalutamide of fusion TMPRSS2-ETS gene in patients with metastatic CRPC previously un- treated with chemotherapy.
PI: Dr / Mendez Vidal, Mª José

0040/15: A Phase III, randomized, dou- ble-blind, placebo controlled multi-center study of subcutaneous seculukimum (150 mg and 300 mg) in prefilled syringe to demon- strate efficacy (including inhibition of struc- tural damage), safety, and tolerability up to 2 years in subjects with active psoriatic arthritis (FUTURE 5)
PI: Dr/a Collantes Estévez, Eduardo

NCT01556490:A Phase III Clinical Trial of Intra-arterial TheraSphere™ in the Treatment of Patients with Unresectable Hepatocellular Carcinoma (HCC)
PI: Dr/a Zurera Tendero, Luis J
GA9

Cardiovascular Pathology

Team Leader

Associated Researcher
Ignacio Muñoz Carvajal
ignacio.munoz.carvajal.sspa@juntadeandalucia.es
PAIDI TEP-226 PRINIA Scientific Group (Project Engineering and Automation) (Collaborator)

Researchers
Pedro Jose Alados Arboledas
Francisco Javier Arias Dachary
Maria del Valle Blazquez Ruiz
Miguel Canis López
Jose Garcia-Revillo Garcia
Jaime Guillermo Casares Mediavilla
Antonio Chacón Quevedo
Azahara Fernández Carbonell
Daniela Hervas Sotomayor
Agustina Jiménez Castilla
Aurea Jurado Morata
Carlos Manuel Merino Cejas
Javier Moya González
Bibián Ortega Lopera
Isabel Pernía Orena
Jose Maria Turegano Cisneros
Federico Zurita Martinez

Pre Doctoral-Researchers (PhD Students y MSc Students)
Mª Teresa Conejero Jurado
Diana Valencia Núñez

Other members of the Group
(Nursing, Technical, and Administrative Staff)
Rafael Canales Ruiz
Mª del Carmen Romero Morales
Manuel Recio Rufián
Raquel Riballo Cortes
Noelia Mª Romero Mata
Research Funding

National

Participation in other researchs projects as CO-IP

Requena Tapia, Mª J. BROCA Project. Funding agency: Collaboration Agreements between entre el MINECO (FEDER) and the University of Cordoba for the implementation of a biomedical research project. Reference: CCB.029PM

Contracts with Companies

Casares Mediavilla, J. Agreement with Genzyme Polyclonals. Funding agency: GENZYME POLYCLONALS S.A.S. Reference: CCB.0006


Muñoz Carvajal, I. PROYECTO CARELINK. Funding agency: C.S.A. Tecnicas Médicas, S.L. 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, Ignacio

Study of remote monitoring implantable devices. (Carelink Express Study)
Pi: Dr/a Muñoz Carvajal, Ignacio

Using circulatory assistance devices as short-term bridge urgent heart transplant in Spain: efficacy, safety and cost analysis (ASIS-TC). Pi (node Córdoba): Dr/a Daniela Hervas Sotomayor

Participation in other researchers’ clinical trials from IMIBIC Groups

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
Nuclear Medicine

Team Leader

Associated Researcher
Juan Antonio Vallejo Casas
jantonio.vallejo.sspa@juntadeandalucia.es

Publications

Impact Factor

1

1,054

Researcher
Elviria Carmona Asenjo
Fº Roberto Maza Muret,
Luisa Mena Bares

Pre Doctoral-Researchers (PhD Students y MSc Students)
Maria Victoria Guiote Moreno

Other members of the Group
(Nursing, Technical, and Administrative Staff)
Estefanía Moreno Ortega
Antonio Martin Ruiz
Anahi Rojas Arroyo
Scientific Activity
The Group work 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 was 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 Editorial Material
IF: 1.054
Q: 4
GA11 Learning and Artificial Neural Networks-Ayrna

Team Leader

Associated Researcher
César Hervás Martínez
chervas@uco.es
PAIDI TIC-148 Scientific Group

Team Researchers

Researchers
Pedro Antonio Gutiérrez
Juan Carlos Fernández Caballero
Carlos García Alonso
Mercedes Torres Jiménez
Mariano Carbonero Ruiz
Francisco José Martínez Estudillo
Alfonso Carlos Martínez Estudillo
David Becerra Alonso
Francisco Fernández Navarro
Javier Sánchez Monedero
María Pérez Ortiz
Mónica de la Paz Marín

Pre Doctoral-Researchers (PhD Students y MSc Students)
Manuel Dorado Moreno
Antonio Manuel Durán Rosal
David Guijo Rubio
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 Papers


Pérez-Ortiz M, Gutiérrez PA, Hervás-Martínez C, Yao X. Graph-Based Approaches for Over-sampling in the context of Ordinal Regression. IEEE Transactions on Knowledge and Data Engineering.2015.27.1233-1245. IF:2,067 Q:1 D:1


M. Dorado-Moreno, A. Slanes y C. Hervás-Martínez. "From outside to hyper-globalisation: an Artificial Neural Network ordinal classifier to measure the extent of globalisation", Quality & Quantity. 50; 549-576. 2015. IF:0,720 Q:2


Papers in Collaboration

Research Funding
National


Contrats with Companies

Hervás-Martínez C. Agreement with Astellas Pharma S.A. Funging Agency: Astellas Pharma S.A.Reference:CCB.00UCO
10
Scientific Production at a Glance
10. Scientific Production at a glance

10.1 Summary of Publications

The scientific activities carried out by researchers in their respective groups have led to the following global production:

<table>
<thead>
<tr>
<th>Publications</th>
<th>Total</th>
<th>IºFactor</th>
<th>Average IMPACT Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>359</td>
<td>1303,749</td>
<td>3,631</td>
</tr>
</tbody>
</table>

The following graph shows the evolution of IF over the past five years:

Evolution in the last five years

<table>
<thead>
<tr>
<th>Year</th>
<th>Publications</th>
<th>IMIBIC Impact Factor</th>
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</thead>
<tbody>
<tr>
<td>2011</td>
<td>253</td>
<td>987,42</td>
</tr>
<tr>
<td>2012</td>
<td>281</td>
<td>1080,45</td>
</tr>
<tr>
<td>2013</td>
<td>326</td>
<td>1161,17</td>
</tr>
<tr>
<td>2014</td>
<td>327</td>
<td>1084,19</td>
</tr>
<tr>
<td>2015</td>
<td>359</td>
<td>1303,749</td>
</tr>
</tbody>
</table>

Of note, more than half of these publications appeared in journals within the first quartile, and of those, 26.5% in the first decile, which underscores the growing rates of scientific quality of the published papers. Regarding the authorship of the works, 57.94%, of the published articles have an IMIBIC researcher at the first/last author and corresponding author, whereas the remaining 42.06% corresponds to co-authorships in the frame of collaborative research projects.
Distribution of Publications per Quartiles and first Deciles

<table>
<thead>
<tr>
<th>N° of Publications with IF</th>
<th>Total IF</th>
<th>No. of publications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 (Excluded D1)</td>
<td>365,418</td>
<td>92</td>
</tr>
<tr>
<td>D1</td>
<td>625,578</td>
<td>95</td>
</tr>
<tr>
<td>Q2</td>
<td>192,741</td>
<td>74</td>
</tr>
<tr>
<td>Q3</td>
<td>86,226</td>
<td>57</td>
</tr>
<tr>
<td>Q4</td>
<td>33,786</td>
<td>41</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1303,749</strong></td>
<td><strong>359</strong></td>
</tr>
</tbody>
</table>

Distribution of International and National Journals

<table>
<thead>
<tr>
<th>N° of Publications with IF</th>
<th>Total IF</th>
<th>No. of publications</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>International journals</td>
<td>1244,205</td>
<td>316</td>
<td>88%</td>
</tr>
<tr>
<td>National journals</td>
<td>59,544</td>
<td>43</td>
<td>12%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1303,749</strong></td>
<td><strong>359</strong></td>
<td>100%</td>
</tr>
</tbody>
</table>

Regarding the affiliation of the authors, the papers published in collaboration with groups from other research centers are shown in the pie chart below:

Distribution of the affiliation of the authors

<table>
<thead>
<tr>
<th></th>
<th>Total IF</th>
<th>No. of publications</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collaborations with International Groups</td>
<td>494,632</td>
<td>105</td>
<td>29%</td>
</tr>
<tr>
<td>Collaborations with National Groups</td>
<td>58,009</td>
<td>19</td>
<td>47%</td>
</tr>
<tr>
<td>Collaborations with Local Groups</td>
<td>522,541</td>
<td>169</td>
<td>5%</td>
</tr>
<tr>
<td>Collaborations among IMIBIC’s Groups (Intramural)</td>
<td>228,567</td>
<td>66</td>
<td>18%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1303,749</strong></td>
<td><strong>359</strong></td>
<td>100%</td>
</tr>
</tbody>
</table>

10.2- List of Journals

<table>
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<th>Scientific Journals</th>
<th>Quartile</th>
<th>Decil 1</th>
<th>International/National</th>
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</thead>
<tbody>
<tr>
<td>ACM Computing Surveys</td>
<td>1</td>
<td>D1</td>
<td>International</td>
</tr>
<tr>
<td>Agronomy for Sustainable Development</td>
<td>1</td>
<td>D1</td>
<td>International</td>
</tr>
<tr>
<td>AIDS</td>
<td>1</td>
<td>D1</td>
<td>International</td>
</tr>
<tr>
<td>Alimentary Pharmacology &amp; Therapeutics</td>
<td>1</td>
<td>D1</td>
<td>International</td>
</tr>
<tr>
<td>Alzheimers &amp; Dementia</td>
<td>1</td>
<td>D1</td>
<td>International</td>
</tr>
<tr>
<td>American Journal of Clinical Nutrition</td>
<td>1</td>
<td>D1</td>
<td>International</td>
</tr>
<tr>
<td>American Journal of Kidney Diseases</td>
<td>1</td>
<td>D1</td>
<td>International</td>
</tr>
<tr>
<td>American Journal of Transplantation</td>
<td>1</td>
<td>D1</td>
<td>International</td>
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<tr>
<td>Analytica Chimica Acta</td>
<td>1</td>
<td>D1</td>
<td>International</td>
</tr>
<tr>
<td>Scientific Journals</td>
<td>Quartile</td>
<td>Decil 1</td>
<td>International/National</td>
</tr>
<tr>
<td>---------------------------------------------------------------</td>
<td>----------</td>
<td>---------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Annals of Neurology</td>
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<td>International</td>
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<tr>
<td>Annals of Oncology</td>
<td>1</td>
<td>D1</td>
<td>International</td>
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<tr>
<td>Annals of Surgical Oncology</td>
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<td>International</td>
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<tr>
<td>Annals of the Rheumatic Diseases</td>
<td>1</td>
<td>D1</td>
<td>International</td>
</tr>
<tr>
<td>Antimicrobial Agents and Chemotherapy</td>
<td>1</td>
<td>D1</td>
<td>International</td>
</tr>
<tr>
<td>Antioxidants &amp; Redox Signaling</td>
<td>1</td>
<td>D1</td>
<td>International</td>
</tr>
<tr>
<td>Applied Soft Computing</td>
<td>1</td>
<td>D1</td>
<td>International</td>
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<tr>
<td>Biochemical Pharmacology</td>
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<td>D1</td>
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<tr>
<td>Cancer and Metastasis Reviews</td>
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<td>D1</td>
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<tr>
<td>Chest</td>
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<td>D1</td>
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<td>Chronobiology International</td>
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<td>Circulation</td>
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<td>Circulation-Cardiovascular Interventions</td>
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<tr>
<td>Clinical Infectious Diseases</td>
<td>1</td>
<td>D1</td>
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<td>Clinical Microbiology and Infection</td>
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<td>Energy Conversion and Management</td>
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<tr>
<td>Engineering Applications of Artificial Intelligence</td>
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<tr>
<td>European Journal of Heart Failure</td>
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<td>International</td>
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<td>European Journal of Operational Research</td>
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<tr>
<td>Expert Systems with Applications</td>
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<td>Journal of Allergy and Clinical Immunology</td>
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<td>Journal of Antimicrobial Chemotherapy</td>
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<td>Journal of Bone and joint Surgery-British Volume</td>
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<td>Journal of Business Ethics</td>
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<td>Journal of Clinical Oncology</td>
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<td>Journal of Heart and Lung Transplantation</td>
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<td>Journal of Machine Learning Research</td>
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<td>Journal of the European Academy of Dermatology and Venereology</td>
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<tr>
<td>World Journal of Surgery</td>
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</table>
11

Knowledge Transfer
IMIBIC is aware that one of the main issues which science and technology still has to address in our country is innovation. Thus, IMIBIC has the commitment of encouraging its researchers to innovate and wants therefore to create and transmit a culture of innovation among their researchers, aiming to produce an excellent translational research. Hence, to provide support to this objective, the Innovation Department has grown and it is now able to reach to a greater number of healthcare professionals. During 2015, one of the priority areas from the Innovation Management area has been to strengthen the links with the business fabric. Therefore, main emphasis was set in public-private collaborations and generating more contacts with companies. IMIBIC’s perspective is that the key for successful innovation in healthcare is to efficiently translate the know-how generated by our researchers into new products, services, procedures...

In this context, the Innovation Department has carried out the following activities during 2015:

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. In the scope of the Innovation Department activities, more than 100 meetings with healthcare professionals and researchers took place. 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.

3. With the purpose of creation an innovation culture, several presentations took place in different Medical Services within the hospital and other healthcare centers, to different healthcare professionals (medical doctors, nurses...) in the scope of the hospital, allowing us to reach a huge number of professionals:
   b. REGIC (Management Foundations Network) Workshop, 18-19th May, Córdoba (Spain).
   d. Workshop “Bioinformatics as a driver of innovation”, 12th November, Madrid (Spain).

4. The Innovation Management area participated in two European projects, that 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 and emergency services. Furthermore, they collaborated in the consortium creation of another PCP (Pre Commercial Procurement) project on the field of chronic pain management that was requested and got funded during 2015. This PCP project will start in 2016.

5. A Technology Innovation area within the Innovation Management area was created during 2014, after the Innovation Management area detected the need of a more technological area, as several of our innovations are related to ICTs. Since its creation, the Technology Innovation area has taken part in several research projects where application of technologies was needed. Their participation in research and innovation projects has increased during 2015, as more researchers became aware of the importance of ICTs and data analysis applied to their research projects.

6. Participation in FIPSE call “Feasibility studies for Healthcare Innovations”. Four projects were presented to this call but unfortunately none got funded. This call helped the Innovation Management area to select projects that needed validation and/or feasibility studies, and to make the involved researchers aware of the importance of validation and other steps needed to successfully transfer their knowledge to the society.

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 8 ININTERCONECTA projects and 1 RETOS project. Finally, 4 ININTERCONECTA and 1 RETOS projects obtained funding during 2015.

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.
As a result of all the activities described, the results shown in the table below were obtained:

<table>
<thead>
<tr>
<th>Evolution of Results</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
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<tr>
<td>Patents</td>
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<td>8</td>
<td>13</td>
<td>11</td>
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<td>PCTs</td>
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<td>4</td>
<td>7</td>
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<tr>
<td>Licenses</td>
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<td>4</td>
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</table>

### Industrial and intellectual property patents

During 2015, a total of 21 industrial/intellectual property patents were applied for:

<table>
<thead>
<tr>
<th>Title</th>
<th>Registry type</th>
<th>Owner Entity</th>
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</thead>
<tbody>
<tr>
<td>Method for obtaining useful data for diagnosis of hepatocellular carcinoma on alcoholic patients suffering from hepatitis C</td>
<td>National Patent</td>
<td>SAS, CIBER</td>
</tr>
<tr>
<td>Method for obtaining useful data for predicting and forecasting of the development of interferon-induced thrombocytopenia</td>
<td>National Patent</td>
<td>SAS, UCO</td>
</tr>
<tr>
<td>Prediction method for atypical fractures</td>
<td>European Patent</td>
<td>SAS, IMIN</td>
</tr>
<tr>
<td>Use of derivatives of aureolic acid on the production of a medicine for cholestasis treatment</td>
<td>National Patent</td>
<td>SAS, CIBER, UCO</td>
</tr>
<tr>
<td>Use of derivatives of anthranilic acid on the production of a medicine for cholestasis treatment</td>
<td>National Patent</td>
<td>SAS, CIBER, UCO</td>
</tr>
<tr>
<td>Laparoscopic Extractor</td>
<td>National Patent</td>
<td>SAS</td>
</tr>
<tr>
<td>Diagnosis kit for the identification of bacterial agents causing systemic infections</td>
<td>National Patent</td>
<td>SAS, IKAN BIOTECH, CANVAX BIOTECH</td>
</tr>
<tr>
<td>Biomarkers in exhaled breath condensate for the diagnosis, classification and monitoring of lung cancer</td>
<td>National Patent</td>
<td>SAS, UCO</td>
</tr>
<tr>
<td>Intraocular device for retina protection</td>
<td>National Patent</td>
<td>SAS</td>
</tr>
<tr>
<td>Software for the management and registration of hospital infections</td>
<td>Intellectual Property Registry</td>
<td>SAS</td>
</tr>
<tr>
<td>Electronic Data Record Software</td>
<td>Intellectual Property Registry</td>
<td>SAS, UCO, CIBER</td>
</tr>
<tr>
<td>Use of a composition comprising an agent AP-1 inhibitor for the manufacture of a medicament for the treatment of cholestasis</td>
<td>National Patent</td>
<td>SAS, CIBER, UCO</td>
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<tr>
<td>Using the GOAT enzyme levels as a marker of prostate cancer. &quot;Ghrelin -O -acyltransferase (GOAT) and its uses.&quot;</td>
<td>National Patent</td>
<td>SAS, UCO</td>
</tr>
<tr>
<td>Predicting response method for patients with rheumatoid arthritis in the anti-TNF therapy</td>
<td>PCT</td>
<td>SAS, UCO, FIBICO</td>
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<tr>
<td>Method for obtaining useful data for diagnosis of hepatocellular in alcoholic patients with hepatitis C</td>
<td>PCT</td>
<td>SAS, UCO, CIBER</td>
</tr>
<tr>
<td>Mesenchymal stem cells lysates for the treatment of musculoskeletal injuries</td>
<td>PCT</td>
<td>SAS, UCO</td>
</tr>
<tr>
<td>Quality Control device for ionizing radiations emitting equipment</td>
<td>PCT</td>
<td>SAS</td>
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<tr>
<td>Method for obtaining useful data for the detection of patients with lung cancer</td>
<td>PCT</td>
<td>SAS, UCO</td>
</tr>
<tr>
<td>Procedure to obtain useful data to detect angiogenesis on lower limbs</td>
<td>PCT</td>
<td>SAS</td>
</tr>
<tr>
<td>Laryngoscope with consumable blade</td>
<td>PCT</td>
<td>SAS</td>
</tr>
<tr>
<td>Method and kit for predicting or forecasting response to antiangiogenic</td>
<td>National Phases</td>
<td>SAS, UCO</td>
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SAS: Andalusian Health Service ; UCO: University of Cordoba ; CIBER: Biomedical Research Networking Centres
Goals for 2016

<table>
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<th>Number</th>
<th>Goal</th>
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<tbody>
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<td>1</td>
<td>Obtain the reaccreditation of ISCIII as a Health Research Institute.</td>
</tr>
<tr>
<td>2</td>
<td>Develop strategies to increase the quality and number of scientific publications and leadership within IMIBIC’s researchers.</td>
</tr>
<tr>
<td>3</td>
<td>Promote and improve clinical research in the IMIBIC, increasing development, quality and efficiency of independent clinical research projects.</td>
</tr>
<tr>
<td>4</td>
<td>Encourage institutional integration.</td>
</tr>
<tr>
<td>5</td>
<td>Strengthen and improve the self-sustainability of IMIBIC, optimizing the management of their own resources, by increasing uptake of European funds and competitive public funds as well as through the promotion of collaboration with the business community.</td>
</tr>
<tr>
<td>6</td>
<td>Develop a strategy for incorporating new clinical groups and academics, as well as for the promotion of existing groups.</td>
</tr>
<tr>
<td>7</td>
<td>Attract research talent and promote their professional development.</td>
</tr>
<tr>
<td>8</td>
<td>Promote, attain and strengthen partnerships and international collaborations.</td>
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<tr>
<td>9</td>
<td>Promote and increase the protection of knowledge generated and the transfer of technology to the business fabric.</td>
</tr>
<tr>
<td>10</td>
<td>Ensure the quality of service provided by the BRSUs and management units of the Institute and promote innovation through across them.</td>
</tr>
</tbody>
</table>

1. Obtain the reaccreditation of ISCIII as a Health Research Institute.
2. Develop strategies to increase the quality and number of scientific publications and leadership within IMIBIC's researchers.
3. Promote and improve clinical research in the IMIBIC, increasing development, quality and efficiency of independent clinical research projects and studies promoted by the industry.
4. Encourage institutional integration and collaboration among researchers.
5. Strengthen and improve the self-sustainability of IMIBIC, optimizing the management of their own resources, by increasing uptake of European funds and competitive public funds as well as through the promotion of collaboration with the business community.
6. Develop a strategy for incorporating new clinical groups and academics, as well as for the promotion of existing groups.
7. Increase the involvement of Clinical Management Units of the Reina Sofia University Hospital in IMIBIC research activity.
8. Attract research talent and promote their professional development.
9. Ensure quality training to IMIBIC researchers.
10. Improve communication and interaction between insiders and strengthen their commitment to the organization to reinforce recognition, affiliation and dissemination of IMIBIC on the results of scientific activity.
11. Increase external visibility of IMIBIC to identify it as an institute of excellence and flagship of Biomedical Research at the University of Cordoba and the University Hospital Reina Sofia and position as a leading institution in the local, regional, national and international environment.
12. Strengthen the reputation of the institution responsible as a way to strengthen its identity and corporate culture.
13. Promote, attain and strengthen partnerships and international collaborations.
14. Providing means and mechanisms to ensure the application of research results in terms of citizens's health.
15. Promote and increase the protection of knowledge generated and the transfer of technology to the business fabric.
16. Promote and implement the innovation model in the organization.
17. Ensure the quality of service provided by the BRSUs and management units of the Institute and promote innovation through across them.