



IMIBIC

MAIMONIDES BIOMEDICAL
RESEARCH INSTITUTE OF
CORDOBA



Annual Report 2011



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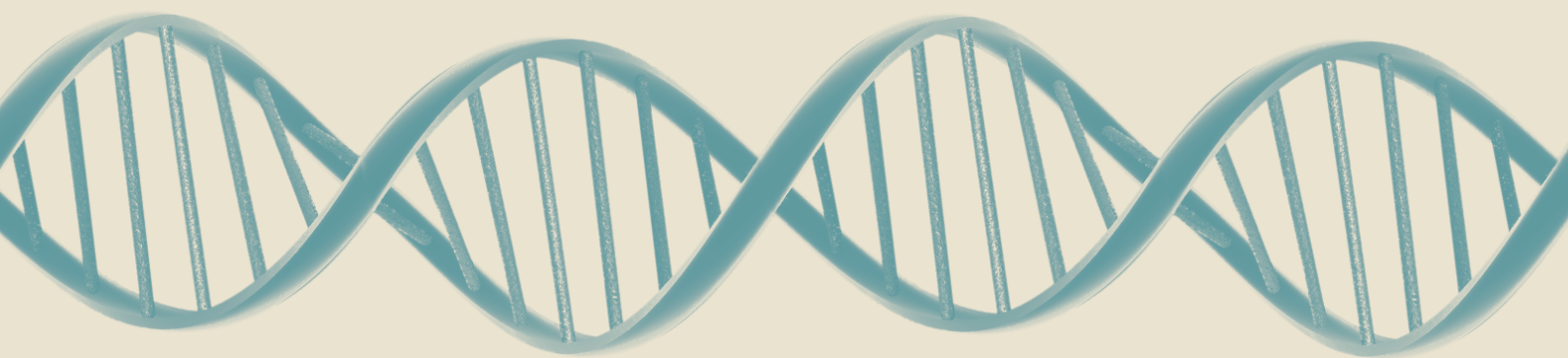
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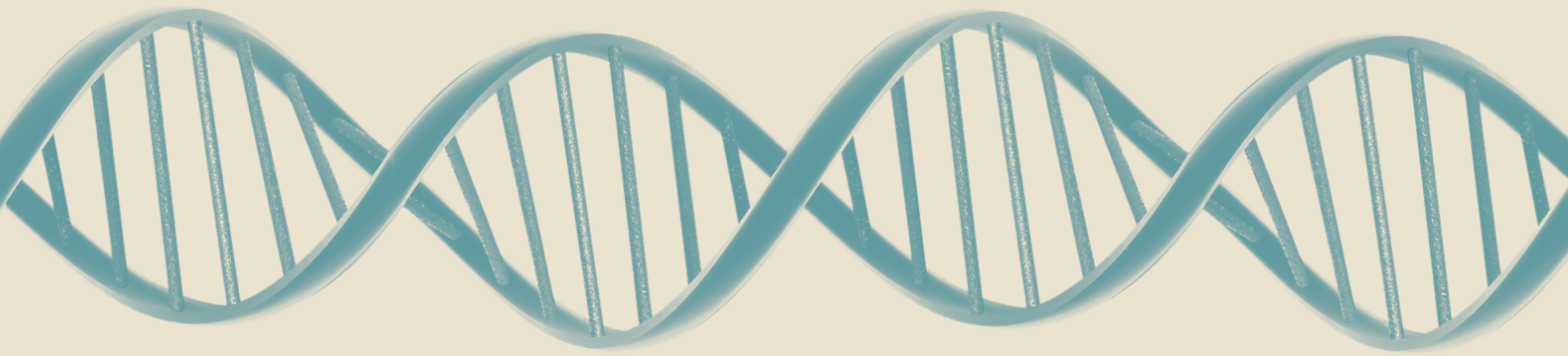
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1

Introduction



1. Introduction

The Maimonides Institute for Biomedical Research in Cordoba (IMIBIC, in Spanish), in keeping with its commitment to dynamize and coordinate scientific research at local level, has continued its scientific activity over the year 2011. Within our aim to improve the quality of life of the population, our activity is focused on translational research. We have made significant efforts to be recognised as a Health Institute by the Instituto de Salud Carlos III, Madrid (Carlos III Health Institute). Accordingly, important advances have been made to consolidate the image of the IMIBIC as a cutting-edge research center both in the region of Andalusia and at a national level, within the framework of the health institutes recognized by the Carlos III Health Institute. Another relevant landmark is the start of the building works next to the University Hospital Reina Sofía to construct new facilities to accommodate IMIBIC researchers.

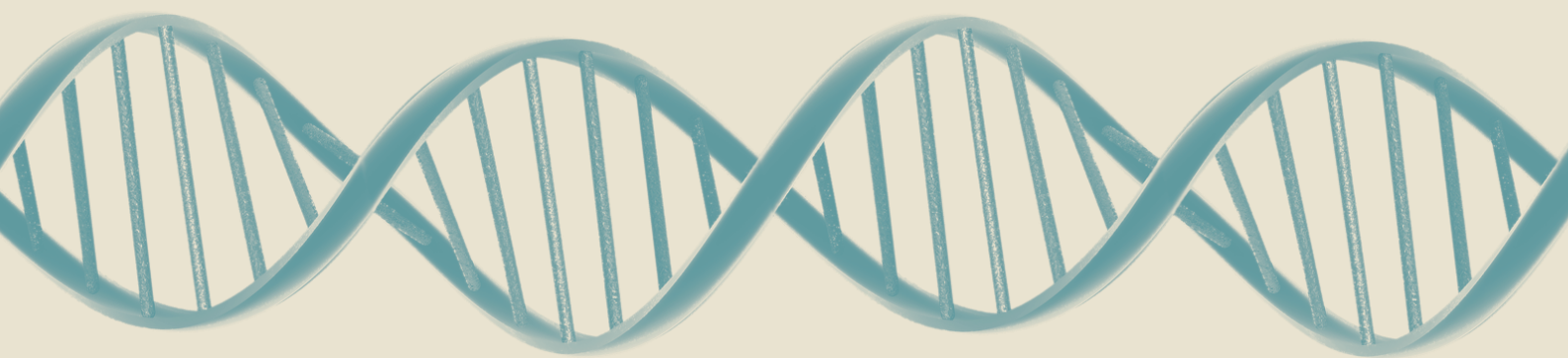
During the year 2011 our researchers continued their scientific production, which amounted to **287 papers**, of which 44% were studies carried out in collaboration with national groups, while 24% were conducted in collaboration with foreign groups. The Total **Impact Factor** was **987 points**. It is noteworthy that 51% of our publications were published in 1st quartile journals, which demonstrates the high quality of the IMIBIC's scientific output. The **6 registered patents** in 2011 –which exceeds the number of patents registered in the previous year– bear witness of our ongoing effort to promote knowledge transfer.

Over the year, our groups have obtained a total of **17 new research projects**, **61 clinical trials** and **29 donations**, and we have signed several **contracts with different companies**. Further, our researchers are involved in the Carlos III Health Institute's Strategic Plans –including CIBER, “Redes” and “Consolider” –, all of which reflects our researchers' solid commitment to the national and international dissemination of their work. Over 2011 we launched our own research mobility program. As for training, the PhD Program in Biomedicine –with a total of 15 doctoral theses produced– has obtained the Quality Label Recognition award conferred by the Spanish Ministry of Education and Science.

For all this intense effort, IMIBIC's professionals, scientists, technicians and management staff deserve special recognition for the sustained effort they are making to meet society's demands, which is key to improving people's quality of life and overcoming the difficulties of the current economic climate.

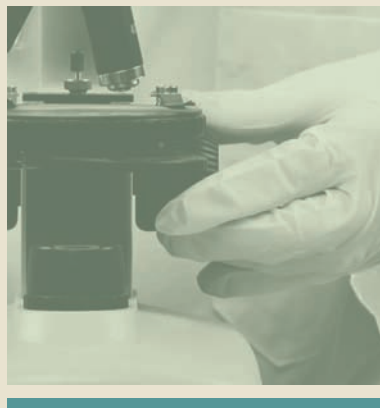
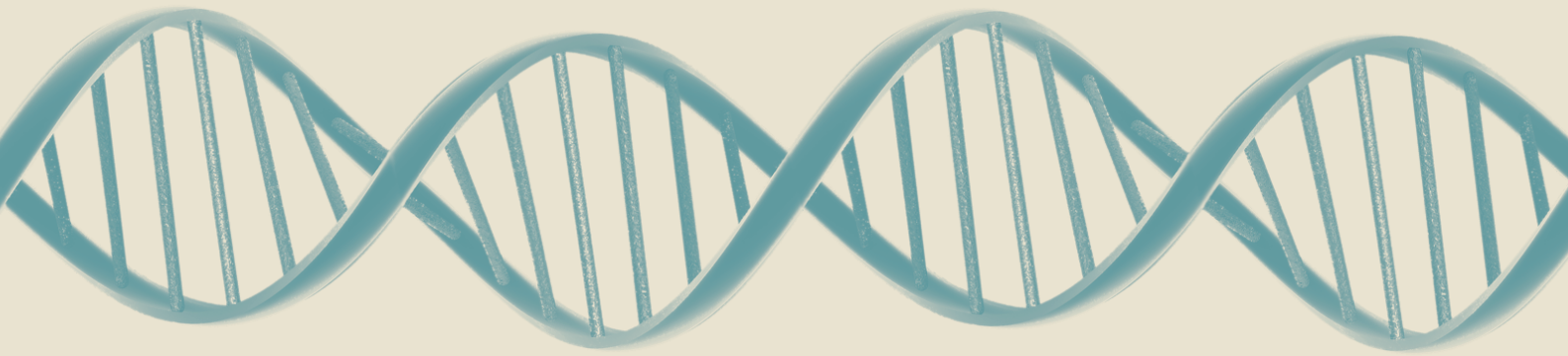


Francisco Pérez Jiménez
Scientific Director



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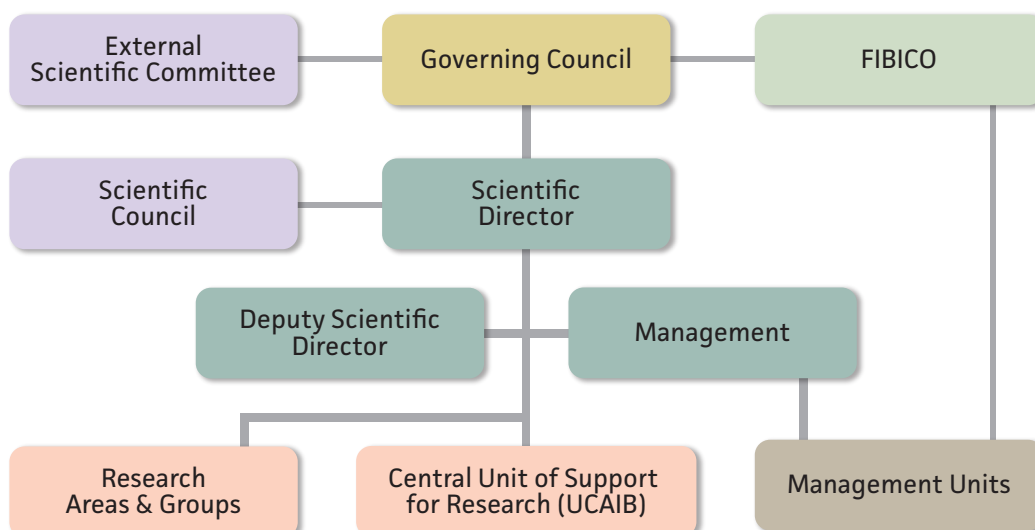
Physical, Human, Technological and Economic Resources



2. Physical, Human, Technological and Economic Resources

2.1.- Organization Chart

The administrative and governing structure of the IMIBIC is explained in the following diagram:



A. Associated Council

Governing Council

The governing council is made up of the following members:

- Two representatives from the Andalusian Regional Government's Council of Health:
 - The Rt. Hon. Carmen Cortes Martínez. General Director for Quality, Research and Management of Knowledge. As the President of the Governing Council. Replaced at the meeting on December 15 by the RT. Hon Aurea Bordons Ruiz.
 - Mr. José Manuel Aranda Lara. Managing Director of the Reina Sofia University Hospital and president of FIBICO.
- Two representatives from the Andalusian Regional Government's Council of Economy, Innovation and Science (CICE):
 - The Rt. Hon. Sol Calzado García. General Director for Research, Technology and Business.
 - The Rt. Hon. Carmen Prieto Sánchez. Provincial Delegate of the CICE in Cordoba.
- Two representatives from the University of Cordoba:
 - Mr. Enrique Aguilar Benítez de Lugo. Deputy Rector of Political Science, University of Cordoba.
 - Mr. Manuel Torralbo Rodríguez. Deputy Rector of Communication and Institutional Coordination.
- IMIBIC Scientific Director. Mr. Francisco Pérez Jiménez.
- One representative from the Progress and Health Foundation:
 - Mr. Juan Jesús Bandera González. Managing Director.

Scientific Council

The Scientific Council is an advisory body to the Scientific Directorate. It is composed of the Scientific Director and the Deputy Director of IMIBIC, all Head of Research (HD), Emerging Researchers (ER), a representative of the Reina Sofia University Hospital Board of Directors (RSUH), the IMIBIC's Manager and representatives of the technical and management staff. It was established on July 9th, 2009.

Standing Committee

The Standing Committee is a body appointed by the Scientific Council whose mission is to assist the Scientific Director in the performance of his/her functions. It acts as a cornerstone in the integration and motivation of IMIBIC's personnel. Furthermore, it is an advisory body to the Directorate, though its decisions are not binding. It was formed on July 9th, 2009, under the the name of Advisory Council, and it was ratified by the Scientific Council as a standing committee for that body on December 21st, 2009.

B. Individual Positions

Scientific Director

Prof. Dr. Francisco Pérez Jiménez, Professor of Medicine and Head of the Internal Medicine Service at Reina Sofia University Hospital, was named Scientific Director of IMIBIC by the Scientific Council, at a meeting held on October 20th, 2008.

Deputy Scientific Director

Prof. Dr. Justo P. Castaño Fuentes, Professor of Cell Biology at the University of Cordoba, was named Deputy Scientific Director by the Governing Council, at the meeting held on March 18th, 2010.

Manager

Mr. José Miguel Guzmán de Damas holds a Graduate in Pharmacy (specialty in Hospital Pharmacy), a MD in Business Management and an Executive MBA at the IESE Business School, Barcelona, Spain. He was appointed Manager of IMIBIC by the Governing Council at its meeting held on December 21st, 2010.

2.2.- Scientific Structure of IMIBIC

This section includes a description of the scientific organization of IMIBIC and the Central Support Unit for Biomedical Research (CSUBR). As for the former, on April 21st 2009, the Governing Council approved the division of IMIBIC into four Scientific Areas and appointed the coordinators for each area, who had previously been proposed by the researchers themselves. These are listed below:

AREA A: Immunology, Inflammation, Oncology & Infectious Diseases

Coordinator: Rafael Solana Lara

This area brings together researchers studying the biological response to exogenous or endogenous factors, with special focus on events of an inflammatory, immune, thrombotic or proliferative nature. The emerging researchers (ER), head of research (HR), co-heads of research (CO-HR), associate researchers (AR) and the groups which belong to it are as follows:

IMIBIC Code	Title	Researchers
A-01	T and NK Immunosenescence. Antiviral Immune Response	Dr. Rafael Solana Lara (HR) Dr. José Peña Martínez (CO-HR)
A-02	Oxidative and Nitrosative Stress in Acute and Chronic Liver Disease	Dr. Jordi Muntané Relat (HR) Dr. Manuel De La Mata García (CO-HR) Dr. José Antonio Bárcena Ruiz (CO-HR)
A-03	Hypercoagulability	Dr. Francisco Velasco Gimena (HR)
A-04	Infectious Diseases	Dr. Julián De La Torre Cisneros (HR) Dr. Antonio Rivero Román (CO-HR)
A-05	Inflammation and Cancer	Dr. Eduardo Muñoz Blanco (HR)
A-06	Cell Damage in Chronic Inflammation	Dr. Rafael Ramírez Chamond (HR)
A-07	Systemic autoimmune and chronic inflammatory diseases of the musculoskeletal system and connective tissue	Dra. Rosario López Pedrera (HR) Dr. Eduardo Collantes Estévez (CO-HR)
A-08	New Cancer Therapies	Dr. Enrique Aranda Aguilar (HR) Dr. Antonio Rodríguez Ariza (AR)
A-09	Nephrology	Dr. Pedro Aljama García (HR)
Aas-01	Lung Transplants. Thoracic Neoplasms	Dr. Ángel Salvatierra Velázquez (AR)
Aas-06	Comprehensive Nursing Techniques. Multi-disciplinary Perspectives	Dra. Maria Aurora Rodríguez Borrego (AR)

AREA B: Nutrition, Metabolism and Neuroendocrinology

Coordinator: Justo P. Castaño Fuentes

This area brings together researchers interested in health problems related to nutrition, metabolism and hormone regulation. It is made up of the researchers and groups indicated in the table below:

IMIBIC Code	Title	Researchers
B-01	Hormones and cancer	Dr. Justo P. Castaño Fuentes (HR) Dr. Francisco Gracia Navarro (CO-HR)
B-02	Nutrigenomics. Metabolic Syndrome	Dr. José López Miranda (HR) Dr. Francisco Pérez Jiménez (CO-HR)
B-03	Hormonal regulation of energy balance puberty and reproduction	Dr. Manuel Tena Sempere (HR) Dr. Enrique Aguilar Benítez De Lugo (CO-HR)
BE-04	Insulin Resistance, Diabetes and Metabolism	Dr. Juan Antonio Paniagua González (ER)
BE-05	Oxidative Stress and Nutrition	Dr. Isaac Túnez Fiñana (ER)
B-06	Metabolism and Adipocyte Differentiation. Metabolic Syndrome	Dra. M ^a del Mar Malagón Poyato (HR) Dr. Francisco Gracia Navarro (CO-HR)
BE-07	Child Metabolism	Dra. Mercedes Gil Campos (ER)
B-08	Epidemiological Research in Primary Care	Dr. Luis Ángel Pérula de Torres (HR)
Bas-02	Endocrinology and Nutrition	Dr. Pedro Benito López (AR)
Bas-03	Study of Growth. Endocrinology and Child Nutrition	Dr. Ramón Cañete Estrada (AR)
Bas-05	Clinical Analysis	Dr. Cristóbal Aguilera Gámiz (AR) Dr. Fernando Rodríguez Cantalejo (AR) Dr. Javier Caballero Villarraso (AR)

AREA C: Regenerative Cell Therapy: Organ Transplants

Coordinator: Inmaculada Herrera Arroyo

This area includes researchers involved in the use of new therapies –especially stem cell therapies–, invasive therapies and organ transplantation. This area is composed of the following researchers and research groups:

IMIBIC Code	Title	Researchers
C-01	Cell Therapy	Dra. I. Concepción Herrera Arroyo (HR)
C-02	Invasive Cardiology and Cell Therapy	Dr. José Suárez De Lezo Cruz-Conde (HR)
C-03	Cell Biology in Hematology	Dr. Antonio Torres Gómez (HR) Dr. Joaquín Sánchez García (ER)
C-04	Pathophysiology of endocrine vitamin D system. Biotechnology and aging	Dr. José Manuel Quesada Gómez (HR)
C-05	Translational Research in Surgery of Solid Organs Transplantation	Dr. Javier Briceño Delgado (HR)
Cas-04	Urology and Sexual Medicine	Dra. M ^a José Requena Tapia (AR) Dr. Francisco Anglada Curado (AR)

AREA D: Integrative Medicine and New Technologies

Coordinator: Rafael Medina Carnicer

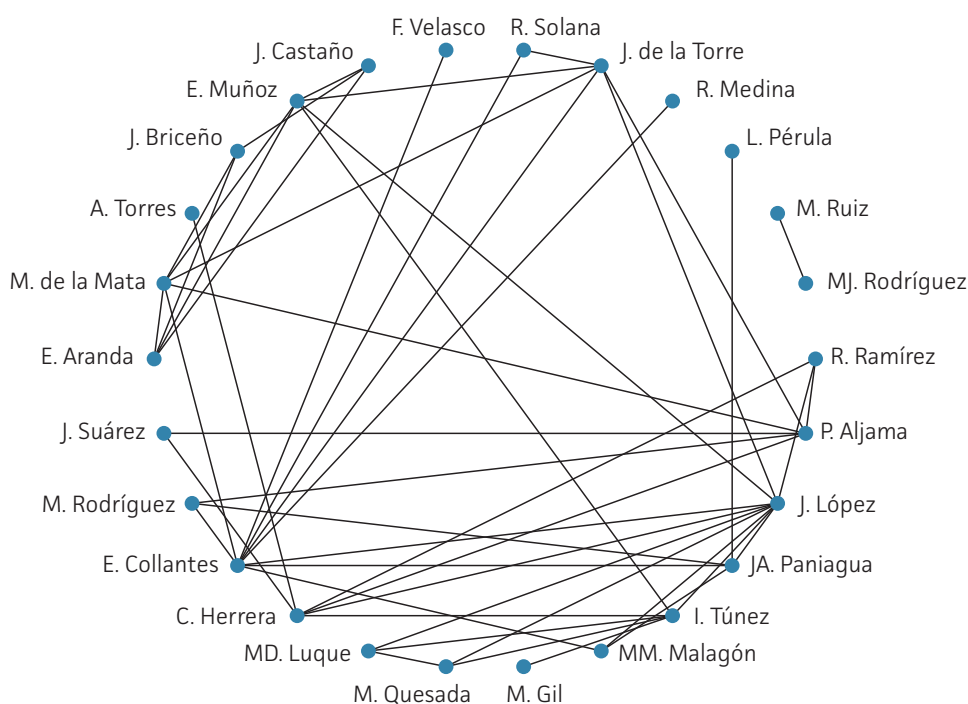
This area includes researchers involved in new technologies and scientific approaches using the methodology of systems biology. It is composed of the following groups and researchers:

IMIBIC Code	Title	Researchers
D-01	Applications of Computer Vision	Dr. Rafael Medina Carnicer (HR)
D-03	Behavioural Genetics and Diseases	Dr. Manuel Ruiz Rubio (HR)
D-04	Metabolomics. Identification of Bioactive Components	Dra. M ^a Dolores Luque De Castro (HR)
D-05	Epigenetics	Dra. Teresa Roldán Arjona (HR)
D-06	Calcium Metabolism. Vascular Calcification	Dr. Mariano Rodríguez Portillo (HR) Dra. Yolanda Almadén Peña (CO-HR)
DE-07	Identification of Antigenic Proteins for the Development of new Vaccines	Dr. Manuel José Rodríguez Ortega (ER)

2.2.1 Partnerships between the research groups

IMIBIC maintains an active cooperation and interconnection internal policy between the research groups (both intra and inter scientific areas) around the IMIBIC scientific programs. This cooperation is carried out regarding excellence and international projection of our research.

The following graph shows the partnerships established between research groups for the year 2011



2.3- Central Support Unit for Biomedical Research

The IMIBIC has undertaken a functional reorganization of its human and material resources in order to build a common structure supporting research activities known as the UCAIB: Unidad Central de Apoyo a la Investigación Biomédica (in English, Central Support Unit for Biomedical Research). Its aim is to provide services for researchers looking for help to start or consolidate research initiatives in the field of biomedicine.

At present, the UCAIB has a team of five highly qualified scientists providing support for groups with expert assistance in the following areas: two experts in Research Methodology and Biostatistics, one technician for organizing large teams and analysis (HPLC ELISA, Electrophoresis, Ultracentrifugation, etc.), an expert technician in Imaging (Cytomics, Confocal Microscopy, etc.) and a technician in charge of Genomics. The staff is as follows:

Name	Academic Qualification	Administrative Body	Status
Elisa Muñoz Gomariz	Doctor of Biology	FIBICO	Stable ⁽¹⁾
M ^a Carmen Muñoz Villanueva	Doctor of Medicine	FIBICO	Stable ⁽¹⁾
Juan Antonio Madueño Domenech	Doctor of Medicine	FIBICO	Stable ⁽¹⁾
M ^a José Gómez Luna	Doctor of Biology	FIBICO	Co-financed by FIBICO y ISCIII
Esther Peralbo Santaella	Doctor of Biology	FIBICO	Co-financed by FIBICO y ISCIII

(1) Programme of Stabilization of Researchers and Support Technicians (ISCIII Programme I3SNS).

These staff members are embedded into the CSUBR's structure, which is described in the Research Infrastructures and Support Plan within the IMIBIC's Strategic Plan, which includes:

a- Technological Processes Unit

- Genomics Subunit: Juan Antonio Madueño Domenech.
- Large Preparation Groups and Analysis Subunit: María José Gómez Luna.
- Cytomics Subunit: Esther Peralbo Santaella.
- Proteomics Subunit: To be developed
- Radioactive Isotopes Laboratory. This methodology is available and used by a number of IMIBIC groups which use it as part of their usual activity.

b- Quality, Training and Methodological Support Unit

This unit is conducted by two qualified experts, in Research Methodology and in Biostatistics: Maria Carmen Muñoz Villanueva and Elisa Muñoz Gomariz.

c- Other Support Units

- 1.- HURS (Reina Sofia University Hospital) Biobank. The Biobank of the Reina Sofia University Hospital collaborates with IMIBIC and is integrated into the network of Biobanks of the Carlos III Health Institute. The Coordinator is Manuel Medina Pérez.
- 2.- CAIBER: In the Reina Sofia University Hospital, there is a CAIBER node conducted by the IMIBIC researcher Mr. Joaquín Alanís López.
- 3.- The IMIBIC has two animal housing units, one at the School of Medicine and another at the HURS. It also has the support of the Animal Housing Unit and the Veterinary Hospital, both located at the University of Cordoba Campus Rabanales
- 4.- The IMIBIC also has technical support from the SCAI (Central Support Services for Research) of the University of Cordoba.

2.4.- Economic Resources

The following table shows the different sources of income for IMIBIC (FIBICO) in the year 2011:

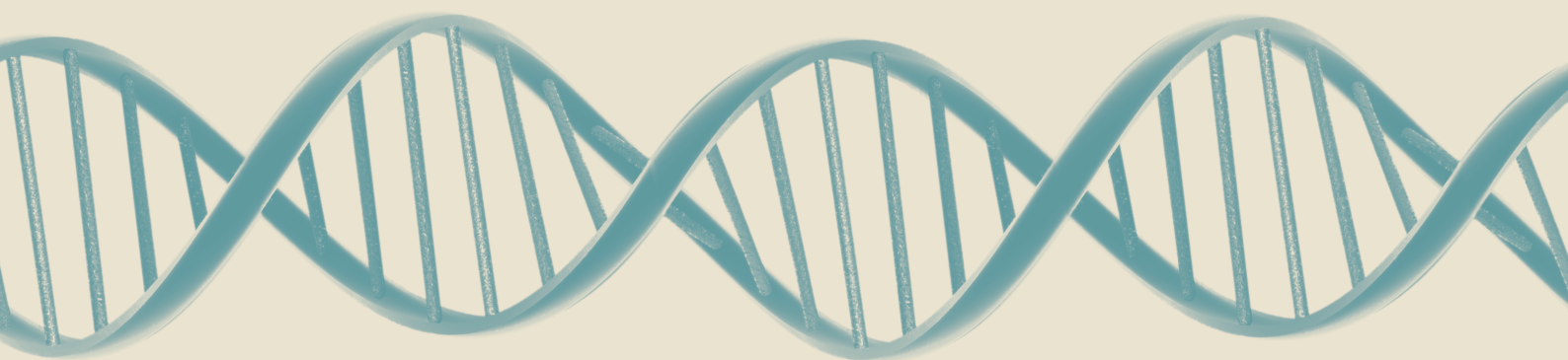
	Amount
RETICS	161.864,45 €
Provision of Services	92.710,81 €
Infrastructures	72.138,00 €
Research Projects	2.808.009,00 €
Personnel Program Financing	417.977,84 €
Clinical Trials	293.890,93 €
Agreements	55.039,84 €
Donations	189.711,86 €
CAIBER	162.621,66 €
BIOBANCO	80.672,69 €
CIBER	2.605,88 €

The amounts in the Table above reflect the incomes reported in IMIBIC's Income Statement according to the level of execution of every project, clinical trial or provided service instead of reflecting the annual allocation for the whole project for 2011.

Finally, funds for IMIBIC operating expenses –which amount to a total of 464,728.00 euros– came from the contributions made by the Andalusian Department of Health, the Andalusian Government's Department of Economy, Innovation and Science, and the University of Cordoba.

3

Achievement of Objectives in the year 2011



Achievement of Objectives in the year 2011

Objective 1

To revise, assess and restructure IMIBIC's management structure in order to optimize the available resources and meet the new emerging needs.

Achievement

After a careful assessment of IMIBIC's structure aimed at better meeting our users' needs, a new structure was proposed for the Governing Council Management Unit in September 2011. The new structure is based on the role of Project Managers, who are in charge of providing the research community with the necessary services supporting I&D. Project managers can directly provide a specific service or refer the researcher to a specialized professional.

Objective 2

To recruit more specialized technicians and acquire new equipments and infrastructures in UCAIB, to further complete the areas included in IMIBIC's Infrastructure and Support Services Development Plan.

Achievement

As to UCAIB, two new units –with their technicians– are planned to be established by 2012.

In 2011, the Central Support Unit for Biomedical Research (UCAIB) and the IMIBIC research groups were reinforced with the incorporation of new scientific equipment consisting of eleven small instruments or packs of scientific instruments. Additionally, in the 2008-2011 period, funds were obtained for the acquisition of new scientific equipment as part of the competitive calls for proposals within the framework of the Scientific-Technological Infrastructure Programme of the Spanish Ministry of Economy and Competitiveness. Such funds are planned to be devoted to the acquisition of new scientific equipment for the IMIBIC and the UCAIB when the works in the new premises are completed and our personnel moves to the new building.

Objective 3

To request the recognition of excellence for IMIBIC's Researcher Training Programme (PhD Program in Biomedicine).

Achievement

Early in 2011 an application for obtaining the Quality Label (Excellence) recognition for the PhD Program in Biomedicine was submitted to the Carlos III Health Institute of Spain, which was eventually awarded in October of the same year.

Objective 4

To assess IMIBIC's operation and, when necessary, launch improvement actions within the IMIBIC's Quality Plan.

Achievement

The annual evaluation was conducted as provided for in IMIBIC's Quality Plan. After the visit of the experts of the National Agency for Quality Assessment and Accreditation, the revision of the Quality Plan –which is carried out every five years– was brought forward. The evaluation report was carefully examined and structured according to the improvements proposed by the researchers. As a result, 19 improvement actions were launched under the IMIBIC Ongoing Improvement Plan.

Objective 5

To evaluate the IMIBIC Integration Plan and propose an improvement plan aimed at boosting its development.

Achievement

The implementation of the IMIBIC Integration Plan has continued and a significant number of activities aimed at achieving the established objectives have been launched, as follows: I Maimonides Lecture (a meeting of all IMIBIC research groups to present their work and identify potential synergies and shared points of interest); a range of training activities aimed at researchers (courses, conferences and seminars); regular meetings of Area coordinators with their teams, etc. The revision of the Plan was put off until 2012.

Objective 6

To establish joint actions with local health authorities for the development of initiatives aimed at disseminating the role of the IMIBIC as a tool for the promotion of research in Cordoba.

Achievement

The dissemination of the scientific work performed at the IMIBIC is key for local health professionals. For this reason, a number of joint activities have been conducted with local health authorities. Additionally, in order to present and inform on their translational-based research activity, IMIBIC members have held meetings with all hospitals located in the province of Cordoba and Andalusian health district authorities.

Objective 7

To launch actions aimed at boosting research initiatives among young health professionals and providing training to University of Cordoba researchers.

Achievement

The IMIBIC Training Programme is addressed at health professionals –especially medical residents. Among other initiatives, the IMIBIC has established a Short Professional Stay program aimed both at IMIBIC personnel and all health professionals in the province of Cordoba.

Objective 8

To develop new initiatives aimed at promoting the IMIBIC's Partnership Programme.

Achievement

IMIBIC's Special Research Plan and Collaboration Agreements.

The aim of IMIBIC's first Special Research Plan is to promote collaborative work among IMIBIC researchers and with research groups at other institutions. Among other actions is the first call for researcher mobility grants and the awards conferred to the most relevant studies conducted by the IMIBIC researchers in 2011.

Objective 9

To promote self-financing by achieving a balance between public and private financing.

Achievement

A special effort was made in 2011 to attract new clients, sign agreements with different companies and initiate clinical trials on request, which resulted in an increase in funds from private sources. Thanks to the good results obtained, requests for nominal public funds for the operation of IMIBIC decreased by 30 % in 2012.

Objective 10

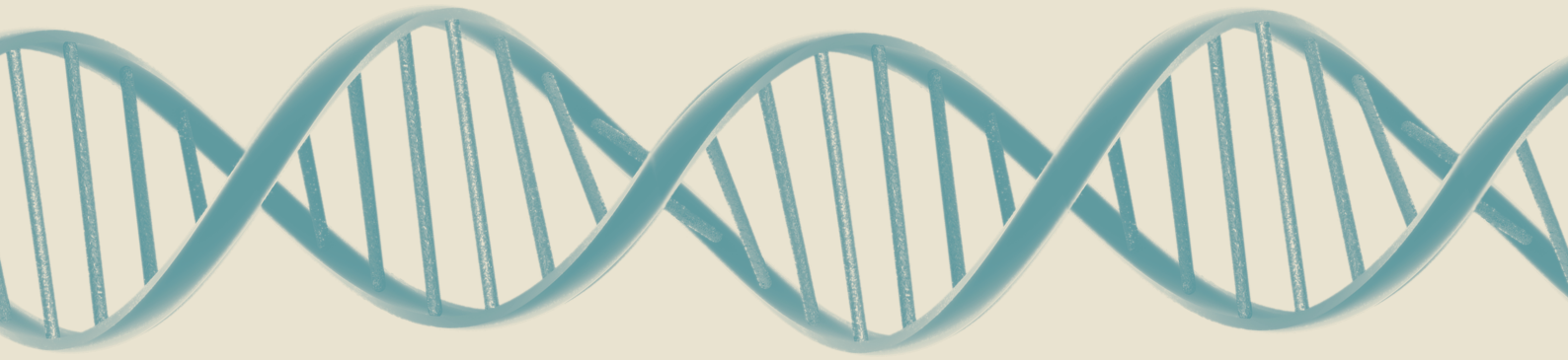
To create IMIBIC's own Knowledge Transfer Office (KTO).

Achievement

The registration form for the new KTO was submitted last November. The new KTO will promote the commercial exploitation of the research results and inventions developed at the IMIBIC. The number of patents filed was 6, of which 3 were national applications, 2 were international applications (PCT) and 1 has entered into the national phase. The number of patents filed in 2011 exceeds that of the previous year (5 filed patents).

4

Activities of the External Scientific Committee



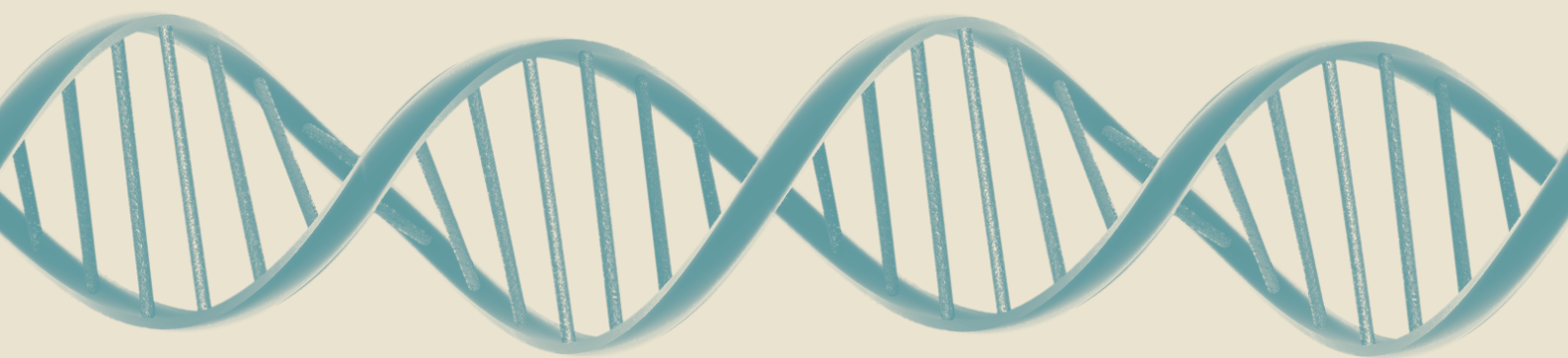
4. Activities of the External Scientific Committee



The External Scientific Committee met three times during 2011. The first two meetings were virtual (March 16th and July 8th) while the remaining was an ordinary meeting attended by IMIBIC members (December 20th). In the virtual meetings, the attendees received advice on the accreditation process for being awarded the Quality Label recognition. Once the process was completed and, as established by the Internal Regulations, the Committee addressed mandatory issues such as preparing the 2011 Budget. In addition, in 2011 the External Committee took part in the evaluation process for research staff and in the implementation of strategic initiatives such as the incorporation of new research groups, the promotion of emerging groups, supporting fundraising actions and fostering interaction with researchers working in the area of Primary Care.

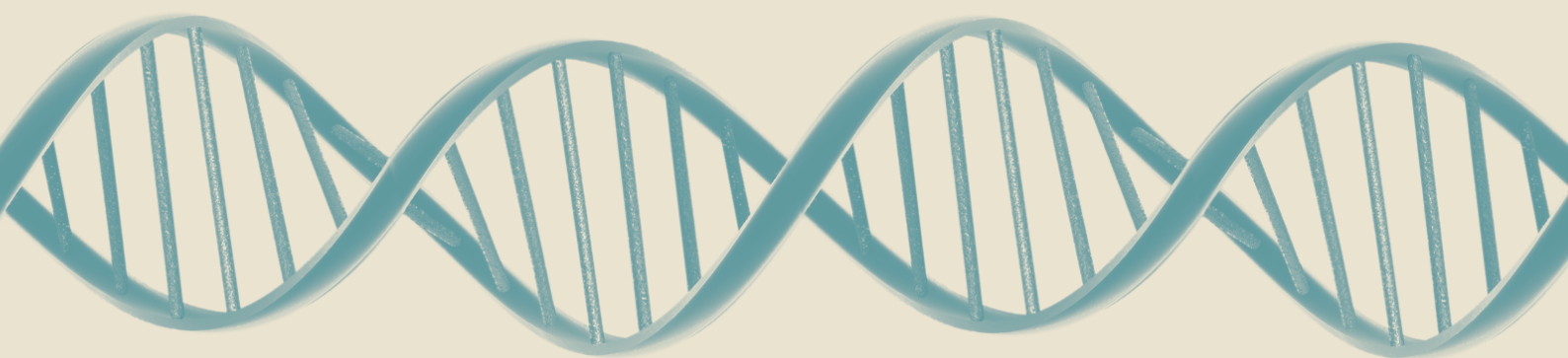
The External Scientific Committee is composed of the following members:

- Ana Aranda. CSIC Research Professor, “Alberto Sols” Institute of Biomedical Research and Institutional Coordinator of CSIC in the Community of Madrid
- Lina Badimon. Head of the Cardiovascular Research Center (CSIC-ICCC) Institut Català de Ciències Cardiovasculars Hospital de la Santa Creu i Sant Pau
- Carlos Diéguez. Director, Center for Medical Research (CIMUS), University of Santiago
- Jesús Egido. Head of Nephrology and Hypertension and Head of the Renal and Vascular Pathology Laboratory at the Jiménez Díaz Foundation, and Professor of Medicine at the Autonomous University of Madrid
- Miguel Ángel Gasull. Head of the Institute for Research in Health Sciences at the Germans Trias i Pujol Foundation
- Hubert Vaudry. Head of the Institut Fédératif de Recherches sur les Peptides Multidisciplinaires (IFRMP 23) and of the International Associated Laboratory Samuel de Champlain. Université de Rouen (France)
- Emilio Muñoz. Research Professor “ad honorem” of the CSIC and President of the ASEBIO Scientific Committee.
- José María Ordovás. Head of the Nutrition and Genomics Laboratory at the Human Nutrition Research Center on Aging, Tufts University, Boston (USA)
- Francisco Sánchez Madrid. Professor of Immunology at the Autonomous University of Madrid and Scientific Director of the Princesa Research Institute, Princesa’s University Hospital (Madrid)
- Antonio Vidal Puig. Professor of Molecular Nutrition and Metabolism, Honorary Consultant of Metabolic Medicine, Scientific Director of Cambridge Phenomics Center, University of Cambridge, Metabolic Research Laboratories, Institute of Metabolic Science (United Kingdom)



5

Participation in Networks, RETICS & CIBER



5. Participation in Networks, RETICS and CIBER

IMIBIC researchers are involved in a range of strategic initiatives coordinated by the Carlos III Health Institute (ISCIII) and participate in its Research Partnership Network program either through the Thematic Networks for Health Research Partnerships (RETICS, in Spanish) and the Biomedical Research Networking Center (CIBER, in Spanish), and its CENIT program. In fact, of the 34 groups integrated in the IMIBIC, 14 participate in partnership programmes related to different ISCIII strategic initiatives, namely: 9 groups are involved in 6 RETICS, furthermore, the IMIBIC is involved in the ISCIII Biobank Network and –through it– in the State Biobanks Platform; it collaborates with the CAIBER node attached to the University Hospital Reina Sofía in Cordoba, and 5 groups are involved in 2 CIBER; There are 20 groups involved in the Andalusian Plan for Research, Development & Innovation (PAIDI Programme) and 1 group is involved in the PRONAOS-CENIT Programme.

This participation is listed below:

RETICS Programme:

Some of our researchers lead the following network nodes in Cordoba:

Name of the Network	Head Scientist
AIDS Research Network (RIS)	Eduardo Muñoz Blanco
Thematic Network of Research Partnerships on Aging-Frailty (RETICEF)	José Manuel Quesada Gómez
Renal Research Network (REINREN)	Pedro Aljama García
Spanish Network for Research on Infectious Diseases (REIPI)	Julián de la Torre Cisneros
Network of Hospital Biobanks	Manuel Medina Pérez

Additionally, our researchers are collaborators in the following research networks:

Name of the Network	Collaborating Researcher
AIDS Research Networks (RIS)	Antonio Rivero Román
AIDS Research Networks (RIS)	José Peña Martínez
Spanish Network for Research on Infectious Diseases (REIPI)	Rafael Solana Lara
Network for Research on Mother-Child Health (RedSAMID)	Mercedes Gil Campos
Research Network on Preventive and Health Promotion in Primary Care (RedIAPP)	Luis Ángel Pérula de Torres
Renal Research Network (REINREN)	Mariano Rodríguez Portillo
Renal Research Network (REINREN)	Rafael Ramírez Chamond

CIBER Programme:

CIBER	Head Scientist
CIBER on Obesity and Nutrition (CIBERobn)	Francisco Pérez Jiménez
CIBER on Obesity and Nutrition (CIBERobn)	Manuel Tena Sempere
CIBER on Liver and Digestive Diseases (CIBERehd)	Manuel de la Mata García

Additionally, our researchers are members of the following CIBERs:

CIBER	Associate Researcher
CIBER Obesity and Nutrition (CIBERObn)	Justo Castaño Fuentes
CIBER Obesity and Nutrition (CIBERObn)	Mª del Mar Malagón Poyato

CENIT Program

A trainee group (led by Mercedes Gil Campos) and an associated group led by Ramón Cañete Estrada collaborate in the CENIT-PRONAOS program, which aim is to develop a new generation of food for weight control and obesity prevention.

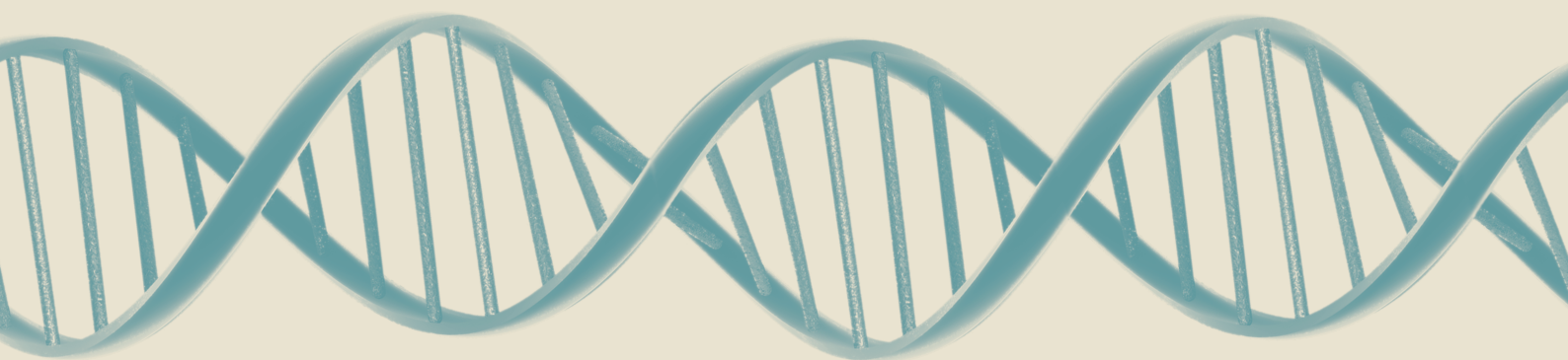
PAIDI Groups

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

- BIO-139. Principal investigator: Justo P. Castaño Fuentes
- BIO 208. Principal investigator: José Suárez de Lezo Cruz Conde
- BIO 216. Principal investigator: José Antonio Bárcena Ruiz
- BIO-272. Principal investigator: Manuel Ruiz Rubio
- BIO-301. Principal investigator: Rafael Rodríguez Ariza
- BIO-304. Principal investigator: Eduardo Muñoz Blanco
- BIO-310. Principal investigator: Manuel Tena Sempere
- CTS-208. Principal investigator: José Peña Martínez
- CTS-212. Principal investigator: Francisco Pérez Jiménez
- CTS-234. Principal investigator: Enrique Aranda Aguilar
- CTS-273. Principal investigator: Manuel de la Mata García
- CTS-413. Principal investigator: José Manuel Quesada Gómez
- CTS-452. Principal investigator: Roger Ruiz Moral
- CTS-525. Principal investigator: José López Miranda
- CTS-651. Principal investigator: Juan Antonio Paniagua González
- CTS-620. Principal investigator: Antonio Torres Gómez
- CTS-624. Principal investigator: Isaac Túnez Fiñana
- FQM-227. Principal investigator: María Dolores Luque de Castro
- CTS-039. Principal investigator: María Mercedes Gil Campos
- CTS-666. Principal investigator: Aurora Rodríguez Borrego

6

Training Activities



6. Training Activities

6.1. Introduction

The IMIBIC considers scientific training a basic, essential instrument for achieving its scientific objectives; accordingly, it has launched a plan aimed at promoting knowledge transfer and enhancing the current lines of research.



Prof. Dr. Eduardo Collantes Estévez

The training coordinator is Prof. Dr. Eduardo Collantes Estevez.

The IMIBIC leads a unique PhD Programme in Biomedical Research which includes a PhD Programme in Nutrition and Research Methods in Health Sciences.

This new PhD Programme in Biomedicine, coordinated by Prof. Dr. Francisco Gracia Navarro, provides advanced training to specialized personnel, stimulates teaching and research, and promotes professional qualification in the field of biomedical sciences.



Prof. Dr. Francisco Gracia Navarro

6.2. Training Activities

The following sections include the research training activities carried out during 2011.

6.2.1. Masters and PhD programs

The three Master's Degree programmes in the field of biomedicine which academic directors are members of IMIBIC are listed below:

- Translational Biomedical Research

Academic Director: **Prof. Dr. Francisco Gracia Navarro**

Website: <http://www.uco.es/estudios/idep/masteres/investigacion-biomedica-traslacional>

- Research Methods in Health Sciences

Academic Director: **Prof. Dr. Eduardo Collantes Estévez**

Website: <http://www.uco.es/estudios/idep/masteres/metodologia-investigacion-ciencias-de-la-salud>

- Nutrition and Metabolism (with Quality Label awarded by ANECA)

Academic Director: Prof. Dr. Francisco Pérez Jiménez

Website: <http://www.uco.es/estudios/idep/masteres/nutricion-metabolismo>

The PhD Programme in Biomedicine –which started in the 2010-2011 academic year– continued during the 2011-2012 academic year and was awarded the Quality Label (Excellence) recognition conferred by ANECA. Furthermore, the **PhD Programme in Research Methods in Health Sciences** was extended to one more course with 14 lines of research. The **PhD Programme in Biomedicine** will host nearly all the IMIBIC PhD candidates (Website: <http://www.uco.es/idep/doctorado/pd.php?id=11>). The 30 registered lines of research are listed below:

1. Food and Health

Research Coordinator: MANUEL ÁNGEL AMARO LÓPEZ

2. Alterations in Cellular Bioenergetics due to Caloric Restriction and Dietary Antioxidants

Research Coordinator: JOSÉ MANUEL VILLALBA MONTORO

3. Redox Alterations and Pathologies of the Mitochondrial Proteome

Research Coordinator: JOSÉ ANTONIO BÁRCENA RUIZ (Head of Research of IMIBIC group A-02)

4. Applications of Artificial Vision in Health Sciences

Research Coordinator: RAFAEL MEDINA CARNICER (Coordinator of IMIBIC Area D and Head of Research of the D-01 group)

5. Pathobiological Aspects of Allergic Diseases

Research Coordinator: FRANCISCO ANTONIO GUERRA PASADAS

6. Clinical and Molecular Basis of Cancer Surgery

Research Coordinator: SEBASTIÁN RUFÍAN PEÑA (Researcher of IMIBIC Group C-05).

7. Clinical and Molecular Bases of Digestive and Liver Diseases

Research Coordinator: PEDRO ANTONIO LÓPEZ CILLERO (Researcher of IMIBIC Group C-05).

8. Biology of Normal and Leukemic Hematopoiesis. Bone Marrow Transplantation. Biology and Therapeutic

Applications of Stem Cells in Bone Marrow Research Coordinator: ANTONIO TORRES GÓMEZ (Head of Research of IMIBIC Group C-03)

9. Nutritional Biomodulation

Research Coordinator: FRANCISCO PÉREZ JIMÉNEZ (Scientific Director and Head of Research of IMIBIC Group B-02)

10. Nursing Care

Research Coordinator: M^a AURORA RODRÍGUEZ BORREGO (Associated Researcher of IMIBIC Group Aas-06)

11. Dermatoses and its Association with Organs and Systems

Research Coordinator: JOSÉ CARLOS MORENO GIMÉNEZ

12. Diagnostic Imaging and Radiotherapy

Research Coordinator: MARÍA MARTÍNEZ PAREDES

13. Endocrinology, Metabolism and Diabetes

Research Coordinator: PEDRO BENITO LÓPEZ (Head of Research of the associated group Bas-02)

14. Systemic Autoimmune and Chronic Inflammatory Diseases

Research Coordinator: ROSARIO LÓPEZ PEDRERA (Head of Research of IMIBIC Group A-07)

15. Pathophysiology of Adipose Tissue: Obesity and Diabetes

Research Coordinator: MARIA DEL MAR MALAGÓN POYATO (Head of Research of IMIBIC Group B-06)

16. Genetics and Human Behaviour

Research Coordinator: MANUEL RUIZ RUBIO (Head of Research of IMIBIC Group D-03)

17. Identification of Protein Candidates for Vaccines against Pathogens with Proteomic Strategies

Research Coordinator: MANUEL JOSÉ RODRÍGUEZ ORTEGA (Head of Research of IMIBIC Group DE-06)

18. Inflammation, Cancer and Lung Transplants

Research Coordinator: EDUARDO MUÑOZ BLANCO (Head of Research of IMIBIC Group A-05)

19. Immunobiology of NK Cells

Research Coordinator: JOSE PEÑA MARTINEZ (Head of Research of IMIBIC Group A-01)

20. Translational Research in Infectious diseases

Research Coordinator: JULIÁN DE LA TORRE CISNEROS (Head of Research of IMIBIC Group A-04)

21. Cellular and molecular mechanisms of Inflammation and Endothelial Damage in Renal Failure

Research Coordinator: PEDRO ALJAMA GARCÍA (Head of Research of IMIBIC Group A-09)

22. Clinical Microbiology

Research Coordinator: MANUEL CASAL ROMÁN

23. Neuroendocrinology of Energy Balance, Puberty and Reproductive Function

Research Coordinator: MANUEL TENA SEMPERE (Head of Research of IMIBIC Group B-03)

24. Neuroplasticity and Oxidative Stress

Research Coordinator: ISAAC TÚNEZ FIÑANA (Head of Research of IMIBIC Group BE-05)

25. Nutrigenomics, Interaction of Genes with the Environment

Research Coordinator: JOSÉ LÓPEZ MIRANDA (Head of Research of IMIBIC Group B-02)

26. Pediatrics or Social Pediatrics. Experimental Medicine

Research Coordinator: RAMÓN CAÑETE ESTRADA (Associated Researcher of IMIBIC Group Bas-03)

27. Pediatrics: Research in Specific Areas

Research Coordinator: JUAN LUIS PÉREZ NAVERO (Researcher of Group BE-07)

28. Diagnostic Procedures, Interventional and Therapeutic Radiology and Rehabilitation

Research Coordinator: ANTONIO CANO SÁNCHEZ (Researcher of Group BE-04)

29. Cellular and Molecular Regulation of Hormone Secretion and Cancer

Research Coordinator: JUSTO PASTOR CASTAÑO FUENTES (Head of Research of IMIBIC Group B-01)

30. Targeted Therapy in Cancer: Identification of Molecular Mechanisms of Resistance in a Suitable Selection of Patients and a Rational Use of Combined Therapy

Research Coordinator: ENRIQUE ARANDA AGUILAR (Head of Research of IMIBIC Group A-08)

The areas of research of the **PhD Programme in Research Methods in Health Sciences** (Coordinator: Prof. Dr. Eduardo Collantes Estevez) are as follows:

1. Histofunctional Aspects of Exercise and Reproduction

2. Applied Science in Physical Activity and Sports (Exercise and Health)

3. Epidemiology, Public Health and Mental Health

4. Natural History of Cardiac Intervention

5. AIDS Immunology

6. Qualitative Research

7. Research into Sciences of Physical Activity and Sport

8. Occupational Medicine, Environmental Health and Occupational Epidemiology

9. Family and Community Medicine

10. Forensic Medicine

11. Neurochemistry and Neuroendocrinology

12. Cellular and Molecular Pathology of Cancer and Related Diseases

13. Musculoskeletal Pathology

14. Promotion and Prevention in Women's Health

Website: <http://www.uco.es/idep/doctorado/>

6.2.2. Specific Training Activities

IMIBIC offers in-house training programs in research methods in health sciences or in specific areas linked to biomedical sciences.

6.2.2.1. Courses

Name of the Course	Organized by	Direction/Coordination	Duration in Hours
Transcranial Magnetic Stimulation and Neuromodulation. Present and Future in Neuroscience	IMIBIC & UCO. UCO Continuing Education Training Course	Isaac Túnez Fiñana/Álvaro Pascual Leone	30
Clinical Proteomics: Basic Aspects and Applications	IMIBIC & UCO. UCO Continuing Education Training Course	SCAI. Proteomic Unit	30
Theory and Practice Course on Research Methods in Health Sciences. Developing a research protocol	IMIBIC	Eduardo Collantes Estévez/ Elisa Muñoz Gomariz	16

6.2.2.2. IMIBIC Seminars

Nº	Seminar	Speaker	Institution	2011 Date
1	<i>Protein-protein interactions in the context of neurodegenerative diseases</i>	Pablo Porras Millán	Max Delbrueck Center, Berlin	Jan 27
2	<i>Water: a key nutrient for a healthy life</i>	Giovanni Pastore	Italian Institute for Research in Food and Health	31 Jan
3	<i>Strategies for the identification of genes associated with human behavior disorders</i>	Amalia Martínez Mir	Seville Biomedical Research Institute-IBIS	01 Feb
4	<i>Chronobiology, synchronizing our genes to meet every day needs and need on different stages of life</i>	José Ordovás	Tufts University of Boston. USA	10 Feb
5	<i>Vitamin D and colon cancer</i>	Alberto Muñoz Terol	Biomedical Research Institute. CSIC	17-Feb
6	<i>Cell therapy in neurodegenerative diseases</i>	José López Barneo	Seville Biomedical Research Institute (IBIS)	24-Feb
7	<i>How molecular knowledge has changed breast cancer diagnosis, staging and therapy</i>	Ana Lluch	Department of Medical Oncology. Valencia Clinical Hospital	11-Mar
8	<i>Genetic variability and treatment decision in colon cancer</i>	Eva Martínez Balibrea	Biology Laboratory (Barcelona)	10-Mar
9	<i>Somatostatin Receptors In Neuroendocrine Tumors And Cancer: A Rejuvenating Story</i>	Leo Hofland	Deparmen of Internal Medicine, Division of Endocrinology, The Netherlands	17-Mar
10	<i>Thrombosis mechanisms in Primary Antiphospholipid Syndrome</i>	M ^a José Cuadrado Lozano	Lupus Research Unit , St Thomas Hopital, London.	24-Mar
11	<i>Cooperation of the oncogen BRAF and the TGF-beta signalling pathway in thyroid cancer</i>	Pilar Santisteban	Biomedical Research Institute CSIC	31-Mar
12	<i>Identification of post-translational modifications on key proteins in inflammation and cancer</i>	M. Lienhard Schmitz	Biochemical Institute. Medical Faculty. Giessen (Germany).	06-Apr
13	<i>Nanomedicine</i>	Josep Samitier Martí	Spanish Nanomedicine Platform. Barcelona	07-Apr
14	<i>Found In Translation: Biomedical Research On Novel Therapeutic Strategies For Pituitary And Neuroendocrine Tumors Stem cells in pituitary gland and tumors</i>	María Chiara Zatelli	University of Ferrara, Italy	14-Apr
15	<i>Stem cells in pituitary gland and tumors</i>	Hugo Vankelecom	University of Leuven, Belgium	28-Apr

16	<i>Mechanisms of cell death</i>	Shazib Pervaiz	National University of Singapore	05-May
17	<i>Applications of magnetic transcranial stimulation in cerebrovascular pathologies</i>	Miguel Alonso Alonso and Beth Israel Deaconess	Harvard Medical School. Medical Center, Boston, USA.	06-May
18	<i>The role of the CD300 family of receptors in the innate and adaptive immune response</i>	Francisco Borrego	Laboratory of Molecular and Developmental Immunology, Bethesda, Maryland, USA	12-May
19	<i>Natural products as lead structures for new antitumor agent</i>	Olov Sterner	Department of Organic Chemistry, Lund University, Sweden	19-May
20	<i>The regulation of mitochondrial oxidative stress</i>	María Monsalve	National Center for Cardiovascular Re- search (CNIC)	02-Jun
21	<i>Caenorhabditis elegans as a model organism for studying human diseases</i>	Julián Cerón Madrigal	Catalan Institute of Oncology - IDIBELL, Barcelona	09-Jun
22	<i>Molecular biology of cancer</i>	Manuel Serrano	National Cancer Research Center (CNIO)	16-Jun
23	<i>Regulation of the subcellular location of Kinase suppressor of Ras (KSR)</i>	José Lozano	University of Málaga	08-Jul
24	<i>Stem cell culturing with dental pulp: Research challenges in regenerative Medicine</i>	Raul Rosalez Ibáñez	Basic science and Tissue Engineering. School of Stomatology. San Luis Potosí University, Mexico	30-Sep
25	<i>Regulation of the subcellular location of kinase suppressor of Ras (KSR)</i>	Aitor Gonzales Granja	VivaCell Biotechnology España	13-Oct
26	<i>Using Systems Biology to gain Insights into the Genetic and Epigenetic Mechanisms controlling Female Puberty</i>	Sergio Ojeda	Oregon National Primate Research Center/ Oregon Health & Science University.	20-Oct
27	<i>The role of genes and the environment in exceptional longevity of humans</i>	Nir Barzilai	Institute for Aging Research, Albert Ein- stein College of Medicine	25-Oct
28	<i>Neuropeptides modulating Immune response</i>	Elena González	Institute of Parasitology and Biomedicine "López -Neyra" Granada	03-Nov
29	<i>C. elegans, the worm with three Nobel awards, As a model for cancer research</i>	Julián Cerón Madrigal	Cancer and Human Molecular Genetics, IDIBELL, Barcelona	10-Nov
30	<i>New Nanotechnology-based therapies</i>	M ^º José Alonso	Santiago de Compostela University. School of Pharmacy	24-Nov
31	<i>Examining the functionality of lupus susceptibility polymorphisms</i>	Marta Alarcón Riquelme	Pfizer Center. University of Granada	15-Dec

1. II Young Researchers Conference

Day: May 11

Organizing Body: IMIBIC. UCO. ANDALUSIAN REGIONAL GOVERNMENT

Schedule

9:00-9:30 Registration and poster set up

9:30-10:00. Opening Act

Mr. Enrique Aguilar Benítez de Lugo

Vice-Chancellor of Scientific Policy. University of Cordoba (UCO)

Ms. Isabel Baena Parejo

Provincial Delegate of the Andalusian Regional Government Health Department

Mr. José Manuel Aranda Lara

Managing Director of the University Hospital "Reina Sofía" (UHRS)

Dr. Francisco Pérez Jiménez

Scientific Director of IMIBIC

10:00-11:15. Session I. Cardiovascular Disease Obesity and Metabolic Syndrome

(Moderators: Dr. Raúl Luque Huertas, Dr. Pablo Pérez Martínez and Dr. Isaac Túnez Fiñana)

I.a 10:00-10:15

Mediterranean diet supplemented with coenzyme Q10 of the genes involved in oxidative stress in the elderly

Elena María Yubero Serrano

I.b 10:15-10:30

A variant of the gene pon1 is associated with obesity and lactonase activity of the paraoxonase in Spanish obese children

Azahara Iris Rupérez Cano

I.c 10:30-10:45

Alarmin hmgb1: a new marker of adipose tissue disorders

Rocío Guzmán Ruiz

I.d 10:45-11:00

Biological characterization of the implantation of autologous bone marrow mono-nuclear cells administered to patients with chronic ischemic heart disease in a cell therapy clinical trial for the regeneration of the myocardium.

María Dolores Carmona Luque

I.e 11:00-11:15

Early metabolic programming: impact of changes in postnatal intake on the development of the hypothalamic system kiss1.

Juan Manuel Castellano Rodríguez

11:15-11:45. Coffee Break. Poster Session

11:45-13:00. Session II. Oncology and Oncohaematology

(Moderators: Dr. Juan de la Haba, Dr. Marco A. Calzado Canale, Dr. Antonio Rodríguez Ariza)

II.a 11:45-12:00

Design and validation of a new diagnosis score based on clinical and epigenetic data for pediatric patients diagnosed with acute lymphoblastic leukemia

Vanesa Martín Palanco

II.b 12:00-12:15

The constitutive activation of the pi3k/akt pathway in acute myelogenous leukemia increases the expression of wild type cytoplasmic mTOR-dependent survivin and gives favourable outcome

Juana Serrano López

II.c 12:15-12:30

Regulation of siah2 expression by kinase involved in response to oncogenic response

Moisés Pérez Aguilera

II.d 12:30-12:45

Multitargeted tyrosine kinase inhibitor AEE788 has anti-proliferative and apoptotic effects on colon cancer cells

Alejandro Ibáñez Costa

II.e 12:45-13:00

Multitargeted tyrosine kinase inhibitor AEE788 has anti-proliferative and apoptotic effects on colon cancer cells

Araceli María Valverde

13:00-14:00. Lecture

From molecular oncology to individualized therapies: Impact on Clinical Practice

Dr. Mariano Barbacid

Director of the Spanish National Cancer Research Center (CNIO)

14:00-16:00. Lunch Break

16:00-17:15. Session III. Chronic Inflammatory and Infectious Diseases. Senescence

(Moderators: Dra. Rosario López Pedrera, Dr. Manuel José Rodríguez Ortega and Dr. Irene Gracia.)

III.a 16:00-16:15

Treatment with bone marrow mesenchymal cells improves renal function and promotes glomerular regeneration in a model of progressive glomerulosclerosis.

Sagrario Cañadillas López

III.b 16:15-16:30

Different serotonin receptors regulate JC virus infectivity in HEK293 cells

Irene Gracia Ahufinger

III.c 16:30-16:45

Effectiveness of an intervention to increase treatment adherence and reduce medication errors in polypharmacy patients older than 65 years: a tem-ap study

Laura Pulido Ortega

III.d 16:45-17:00

Caloric restriction-induced alterations in muscle apoptosis markers. The role of diet fat.

José Alberto López Domínguez

III.e 17:00-17:15

*Phenotypic and functional analysis of gene *shn-1* in *C. elegans* and its involvement in neuronal synaptic transmission*

Aurora Zamora Pérez

III.f 17:15-17:30

*Looking for candidate proteins for vaccine against infection with *Streptococcus pneumoniae* and development of diagnostic tools*

Alfonso Olaya Abril

17:30-18:00. Coffee Break. Poster Session

18:00-19:00. Session IV. Digestive and Liver Diseases

(Moderators: Dr. Gustavo Ferrín, Dr. María Pleguezuelo and Dr. Rubén Ciria)

IV.a 18:00-18:15

The activation of the wnt/ β -catenin pathway induces a phenotypic tumor type during differentiation to human mesenchymal stem cell hepatocytes from bone marrow

Carmen Herencia Bellido

IV.b 18:15-18:30

Prediction of death in patients and usability of liver from asystolic donors: A decade of experience at King's College Hospital

Rubén Ciria Bru

IV.c 18:30-18:45

Serum cytokine concentration in patients with ulcerative colitis is associated with the disease activity

Manuel Luis Rodríguez Perálvarez

IV.d 18:45-19:00

Effects of the stable overexpression of nitric oxide synthase 3 on the proteome and cell death in a human hepatocellular carcinoma cell line HepG2.

Patricia Aguilar Melero

19:00-19:30. Award and Closing Ceremony

Jerónimo Pachón Díaz

Head of Infectious Disease Unit. University Hospital Virgen del Rocío

Dr. Francisco Pérez Jiménez

Scientific Director of IMIBIC

Prof. Eduardo Collantes Estévez

IMIBIC Training of Research Personnel coordinator. Professor of Medicine. Rheumatology

Marco Antonio Calzado Canale

Member of the Training of Research Personnel Committee. Researcher at the Inflammation and Cancer group

1. Information Session on Opportunities to Raise European Funds for R+D+I Actions in the field of Health

Date: June 1

Organizing Body: IMIBIC. Progress and Health Foundation

Schedule

9:30-10:00 Welcome and Presentation: Institute IMIBIC and Foundation FIBICO

Francisco Pérez Jiménez

Scientific Director of IMIBIC

José Miguel Guzmán

Manager at FIBICO

10:00-10:30 Information Session on Fundraising Opportunities

M^a José Palomo Corado

Resource Development Area, Progress and Health Foundation

Miriam Cruzado

Project Manager, FIBICO

10:30-10:40 Information Session on International Project Preparation and Management

Elena Martín Bautista

International Project Office of the Andalusian, Resource Development Area, Progress and Health Foundation

Miriam Cruzado

Project Manager, FIBICO

10:40- 11.15 Taking Part in European Programmes

Elena Martín Bautista

International Project Office of the Andalusian, Resource Development Area, Progress and Health Foundation

11:15 -11:45 Coffe Break

11:45 -14:00 2011 European Financing Programmes and Calls for Proposals

Elena Martín Bautista

International Project Office of the Andalusian, Resource Development Area, Progress and Health Foundation

Esther Guirado Luna

International Project Office of the Andalusian, Resource Development Area, Progress and Health Foundation

I Lecture and Award Ceremony IMIBIC 2011. (December 13th)

Date: December 13th

Organizing Body: IMIBIC. UCO

Schedule

11:00 Opening Ceremony

11:10 Presentation of IMIBIC's Special Plan

Prof. Dr. Francisco Pérez Jiménez

11:30 Best Joint Publication Based on Basic-Clinic Interaction

Postprandial antioxidant effect of the Mediterranean diet supplemented with coenzyme Q(10) in elderly men and women. Age Epub 2010 Dec 18

Dr. José López Miranda

11:50 Award to the Best Alternative Therapy

An Artificial Network-Based Donor-Recipient Matching Model

Dr. Javier Briceño

12:10 Award to the Patent with the Greatest Potential for Improving Health Problems

AGTR1 as a marker in bevacizumab combination therapies

Dr. Juan de la Haba Rodríguez

12:30 Award to the Best Final Master Project in the Field of Biomedicine

Analysing male Gpr54 mice as an animal model for studying the Kiss1/Gpr54 system

Ms. Silvia León Téllez

12:50 Award to the Most Relevant Scientific Publication

Glutaredoxin participates in the reduction of peroxides by the mitochondrial 1-CYS peroxiredoxin in Saccharomyces cerevisiae. Antioxidid Redox Signal. 2010; 13(3): 249-58

Dr. José Antonio Bárcena Ruiz

13:10 Maimonides Lecture

Presentation

Prof. Dr. Francisco Gracia Navarro

Frontiers in Biomedicine in the Genomics Era

Prof. Dr. Carlos López Otín

14:10 Award and Closing Ceremony

Apart from the awards mentioned above, an award will be given to the most relevant scientific news for IMIBIC

14:30 Closing Cocktail

6.3. Training Activity Results

6.3.1. Doctoral Theses

Below are listed the sixteen doctoral theses presented or directed by IMIBIC researchers:

PhD Candidate	Thesis Title	Director
Bárbara Manzanares Martín	Indication of search for a related bone marrow donator	Rafael González Fernández
Raúl González Ojeda	Antioxidant interventions for the treatment of oxidative stress and apoptosis in primary cultured hepatocytes	Jordi Muntané Relat
Amaya García de Vinuesa Antuñano	Role of TRPV-1 receptor endovanilloide in intestinal inflammation and carcinogenesis	Eduardo Muñoz Blanco
José Córdoba Chacón	Contribution of somatostatin, cortistatin, ghrelin and their receptors to growth hormone regulation in primates and rodents: Implications for metabolic pathophysiological conditions	Raúl Miguel Luque Huertas y Justo Pastor Castaño Fuentes
Francisco Miguel Gutiérrez Mariscal	Influence of a Mediterranean diet supplemented with coenzyme Q10 on the activation of p53 and DNA repair pathways in response to oxidative damage in elderly	José López Miranda y Pablo Pérez Martínez
Fernando Javier Rodríguez Rodríguez	Using anthropometric equations to estimate segmental muscle mass and their relationship with dexamethasone in recreational athletes	Francisco Jose Berral de la Rosa
Luis Alberto Urzua Alul	Intervention model in non-pharmacological patients with metabolic syndrome in the city of Talca	Francisco J. Berral de la Rosa
José Alberto Díaz-Ruiz Ruiz	Cellular and molecular characterization of the neuroendocrine protein Long Coiled-Coil 2 (Necc2)	M ^a del Mar Malagón y Rafael Vázquez Martínez
Josune Olza Meneses	Analysing polymorphisms in genes associated with metabolic syndrome in obese children	Mercedes Gil Campos
Victoriano Rodríguez Navarro	Effectiveness of a multifactorial intervention program for preventing falls among the elderly	Luis Ángel Pérula de Torres y Roger Ruiz Moral
Jaouad Anter	Evaluation of the protective activity of gene damage, cytotoxicity, and stem cell differentiation into adipocytes and osteoblasts in olive and vine-derived products	José Manuel Quesada Gómez
Fernando Calahorra Núñez	Caenorhabditis elegans as an experimental model in the study of the neuronal synaptic function	Manuel Ruiz Rubio
Carlos Ferreiro Vera	Development of analytical platforms for lipidomics analyses to search for biomarkers of clinical interest	M ^a Dolores Luque de Castro y Feliciano Priego Capote
M ^a Isabel Ponferrada Marín	Molecular basis of 5-methylcytosine recognition and elimination, an epigenetic modification in DNA	M ^a Teresa Roldán Arjona y Rafael Rodríguez Ariza
Martín Jaime Plascencia Álvarez	The role of estrogens in stress-induced ovarian interstitial cystitis: A biochemical and microscopic evaluation	José Peña Amaro

6.3.2. Profile of Students Enrolled in our Master Program

Master in	Total Students Enrolled	No.
Biomedical Translational Research	44	PCP= 2 NP = 7 R = 23 O = 12
Research Methods in Health Sciences	40	PCP= 1 NP= 5 R = 31 O = 3
Nutrition and Metabolism	32	PCP= 3 NP= 1 R = 17 O = 11

PCP= Primary Care Personnel; NP= Nursing Personnel; R= Residents; O= Others.

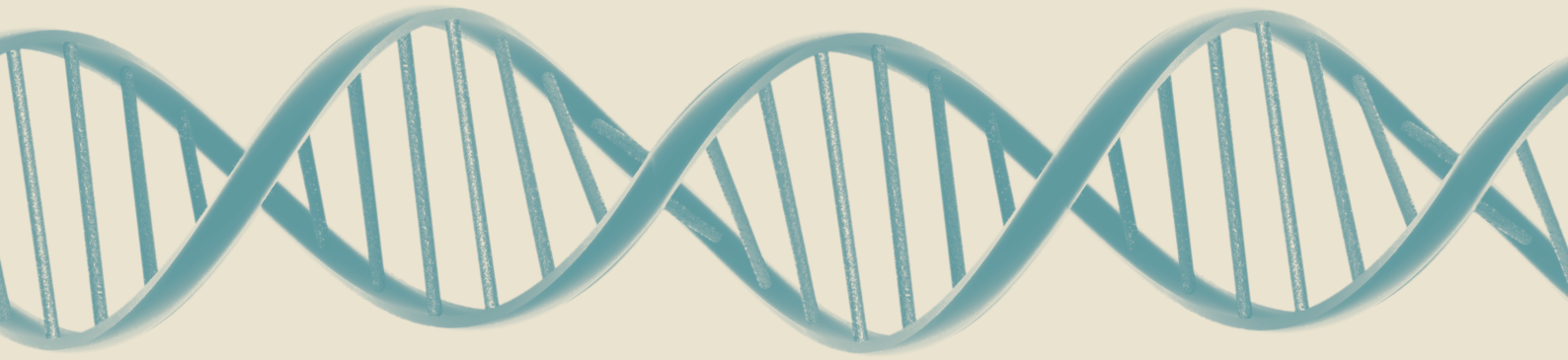
6.4. Short Professional Stays

Over the year 2011, our researchers have taken part in a number of short professional stays at a range of national and international centers. Relevant data are shown below:

	Stay at a National Center	Stay at an International Center
Trainee Researchers	N=2 Total Duration= 1.5 months	N=2 Total Duration= 7 months
Postdoc Researchers and Other	N=1 Total Duration= 1 month	N=7 Total Duration = 37.25 months

7

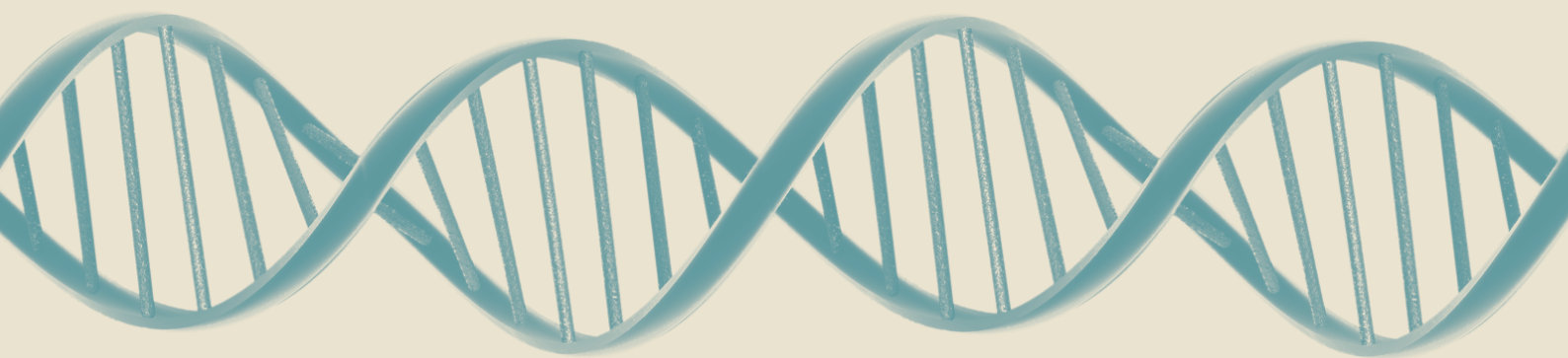
New Equipment Acquired



7. New Equipment Acquired

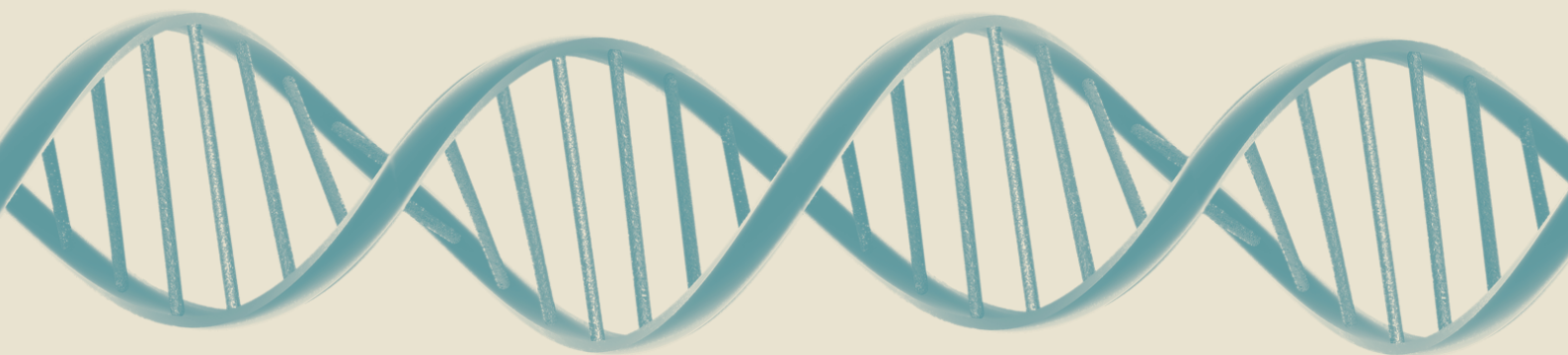
Over the year 2011, new equipment acquisitions were made to reinforce IMIBIC's Central Support Unit for Biomedical Research (UCAIB) and other IMIBIC research groups and areas located at different premises at the University Hospital Reina Sofía and the University of Cordoba School of Medicine. Acquisitions were mostly small scientific instruments –a total of 11 scientific instruments or instrument packs– for a total cost of 58,130.41€.

Additionally, in the 2008-2011 period, funds were obtained for the acquisition of new scientific equipment within the framework of the Scientific-Technological Infrastructure Programme of the Spanish Ministry of Economy and Competitiveness. The 2011 funds are planned to be devoted to the acquisition of new scientific equipment for the IMIBIC and its UCAIB when the works in the new premises are completed and our personnel moves to the new building. These funds were granted in the 2008 call for proposals and they amount to 1,438,381,90 EUR. As to the 2010 call, funds were awarded for a total of 870,072.70 EUR.



8

Results of the IMIBIC's Scientific Work Areas and Groups



Area A



Immunology, Inflammation, Oncology and Infectious Diseases

Coordinator: Rafael Solana Lara

A-01

T and NK Cell Immunosenescence. Antiviral immune response

A-02

Oxidative and nitrosative stress in acute and chronic liver disease

A-03

Hypercoagulability

A-04

Infectious Diseases

A-05

Inflammation and Cancer

A-06

Cell Damage in Chronic Inflammation

A-07

Systemic Autoimmune and Chronic Inflammatory Diseases of
Musculoskeletal System and Connective Tissue

A-08

New Cancer Therapies

A-09

Nephrology

Aas-01

Lung Transplants. Thoracic Neoplasms

Aas-06

Comprehensive Nursing Care. Multidisciplinary Perspective

Group A-01



T and NK cell Immunosenescence Antiviral Immune Response

Rafael Solana Lara. rsolana@uco.es

José Peña 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. We also analyze the immunopathogenesis of HIV infection and the impact that different therapeutic situations have on it as well as the innate immune response in HIV-1 + patients treated with “ex vivo” autologous dendritic cells as part of the protocol of developing a preventive vaccine.

Keywords

AIDS, HIV-1, HAART, preventive vaccine. Immunosenescence, aging, melanoma, NK cells, NKT cells, NK receptors, CMV, cytotoxic T lymphocytes (CTL).

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Solana	Lara	Rafael	HR	Coordinator of Area A
Peña	Martínez	José	CO-HR	Researcher
Alonso	Díaz	Corona	R	Researcher
Campos	Fernández	Carmen	R	Researcher
González	Fernández	Rafael	R	Researcher
Maceda	Roldán	Luis	R	Researcher
Manzanares	Martín	Bárbara	R	Researcher
Pera	Rojas	Alejandra	R	Researcher
Aguado	Álvarez	Rocío	TR	Researcher
Castro	Orgaz	Laura	TR	Researcher
Estévez	Cordero	Orlando	TR	Researcher
Frías	Casas	Mario	TR	Researcher
Velarde	Martínez	M ^a Luisa	Administrative O.	Administrative Officer

(*) HR: Head Researcher, CO-HR: CO-Head Researcher, R: Researcher; TR: Trainee Researcher

List of Publications

Silva R, Moir S, Kardava L, Debell K, Simhadri VR, Ferrando-Martínez S, Leal M, Pena J, Coligan JE, Borrego F. CD300a is expressed on human B cells, modulates BCR-mediated signaling, and its expression is down-regulated in HIV infection. *Blood*. 2011; 117(22): 5870 - 5880.
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Gayoso I, Sanchez-Correa B, Campos C, Alonso C, Pera A, Casado JG, Morgado S, Tarazona R, Solana R. Immunosenescence of human natural killer cells. *Journal of Innate Immunity*. 2011; 3(4): 337 - 343.
IF: 2,614

Morgado S, Sanchez-Corre B, Casado JG, Duran E, Gayoso I, Labella F, Solana R, Tarazona R. NK cell recognition and killing of melanoma cells is controlled by multiple activating receptor-ligand interactions. *Journal of Innate Immunity*. 2011; 3(4): 365 - 373.
IF: 2,614

Research Projects

Project Name: Influence of genotypic combinations of nk cell kir receptors and HLA molecules in the evolution of HIV-1 infection in different clinical-therapeutical contexts. (Jose Peña Martínez).
Funding Body: Carlos III Health Institute, Madrid.
File Number: 09/0424

Project Name: Effect of age and CMV infection in Nk cell functionality, invariant nkt cells, nkt-like lymphocytes and CMV-specific lymphocytes (Rafael Solana Lara).
Funding Body: Carlos III Health Institute, Madrid.
File Number: 09/0723

Project Name: Allogeneic use of ASCs in the systemic treatment of inflammatory diseases: Approach to clinical practice in rheumatoid arthritis (Rafael Solana Lara).
Funding Body: Spanish Ministry of Science and Innovation
File Number: IPT-010000-2010-40

Group A-02



Oxidative and Nitrosative Stress in Acute and Chronic Liver Disease

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Jose Antonio Bárcena Ruiz

Jordi Muntané Relat

Scientific Activity

The members of the research team are divided into the BIO-216 and the STS-273 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, α -tocopherol) or cellular redox state regulators (redoxins) have been characterized in models of cellular injury. The mitochondrial dysfunction caused by redox imbalance is at the root of a large number of pathologies. The group of proteins from the family of cellular and mitochondrial redoxins plays a major part in antioxidant defence, the maintenance of thiol systems and the interaction between reduced glutathione, ROS and RNS. For this purpose, normal and chimeric mutants and recombinant proteins are produced using techniques of molecular biology and in vitro characterization; and (second generation) targeted proteomics are carried out using biochemical analysis techniques.

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

Keywords

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

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
De la Mata	García	Manuel	HR	Researcher
Bárcena	Ruiz	José Antonio	CO-HR	Researcher
Montero	Álvarez	José Luis	R	Researcher
Aguilar	Melero	Patricia	R	Researcher
Barrera	Baena	Pilar	R	Researcher
Costán	Rodero	Guadalupe	R	Researcher
Ferrín	Sánchez	Gustavo	R	Researcher
Fraga	Rivas	Enrique	R	Researcher
Martínez	Galisteo	Emilia	R	Researcher
Núñez	García	Francisca	R	Researcher
Padilla	Peña	Alicia	R	Researcher
Peinado	Peinado	José	R	Researcher
Poyato	González	Antonio	R	Researcher
Ranchal	Illescas	Isidora	R	Researcher
González	Ojeda	Raúl	PDR	Researcher
Mcdonagh		Brian	PDR	Researcher
González	Rubio	Sandra	TR	Researcher
Linares	Luna	Clara	TR	Researcher
Vida	Pérez	Luis	TR	Researcher

(*) CO-HR:CO-Co-Head Researcher; HR: Head Researcher; R: Researcher; PDR: Post-Doctoral Researcher; TR: Trainee Researcher

List of Publications

Urtasun R, Latasa MU, Demartis MI, Balzani S, Goni S, Garcia-Irigoyen O, Elizalde M, Azcona M, Pascale RM, Feo F, Bioulac-Sage P, Balabaud C, Muntane J, Prieto J, Berasain C, Avila MA. Connective tissue growth factor autocrine in human hepatocellular carcinoma: Oncogenic role and regulation by epidermal growth factor receptor/yes-associated protein-mediated activation. *Hepatology*. 2011; 54(6): 2149 - 2158. IF: 10,885

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IF: 5,074

Suarez E, Gila A, Figueruela B, Chueca N, Rueda PM, Puche B, Fraga E, Garcia F, Martin JM, Andrade RJ, Nogales C, Romero-Gomez M, Salmiron J. Virological response to adefovir dipivoxil predicts the long-term development of resistance in previously untreated patients with HBeAg-negative chronic hepatitis B. *Gastroenterología y Hepatología*. 2011; 34(2): 69 - 74.

Clinical Trials

0014/09: Double-blind randomized phase III placebo-controlled study with sorafenib in combination with transarterial chemoembolization (TACE) carried out by associating doxorubicin and doxorubicin microspheres
PI: Pilar Barrera Baena

0051/08: Phase 2 study assessing the efficacy of CP-675,206 in patients with advanced liver cancer
PI: Manuel de la Mata García

0103/08: Double-blind randomized phase 3 placebo-controlled study with sorafenib as adjuvant treatment of hepatocellular carcinoma after surgical resection or ablation
PI: Manuel de la Mata García

0027/09: Phase III, multicenter, randomized, double-blind study on the effectiveness of brivanib against sorafenib as first-line treatment in patients with advanced hepatocellular carcinoma. (BRISK FL study)
PI: Manuel de la Mata García

0009/10: Long-term follow-up of patients participating in a phase II or III clinical trial with SCH 503034 for the treatment of chronic hepatitis C
PI: Manuel de la Mata García

0014/07/EPA1: Recurrence rates and predictive factors in the treatment of Hepatitis C in real clinical practice in Spanish hospitals (FAST-4 Study).
PI: Enrique Fraga Rivas

0026/10/EPA-SP: Validation of a questionnaire for assessing adherence to treatment in patients with hepatitis B. HABIT Study
PI: Enrique Fraga Rivas

0120/10: Phase III, multicenter, randomized, double-blind placebo-controlled study to assess the effectiveness and safety of everolimus (RAD001) in adult patients with advanced hepatocellular carcinoma following unsuccessful treatments with sorafenib
PI: Jose Luis Montero Alvarez

Developing and validating a questionnaire for assessing adherence to treatment in patients with hepatitis C AdHepta Study
PI: Manuel de la Mata García

Epidemiologic, observational, prospective study on the impact of cytomegalovirus replication on hepatitis C recurrence in liver transplant recipients. Vhenus Study.
PI: Manuel de la Mata García

Effects of high-dose Ribavirin treatment versus standard dosing in patients with chronic genotype 3 hepatitis C and a high viral load who have not responded to treatment at week 4. DARGEN-3 Study
PI: Antonio Poyato González

Clinical trial of a simplification treatment with Tenofovir in patients with chronic hepatitis B resistant to Lamivudine and with undetectable viral load after treatment with Lamivudine in combination with Adefovir Dipivoxil. TENO-SIMP-B Study
PI: Enrique Fraga Rivas

Early access open, multicenter program of treatment with telaprevir with pegylated interferon alfa and ribavirin for the treatment of chronic genotype 1 hepatitis C infection in patients with advanced fibrosis or cirrhosis
PI: Enrique Fraga Rivas

Clinical trial of prophylaxis with tenofovir in hematological patients in anti-HBc positive and HBsAg negative treatment with Rituximab. PREBLIN Study.
PI: Enrique Fraga Rivas

Research Projects

Project Name: Mitochondrial dysfunction in HCV and/or HIV-infected patients. (Jordi Muntané Relat).
Funding Body: Andalusian Health Department
File Number: 0169/2008

Project Name: Antitumoral activity of nitric oxide: in vitro and in vivo: (Jordi Muntané Relat).
Funding Body: Carlos III Health Institute
File Number: 09/0185

Project Name: Redoxins, mitochondria and cell regulation by posttranslational thiol modification of the proteome. Physiological implications: (José Antonio Bárcena Ruiz).
Funding Body: Spanish Ministry of Science and Innovation
File Number: BFU2009-08004

Project Name: mTOR pathway inhibition in transplant patients with hepatocellular carcinoma and influence on disease recurrence. (Manuel de la Mata García).
Funding Body: Spanish Ministry of Science and Innovation
File Number: PI11/02867

Project Name: Phase IV, multicenter, randomized, double-blind, placebo-controlled study assessing the efficacy and safety of Sorafenib in patients with advanced hepatocellular carcinoma with radiological progression. (José Luis Montero Álvarez).
Funding Body: Spanish Ministry of Health, Social Services and Equality
File Number: EC2011-185

Project Name: CLTI Acute on Chronic Liver Failure in Cirrhosis: (José Luis Montero Álvarez).
Funding Body: GrTIols
File Number: CANONIC

Grupo A-03



Hypercoagulability

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Scientific Activity

Our Group studies the participation of cell receptors in coagulation and fibrinolysis in thrombosis/bleeding complications in Oncohematology and autoimmune diseases. All this is done analysing the mechanisms of cell signalling, proteomics, and genes activation involved in the cellular expression of these receptors. In addition, we study how new drugs with maturational properties, cell differentiation or the ability to modulate the inflammatory response can, through their biological effects, regulate the expression of these receptors and modify the mechanisms of cell-mediated hypercoagulability.

Keywords

Cell receptors for coagulation and fibrinolysis. Cell signalling. Proteomics. Gene expression. Inflammation. Autoimmunity. Antiphospholipid syndrome.

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Velasco	Gimena	Francisco	HR	Researcher

(*) HR: Head Researcher

List of Publications

Lopez-Pedrerá C, Ruiz-Limon P, Aguirre MA, Barbarroja N, Perez-Sanchez C, Buendia P, Rodriguez-Garcia IC, Rodriguez-Ariza A, Collantes-Estevez E, Velasco F, Khasmahta M, Cuadrado MJ. Global effects of fluvastatin on the prothrombotic status of patients with antiphospholipid syndrome. *Annals of the Rheumatic Diseases*. 2011; 70(4): 675 - 682.
IF: 9,082

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Frias MA, Jaraba S, Ibarra I, Velasco MJ, Ulloa E, Velasco F, Perez-Navero JL. Ventricular assist device as a bridge to transplant and extracorporeal membrane oxygenation for primary graft failure in a child with Hemophilia. *Pediatric Care Med*. 2011; 12 (6): 432 - 435.

Research Projects

Project Name: Analysis of cellular and molecular mechanisms regulating the effect of fluvastatin and new antioxidant drugs on thrombosis and atherothrombosis prevention associated with the Antiphospholipid Syndrome (Francisco Velasco Gimena).
Funding Body: Andalusian Department of Innovation, Science and Entrepreneurship
File Number: P08-CVI-04234

Group A-04



Infectious Diseases

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Antonio Rivero Román

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.

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
De la Torre	Cisneros	Julián Carlos	HR	Researcher
Rivero	Román	Antonio	CO-HR	Researcher
Camacho	Espejo	Ángela	PI	Researcher
García	Lázaro	Milagros	R	Researcher
Gracia	Ahufinger	Irene	R	Researcher
Jurado	Jiménez	Rafael	R	Researcher
Kindelán	Jaquotot	José M ^a	R	Researcher
Lara	Contreras	Rosario	R	Researcher
Natera	Kindelán	Clara	R	Researcher
Rumbao	Aguirre	José	R	Researcher
Vidal	Verdú	Elisa	R	Researcher
Gayoso	Cabada	Inmaculada	PDR	Researcher
Almodóvar	Pulido	M ^a Carmen	TR	Researcher
Arenas	Muñoz	Cristina	TR	Researcher
Cantisán	Bohórquez	Sara	TR	Researcher
González	Padilla	Marcelino	TR	Researcher
Guirao	Arrabal	Emilio	TR	Researcher
Rivero	Juárez	Antonio	TR	Researcher
Añón	Gámez	M ^a Teresa	Administrative O.	Administrative Officer
Ruiz	Torres	Laura	AT	Auxiliary Technician

(*) HR: Head Researcher; CO-HR: CO-Head Researcher; PI: Principal Investigator; R: Researcher; PDR: Post-Doctoral Researcher; TR: Trainee Researcher

List of Publications

Rodriguez-Hernandez MJ, de Pipaon MRP, Marquez-Solero M, Martin-Rico P, Caston-Osorio JJ, Guerrero-Sanchez FM, Vidal-Verdu E, Garcia-Figueras C, del Arco-Jimenez A, Rodriguez-Bano J, Martin-Mazuelos E, Cisneros-Herreros JM. Candidemias: multicentre analysis in 16 hospitals in Andalusia (Spain). *Enfermedades Infecciosas y Microbiología Clínica*. 2011; 29(5): 328 - 333. IF: 1,656

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nez A, Rockstroh JK, Soriano V, Pineda JA. Different distributions of hepatitis C virus genotypes among HIV-infected patients with acute and chronic hepatitis C according to interleukin-28B genotype. *HIV Medicine*. 2011; 12(8): 487 - 493. IF: 3,575

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IF: 1,656

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IF: 3,774

Clinical Trials

0033/05: Open, pilot, randomized comparative study comparing the effects of switching to Trizivir® versus maintaining previous treatment in patients with chronic HIV infection and cirrhosis secondary to hepatitis C.
PI: Julián Carlos de la Torre Cisneros

0273/10: Prospective, randomized comparative trial comparing the effectiveness and safety of levofloxacin versus isoniazid in the treatment of latent TB infection in liver transplant recipients.
PI: Julián Carlos de la Torre Cisneros

1716: Observational trial to determine clinical practice patterns in inpatients with community-acquired pneumonia (CAP) or complicated skin and soft part infection (cSSTI): REACH study
PI: Irene Gracia Ahufinger

0011/10: Comparative trial of two therapeutic decision-making strategies in tuberculosis contact tacking: the standard strategy based on the tuberculin test alone versus the combination of PT and QuantiFERON-TB Gold
PI: Jose Mª Kindelan Jaquotot

0122/08: Phase IV, open label, randomized, comparative study assessing the effectiveness of lopinavir / ritonavir monotherapy versus abacavir / lamivudine and lopinavir / ritonavir for the recovery of peripheral (or limb) fat . Estudio KRETA
PI: Antonio Rivero Román

0005/09: Multicenter phase 2b, randomized, comparative trial comparing UK-453.061 and etravirine in combination with darunavir / ritonavir and nucleoside / nucleotide analogues inhibiting reverse-transcriptase for the treatment of infected subjects
PI: Antonio Rivero Román

0043/09: Pilot study of a new combination of maraviroc + atazanavir / ritonavir versus atazanavir / ritonavir + emtricitabine / tenofovir for the treatment of naïve patients with R5 HIV-1 infection
PI: Antonio Rivero Román

0113/09: Phase II double-blind, randomized, placebo-controlled study to assess the safety and efficacy of flibuvir combined with interferon alfa-2a pegilado and ribavirin in the treatment of patients infected with HCV genotype 1 and previously untreated
PI: Antonio Rivero Román

0069/10: Phase III double-blind, randomized study comparing the efficacy and safety of atazanavir boosted with GS-9350 versus atazanavir boosted with ritonavir administered with emtricitabine/tenofovir disoproxil fumarate in infected adults
PI: Antonio Rivero Román

0184/09: Phase 2b study assessing the efficacy and safety of Boceprevir in HIV and Hepatitis C co-infected patients
PI: Antonio Rivero Román

0198/10: Phase III, randomized, double-blind study assessing the efficacy and safety of a daily 50-mg dose of GSK1349572 versus raltegravir 400-mg administered twice daily in combination with a baseline therapy selected by the researcher
PI: Antonio Rivero Román

0199/10: Phase III, randomized, double-blind study assessing the efficacy and safety of a daily dose of GSK1349572 50-mg versus raltegravir 400-mg administered twice daily in combination with a double, fixed dose of inhibitors
PI: Antonio Rivero Román

1656: Cross-sectional trial carried out in Western Europe and Canada to assess and analyze the prevalence of positive detection of anxiety and depression symptoms and neurocognitive deterioration in HIV-1 infected patients. CRA-NIUM Study
PI: Antonio Rivero Román

0045/09: Efficacy of high doses of pegylated interferon alfa-2a ribavirin in the retreatment of patients with virus C-induced liver cirrhosis (104 genotypes) co-infected with HIV resistant to previous treatment with standard interferon alfa
PI: Antonio Rivero Román

0101/11: Early access open multicenter study of telaprevir combined with pegylated interferon alfa and ribavirin for the treatment of chronic genotype 1 hepatitis C infection in patients with advanced fibrosis or cirrhosis
PI: Antonio Rivero Román

0088/11: Open, randomized, non-inferiority study with 96 weeks follow-up on the efficacy of atazanavir / ritonavir + lamivudine as maintenance treatment in patients with suppressed viral load
PI: Antonio Rivero Román

0044/11: Multicenter, randomized, masked, placebo-controlled study assessing the safety of maraviroc combined with other antiretrovirals in infected subjects with HIV-1 and hepatitis C and/or B

PI: Antonio Rivero Román

1714: Influence of nevirapine on hepatitis C plasma virus load in co-infected HIV/VHC patients. HELICON Study

PI: Antonio Rivero Román

0032/08/EPA: An international, prospective, multicenter, observational study on the safety of maraviroc combined with an optimized baseline therapy in treated HIV-1 patients.

PI: Antonio Rivero Román

0079/11: Clinical trial assessing the tolerability of a double-therapy with lopinavir/ritonavir and 3TC replacing triple-therapy based on a combination of lopinavir/ritonavir and 3TC or FTC in patients with HIV infection and viral suppression

PI: Antonio Rivero Román

Research Projects

Project Name: Evaluation of hidden Hepatitis C infection in peripheral blood mononuclear cells and liver tissue in HIV patients with spontaneous clearance of viremia (Angela Camacho Espejo).

Funding Body: Andalusian Health Department

File Number: 0036/2010

Project Name: Fipse study of liver transplant in HIV patients in Spain (Julián Carlos de la Torre Cisneros).

Funding Body: FIPSE

File Number: 12789/08

Project Name: Specific hocyte t cd8+ cmv-lymphocyte frequency and phenotype as risk factors for cmv replication in solid organ recipients. (Julian Carlos De La Torre Cisneros).

Funding Body: Carlos III Health Institute

File Number: 08/0336

Project Name: REIPI (Julián Carlos de la Torre Cisneros).

Funding Body: Carlos III Health Institute, Madrid

File Number: RD06/0008

Project Name: Incidence of fibrosis of unknown origin in HIV patients not co-infected with hepatotropic virus. (Antonio Rivero Román).

Funding Body: Andalusian Health Department

File Number: 0208/2009

Project Name: Current hepatic safety of first-line antiretroviral therapy in patients co-infected with HIV/HCV in real practice. Influence of pre-treatment hepatic fibrosis. (Antonio Rivero Román).

Funding Body: Carlos III Health Institute

File Number: 07/90262

Project Name: Prospective, randomized, comparative trial assessing the efficacy and safety of levofloxacin versus isoniazid in the treatment of latent tuberculosis infection in liver transplantation (Julián Carlos de la Torre Cisneros).

Funding Body: Spanish Ministry of Health and Social Policy. CAIBER

Project Name: Examining HIV sero-different couples to estimate AIDS transmission percentage and investigate factors associated with the use of preservatives. (Antonio Rivero Roman).

Funding Body: The National Institute of Health Research of England

Project Name: Influenza virus infections in transplant recipients: A multicenter registry. (Julián Carlos de la Torre Cisneros).

Funding Body: University of Alberta

(Canadá) and Roche

Project Name: Immune reconstitution syndrome in organ transplant recipients with tuberculosis: Risks and clinical outcomes. (Julián Carlos de la Torre Cisneros).

Funding Body: University of Pittsburgh, PA, USA

Group A-05



Inflammation and Cancer

Eduardo Muñoz Blanco. fi1muble@uco.es

Scientific Activity

The Group's main areas of research over recent years are the identification of the molecular signaling pathways that regulate inflammation processes and tumorigenesis, and the latency of HIV-1. The identification of the molecular targets that regulate these processes helps us identify new natural compounds and derivatives (drugs and nutraceuticals) inhibiting the activity of these targets. Our research studies have allowed us to establish sophisticated models of biological activity screening in molecules with therapeutic potential and collaborate with many leading international research groups in the field of pharmaceutical Chemistry. We recently established a new research area focused on the study of the inflammatory processes that occur in skin ulcers, to develop new formulations based on biopharmaceuticals and natural products favouring tissue regeneration.

Keywords

Inflammation, cancer, tissue regeneration, HIV-1 latency, Pharmacology and Nutraceuticals.

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Muñoz	Blanco	Eduardo	HR	Researcher
Calzado	Canale	Marco Antonio	ER	Researcher
Cantarero	Carmona	Irene	PDR	Researcher
Collado	Rojas	Juan Antonio	PDR	Auxiliary Technician
Cuestas	Venteo	Remedios	PDR	Auxiliary Technician
García	Limones	Carmen	PDR	Researcher
García de Vinuesa	Antoñano	Amaya	PDR	Researcher
Molina	Morán	Rosario	PDR	Administrative Officer
Sánchez	Duffhues	Gonzalo	PDR	Researcher
Santaella	Ruiz	Lourdes	PDR	Auxiliary Technician
Soler	Torronteras	Rafael	PDR	Researcher
Moreno	Casado	Paula	TR	Researcher
Pérez	Aguilera	Moisés	TR	Researcher

(*) HR: Head Researcher, PDR: Post-Doctoral Researcher, ER: Emerging Researcher; TR: Trainee Researcher

List of Publications

Sánchez-Duffhues G, Vo MQ, Pérez M, Calzado MA, Moreno S, Appendino G, Muñoz E. Activation of latent HIV-1 expression by protein kinase C agonists. A novel therapeutic approach to eradicate HIV-1 reservoirs. *Current Drug Targets*. 2011; 12(3): 348 - 356. IF: 3,061

Pollastro F, Taglialatela-Scafati O, Allarà M, Muñoz E, Di Marzo V, De Petrocellis L, Appendino G. Bioactive prenylogous cannabinoid from fiber hemp (*Cannabis sativa*). *Journal Natural Products*. 2011; 74(9): 2019 - 2022. IF: 2,872

de la Vega L, Fröbrius K, Moreno R, Calzado MA, Geng H, Schmitz ML. Control of nuclear HIPK2 localization and function by a SUMO interaction motif. *Biochim Biophys Acta*. 2011; 1813(2): 283 - 297. IF: 4,733

Gutiérrez C, Díaz L, Vallejo A, Hernández-Novoa B, Abad M, Madrid N, Dahl V, Rubio R, Moreno AM, Dronda F, Casado JL, Navas E, Pérez-Elías MJ, Zamora J, Palmer S, Muñoz E, Muñoz-Fernández MÁ, Moreno S. Intensification of antiretroviral therapy with a CCR5 antagonist in patients with chronic HIV-1 infection: effect on T cells latently infected. *Plos One*. 2011; 6(12): e27864 - . IF: 4,411

Moreno P, Lang G, Taghavi S, Aigner C, Marta G, De Palma A, Klepetko W. Right-sided approach for management of left-main-bronchial stump problems. *European Journal of Cardio-Thoracic Surgery*. 2011; 40(4): 926 - 930. IF: 2,293

Cantarero Carmona I, Luesma Bartolomé MJ, Lavoie-Gagnon C, Junquera Escribano C.. Distribution of nestin protein: immunohistochemical study in enteric plexus of rat duodenum. *Microsc Res Tech*. 2011; 74(2): 148 - 155. IF: 1,762

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Junquera Escribano C, Cantarero Carmona I, Luesma Bartolomé MJ, Soriano-Navarro M, Martínez-Ciriano C, Castiella Muruzábal T, García-Verdugo JM. The primary cilium: A relevant characteristic in interstitial cells of rat duodenum enteric plexus. *Histology and Histopathology*. 2011; 26(4): 461 - 470. IF: 2,502

Research Projects

Project Name: Kinase Dyrk2 regulation and expression as prognostic factor in lung cancer. (Marco Antonio Calzado Canale). Funding Body: Andalusian Health Department File Number: 0650/2010

Project Name: Red de investigación en SIDA (AIDS Research Network) (RIS) (Eduardo Muñoz Blanco). Funding Body: Carlos III Health Institute, Madrid File Number: RD06/0006/0028 RIS

Project Name: The role of the HIV-1 protein family in HIV-1 regulation (Eduardo Muñoz Blanco). Funding Body: Spanish Foundation for AIDS research And Prevention (FIPSE) File Number: HIVPE

Project Name: Siah-2-mediated CHK2 regulatory mechanisms in response to oncogenic stress (Marco Antonio Calzado Canale). Funding Body: Spanish Ministry of Science and Innovation File Number: SAF2010-17122

Project Name: DYRK2 regulatory mechanisms in response to hiposis and oncogenic stress (Eduardo Muñoz Blanco). Funding Body: Andalusian Department of Innovation, Science and Entrepreneurship File Number: P09-CTS-4973

Project Name: Regulatory mechanisms of the factor HIF-1 alpha by endocannabinoids. Implications for neuroprotection (Eduardo Muñoz Blanco). Funding Body: Spanish Ministry of Science and Innovation File Number: SAF2010-19292

Project Name: Preclinical development of new cannabinoid derivatives for the treatment of neuroinflammatory diseases (Eduardo Muñoz Blanco). Funding Body: Spanish Ministry of Science and Innovation File Number: IPT-2011-0861-900000

Group A-06



Cell Damage in Chronic Inflammation

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Scientific Activity

Our group studies the 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

Inflammation, cellular stress, genomic damage, endothelium.

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Ramírez	Chamond	Rafael	HR	Researcher
Carracedo	Añón	Julia	PI	Researcher
Calleros	Basilio	Laura	AR	Researcher
Luna	Ruiz	Carlos	TR	Researcher
Cabada	Añón	M ^a Teresa	Administrative O.	Administrative Officer
Jiménez	Moral	María José	AT	Auxiliary Technician
Montenegro	Luna	M ^a José	AT	Auxiliary Technician
Moyano	García	M ^a Rosa	AT	Auxiliary Technician

(*) HR: Head Researcher; PI: Principal Investigator; AR: Associate Researcher; TR: Trainee Researcher

List of Publications

Carracedo J, Merino A, Briceno C, Soriano S, Buendia P, Calleros L, Rodriguez M, Martin-Malo A, Aljama P, Ramirez R. Carbamylated low-density lipoprotein induces oxidative stress and accelerated senescence in human endothelial progenitor cells. *Faseb Journal*. 2011; 25(4): 1314 - 1322.
IF: 6,515

Ramirez R, Carracedo J, Merino A, Soriano S, Ojeda R, Alvarez-Lara MA, Martin-Malo A, Aljama P. CD14+CD16+Monocytes from Chronic Kidney Disease Patients Exhibit Increased Adhesion Ability to Endothelial Cells. *Contributions to Nephrology*. 2011; 171: 57 - 61.
IF: 1,274

Ramírez R, Martín-Malo A, Aljama P. Evolution of the concept of biocompatibility and the cardio-protective effect of on-line hemodiafiltration.. *Contributions to Nephrology*. 2011; 175: 110 - 116.
IF: 1,274

Marín C, Ramirez R, Delgado-Lista J, Yubero-Serrano EM, Perez-Martinez P, Carracedo J, Garcia-Rios A, Rodriguez F, Gutierrez-Mariscal FM, Gomez P, Perez-Jimenez F, Lopez-Miranda J. Mediterranean diet reduces endothelial damage and improves the regenerative capacity of endothelium. *American Journal of Clinical Nutrition*. 2011; 93(2): 267 - 274.
IF: 6,606

Merino A, Buendia P, Martin-Malo A, Aljama P, Ramirez R, Carracedo J. Senescent CD14(+) CD16(+) monocytes exhibit proinflammatory and proatherosclerotic activity. *Journal of Immunology*. 2011; 186(3): 1809 - 1815.
IF: 5,745

Moreno JA, Izquierdo MC, Sanchez-Nino MD, Suarez-Alvarez B, Lopez-Larrea C, Jakubowski A, Blanco J, Ramirez R, Selgas R, Ruiz-Ortega M, Egido J, Ortiz A, Sanz AB. The inflammatory cytokines TWEAK and TNF alpha reduce renal klotho expression through NF kappa B. *Journal of the American Society of Nephrology*. 2011; 22(7): 1315 - 1325.
IF: 8,288

Research Projects

Project Name: Endothelial microparticles as markers of arteriosclerosis in chronic renal disease (Julia Carracedo Añón).
Funding Body: Andalusian Health Department
File Number: 0235/2009

Project Name: Endothelial microparticles in the regulation of the balance between vascular damage and repair. Study of the accelerated atherosclerosis model in chronic renal disease. (Julia Carracedo Añón).
Funding Body: Carlos III Health Institute
File Number: 09/0836

Project Name: Chronic renal failure and endothelial damage, intracellular mediators and protective action of carbamylated erythropoiesis-stimulating agents (Rafael RamirezChamond).
Funding Body: Carlos III Health Institute
File Number: 08/1038

Project Name: The role of erythropoiesis-modulating agents in the protection of vascular endothelium against damage associated with chronic inflammation (Rafael Ramirez Chamond).
Funding Body: Andalusian Economy, innovation and Science Department
File Number: CTS.6337

Project Name: Endothelial cell senescence and generation of microparticles. A common mechanism in the pathogenesis of atherosclerosis in the elderly and in patients with chronic renal failure. (Rafael Ramirez Chamond).
Funding Body: Carlos III Health Institute III
File Number: P11/01536

Project Name: Low-density carbamylated lipoproteins in endotelial damage in chronic renal failure (Rafael Ramirez Chamond).
Funding Body: Health Department
File Number: 0797/2010

Group A-07



Systemic Autoimmune and Chronic Inflammatory Diseases of the Musculoskeletal System and Connective Tissue

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Eduardo Collantes Estévez

Scientific Activity

Our research team uses synergistical clinical-therapeutic, molecular and cellular approaches. Its main objectives are as follows:

- 1) To analyze the cellular and molecular mechanisms regulating the effect of statins and other drugs on development (biological therapy) in preventing thrombosis and atherothrombosis in systemic autoimmune diseases (SAD), such as Primary Antiphospholipid Syndrome (APS), Systemic Lupus Erythematosus (SLE) and Rheumatoid Arthritis (RA). We also conduct studies on mitochondrial dysfunction and oxidative stress in atherothrombosis associated with SAD; in addition, we perform proteomic analyses aimed at identifying new genes/proteins whose expression in patients with APS, SLE or RA and atherosclerosis is altered, and determining the variations in expression patterns as a result of different treatments.
- 2) To register, describe and analyze the clinical, epidemiological, demographic, genetic and radiographic characteristics of the physiological and therapeutic response in patients with ankylosing spondylitis in Spain and compare them with data from Latin American patients.

The most interesting point will be to ascertain whether the possible differences in clinical expression are due to the genetic load we assume comes from the same genotype (in terms of HLA-B27) and its relationship with the interaction with the environment. Moreover, in this same area: to design, develop and validate a new mobility measurement system (the most important expression of structural damage) in these patients.

Keywords

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

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
López	Pedreira	Rosario	HR	Researcher
Collantes	Estévez	Eduardo	CO-HR	Researcher
Aguirre	Zamorano	María Ángeles	R	Researcher
Caracuel	Ruiz	Miguel Ángel	R	Researcher
Castro	Villegas	María del Carmen	R	Researcher
Escudero	Contreras	Alejandro	R	Researcher
Font	Ugalde	Pilar	R	Researcher
Gómez	Gracia	Inmaculada	R	Researcher
Pérez	Guijo	Verónica	R	Researcher
Barbarroja	Puerto	Nuria	AR	Researcher
Bertolaccini	Bianchi	Laura	AR	Researcher
Cuadrado	Lozano	María José	AR	Researcher
Khamashta		Munther	AR	Researcher
Pérez	Sánchez	Carlos	TR	Researcher
Ruiz	Limón	Patricia	TR	Researcher
López	Montilla	Carmen	AT	Auxiliary Technician
Ruiz	Vílchez	Desirée	AT	Auxiliary Technician
Carretero	Prieto	Rosario María	AT	Auxiliary Technician
Luque	Luque	María José	AT	Auxiliary Technician

(*) HR: Head Researcher; CO-HR:CO-Head Researcher; R: Researcher; AR: Associate Researcher; TR: Trainee Researcher

List of Publications

J Braun, R van den Berg, X Baraliakos, H Boehm, R Burgos-Vargas, E Collantes-Estevez, H Dagfinrud, B Dijkmans, M Dougados, P Emery, P Geher, M Hammoudeh, RD Inman, M Jongkees, MA Khan, U Kiltz, TK Kvien, M Leirisalo-Repo, WP Maksymowich, I Olivieri, K Pavelka, J Sieper, E Stanislaswska-Biernat, D Wendling, S Ozgocmen, C van Drogen, BJ van Royen, Dvan der Heijde. 2010 UPDATE OF THE ASAS/EULAR RECOMMENDATIONS FOR THE MANAGEMENT OF ANKYLOSING SPONDYLITIS. *Annals of the Rheumatic Diseases*. 2011, 70(6): 896 - 904. IF:9,082

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IF:9,082

Clinical Trials

1695: Validity of the fracture risk assessment tool FRAX in rheumatology patients treated in Spain
PI: Miguel Angel Caracuel Ruiz

0057/11: Non-inferiority comparative trial comparing the efficacy and safety of chondroitin sulfate combined with glucosamine hydrochloride and Celecoxib in patients with knee arthrosis.
PI: Miguel Angel Caracuel Ruiz

1608: Observational multicenter study analyzing Ro- Actemra(r) (tocilizumab) use and dosage patterns in the treatment of patients with rheumatoid arthritis in regular clinical practice. Study ACT-LIFE
PI: María del Carmen Castro Villegas

0003/07: Prospective observational study assessing long-term safety and functional status in subjects with rheumatoid arthritis previously included in CP-690,550 studies
PI: Eduardo Collantes Estevez

0284/09: Evaluation of response to etoricoxib in patients with ankylosing spondylitis (AS) and inadequate response to a > 2 AINES
PI: Eduardo Collantes Estevez

0003/10: Hip arthritis associated with AS. Efficacy and safety of early treatment with Infliximab (Remicade®)
PI: Eduardo Collantes Estevez

1581: Observational, multicenter and global study of patients with rheumatoid arthritis (RA) who do not respond or tolerate a single tumor necrosis factor (TNF) inhibitor
PI: Eduardo Collantes Estevez

0128/09: Multicenter study of the efficacy and safety of the human monoclonal antibody anti-TNF Adalimumab in subjects with axial spondyloarthritis
PI: Eduardo Collantes Estevez

0000/10: Multicenter study assessing the effectiveness and safety of the human monoclonal antibody anti-tnf adalimumab in patients with peripheral spondyloarthritis
PI: Eduardo Collantes Estevez

1626: Response after changing a biological therapy in patients treated with abatacept: The Spanish experience
PI: Eduardo Collantes Estevez

1606: Prevalence of fracture in women with rheumatoid arthritis or systemic lupus erythematosus in chronic glucocorticoid treatment
PI: Eduardo Collantes Estevez

0139/10: Phase I, randomized, double-blind, parallel group study demonstrating the equivalence of the pharmacokinetic profile of CT-P13 and Remicade in patients with ankylosing spondylitis (AS).
PI: Eduardo Collantes Estevez

0027/10: Phase III, multicenter, randomized, double-blind, placebo-controlled study assessing the efficacy and safety of certolizumab pegol in subjects with axial spondyloarthritis (EA axial)
PI: Eduardo Collantes Estevez

0028/10: Phase III, multicenter, double-blind, placebo-controlled, parallel-group study assessing the efficacy and safety of certolizumab pegol in adult subjects with active and progressive psoriatic arthritis.
PI: Eduardo Collantes Estevez

1644: Clinical value of the ASDAS index in Spanish patients with Ankylosing spondylitis. AXIS Study
PI: Eduardo Collantes Estevez

0261/10: Multicenter, double-blind, placebo-controlled, randomized 12-week study of etanercept in combination with a baseline NSAID in the treatment of adult subjects with axial spondyloarthritis with no radiographic evidence with an open duration of 9.
PI: Eduardo Collantes Estevez

0188/07: Phase III, multicenter, randomized, parallel- group, double-blind, placebo-controlled study on the safety and efficacy of naproxen 750-mg(twice daily) versus naproxen 500 mg (twice daily) (hct 3012)
PI: Eduardo Collantes Estevez

0246/10: Phase IB/IIA study, single-blind, dose-escalation study on the intravenous administration of expanded allogeneic mesenchymal stem cells extracted from adipose tissue (eASCs) to patients with rheumatoid arthritis
PI: Eduardo Collantes Estevez

0219/10: Randomized, double-blind, parallel-group placebo-controlled study assessing the safety and sign and symptom reduction in ankylosing spondylitis patients during treatment with Tocilizumab (TCZ) versus placebo.
PI: Eduardo Collantes Estevez

0220/10: Randomized, double-blind, parallel-group placebo-controlled study assessing the safety and sign and symptom reduction in ankylosing spondylitis patients during treatment with Tocilizumab (TCZ) versus placebo.
PI: Eduardo Collantes Estevez.

1729: Observational, retrospective, multicenter, national follow-up of patients who participated in the Loadet Study
PI: Eduardo Collantes Estevez

0201/08: Phase III, randomized, placebo-controlled study assessing the safety and efficacy of odanacatib (MK-0822) in reducing fracture risk in postmenopausal women with osteoporosis treated with Vitamin D and calcium
PI: Alejandro Escudero Contreras

0166/09: Open randomized study assessing the efficacy and safety of a montly treatment with denosumab and Actonel® in postmenopausal women following change of treatment with daily/weekly alendronate
PI: Alejandro Escudero Contreras

0178/09: Open study assessing the incorporation of subcutaneous Golimumab (GLM) to conventional treatment with disease-modifying antirheumatic drugs (DMARDs) in naïve biological agent subjects with rheumatoid arthritis
PI: Alejandro Escudero Contreras

0196/09: Multicenter, double-blind, randomized, parallel-group study assessing the safety, disease remission and prevention of structural joint damage during monotherapy treatment with tocilizumab (TCZ)
PI: Alejandro Escudero Contreras

0191/10: Pilot, single-center, randomized, parallel, controlled study assessing the efficacy and safety of three different Adant(r) dosing regimens in knee arthrosis.
PI: Alejandro Escudero Contreras

1698: Relationship between anemia and fatigue, and functional disability and rheumatoid arthritis activity. SYSTEMIC-AR Study
PI: Alejandro Escudero Contreras

0182/10: Phase III, randomized, double-blind, parallel group study demonstrating that CT-P13 and Remicade in combination with methotrexate have the same efficacy and safety in patients with active rheumatoid arthritis.
PI: Alejandro Escudero Contreras

0100/11: Randomized, double-blind, multicenter trial assessing the safety and efficacy of tocilizumab (TCZ) in combination with methotrexate (MTX) versus switching to TCZ (placebo-controlled) in patients with active rheumatoid arthritis.
PI: Alejandro Escudero Contreras.

Research Projects

Project Name: Using a motion tracking system for assessing the efficacy of Biological Therapies in patients with ankylosing spondylitis (Eduardo Collantes Estevez).

Funding Body: Andalusian Health Department

File Number: 0243/2009

Project Name: Monitoring the therapeutic response in patients with ankylosing spondylitis via a new motion-based metrological index (Eduardo Collantes Estevez).

Funding Body: Carlos III Health Institute

File Number: 10/01524

Project Name: Mitochondrial dysfunction and oxidative stress in atherothrombosis associated with systemic autoimmune diseases. Genomic and proteomic analysis.(Rosario López Pedrera).

Funding Body: Andalusian Health Department

File Number: 0246/2009

Project Name: Analysing cellular and molecular mechanisms of mitochondrial dysfunction and oxidative stress in atherothrombosis associated with systemic autoimmune diseases. Genomic and proteomic analysis (Rosario López Pedrera).

Funding Body: Carlos III Health Institute

File Number: 09/01809

Group A-08



New Cancer Therapies

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

Group Members

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Barneto	Aranda	Isidoro	R	Researcher
De la Haba	Rodríguez	Juan Rafael	R	Researcher
García	Foncillas	Jesús	R	Researcher
Gómez	España	María Auxiliadora	R	Researcher
Martínez	Peinado	Antonio	R	Researcher
Villar	Pastor	Carlos	R	Researcher
Zárate	Romero	Ruth	R	Researcher
Valverde	Estepa	Araceli	TR	Researcher
Cañas	Rodríguez	Amanda	TR	Researcher
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Marín	Serrano	Jacinta	AT	Auxiliary Technician
Marín	Serrano	María José	AT	Auxiliary Technician
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List of Publications

Gomez-Martin C, Concha A, Corominas JM, Garcia-Caballero T, Garcia-Garcia E, Iglesias M, Lopez JA, Cajal SRY, Rojo F, Palacios J, Vera-Sempere F, Aranda E, Colomer R, Garcia-Alfonso P, Garrido P, Rivera F, Lopez-Rios F. Consensus of the Spanish Society of Medical Oncology (SEOM) and Spanish Society of Pathology (SEAP) for HER2 testing in gastric carcinoma. *Clinical & Translational Oncology*. 2011, 13(9): 636 - 651.
IF:1,254

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IF:4,689

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IF:2,439

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IF:9,082

Munoz-Casares FC, Rufian S, Arjona-Sanchez A, Rubio MJ, Diaz R, Casado A, Naranjo A, Diaz-Iglesias CJ, Ortega R, Munoz-Villanueva MC, Muntane J, Aranda E.. Neoadjuvant intraperitoneal chemotherapy with paclitaxel for the radical surgical treatment of peritoneal carcinomatosis in ovarian cancer: a prospective pilot study. *Cancer Chemotherapy and Pharmacology*. 2011, 68(1): 267 - 274.
IF:2,759

Rivera F, Galan M, Tabernero J, Cervantes A, Vega-Villegas ME, Gallego J, Laquente B, Rodri-

guez E, Carrato A, Escudero P, Massuti B, Alonso-Orduna V, Cardenal A, Saenz A, Giral J, Yuste AL, Anton A, Aranda E. Phase II trial of induction irinotecan-cisplatin followed by concurrent irinotecan-cisplatin and radiotherapy for unresectable, locally advanced gastric and oesophageal-gastric junction adenocarcinoma. *Cancer Chemotherapy and Pharmacology*. 2011, 67(1): 75 - 82.
IF:2,759

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IF:18,97

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IF:4,859

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IF:4,306

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IF:1,254

Rodriguez-Ariza A, Lopez-Pedraza C, Aranda E, Barbarroja N. VEGF targeted therapy in acute myeloid leukemia. *Critical Reviews in Oncology Hematology*. 2011, 80(2): 241 - 256.
IF:4,689

Clinical Trials

0011/06: Adjuvant treatment with FOLFOX-4 versus FOLFOX-4 + cetuximab in completely removed stage 3 colon cancer.
PI: Enrique Aranda Aguilar

0040/08: Phase III multicenter randomized, double-blind study of multiple doses of Alpharadin for the treatment of patients with hormone-refractory prostate cancer and bone metastases.
PI: Enrique Aranda Aguilar

0064/08: Phase II Docetaxel-Oxaliplatin-Capecitabine (DOX) at adjusted doses in patients with advanced gastric adenocarcinoma and overall suboptimal state (MiniDOX)
PI: Enrique Aranda Aguilar

0215/08: Phase III randomized, open, intergroup study: Effect of incorporating bevacizumab to fluoropyrimidine-based chemotherapy as second-line treatment in patients with relapsed metastatic colorectal cancer
PI: Enrique Aranda Aguilar

0253/08: Phase II exploratory, open, randomized, multicenter study assessing the efficacy and safety of panitumumab in combination with FOLFOX 4 chemotherapy, or panitumumab with FOLFIRI chemotherapy in colorectal cancer patients with non-mutated KRAS.
PI: Enrique Aranda Aguilar

0260/08: Two-arm, randomized, open, phase IIb study assessing the safety of 3-hour intraperitoneal administration of catumaxomab with and without pretreatment with

prednisolone in patients with epithelial cancer-induced malignant ascites.
PI: Enrique Aranda Aguilar

0209/07: Phase II study assessing the efficacy of sunitinib in patients with metastatic/locally advanced renal cell carcinoma in patients who are not candidates
PI: Enrique Aranda Aguilar

0144/08: Phase II, randomized study of radiotherapy, hormone therapy and chemotherapy with docetaxel versus radiotherapy and hormone therapy in high-risk localized prostate cancer patients (stage 3 and 4).
PI: Enrique Aranda Aguilar

0046/09: Phase II, open, multicenter study assessing the efficacy and safety of panitumumab combined with irinotecan in colorectal cancer patients with non-mutated KRAS resistant to irinotecan-based chemotherapy.
PI: Enrique Aranda Aguilar

0255/08: Phase III, multicenter, randomized, open study assessing the efficacy and safety of nilotinib versus imatinib in adult patients with metastatic unresectable gastrointestinal stromal tumors (GIST).
PI: Enrique Aranda Aguilar

0233/06: Phase III multicenter, randomized, double-blind, placebo-controlled study of lapatinib or placebo for postoperative adjuvant treatment and concomitant chemoradiotherapy followed by monotherapy maintenance treatment with lapatinib or placebo.
PI: Enrique Aranda Aguilar

0048/09: Phase II randomized study of Capecitabine+Bevacizumab+external radiotherapy versus Capecitabine+ external radiotherapy as preoperative treatment in patients with locally advanced resectable rectal cancer
PI: Enrique Aranda Aguilar

1627: Non-interventional follow-up, up-to-10-year study within the MOSAIC Study (international, multicenter study of oxaliplatin, 5-fluorouracil, folinic acid for adjuvant treatment of colon cancer), and translational research
PI: Enrique Aranda Aguilar

0002/10: Phase II study of capecitabine-trastuzumab (xelox-trastuzumab) as perioperative treatment in patients with resectable gastric or gastroesophageal junction adenocarcinoma
PI: Enrique Aranda Aguilar

0250/09: Phase II study of panitumumab as first-line single agent in elderly fragile patients

with colorectal cancer with non-mutated KRAS
PI: Enrique Aranda Aguilar

0013/10: Pilot, Phase II, randomized, multicenter study assessing the efficacy and safety of a treatment with mFOLFOX-6 combined with cetuximab versus initial treatment with mFOLFOX-6 in combination with cetuximab (8 cycles) followed by maintenance treatment with cetuximab alone.
PI: Enrique Aranda Aguilar

0131/09: Selective treatment of colorectal cancer: Selection of capecitabine or 5-fluorouracil via TS-3'UTR and ERCC1-118 polymorphisms for combination with oxaliplatin or irinotecan as chemotherapy combined with bevacizumab as first-line treatment
PI: Enrique Aranda Aguilar

0105/07: Continuation of treatment protocol in patients previously treated with SU11248. VERSION including the May 19, 2008 amend No. 5.
PI: Enrique Aranda Aguilar

0179/07: Phase II multicenter, international, randomized study of trastuzumab and docetaxel versus trastuzumab, docetaxel and pertuzumab, in patients with locally advanced, inflammatory or early HER2 breast cancer.
PI: Enrique Aranda Aguilar

0243/10: Phase IIb, randomized trial assessing the efficacy of gemcitabine-erlotinib-capecitabine in patients with metastatic pancreatic cancer, GECA.
PI: Enrique Aranda Aguilar

0270/10: Phase III, multicenter, randomized, double-blind, open study assessing the efficacy and safety of TKI258 versus sorafenib in patients with metastatic renal cell cancer after failure of antiangiogenic therapies (mTOR inhibitor)
PI: Enrique Aranda Aguilar

0151/06: Phase III, multicenter, randomized, double-blind, controlled study of erlotinib (Tarceva®) as maintenance treatment in patients with resected squamous cell carcinoma of head and neck treated with radiotherapy with or without concomitant chemotherapy aimed at cure
PI: Enrique Aranda Aguilar

0103/04: Phase III, randomized, placebo-controlled, double-blind study of CCI-779 orally administered in combination with letrozol versus letrozol only, as first-line hormone treatment in postmenopausal women with locally advanced breast cancer.
PI: Enrique Aranda Aguilar

0034/03: Phase III, multicenter, randomized, comparative trial of Femara (Letrozol) versus epirubicin combined with cyclophosphamide (EC) followed by Femara (Letrozol) as adjuvant treatment in elderly patients with resectable breast cancer

PI: Enrique Aranda Aguilar

0242: Randomized, double-blind trial with postmenopausal women with primary breast cancer treated with adjuvant tamoxifen for 2-3 years versus later adjuvant treatment with exemestane and continuation of treatment with tamoxifen.

PI: Enrique Aranda Aguilar

0327/10: Multicenter, open, expanded-access study of RO5185426 in patients with metastatic melanoma

PI: Enrique Aranda Aguilar

0252/08: Phase IIIb, open, randomized, multinational study assessing the activity and safety of cetuximab as maintenance treatment with a weekly dose of 250 mg/m² and 500 mg/m² every two weeks following platinum-based chemotherapy

PI: Isidoro Carlos Barneto Aranda

0266/09: Phase II, prospective, randomized study of oral vinorelbine and pemetrexed/cisplatin as first-line treatment in patients with metastatic or locally advanced non-small cell lung cancer

PI: Isidoro Carlos Barneto Aranda

0106/07: Randomized study of individualized adjuvant chemotherapy according to BRCA1 mRNA in non-small cell lung cancer patients.

PI: Isidoro Carlos Barneto Aranda

0023/07: Phase III, multicenter, open, randomized study of a treatment with erlotinib (Tarceva) versus chemotherapy in patients with advanced non-small cell lung cancer with mutations in the tyrosine kinase (TK) of the receptor

PI: Isidoro Carlos Barneto Aranda

0239/07: Phase III, randomized, multicenter study assessing individualized treatments analyzing the BRCA1 in patients with advanced non-small cell lung cancer. BREC Study (BRCA1 expression customization)

PI: Isidoro Carlos Barneto Aranda

0135/11: Anamorelin HCl in the treatment of cachexia associated with non-Small Cell Lung Cancer (NSCLC-C): A phase III randomized, double-blind, placebo-controlled, multicenter study assessing the safety and efficacy of anamorelin HCl

PI: Isidoro Carlos Barneto Aranda

0138/11: Anamorelin HCl in the treatment of cachexia associated with non-Small Cell Lung Cancer: An extension.

PI: Isidoro Carlos Barneto Aranda

0181/09: Randomized, double-blind, placebo-controlled trial with neratinib (HKI-272) after trastuzumab in women with initial stage breast cancer patients with overexposure/amplification of HER-2/neu

PI: Juan Rafael De la Haba Rodríguez

0198/05: Phase IV-III multicenter, open, randomized study assessing the efficacy of a maintenance treatment with capecitabine (X) after standard adjuvant chemotherapy in patients with resectable breast

PI: Juan Rafael De la Haba Rodríguez

0133/08: Phase II, multicenter, randomized comparative study comparing a treatment with epirubicin and cyclophosphamide followed by docetaxel and trastuzumab versus epirubicin and cyclophosphamide followed by docetaxel and lapatinib in women with primary breast cancer

PI: Juan Rafael De la Haba Rodríguez

0219/08: Phase II, open study with bevacizumab in combination with paclitaxel and gemcitabine as first-line treatment in patients diagnosed with metastatic or locally advanced HER-2 negative breast cancer

PI: Juan Rafael De la Haba Rodríguez

0269/08: Pilot/Phase II, randomized, multicenter, double-blind study with a neoadjuvant treatment combining Exemestane and Sunitinib in postmenopausal women with primary breast cancer, positive hormone receptors and negative Her2

PI: Juan Rafael De la Haba Rodríguez

0254/06: Phase III trial assessing the role of the suppression of ovarian function and Exemestane as adjuvant treatments in premenopausal women with endocrine responsive breast cancer. Tamoxifen versus suppression of ovarian function

PI: Juan Rafael De la Haba Rodríguez

0044/09: Phase III multicenter, open, randomized, two-group study assessing the efficacy and safety of bevacizumab in combination with trastuzumab/docetaxel, versus trastuzumab/docetaxel alone as first-line treatment

PI: Juan Rafael De la Haba Rodríguez

0226/09: Phase II, multicenter, multinational, randomized study assessing the efficacy of pertuzumab in combination with trastuzumab concomitantly or sequentially administered with a

regular anthracycline-based chemotherapy

PI: Juan Rafael De la Haba Rodríguez

0099/04: Phase III, randomized study comparing exemestane versus placebo in postmenopausal women at increased risk for breast cancer

PI: Juan Rafael De la Haba Rodríguez

0098/06: Phase III trial with vinflunine in combination with gemcitabine versus paclitaxel in combination with gemcitabine in patients with unresectable locally recurrent or metastatic breast cancer after adjuvant anthracycline-based chemotherapy

PI: Juan Rafael De la Haba Rodríguez

0078/10: Phase 3, multicenter, randomized, double-blind, placebo-controlled study of Denosunab as adjuvant treatment in women with initial stage breast cancer at high risk for recurrence (D-CARE)

PI: Juan Rafael De la Haba Rodríguez

0260/09: Phase III, multicenter, randomized, double-blind, placebo-controlled study of everolimus daily administered in combination with trastuzumab and vinorelbine in pretreated women with metastatic or locally advanced breast cancer with

PI: Juan Rafael De la Haba Rodríguez

0082/10: Phase II, open, randomized study assessing the efficacy and safety of paclitaxel weekly administered as single agent and two different SAR240550 (BSI-201) regimes, a PARP-1 inhibitor in combination with weekly paclitaxel

PI: Juan Rafael De la Haba Rodríguez

0013/09: Phase 3, randomized, open study of neratinib versus lapatinib in combination with capecitabine in the treatment of *locally advanced or ErbB-2 positive metastatic cancer*.

PI: Juan Rafael De la Haba Rodríguez

0007/09: Phase III, multicenter, randomized, open study of the efficacy and safety of Trastuzumab-MCC-DM1 versus Capecitabine +Lapatinib in patients with locally advanced or HER-2 positive metastatic cancer

PI: Juan Rafael De la Haba Rodríguez

00259/10: Phase II, open, randomized study of lapatinib + chemotherapy versus trastuzumab + chemotherapy as first-line treatment in women with HER-2 and p95HER2-positive metastatic cancer

PI: Juan Rafael De la Haba Rodríguez

0090/07: Phase III, multicenter, open, randomized, double-blind study of the sequential versus the combined administration of lapatinib and trastuzumab as adjuvant treatment in women with positive HER2/ERbB2
PI: Juan Rafael De la Haba Rodríguez

0148/07: Randomized, multicenter study assessing the efficacy and safety of bevacizumab in combination with letrozol alone in postmenopausal women with locally recurrent or metastatic breast cancer treated with hormone therapy.
PI: Juan Rafael De la Haba Rodríguez

0268/10: Phase II, randomized trial of docetaxel-carboplatin in combination with Iniparib (BSI-201) and docetaxel-carboplatin as neoadjuvant treatment in patients with early stage breast cancer and triple negative phenotype
PI: Juan Rafael De la Haba Rodríguez

0227/10: Phase III, multicenter, randomized, double-blind study assessing the efficacy and safety of a continued and induction treatment with bevacizumab in combination with chemotherapy in patients with locally recurrent or metastatic breast cancer after a treatment
PI: Juan Rafael De la Haba Rodríguez

0318/10: Phase II, multicenter, placebo-controlled study assessing the safety and efficacy of the ATH008 cream in patients with palmar-plantar erythrodysesthesia secondary to capecitabine monotherapy
PI: Juan Rafael De la Haba Rodríguez

Research Projects

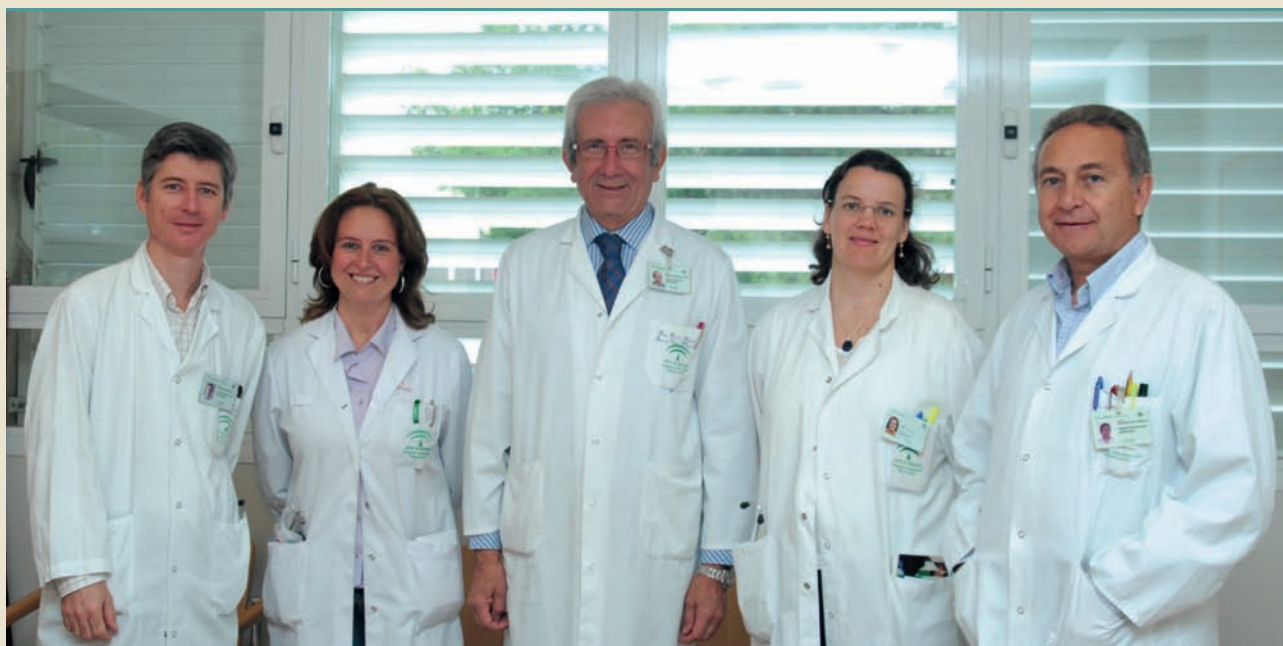
Project Name: Genetic polymorphisms of the renin angiotensin system and Vegf and Vegfr-1 in colon and breast cancer as predictors of response to anti-angiogenic therapy (Enrique Aranda Aguilar).
Funding Body: Andalusian Health Department
File Number: 0009/2010

Project Name: Genetic polymorphisms of the renin angiotensin system and Vegf and Vegfr-1 in colon and breast cancer as predictors of response to anti-angiogenic therapy. (Enrique Aranda Aguilar).
Funding Body: Carlos III Health Institute, Madrid
File Number: 10/00534

Project Name: The participation of nitrosative/oxidative stress and protein nitrosylation in response to targeted therapy in colon and breast cancer (Antonio Rodríguez Ariza).
Funding Body: Andalusian Health Department
File Number: 0230/2009

Project Name: Alterations in s-nitrosothiol homeostasis and protein nitrosylation in response to targeted therapy in colon and breast cancer: Therapeutical implications. (Antonio Rodríguez Ariza).
Funding Body: Carlos III Health Institute, Madrid
File Number: 10/00428

Group A-09



Nephrology

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

Scientific Activity

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.

Keywords

Cell activation, chronic renal failure, microinflammation, cell therapy, renal transplantation.

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Aljama	García	Pedro	HR	Researcher
Martín	Malo	Alejandro	HR	Researcher
Álvarez de Lara	Sánchez	María Antonia	R	Researcher
Briceño	Alonso	Carolina	R	Researcher
Buendía	Bello	Paula	R	Researcher
Egea	Montaño	Jerónimo	R	Researcher
Espinosa	Hernández	Mario	R	Researcher
Merino	Rodríguez	Ana María	R	Researcher
Navarro	Cabello	María Dolores	R	Researcher
Rodríguez	Benot	Alberto	R	Researcher
Santamaría	Olmo	Rafael	R	Researcher
Soriano	Cabrera	Sagrario	R	Researcher
Cañadillas	López	M ^a Sagrario	PDR	Researcher
Agüera	Morales	María Luisa	TR	Researcher
Ariza	Fuentes	Francisco Javier	TR	Researcher
Crespo	Montero	Rodolfo	TR	Researcher
López	Andréu	María	TR	Researcher
Ojeda	López	Raquel	TR	Researcher

(*) HR: Head Researcher; PI: Principal Investigator; I: Researcher; PDR: Post-doctoral researcher; TR: Trainee Researcher

List of Publications

de Francisco ALM, Kim J, Anker SD, Belozeroff V, Canaud B, Chazot C, Druke TB, Eckardt KU, Floege J, Kronenberg F, Macdougall IC, Marcelli D, Molemans B, Passlick-Deetjen J, Schernthanner G, Stenvinkel P, Wheeler DC, Fouqueray B, Aljama P. An epidemiological study of hemodialysis patients based on the european fresenius medical care hemodialysis network: results of the ARO study. *Nephron Clinical Practice*. 2011, 118(2): C143 - C154.
IF:1,843

Carracedo J, Merino A, Briceno C, Soriano S, Buendia P, Calleros L, Rodriguez M, Martin-Malo A, Aljama P, Ramirez R. Carbamylated low-density lipoprotein induces oxidative stress and accelerated senescence in human endothelial progenitor cells. *Faseb Journal*. 2011, 25(4): 1314 - 1322.
IF:6,515

Ramirez R, Carracedo J, Merino A, Soriano S, Ojeda R, Alvarez-Lara MA, Martin-Malo A, Aljama P. CD14+CD16+ monocytes from chronic kidney disease patients exhibit increased adhesion ability to endothelial cells.. *Contributions to Nephrology*. 2011, 171: 57 - 61.
IF:1,274

Bover J, Perez R, Molina M, Benavides B, Ariza F, Miguel JL, Tórnoro F, Torregrosa JV. Cinacalcet treatment for secondary hyperparathyroidism in dialysis patients: An observational study in routine clinical practice. *Nephron Clinical Practice*. 2011, 108(2): C109 - C121.
IF:1,843

Guirado L, Cantarell C, Franco A, Huertas EG, Fructuoso AS, Fernandez A, Gentil MA, Rodriguez A, Paul J, Torregrosa JV, Rodriguez A, Alonso A, Hernandez D, Burgos D, Jimenez C, Jimeno L, Lauzurica R, Mazuecos A, Osuna A, Plumed JS, Ruiz JC, Zarraga S. Efficacy and safety of conversion from twice-daily to once-daily tacrolimus in a large cohort of stable kidney transplant recipients.. *American Journal of Transplantation*. 2011, 11(9): 1965 - 1971.
IF:6,051

Ramírez R, Martín-Malo A, Aljama P. Evolution of the concept of biocompatibility and the cardioprotective effect of on-line hemodiafiltration.. *Contributions to Nephrology*. 2011, 175: 110 - 116.
IF:1,274

Mazuecos A, Fernandez A, Andres A, Gomez E, Zarraga S, Burgos D, Jimenez C, Paul J, Ro-

driguez-Benot A, Fernandez C. HIV infection and renal transplantation. *Nephrology Dialysis Transplantation*. 2011, 26(4): 1401 - 1407.
IF:3,564

Toledo K, Perez-Saez MJ, Navarro MD, Ortega R, Redondo MD, Agüera ML, Rodriguez-Benot A, Aljama P. Impact of recurrent glomerulonephritis on renal graft survival.. *Trasplantation P*. 2011, 43(6): 2182 - 2186.
IF:0,993

Perez-Saez MJ, Toledo K, Navarro MD, Redondo MD, Leon C, Arjona A, Agüera ML, Rodriguez-Benot A, Aljama P. Long-term survival of simultaneous pancreas-kidney transplantation: influence of early posttransplantation complications.. *Trasplantation P*. 2011, 43(6): 2160 - 2164.
IF:0,993

Pérez-Sáez MJ, Toledo K, Navarro MD, Lopez-Andreu M, Redondo MD, Ortega R, Pérez-Seoane C, Agüera ML, Rodríguez-Benot A, Aljama P. Recurrent membranoproliferative glomerulonephritis after second renal graft treated with plasmapheresis and rituximab.. *Transplan Proceed*. 2011, 43(10): 4005 - 4009.
IF:0,993

Naranjo A, Cruz A, Lopez P, Chicano M, Martin-Malo A, Sitges-Serra A, Muntane J, Padillo J. Renal function after Dopamine and fluid administration in patients with malignant obstructive jaundice. A prospective randomized study. *Journal of Gastrointestinal and Liver Diseases*. 2011, 20(2): 161 - 167.
IF:1,434

Merino A, Buendia P, Martin-Malo A, Aljama P, Ramirez R, Carracedo J. Senescent CD14(+) CD16(+) monocytes exhibit proinflammatory and proatherosclerotic activity. *Journal of Immunology*. 2011, 186(3): 1809 - 1815.
IF:5,745

Navarro MD, Lopez-Andreu M, Rodriguez-Benot A, Ortega-Salas R, Morales MLA, Lopez-Rubio F, Garcia PA. Significance of preimplantation analysis of kidney biopsies from expanded criteria donors in long-term outcome. *Transplantation*. 2011, 91(4): 432 - 439.
IF:3,676

Perez-Saez MJ, Toledo K, Ojeda R, Crespo R, Soriano S, de Lara MAA, Martin-Malo A, Aljama P. Tandem Plasmapheresis and Hemodialysis: Efficacy and Safety. *Renal Failure*. 2011, 33(8): 765 - 769.
IF:0,79

Gaisa NT, Graham TA, McDonald SAC, Canadillas-Lopez S, Poulson R, Heidenreich A, Jakse G, Tadrous PJ, Knuechel R, Wright NA. The human urothelium consists of multiple clonal units, each maintained by a stem cell. *Journal of Pathology*. 2011, 225(2): 163 - 171.
IF:7,274

Clinical Trials

0271/10: Phase III, multicenter, randomized, double-blind, parallel-group open study assessing the efficacy and safety of the Prednisone-Ac Mycophenolic-Cyclosporine to Prednisone-Ac Mycophenolic-Cyclosporine versus Prednisone-Ac Mycophenolic
PI: Mario Espinosa Hernández

0242/10: Open, multicenter trial of eculizumab in adult patients with atypical hemolytic uremic syndrome
PI: Mario Espinosa Hernández

0155/06: Assessing the efficacy of a treatment with Cinacalcet HCl in reducing Cardiovascular events
PI: Alejandro Martín Malo

0214/08: Randomized study assessing the efficacy and safety of a treatment with cinacalcet

in combination with low doses of Vitamin D for the treatment of patients with secondary hyperparathyroidism incidents in dialysis
PI: Alejandro Martín Malo

0026/08: PRIMO II: Advantages of Paricalcitol injections in renal failure-induced cardiac morbidity in subjects with chronic renal disease stage 5
PI: Alejandro Martín Malo

0097/07: Utility of Rapamycin for the secondary prevention of skin tumors in renal transplant recipients with recurrent squamous cell carcinoma.
PI: Maria Dolores Navarro Cabello

1761: Observational epidemiological prospective multicenter study assessing the incidence of cytomegalovirus-induced disease and associated risk values in renal transplant recipients Recptor +
PI: Maria Dolores Navarro Cabello

1643: Observational, multicenter, retrospective study assessing the impact of nephrectomy in the evolution of a second renal transplant.
PI: Alberto Rodríguez Benot

0256/10: *Clinical, multicenter, randomized, open, two-arm study investigating mellitus diabetes* in renal transplant recipients in an advagraf-based immunosuppressive regime
PI: Alberto Rodríguez Benot

1734: Observational, retrospective review of medical records to analyze changes in calcium levels after administration of cinacalcet in patients with persistent secondary hyperparathyroidism after renal transplant
PI: Alberto Rodríguez Benot

1727: Observational, retrospective review of the Characteristics and clinical impact of early anemia in renal transplantation
PI: Alberto Rodríguez Benot

1702: Study assessing the incidence of diffuse lymphoproliferative disease after renal transplant over different decades LINFO-GREAT
PI: Alberto Rodríguez Benot

0086/10: Open, multicenter, randomized 3-parallel group study assessing the efficacy and safety of low and high dose intravenous ferric carboxymaltose (low and high dose Ferinject(r) regimen) versus orally administered iron
PI: Sagrario Soriano Cabrera

1757: Observation study monitoring the clinical use of Renvela® in adult hyperphosphatemic patients with chronic renal failure not undertaking dialysis and with serum phosphorus concentrations > 1,78 mmol/l
PI: Sagrario Soriano Cabrera

Research Projects

Project Name: Inflammation and endothelial dysfunction in uremia: The role of convective transport in Hemodialysis (Alejandro Martín Malo)
Funding Body: Andalusian Health Department
File Number: 0227/2009

Project Name: Effect of the depurative efficacy of different types of dialysis on endothelial inflammation and damage (Alejandro Martín Malo).
Funding Body: Carlos III Health Institute, Madrid
File Number: 10/00960

Project Name: Endothelial damage in chronic renal Failure: cellular therapy (Pedro Aljama García).
Funding Body: Andalusian Department of Innovation, Science and Entrepreneurship
File Number: P08-CTS-03797

Group Aas-01



Lung Transplants. Thoracic Neoplasms

Ángel Salvatierra Velázquez angel.salvatierra.sspa@juntadeandalucia.es

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 signaling mechanisms.

Keywords

Lung preservation, chronic rejection, bronchiolitis obliterans, endothelium, inflammation, oxidative stress, proteomics, genomics

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Salvatierra	Velázquez	Ángel	AR	Researcher
Algar	Algar	Francisco Javier	R	Researcher
Álvarez	Kindelán	Antonio	R	Researcher
Baamonde	Laborda	Carlos	R	Researcher
Cerezo	Madueño	Francisco	R	Researcher
Espinosa	Jiménez	Dionisio	R	Researcher
Illana	Wolf	Jennifer	R	Researcher
Moreno	Casado	Paula	R	Researcher
Redel	Montero	Javier	R	Researcher
Santos	Luna	Francisco	R	Researcher
Vaquero	Barrios	José Manuel	R	Researcher

(*) AR: Associate Researcher; R: Researcher

List of Publications

Roman A, Ussetti P, Sole A, Zurbano F, Borro JM, Vaquero JM, de Pablo A, Morales P, Blanco M, Bravo C, Cifrian J, de la Torre M, Gamez P, Laporta R, Monforte V, Mons R, Salvatierra A, Santos F, Sole J, Varela A. Guidelines for the selection of lung transplantation candidates. Archivos de Bronconeumologia. 2011, 47(6): 303-309.

Research Projects

Project Name: Identifying biomarkers in sweat for the diagnosis of lung cancer (Ángel Salvatierra).
Funding Body: Foundation Neumosur
File Number: Neumosur 4

Group Aas-06



Comprehensive Nursing Care. Multidisciplinary Perspective

M^a Aurora Rodríguez Borrego. en1robom@uco.es

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.

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Rodríguez	Borrego	Mª Aurora	AR	Researcher
García	Montero	Manuel	R	Researcher
Peñas	Maldonado	Luis	R	Researcher
Delgado	Márquez	Mª Jesús	R	Researcher
Flórez	Almonacid	Clara Inés	R	Researcher
Guerra	Martín	Dolores	R	Researcher
Miñarro	Del Moral	Rosa	R	Researcher
Rich	Ruiz	Manuel	R	Researcher
Medina	Valverde	Mª José	R	Researcher
Vaquero	Abellán	Manuel	R	Researcher
Redondo	Pedraza	Rosa	R	Researcher
Muñoz	Alonso	Adoración	R	Researcher
de Miguel	Fernández	Magdalena	R	Researcher
Arce	Rodríguez	Susana	R	Researcher
Méndez	Serrano	Beatriz	R	Researcher
Cuevas	Pareja	Francisca	R	Researcher
Marín	Sánchez	Juana	R	Researcher
Parra	Perea	Julia	R	Researcher
de la Torre	Barbero	Mª José	R	Researcher
Luna		Antonio Jesús	R	Researcher
de Frutos	Delgado	Carmen	R	Researcher
Moros	Molina	Mª del Pilar	R	Researcher

(*) AR: Associate Researcher; R: Researcher

List of Publications

Rodriguez-Borrego Maria Aurora, Vaquero Abelán Manuel, Bertagnolli Liana, Muñoz-Gomariz Elisa, Redondo-Pedraza Rosa, Muñoz-Alonso Adoración. Intimate partner violence: study with female nurses. Atencion Primaria. 2011,43: 417-425.
IF: 0,619

Research Projects

Project Name: Gener-based violence against female nurses (Aurora Rodríguez Borrego)
Financiador: Andalusian Health Department
Núm. de expediente: 0109/2008

Area B



Nutrition, Metabolism and Neuroendocrinology

Coordinator: Justo Castaño Fuentes

B-01

Hormones and Cancer

B-02

Nutrigenomics. Metabolic Syndrome

B-03

Hormonal Regulation of Energy Balance,
Puberty and Reproduction

BE-04

Insulin Resistance, Diabetes and Metabolism

BE-05

Oxidative Stress and Nutrition

B-06

Metabolism and Adipocyte Differentiation. Metabolic Syndrome

BE-07

Child Metabolism

B-08

Epidemiological Research in Primary Care

Bas-02

Endocrinology and Nutrition

Bas-03

Study of Growth. Endocrinology and Child Nutrition

Bas-05

Clinical Analysis

Group B-01



Hormones and Cancer

Justo P. Castaño Fuentes. justo@uco.es

Francisco Gracia Navarro

Scientific Activity

Our group investigates the cellular and molecular principles underlying the natural processes of neuroendocrine-metabolic regulation and their dysfunctions in tumour diseases and cancer, paying special attention to the role played by some neuropeptide systems such as somatostatin, cortistatin, ghrelin, kisspeptins and their receptors. Starting from the study of pituitary somatotropes producing the 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 endocrine cell types (eg corticotropes, gonadotropes, pancreatic beta cells) and the global role of these molecules in metabolic homeostasis and the development of tumour pathologies.

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

Keywords

Cellular and Molecular Endocrinology. Hypothalamic-hypophysis. Somatostatin, cortistatin, ghrelin, GHRH and Kisspeptins and their receptors. Expression and secretion of hormones (GH, LH) and intracellular signalling systems. Regulation of the somatotrophic and gonadotropic-reproductive axes. Hypophysary tumours. Breast cancer.

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Castaño	Fuentes	Justo Pastor	HR	Deputy Scientific Director
Gracia	Navarro	Francisco	CO-HR	Researcher
Córdoba	Chacón	José	R	Researcher
Martínez	Fuentes	Antonio Jesús	R	Researcher
Gahete	Ortiz	Manuel David	PDR	Researcher
López	Sánchez	Laura María	PDR	Researcher
Luque	Huertas	Raúl Miguel	PDR	Researcher
López	Argüello	Silvia Daiana	TR	Researcher
Chanclón	García	Belén	TR	Researcher
Ibáñez	Costa	Alejandro	TR	Researcher
Rincón	Fernández-Pacheco	David	TR	Researcher
Villa	Osaba	Alicia	TR	Researcher
Gómez	Elises	María Amparo	Administrative O.	Administrative Officer
Pozo	Salas	Anabel	AT	Auxiliary Technician
Rivero	Cortes	Esther	AT	Auxiliary Technician

(*) HR: Head Researcher; CO-HR: CO-Head Researcher; R: Researcher; PDR: Post-doctoral Researcher; TR: Trainee Researcher

List of Publications

Gahete MD, Cordoba-Chacon J, Hergueta-Redondo M, Martinez-Fuentes AJ, Kineman RD, Moreno-Bueno G, Luque RM, Castano JP. A novel human ghrelin variant (In1-ghrelin) and ghrelin-O-acyltransferase are overexpressed in breast cancer: potential pathophysiological relevance.. Plos One. 2011, 6(8): Art n° e23302 - . IF:4,411

Cordoba-Chacon J, Gahete MD, Pozo-Salas AI, Martinez-Fuentes AJ, de Lecea L, Gracia-Navarro F, Kineman RD, Castano JP, Luque RM. Cortistatin Is Not a Somatostatin Analogue but Stimulates Prolactin Release and Inhibits GH and ACTH in a Gender-Dependent Fashion: Potential Role of Ghrelin. Endocrinology. 2011, 152(12): 4800 - 4812. IF:4,993

Luque RM, Gahete MD, Cordoba-Chacon J, Childs GV, Kineman RD. Does the pituitary somatotrope play a primary role in regulating GH output in metabolic extremes?. Annals of the New York Academy of Science. 2011, 1220: 82 - 92. IF:2,847

Gahete MD, Cordoba-Chacon J, Anadumaka CV, Lin Q, Bruning JC, Kahn CR, Luque RM, Kineman RD. Elevated GH/IGF-I, Due to Somatotrope-Specific Loss of Both IGF-I and Insulin Recep-

tors, Alters Glucose Homeostasis and Insulin Sensitivity in a Diet-Dependent Manner. Endocrinology. 2011, 152(12): 4825 - 4837. IF:4,993

Martinez-Fuentes A, Molina M, Vazquez-Martinez RM, Gahete MD, Jimenez-Reina L, Moreno J, Benito-Lopez P, Quintero A, de la Riva A, Diéguez C, Soto A, Leal-Cerro A, Resmini E, Webb S, Zattelli MC, DegliUberti EC, Malagón MM, Luque R, Castaño JP. Expression of functional KiSS-1 and KiSS-1R system is altered in human pituitary adenomas: evidence for apoptotic action of kisspeptin-10. European journal of endocrinology. 2011, 164: 355 - 362. IF:3,482

Luque RM, Córdoba-Chacón J, Gahete MD, Navarro VM, Tena-Sempere M, Kineman RD and Castaño JP. Kisspeptin regulates gonadotroph and somatotroph function in nonhuman primate pituitary via common and distinct signaling mechanisms. Endocrinology. 2011, 152: 957 - 966. IF:4,993

Luque RM, Lin Q, Cordoba-Chacon J, Subbaiah PV, Buch T, Waisman A, Vankelecom H, Kineman RD. Metabolic impact of adult-onset, isolated, growth hormone deficiency (AOIGHD) due to destruction of pituitary somatotropes.. Plos One. 2011, 6(1): Art n° e15767 - . IF:4,411

Pulido MR, Diaz-Ruiz A, Jimenez-Gomez Y, Garcia-Navarro S, Gracia-Navarro F, Tinahones F, Lopez-Miranda J, Fruhbeck G, Vazquez-Martinez R, Malagon MM. Rab18 dynamics in adipocytes in relation to lipogenesis, lipolysis and obesity. Plos One. 2011, 6(7): Art n° e-22931 IF:4,411

Gahete MD, Córdoba-Chacón J, Kineman RD, Luque RM, Castaño JP. Role of ghrelin system in neuroprotection and cognitive functions: Implications in Alzheimer's disease. Peptides. 2011, 32(11): 2225 - 2228. IF:2,654

Cordoba-Chacon J, Gahete MD, Castaño JP, Kineman RD, Luque RM. Somatostatin and its receptors contribute, in a tissue-specific manner, to the gender-dependent, metabolic (fed/fast-ing) control of growth hormone axis in mice. American Journal of physiology endocrinology and metabolism. 2011, 300: E-46 - 0. IF:4,686

Marazuela M, Paniagua AE, Gahete MD, Lucas T, Alvarez-Escolá C, Manzanares R, Cameselle-Teijeiro J, Luque-Ramirez M, Luque RM, Fernandez-Rodriguez E, Castaño JP, Bernabeu I. Somatotroph tumor progression during pegvisomant therapy: a clinical and molecular study. Journal of clinical endocrinology & metabolism. 2011, 96: E-251 - 0. IF:6,495

Gwen V. Childs, Noor Akhter, Anessa Haney, Mohsin Syed, Angela Odle, Michael Cozart, Zachary Brodrick, Dana Gaddy, Larry J. Suva, Nisreen Akel, Christopher Crane, Helen Benes, Amanda Charlesworth, Raul Luque, Streamson Chua, and Rhonda D. Kineman. The Somatostatin as a Metabolic Sensor: Deletion of Leptin Receptors Causes Obesity. *Endocrinology*. 2011, 52(1): 69 - 81.
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IF:2,847

Taboada GF, Neto LV, Luque RM, Cordoba-Chacon J, de Oliveira-Machado E, de Carvalho Dp, Kineman RD, Gadelha MR. Impact of gsp oncogene on the mRNA content for somatostatin and dopamine receptors in human somatotropinomas. *Neuroendocrinology*. 2011, 93(1): 40 - 47.
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IF:2,282

Research Projects

Project Name: Translational research on neuroendocrine tumors: molecular bases, new signals and therapeutic opportunities (Justo Pastor Castaño Fuentes).
Funding Body: Andalusian Department of Innovation, Science and Entrepreneurship
File Number: P09-CTS-5051

Project Name: The role of somatostatin, cortistatin and ghrelin in the pathological interaction of obesity and breast cancer (Justo Pastor Castaño Fuentes).
Funding Body: MICINN
File Number: BFU2010-19300

Project Name: Molecular study of pituitary tumors (Justo Pastor Castaño Fuentes).
Funding Body: Spanish Society of Endocrinology and Nutrition (SEEN)- Novartis

Project Name: Characterization of new somatostatin and cortistatin receptors (Justo Pastor Castaño Fuentes).
Funding Body: IPSEN Biomeasure. SCRAS S.A.S, Paris, France

Group B-02



Nutrigenomics Metabolic Syndrome

José López Miranda. jlopezmir@gmail.com

Francisco Pérez Jiménez

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 on atherogenic mechanisms such as oxidative stress, inflammation, endothelial function, hemostasis, cellular signalling mechanisms and the activation of genes involved in atherogenesis.

Keywords

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

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
López	Miranda	José	HR	Researcher
Pérez	Jiménez	Francisco	CO-HR	Director Científico
Delgado	Lista	Francisco Javier	PI	Researcher
Fuentes	Jiménez	Francisco	PI	Researcher
Marín	Hinojosa	Carmen	PDR/PI	Researcher
Camargo	García	Antonio	PDR	Researcher
Gómez	Luna	Purificación	PDR	Researcher
Torres	Sánchez	Luis Arístides	PDR	Researcher
Blanco	Molina	Mª Ángeles	R	Researcher
Fernández	De la Puebla	Rafael Ángel	R	Researcher
Fernández		Juan Marcelo	R	Researcher
Gutiérrez	Mariscal	Francisco Miguel	R	Researcher
Montero	Pérez-Barquero	Manuel	R	Researcher
Rangel	Zuñiga	Oriol Alberto	R	Researcher
Sánchez	García	Esther	R	Researcher
Torres	Roldán	Amalia	R	Researcher
Yubero	Serrano	Elena	R	Researcher
Delgado	Casado	Nieves	TR	Researcher
Criado	García	Juan	TR	Researcher
Cruz	Teno	Cristina	TR	Researcher
García	Ríos	Antonio	TR	Researcher
González	De la Guardia	Lorena	TR	Researcher
Haro	Mariscal	Carmen María	TR	Researcher
Jiménez	Morales	Anabel	TR	Researcher
Landaeta	Díaz	Leslie	TR	Researcher
Lora	Aguilar	Pilar	TR	Researcher
Meneses	Álvarez	Mª Eugenia	TR	Researcher
Navarro	Martos	Vanesa	TR	Researcher
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Pérez	Martínez	Pablo	PI	Researcher
Barbero	Castañeda	Andrés	AT	Auxiliary Technician
Carreras	Calero	Rosario	AT	Auxiliary Technician
Fariñas	Pedrajas	Mª del Carmen	Administrative O.	Administrative Officer
Sánchez	García	Esther	R	Researcher
Torres	Roldán	Amalia	R	Researcher
Yubero	Serrano	Elena	R	Researcher

(*) HR: Head Researcher; CO-HR: CO-Head Researcher; PI: Principal Investigator; R: Researcher; PDR: Post-doctoral researcher; TR : Trainee Researcher

List of Publications

Gwen V. Childs, Noor Akhter, Anessa Haney, Mohsin Syed, Angela Odle, Michael Cozart, Zachary Brodrick, Dana Gaddy, Larry J. Suva, Nisreen Akel, Christopher Crane, Helen Benes, Amanda Charlesworth, Raul Luque, Streamson Chua, and Rhonda D. Kineman. The Somatostatin as a Metabolic Sensor: Deletion of Leptin Receptors Causes Obesity. *Endocrinology*. 2011; 52(1): 69-81.
IF: 4,993

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IF: 3,184

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IF: 5,125

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IF: 4,411

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IF: 3,438

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Perez-Martinez P, Garcia-Rios A, Delgado-Lista J, Perez-Jimenez F, Lopez-Miranda J. Nutrigenetics of the postprandial lipoprotein metabolism: Evidences from human intervention studies. *Current Vascular Pharmacology*. 2011; 9(3): 287-291. IF: 3,184

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Yubero-Serrano EM, Garcia-Rios A, Delgado-Lista J, Delgado-Casado N, Perez-Martinez P, Rodriguez-Cantalejo F, Fuentes F, Cruz-Teno C, Tunez I, Tasset-Cuevas I, Tinahones FJ, Perez-Jimenez F, Lopez-Miranda J. Postprandial effects of the Mediterranean diet on oxidant and antioxidant status in elderly men and women. *Journal of American Geriatrics Society*. 2011; 59(5): 938-940. IF: 3,913

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Pulido MR, Diaz-Ruiz A, Jimenez-Gomez Y, Garcia-Navarro S, Gracia-Navarro F, Tinahones F, Lopez-Miranda J, Fruhbeck G, Vazquez-Martinez R, Malagon MM. Rab18 dynamics in adipocytes in relation to lipogenesis, lipolysis and obesity. *Plos One*. 2011; 6(7): Art n° e-22931-. IF: 4,411

Jurado-Gamez B, Fernandez-Marin MC, Gomez-Chaparro JL, Munoz-Cabrera L, Lopez-Barea J, Perez-Jimenez F, Lopez-Miranda J. Relationship of oxidative stress and endothelial dysfunction in sleep apnoea. *European Respiratory Journal*. 2011; 37(4): 873-879. IF: 5,922

Marin C, Perez-Martinez P, Delgado-Lista J, Gomez P, Rodriguez F, Yubero-Serrano EM, Garcia-Rios A, Camargo A, Perez-Jimenez F, Lopez-Miranda J. The insulin sensitivity response is determined by the interaction between the G972R polymorphism of the insulin receptor substrate 1 gene and dietary fat. *Molecular Nutrition & Food Research*. 2011; 55(2): 328-335. IF: 4,713

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Moreno-Fernandez J., Gutierrez-Alcantara C., Palomares-Ortega R., Garcia-Manzanares T., Benito-Lopez P. Assessment of a residency training program in endocrinology and nutrition by physicians: Results of a survey. *Endocrinología y Nutrición*. 2011; 58(10): 510-515.

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Salinas CL, Beltran ODG, Sanchez-Hidalgo JM, Bru RC, Padillo FJ, Rufian S. Emergency adrenalectomy due to acute heart failure secondary to complicated pheochromocytoma: a case report. *World Journal of Surgical Oncology*. 2011; 9: Art n° 49-. IF: 1,116

Clinical Trials

0114/11: Multicenter, placebo-controlled, randomized, double-blind study assessing the tolerability and efficacy of AMG 145 in LDL cholesterol in subjects with heterozygous familial hypercholesterolemia
PI: José López Miranda

0021/08: Gobaal, 76-week, multicentric, double-blind, randomized, placebo-controlled study assessing the tolerability and efficacy of anacetrapib incorporated to an ongoing treatment with a statin in patients with hypercholesterolemia
PI: Francisco Pérez Jiménez

0072/10: Cardiovascular mixed combination Pill ASR: A Clinical pharmacodynamic trial of a fixed-dose combination of aspirin, simvastatin, and ramipril (Cardiovascular Polypill); LDL Cholesterol.
PI: Francisco Pérez Jiménez

Research Projects

Project Name: Effects of gene variations related to insulin resistance, lipid metabolism and inflammation on the postprandial state of Metabolic Syndrome patients. (Francisco Javier Delgado Lista)

Funding Body: Andalusian Health Department
File Number: 0252/2009

Project Name: Long-term effects of two Mediterranean calorie diets with different protein content combined with a structured exercise program on risk factors in Metabolic Syndrome patients. (Francisco Fuentes Jiménez).

Funding Body: Andalusian Health Department.
File Number: 0118/2008

Project Name: Effect of a Mediterranean diet rich in olive oil on the regenerative capacity of the endothelium in elderly patients. (Jose López Miranda).

Funding Body: Andalusian Health Department
File Number: 0193/2009

Project Name: Nutrigenomics of the adipocyte inflammatory response in Metabolic Syndrome patients. Comparative effect of a Mediterranean diet rich in monounsaturated fats on the adipose tissue diffusion (José López Miranda).

Funding Body: Spanish Ministry of Science and Innovation
File Number: AGL2009-12270

Project Name: Genetic determinants of cardiovascular disease risk in family hypercholesterolemia (Francisco Pérez Jiménez).

Funding Body: National Center of Cardiovascular Research (CNIC)
File Number: CNIC 08/2008

Project Name: Characterizing the genetic architecture of Metabolic Syndrome in terms of inflammatory response and influence of the Mediterranean diet on inflammatory response (Pablo Pérez Martínez).

Funding Body: Andalusian Health Department
File Number: 0058/2010

Project Name: Influence of the bacterial population of the digestive system (microbiota) on the degree of endotoxemia, inflammation and insulin-resistance in patients with metabolic syndrome after two healthy diet models: a calorie and a Mediterranean diet. (Francisco Pérez Jiménez).

Funding Body: Carlos III Health Institute, Madrid
File Number: 10/02412

Project Name: Nutrigenetics of the lipid and inflammatory response in patients with metabolic syndrome. Effects of an olive oil-rich Mediterranean diet versus a low-fat diet: Cordioprev

(Pablo Pérez Martínez).

Funding Body: Carlos III Health Institute, Madrid
File Number: 10/01041

Project Name: Finalization of an economic compensation agreement (Francisco Pérez Jiménez).

Funding Body: Spanish Ministry of Science and Innovation
File Number: MCI.CIBEROBN

Project Name: Biomodulating effects of olive oil on the molecular mechanisms of inflammation and oxidative stress in metabolic syndrome patients (Francisco Pérez Jiménez).

Funding Body: Andalusian Department of Innovation, Science and Entrepreneurship
File Number: P09-CTS-5015

Group B-03



Hormonal Regulation of Energy Balance, Puberty and Reproduction

Manuel Tena Sempere. f1tesem@uco.es

Enrique Aguilar Benítez de Lugo

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. Thus, 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 and the secretion of gonadotropins. In addition, we have characterized the actions of different gastrointestinal hormones (ghrelin, PYY) and adipose tissue (leptin, resistin, adiponectin), as well as the control of food intake and reproductive function. Additionally, we have defined the role in the reproductive axis of the different neuropeptides (GALP, neuromedins, 26/43RFa, VGF) primarily involved in the control of food intake. Even when our research activity is basic in nature, this has allowed us to identify mechanisms of action and pharmacological effects of practical interest for a broad group of neuroendocrine factors with the potential translational results in the context of increasingly prevalent diseases such as obesity and other body weight disorders, changes of puberty and various forms of infertility.

Keywords

Body weight, obesity, puberty, fertility, kisspeptins, GPR54, gonadotropins, GnRH, leptin, ghrelin, adipokines, neuropeptides.

Group Members

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Tena	Sempere	Manuel	HR	Researcher
Aguilar	Benítez de Lugo	Enrique	CO-HR	Researcher
Gaytán	Luna	Francisco	R	Researcher
León	Téllez	Silvia	R	Researcher
Pineda	Reyes	Rafael	R	Researcher
Pinilla	Jurado	Leonor	R	Researcher
Romero	Ruiz	Antonio	R	Researcher
Castellano	Rodríguez	Juan	PDR	Researcher
Navarro	Loro	Víctor	PDR	Researcher
Roa	Rivas	Juan	PDR	Researcher
Vázquez	Villar	María Jesús	PDR	Researcher
García	Galiano	David	TR	Researcher
Sánchez-Garrido	Nogueras	Miguel	TR	Researcher
Manfredi	Lozano	María	TR	Researcher
Ruiz	Pino	Francisco	TR	Researcher
Gutiérrez	Córdoba	Desiré	AT	Auxiliary Technician
Pedraza	Casado	Ana Belén	AT	Auxiliary Technician
Rodríguez	Sánchez	Ana	AT	Auxiliary Technician
Sánchez	Arroyo	Antonia	AT	Auxiliary Technician

(*) HR: Head Researcher; CO-HR:CO-Head Researcher; R: Researcher; PDR: Post-doctoral Researcher; TR: Trainee Researcher

List of Publications

Tapia-Gonzalez S, García-Segura LM, Tena-Sempere M, Frago LM, Castellano JM, Fuente-Martín E, García-Caceres C, Argente J, Chowen JA. Activation of microglia in specific hypothalamic nuclei and the cerebellum of adult rats exposed to neonatal overnutrition. *Journal of Neuroendocrinology*. 2011, 23(4): 365 - 370. IF: 4,65

Pinto FM, Cejudo-Román A, Ravina CG, Fernández-Sánchez M, Martín-Lozano D, Illanes M, Tena-Sempere M, Cadenas ML. Characterization Of The Kisspeptin System In Human Spermatozoa. *International Journal of Andrology*. 2011, 35: 63 - 73. IF: 3,6

Pinilla L, Pineda R, Gaytán F, Romero M, García-Galiano D, Sánchez-Garrido MA, Ruiz-Pino F, Tena-Sempere M, Aguilar E. Characterization of the reproductive effects of the anorexigenic VGF-derived peptide TLQP-21: in vivo and in vitro studies in male rats. *American journal of physiology-endocrinology and metabolism*. 2011, 300: e837 - e847. IF: 4,686

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Castellano JM, Bentsen AH, Sanchez-Garrido MA, Ruiz-Pino F, Romero M, Garcia-Galiano D, Aguilar E, Pinilla L, Dieguez C, Mikkelsen JD, Tena-Sempere M. Early metabolic programming of puberty onset: impact of changes in postnatal feeding and rearing conditions on the timing of puberty and development of the hypothalamic kisspeptin system. *Endocrinology*. 2011, 152(9): 3396 - 3408. IF: 4,993

Gómez R, Ferrero H, Delgado-Rosas F, Gaytan M, Morales C, Zimmermann RC, Simón C, Gaytan F, Pellicer A. Evidences for the existence of a low dopaminergic tone in polycystic ovarian syndrome: implications for OHSS development and treatment. *Journal of Clinical Endocrinology & Metabolism*. 2011, 96: 2484 - 2492. IF: 6,49

Blanco Martínez de Morentin P, González CR, Saha AK, Martins L, Diéguez C, Vidal-Puig A, Tena-Sempere M, López M. Hypothalamic Amp-Activated Protein Kinase As A Mediator Of Whole Body Energy Balance. *Rev Endocr Metab Disord*. 2011, 12: 127 - 140. IF: 4,083

Navarro VM, Castellano JM, McConkey SM, Pineda R, Ruiz-Pino F, Pinilla L, Clifton DK, Tena-Sempere M, Steiner RA. Interactions between kisspeptin and neurokinin B in the control of GnRH secretion in the female rat. *American journal of physiology-endocrinology and metabolism*. 2011, 300: e202 - e210. IF: 4,686

Luque RM, Córdoba-Chacón J, Gahete MD, Navarro VM, Tena-Sempere M, Kineman RD, Castaño JP. Kisspeptin regulates gonadotroph and somatotroph function in nonhuman primate pituitary via common and distinct signaling mechanisms. *Endocrinology*. 2011, 152: 957 - 966. IF: 4,993

Navarro VM, Tena-Sempere M. Kisspeptins and the neuroendocrine control of reproduction. *Front Biosci*. 2011, 3: 267 - 275.

Roja J, Navarro VM, Tena-Sempere M. Kisspeptins in reproductive biology: consensus knowledge and recent developments. *Biology of Reproduction*. 2011, 85(4): 650 - 660.
IF: 3,87

Meza-Herrera CA, Hernández-Valenzuela LC, González-Bulnes A, Tena-Sempere M, Abad-Zavaleta J, Salinas-Gonzalez H, Mellado M, Veliz-De-ras F. Long-Term Betacarotene-Supplementation Enhances Serum Insulin Concentrations Without Effect On The Onset Of Puberty In The Female Goat. *Reproductive Biology*. 2011, 11: 236 - 249.
IF: 1,5

Navarro VM, Tena-Sempere M. Neuroendocrine Control By Kisspeptins: Role In Metabolic Regulation Of Fertility. *Nature Reviews in Endocrinology*. 2011, 8: 40 - 53.
IF: 9,19

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IF: 4,993

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IF: 1,476

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IF: 4,65

Le Marec O, Neveu C, Lefranc B, Dubessy C, Boutin JA, Do-Régo JC, Costentin J, Tonon MC, Tena-Sempere M, Vaudry H, Leprince J. Structure-Activity Relationships Of A Series Of Analogues Of The Rfamide-Related Peptide 26rfa. *Journal of Medicinal Chemistry*. 2011, 54: 4806 - 4814.
IF: 5,207

Delgado-Rosas F, Gómez R, Ferrero H, Gaytan F, Garcia-Velasco J, Simon C, Pellicer A. The effects of ergot and non-ergot-derived dopamine agonists in an experimental mouse model of endometriosis. *Reproduction*. 2011, 142: 745 - 755.
IF: 3,05

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IF: 4,99

Research Projects

Project Name: KISS-1/GPR54 system. Physiological role and pathophysiological and therapeutic implications (Manuel Tena Sempere).
Funding Body: Spanish Ministry of Science and Innovation
File Number: BFU2008-00984/BFI

Project Name: (DEER) Developmental Effects of Environment on Reproductive Health (Manuel Tena Sempere).
Funding Body: European Commission
File Number: FP7-ENV-2007-1

Project Name: Translational research on puberty and infertility: Analysing the KISS-1/GPR54 system (Manuel Tena Sempere).
Funding Body: Andalusian Department of Innovation, Science and Entrepreneurship
File Number: P08-CVI-03788

Project Name: P2-KISS. Physiological characterization of PK2 in the control of fertility and its interaction with kisspeptins (Manuel Tena Sempere).
Funding Body: European Commission
File Number: P10F-GA-2008-219605

Project Name: Meta-GnRH-Metabolic targeting of GnRH Neurons: Molecular Mechanism and Neuropeptide Pathways (Manuel Tena Sempere).
Funding Body: European Commission
File Number: P10F-GA-2009-235560

Project Name: EPI-PUBERTY-Metabolic Control of Puberty: Role of Epigenetic Regulatory Mechanisms (Manuel Tena Sempere).
Funding Body: European Commission
File Number: P10F-GA-2010-273034

Project Name: Puberty. New control mechanisms by neuropeptides and mRNAs, and their interaction with metabolic signals and obesity (Manuel Tena Sempere).
Funding Body: MINECO
File Number: BFU2011-25021

Group B-04



Insulin Resistance, Diabetes and Metabolism

Juan Antonio Paniagua González. japaniaguag@yahoo.es

Scientific Activity

Our group studies the effects of dietary components and pharmacological intervention on the syndrome of insulin resistance and the risk of developing diabetes in patients with “prediabetes”. To achieve this, we will characterize the specific effect of macronutrients on the release of incretins in the gut and the subsequent signalling. In addition, we will study the effect of different macronutrient proportions in the diet on body composition and body fat redistribution and their relationship with the sensitivity and secretion of insulin. We will characterize the role of adipose tissue expansion as a pathogenic factor of insulin resistance, beta cell failure and diabetes. Finally, we will study the transcription of metabolic, inflammatory and adipokine pathways in the adipose tissue peripheral to fat redistribution and its relationship with the sensitivity and secretion of insulin. We will characterize the role of adipose tissue expansion as a pathogenic factor of insulin resistance, beta cell failure and diabetes. Finally, we will study the transcription of metabolic, inflammatory and adipokine pathways in the adipose tissue peripheral to fat dietary patterns, macronutrients and various pharmacological agents, etc.

Keywords

Insuline resistance, β -pancreatic dysfunction, prediabetes, metabolic syndrome, adipose tissue and adipotoxicity, inflammation, oxidative stress, gene expression, metabolomics

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Paniagua	González	Juan Antonio	ER	Researcher
Bellido	Muñoz	Enrique	R	Researcher
Berral	De la Rosa	Francisco José	R	Researcher
Escandell	Morales	Juan Manuel	R	Researcher
Gil	Contreras	Daniel	R	Researcher
Gómez	Urbano	Aurora	R	Researcher
Latre	Romero	José María	R	Researcher
Sánchez	Urbano	Maria del Carmen	R	Researcher
Vigara	Madueño	Remedios	R	Researcher
Vidal	Puig	Antonio José	CR	Researcher
Torres	Roldán	María del Rosario	AT	Auxiliary Technician

(*) R: Researcher; CR: Collaborating Researcher; ER: Emerging Researcher

List of Publications

Paniagua JA, Pérez-Martínez P, Gjelstad IM, Tierney AC, Delgado-Lista J, Defoort C, Blaak EE, Risérus U, Drevon CA, Kiec-Wilk B, Lovegrove JA, Roche HM, López-Miranda J. A low-fat high-carbohydrate diet supplemented with long-chain n-3 PUFA reduces the risk of the metabolic syndrome. *Atherosclerosis*. 2011, 215(2): 443 - 450. IF: 4,086

Tierney AC, McMonagle J, Shaw DI, Gulseth HL, Helal O, Saris WH, Paniagua JA, Gołębek-Leszczynska I, Defoort C, Williams CM, Karslström B, Vessby B, Dembinska-Kiec A, López-Miranda J, Blaak EE, Drevon CA, Gibney MJ, Lovegrove JA, Roche HM. Effects of dietary fat modification on insulin sensitivity and on other risk factors of the metabolic syndrome--LIPGENE: a European randomized dietary intervention study. *Int J Obes (Lond)*. 2011, 35(6): 800 - 806. IF: 5,125

Meneses ME, Camargo A, Perez-Martinez P, Delgado-Lista J, Cruz-Teno C, Jimenez-Gomez Y, Paniagua JA, Gutierrez-Mariscal FM, Tinahones FJ, Vidal-Puig A, Roche HM, Perez-Jimenez F, Malagon MM, Lopez-Miranda J. Postprandial inflammatory response in adipose tissue of patients with metabolic syndrome after the intake of different dietary models. *Molecular nutrition & Food Research*. 2011, 55(11): 1759 - 1760. IF: 4,713

Clinical Trials

0241/09: Phase 2, randomized, 12-week, double-blind, active-controlled study assessing the efficacy of LY2599506 administered in monotherapy or in combination with metformin in patients with diabetes mellitus type 2
PI: Juan Antonio Paniagua González

Research Projects

Project Name: Incentives to non-university groups; insulin-resistance, metabolism and genetic interaction of the adipose tissue. (Juan Antonio Paniagua González).
Funding Body: Andalusian Department of Economy, Innovation and Science
File Number: CTS.0651

Group B-05



Oxidative Stress and Nutrition

Isaac Túnez Fiñana. fm2tufii@uco.es

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

Keywords

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

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Túnez	Fiñana	Isaac	ER	Researcher
Gascón	Luna	Félix	R	Researcher
Luque	Carabot	Evelio	R	Researcher
Peña	Amaro	José	R	Researcher
Ruiz	Villén	M ^a Concepción	R	Researcher
Salcedo	Espinosa	Manuel	R	Researcher
Tasset	Cuevas	Inmaculada	R	Researcher
Agüera	Morales	Eduardo	TR	Researcher
Sánchez	López	Fernando	TR	Researcher
Giraldo	Polo	Ana Isabel	AT	Auxiliary Technician

(*) R: Researcher; ER: Emerging Researcher; TR: Trainee Researcher

List of Publications

J.D. Benítez-Sillero, J.L. Pérez-Navero, I. Tasset, M. Guillén del Castillo, M. Gil-Campos, I. Túnez.. Cardiorespiratory fitness and oxidative stress: effect of acute maximal aerobic exercise in children and adolescents. *Journal of sports medicine and physical fitness*. 2011, 51(2): 204 - 210. IF:0,923

R. Villalba, J. Peña, P. Navarro, E. Luque, I. Jimena, A. Romero, J. L. Gómez- Villagrán. Cryopreservation increases apoptosis in human menisci.. *Knee Surgery sports traumatology arthroscopy*. 2011, 20(2): 298 - 303. IF:1,857

I. Túnez, F. Sánchez-López, E. Agüera, R. Fernández-Bolaños, F. Sánchez, I. Tasset. Important role of oxidative stress biomarkers in Huntington's disease. *Journal of Medicinal Chemistry*. 2011, 54: 5602 - 5560. IF:5,207

J.D. Benítez-Sillero, J.L. Pérez-Navero, M. Gil-Campos, M. Guillén del Castillo, I. Tasset, I. Túnez.. Influencia de la fuerza muscular isométrica de las extremidades superiores en el estrés oxidativo en niños. *Revista Internacional de Ciencias del Deporte (International Journal of Sport Science)*2011, VII(22): 48 - 57.

Tasset, I; Agüera, E; Olmo-Camacho, R; Escribano, B; Sanchez-Lopez, F; Delgado, MJ; Cruz, AH; Gascon, F; Luque, E; Pena, J; Jimena, IM; Tunes, I. Melatonin improves 3-nitropropionic acid induced behavioral alterations and neurotrophic factors levels. *Progress in Neuro-Psychopharmacology & Biological psychiatry*. 2011, 35(8): 1944 - 1949. IF:2,877

R. González-Aparicio, J.A. Flores, I. Tasset, I. Túnez, E. Fernández-Espejo. Mice lacking the PPAR-alpha gene present reduced number of dopamine neurons in the substantia nigra without altering motor behavior or dopamine neuron decline over life. *Neuroscience*. 2011, 186: 161 - 169. IF:3,215

I. Tasset, A.J. Pontes, A.J. Hinojosa, R. de la Torre, I. Túnez. Olive oil reduces oxidative damage in a 3-nitropropionic acid-induced Huntington's disease-like rat model. *Nutritional Neuroscience*. 2011, 14(3): 106 - 111. IF:1,301

Yubero-Serrano EM Delgado-Casado N, Delgado-Lista J, Perez-Martinez P, Tasset-Cuevas I, Santos-Gonzalez M, Caballero J, Garcia-Rios A, Marin C, Gutierrez-Mariscal FM, Fuentes F, Villalba JM, Tunes I, Perez-Jimenez F, Lopez-Miranda J. Postprandial antioxidant effect of the Mediterranean diet supplemented with coenzyme Q(10) in elderly men and women. *Age*. 2011, 33(4): 579 - 590. IF:6,28

Yubero-Serrano EM, Garcia-Rios A, Delgado-Lista J, Delgado-Casado N, Perez-Martinez P, Rodriguez-Cantalejo F, Fuentes F, Cruz-Teno C, Tunes I, Tasset-Cuevas I, Tinahones FJ, Perez-Jimenez F, Lopez-Miranda J. Postprandial effects of the mediterranean diet on oxidant and antioxidant status in elderly men and women. *Journal of American Geriatrics Society*. 2011, 59(5): 938 - 940. IF:3,913

E.M. Yubero-Serano, A. García-Ríos, J. Delgado-Lista, N. Delgado-Casado, P. Pérez-Martínez, F. Rodríguez-Cantalejo, F. Fuentes, C. Cruz-Teno, I. Túnez, I. Tasset-Cuevas, F.J. Tinahones, F. Pérez-

Jiménez, J. López-Miranda.. Postprandial effects of the Mediterranean diet on oxidant and antioxidant statuyts in elderly men and women.*Age*. 2011, 59(5): 938 - 940. IF:6,28

Ruiz-Rabelo J, Vazquez R, Arjona A, Perea D, Montilla P, Tunes I, Muntane J, Padillo J. Improvement of capecitabine antitumoral activity by melatonin in pancreatic cancer. *Pancreas*. 2011, 40(3): 410 - 414. IF:2,607

Clinical Trials

1634: Epidemiological study assessing the diagnosis and monitoring of patients with a first demyelinating episode suggestive of multiple sclerosis
PI: Eduardo Agüera Morales

1632: *Observational retrospective study on Physicians' attitude towards a patient with a first episode suggestive of demyelinating inflammatory disease. COMETA Study*
PI: Eduardo Agüera Morales

1762: National Registry of Humoral Rejection: Epidemiological, multicenter, observational, prospective study assessing the clinical, serum and histological characteristics and 5-year evolution of humoral rejection after renal transplant in Spain
PI: Eduardo Agüera Morales

1738: Validation of predictive and follow-up questionnaires to assess adherence to neurological syndrome and multiple sclerosis therapy
PI: Eduardo Agüera Morales

0080/09: Phase III, randomized, double-blind, placebo-controlled, multicenter study of oral cladribine in subjects with a first clinical episode highly suggestive of MS.
PI: Fernando Sánchez López

0061/10: Multicenter, randomized, blind, parallel-group, active group-controlled study assessing the advantages of changing from Acetate Glatiramer or Interferon Beta 1a to Natalizumab in patients with multiple sclerosis.
PI: Fernando Sánchez López

0132/09: Multicenter, randomized, double-blind, parallel-group, placebo-controlled study assessing the efficacy and safety of interferon beta-1 to pegylated (biib017) in subjects with recurrent multiple sclerosis.
PI: Fernando Sánchez López

0133/09: Extension, multicenter, blind-dose study assessing the long-term safety and efficacy of BG00012 monotherapy in patients with relapsing-remitting multiple sclerosis.
PI: Fernando Sánchez López

0056/10: Multicenter, double-blind, randomized, parallel-group, active-controlled monotherapy study assessing the efficacy and safety of daclizumab high yield process (DAC HYP) versus Avonex[®].
PI: Fernando Sánchez López

0329/10: Multicenter, double-blind, placebo-controlled, parallel-group study assessing the efficacy and safety of Teriflunomide in patients with recurrent multiple sclerosis on interferon-beta therapy.
PI: Fernando Sánchez López

1816: Assessment of Spanish multiple sclerosis patient capacities and impact on their quality of life.
PI: Fernando Sánchez López

Group B-06



Metabolism and Adipocyte Differentiation Metabolic Syndrome

M^a del Mar Malagón Poyato. bc1mapom@uco.es

Francisco Gracia Navarro

Scientific Activity

Our group studies the cellular and molecular mechanisms controlling the activity of adipocytes, both in terms of their endocrine function as adipokine-producing tissue and in relation to the regulation of lipid metabolism. These studies are carried out using multiple experimental approaches, from comparative proteomics of adipose tissue or other tissues associated with metabolic control under different experimental conditions, to studies of gene expression, confocal microscopy and real-time video microscopy for protein localization, or functional studies of over-expression or gene silencing, using, for this purpose, samples of human fat or cultures of cell lines.

Keywords

Hormone secretion, cell receptors and intracellular signalling, intracellular traffic, adipos tissue, proteomics, adipocytes, adipokines, cell differentiation, neuroendocrinology.

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Malagón	Poyato	María del Mar	HR	Researcher
Gracia	Navarro	Francisco	CO-HR	Researcher
Díaz-Ruiz	Ruiz	José Alberto	R	Researcher
García	Navarro	Socorro	R	Researcher
Vázquez	Martínez	Rafael	R	Researcher
Guzmán	Ruiz	Rocío	PDR	Researcher
Jiménez	Gómez	Yolanda	PDR	Researcher
Pulido	Toledano	Marina Rosa	PDR	Researcher
Almabouada		Farid	TR	Researcher
Travez	García	Andrés	TR	Researcher
Gómez	Élices	María Amparo	Administrative O.	Administrative Officer
Molero	Murillo	Laura	AT	Auxiliary Technician

(*) HR: Head Researcher; CO-HR:CO-Head Researcher; R: Researcher; PDR: Post-doctoral Researcher; TR: Trainee Researcher

List of Publications

Perez-Martinez P, Garcia-Rios A, Delgado-Lista J, Delgado-Casado N, Malagon MM, Marin C, Gomez-Luna P, Caballero J, Perez-Jimenez F, Lopez-Miranda J.. A variant near the melanocortin-4 receptor gene regulates postprandial lipid metabolism in a healthy Caucasian population.. Br J Nutr. 2011, 106(4): 468 - 471.
IF:3,072

Attané C, Foussal C, le Gonide C, Benani A, David D, Wanecq E, Guzmán-Ruiz R, Dray C, Bezaire V, Rancoule C, Kubak C, Ruiz-Gayo M, levade T, Penninger J, Burcelin R, Penicaud L, Valet P, Castan-Laurell I.. Apelin treatment increases fatty acid oxidation, mitochondrial oxidative capacity and biogenesis in muscle of insulin-resistant mice. Diabetes. 2011, 61(2): 310 - 320.
IF:8,889

Rodríguez A, Catalán V, Gómez-Ambrosi J, García-Navarro S, Rotellar F, Valentí V, Silva C, Gil MJ, Salvador J, Burrell MA, Calamita G, Malagón MM, Frühbeck G.. Insulin- and leptin-mediated control of aquaglyceroporins in human adipocytes and hepatocytes is mediated via the PI3K/Akt/mTOR signaling cascade.. J Clin Endocrinol Metab.. 2011, 96(4): e586 - e597.
IF:6,495

Stucchi P*, Guzmán-Ruiz R*, Gil-Ortega M, Merino B, Somoza B, Cano V, de Castro J, Sevillano J, Ramos MP, Fernández-Alfonso MS, Ruiz-Gayo M.. Leptin resistance develops spontaneously in mice during adult life in a tissue-specific manner. Consequences for hepatic steatosis. Biochimie. 2011, 93(10): 1779 - 1785.
IF:3,787

Meneses ME, Camargo A, Perez-Martinez P, Delgado-Lista J, Cruz-Teno C, Jimenez-Gomez Y, Paniagua JA, Gutierrez-Mariscal FM, Tinahones FJ, Vidal-Puig A, Roche HM, Perez-Jimenez F, Malagon MM, Lopez-Miranda J.. Postprandial inflammatory response in adipose tissue of patients with metabolic syndrome after the intake of different dietary models.. Molecular nutrition & Food Research. 2011, 55(12): 1759 - 1770.
IF:4,713

Peinado JR, Quiros PM, Pulido MR, Marino G, Martinez-Chantar ML, Vazquez-Martinez R, Freije JMP, Lopez-Otin C, Malagon MM. Proteomic profiling of adipose tissue from Zmpste24-/- mice, a model of lipodystrophy and premature aging, reveals major changes in mitochondrial function and vimentin processing. Molecular & Cellular Proteomics. 2011, 10(11): 2136 - 2143.
IF:8,354

Pulido MR, Diaz-Ruiz A, Jimenez-Gomez Y, Garcia-Navarro S, Gracia-Navarro F, Tinahones F, Lopez-Miranda J, Frühbeck G, Vazquez-Martinez R, Malagon MM. Rab18 dynamics in adipocytes in relation to lipogenesis, lipolysis and obesity. Plos One. 2011, 6(7): Art n° e-22931
IF:4,411

Vendrell J, El Bekay R, Peral B, Garcia-Fuentes E, Megia A, Macias-Gonzalez M, Real JF, Jimenez-Gomez Y, Escote X, Pachon G, Simo R, Selva DM, Malagon MM, Tinahones FJ. Study of the potential association of adipose tissue GLP-1 receptor with obesity and insulin resistance.. Endocrinology. 2011, 152(11): 4072 - 4079.
IF:4,993

Research Projects

Project Name: Cellular and molecular bases of the metabolic syndrome: effect of dietary fat content on the adipose tissue functioning (M^a del Mar Malagón Poyato).
Funding Body: Andalusian Department of Innovation, Science and Entrepreneurship
File Number: P07-CTS-03039

Project Name: Characterization of new markers regulating the operation of the adipose tissue (M^a del Mar Malagón Poyato).
Funding Body: Spanish Ministry of Science and Innovation.
File Number: BFU2010-17116

Project Name: High-performance proteomic analysis for the identification of markers for adipose tissue obesity. Insulin resistance-derived alterations of phosphoproteome in adipocytes (M^a del Mar Malagón Poyato).
Funding Body: Andalusian Department of Innovation, Science and Entrepreneurship
File Number: P10-CTS-6606

Group BE-07



Child Metabolism

Mercedes Gil Campos. mercedes_gil_campos@yahoo.es

Scientific Activity

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 hope to address neuropsychiatry, and particular, the inborn errors of metabolism.

Keywords

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

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Gil	Campos	María Mercedes	ER	Researcher
Antón	Gamero	Montserrat	R	Researcher
Arroyo	Marín	María José	R	Researcher
Fernández	Gutiérrez	José Fernando	R	Researcher
Ibarra	De la Rosa	Ignacio	R	Researcher
Jaraba	Caballero	Susana	R	Researcher
López	Laso	Eduardo	R	Researcher
Mateos	González	María Elena	R	Researcher
Pérez	Navero	Juan Luis	R	Researcher
Ulloa	Santamaría	María Ester	R	Researcher
Velasco	Jabalquinto	María José	R	Researcher
Llorente	Cantarero	Francisco Jesús	TR	Researcher

(*) R: Researcher; ER: Emerging Researcher; TR: Trainee Researcher

List of Publications

Benitez-Sillero JD, Perez-Navero JL, Tasset I, Guillen-Del Castillo M, Gil-Campos M, Túnez I. Cardiorespiratory fitness and oxidative stress: effect of acute maximal aerobic exercise in children and adolescents. *Sports Med Phys Fitness*. 2011, 51(2): 204 - 210.

Fernández S, Molina JJ, Romero P, González R, Peña J, Sánchez F, Reynoso FR, Pérez-Navero JL, Estevez O, Ortega C, Santamaría M. Characterization of gliadin-specific Th17 cells from the mucosa of celiac disease patients. *American Journal of Gastroenterology*. 2011, 106: 528 - 538. IF:6,882

Navero JLP, Aguirre JR, Sanchez AC, Garcia NS, Munoz-Villanueva MC, de la Rosa II. Clinical characteristics of patients with infection due to influenza A (H1N1) 2009 and critical pathology. *Anales de Pediatría*. 2011, 74(2): 97 - 102. IF:0,57

Gil-Campos M, Tortosa MCR, Aguilera CM, Canete R, Gil, A. Fasting and postprandial adiponectin alterations anticipate NEFA and TNF-alpha changes in prepubertal obese children. *Nutrition Metabolism and Cardiovascular Diseases*. 2011, 21(1): 62 - 68. IF:3,438

Gil, A, Olza J, Gil-Campos M, Gomez-Llorente C, Aguilera CM. Is adipose tissue metabolically different at different sites?. *International Journal of Pediatric Obesity*. 2011, 6(1): 13 - 20. IF:2,654

Lopez-Laso E, Sanchez-Raya A, Moriana JA, Martinez-Gual E, Camino-Leon R, Mateos-Gonzalez ME, Perez-Navero JL, Ochoa-Sepulveda JJ, Ormazabal A, Opladen T, Klein C, Lao-Villadoniga JJ, Beyer K, Artuch R. Neuropsychiatric symptoms and intelligence quotient in autosomal dominant Segawa disease. *Journal of Neurology*. 2011, 258(12): 2155 - 2162. IF:3,853

Olza, J; Gil-Campos, M; Leis, R; Bueno, G; Aguilera, CM; Valle, M; Canete, R; Tojo, R; Moreno, LA; Gil, A. Presence of the Metabolic Syndrome in Obese Children at Prepubertal Age. *Annals of Nutrition and Metabolism*. 2011, 58(4): 343 - 350. IF:2,173

Berciano J, Baets J, Gallardo E, Zimon M, Garcia A, Lopez-Laso E, Combarros O, Infante J, Timmerman V, Jordanova A, De Jonghe P. Reduced penetrance in hereditary motor neuropathy caused by TRPV4 Arg269Cys mutation. *Journal of Neurology*. 2011, 258(8): 1413 - 1421. IF:3,853

Mateos ME, Lopez-Laso E, Izquierdo L, Perez-Navero JL, Garcia S, Garzas C. Response to nimo-tuzumab in a child with a progressive diffuse intrinsic pontine glioma. *Pediatric International*. 2011, 53(2): 261 - 263. IF:0,755

Figueras C, de Heredia CD, Garcia JJ, Navarro M, Ruiz-Contreras J, Rossich R, Rumbao J, Frick MA, Rosello EM. The spanish society of paediatric infectious diseases (SEIP) recommendations on the diagnosis and management of invasive

candidiasis. *Anales de Pediatría*. 2011, 74(5): 337 - 337. IF:0,57

Prada DR, Delgado G, Patino CAH, Perez-Navero J, Campos MG. Using of WHO guidelines for the management of severe malnutrition to cases of marasmus and kwashiorkor in a Colombia children's hospital. *Nutricion Hospitalaria*. 2011, 26(5): 977 - 983. IF:0,926

Garcia NS, Aguirre JMR, Santamaria EU, Lara JAA. Immune complex arthritis in meningococcal infection. *Anales de Pediatría*. 2011, 74(5): 344 - 345. IF:0,57

Clinical Trials

0003: Incidence of invasive fungal disease and risk scale for candidiasis in children in intensive care units. *Ericap Study*. PI: Maria José Arroyo Marin

0010/10: Study assessing the efficacy and safety of levosimendan in severe acute heart failure in seriously diseased children. PI: María Ester Ulloa Santamaria

Research Projects

Project Name: Comprehensive proteomic study of liver cancer in children: Identification of diagnostic and prognostic factors, key signaling pathways and new therapeutic targets (Elena Mateos).

Funding Body: Carlos III Health Institute, Madrid.

File Number: PI10/02082

Project Name: Scientific research aimed at developing a new generation of food for weight control and obesity prevention (CENIT-PRONAOs) (Angel Gil Hernández).

Funding Body: University of Granada Puleva Biotech

File Number: CENIT-PRONAOs

Project Name: Tolerance of a starting infant formula supplemented with *L. fermentum* (Maria Mercedes Gil Campos).

Funding Body: Puleva Biotech

File Number: CECT5716

Project Name: BIORICA: Cardiovascular risk biomarkers and oxidative stress in children born with extrauterine growth retardation (EUGR) (Maria Mercedes Gil Campos).

Funding Body: Nutribén

Project Name: Functional evaluation of two infant formulas supplemented with probiotic isolated from breast milk (Maria Mercedes Gil Campos).

Funding Body: Puleva Biotech

Project Name: Usefulness of new heart function biomarkers: MR-midregional proadrenomedullin, pro-endothelin, copeptin, and NT-1 in heart failure after bypass surgery in children with congenital heart disease (Maria Mercedes Gil Campos).

Group B-08



Epidemiological Research in Primary Care

Luis Angel Pérula de Torres. langel.perula.sspa@juntadeandalucia.es

Scientific Activity

Actividades Preventive activities, promotion and protection of health in Primary Health Care (PHC). Validation of measuring instruments in PHC. Patient Safety (rational drug use). Communication in health care, clinical interviews. Medical education.

Keywords

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

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Pérula	De Torres	Luis Ángel	HR	Researcher
Ruiz	Moral	Roger	PI	Researcher
Acosta	García	María José	R	Researcher
Aguado	Taberné	Cristina	R	Researcher
Fernández	García	José Ángel	R	Researcher
González	Lama	Jesús	R	Researcher
Parras	Rejano	Juan Manuel	R	Researcher
Valero	Martín	Antonio	R	Researcher
Martín	Rioboó	Enrique	TR	Researcher
Ortega	Millán	Carlos	TR	Researcher
Criado	Larumbe	Margarita	Administrative O.	Administrative O.

(*) HR: Head Researcher; PI: Principal Investigator; R: Researcher; TR: Trainee Researcher

List of Publications

Pérula LA, Bosch JM, Bóveda J, Campiñez M, Barragán N, Arboniés JC, Prados JA, Martín E, Martín R, Massons J, Criado M, Ruiz R, Fernández JA, Bu-itrigo F, Olaya I, Pérez M, Ruiz J.. Effectiveness of Motivational Interviewing in improving lipid level in patients with dyslipidemia assisted by general practitioners: Dislip-EM study protocol. BMC Family Practice. 2011, 5: 12 - 125. IF:1,467

Villegas Becerril E, Pérula de Torres L, Bergillos Arillo M, Villegas del Cuvillo C.. Evaluación de vasoconstrictores tópicos en la cirugía del pterigión y su papel en la disminución del sangrado intraoperatorio.. Archivos de la Sociedad Española de Oftalmología.. 2011, 86: 54 - 57.

Martín-Zurro A, Jiménez J, Monreal A, Mundet X, Otero A (Aguado C, del Grupo de Investigación UNIMEDFAM). Medicina de Familia y universidad en España: reflexiones iniciales a partir de un proyecto de investigación estatal. Atención Primaria. 2011, 43: 203 - 208. IF:0,619

Ruiz R, Alba A, Dios C, Jiménez C, González V, Pérula de Torres LA, Barrios L.. Participación de los pacientes en la toma de decisiones en las consultas de enfermería de los Centros de Salud. Enfermería Clínica. 2011, 21: 136 - 142.

Ruiz R, Alba A, Jiménez-García C, Gonzalez V, Garcia M, Pérula LA, Barrios L.. Percepción de los pacientes sobre la atención recibida por el personal no sanitario en los centros de salud.. Revista de Calidad Asistencial. 2011, 26(2): 97 - 103.

Ruiz-Moral R, Pérula de Torres LA, Muñoz Álamo M, Jiménez García C, Gonzalez Nebauer V.. Satisfacción de los pacientes con la comunicación en las consultas de medicina de familia: una comparación de métodos para investigar necesidades no satisfechas.. Revista Española de Salud Pública. 2011, 85: 317 - 324.

Group Bas-02



Endocrinology and Nutrition

Pedro Benito López. pedro.benito.sspa@juntadeandalucia.es

Scientific Activity

The Group coordinated by Justo Castaño Fuentes investigates the presence of different in the development of pituitary tumors. Basing on our translational research paradigm, with apply our research findings to our patients using these hormonal receptors and intracellular regulators inhibitors / stimulators to inhibit hormonal production and reduce their size in case the tumor was not completely extirpated.

The group coordinated by Dr Paniagua Gonzalez collaborates in the study of the effects of different nutrients on insulin resistance and fat distribution in patients with metabolic syndrome.

The group coordinated by Dr Quesada Gomez collaborates in the study of osteoporosis and especially of Vitamin D and bone stem cells.

The group coordinated by Dr Dr Soriguer is carrying out an epidemiologic studies on mellitus diabetes type 2 with a health habits modification program addressed to a population in the province of Cordoba, Spain.

The group coordinated by Dr Caballero studies bone metabolism in pregnant women with diabetes.

Keywords

Pituitary adenoma, somatostatin receptors, Vitamin D, Metabolic Syndrome, Prevalence of Mellitus Diabetes type 2, Mellitus Diabetes and pregnancy

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Benito	López	Pedro	AR	Researcher
Calañas	Continente	Alfonso	R	Researcher
Corpas	Jiménez	M ^a Sierra	R	Researcher
Gálvez	Moreno	M ^a Ángeles	R	Researcher
Gutiérrez	Alcántara	Carmen	R	Researcher
Molina	Puertas	M ^a José	R	Researcher
Palomares	Ortega	Rafael	R	Researcher

(*) AR: Associate Researcher; R: Researcher

List of Publications

Moreno-Fernandez J., Gutierrez-Alcantara C., Palomares-Ortega R., Garcia-Manzanares T., Benito-Lopez P. Assessment of a residency training program in endocrinology and nutrition by physicians: Results of a survey. *Endocrinología y nutrición*. 2011, 58(10): 510-515.

Gutierrez-Alcantara C., Moreno-Fernandez J., Palomares-Ortega R., Garcia-Manzanares T., Benito-Lopez P. Assessment of a residency training program in endocrinology and nutrition: Results of a resident survey. *Endocrinología y nutrición*. 2011, 58(10): 516-520.

Martinez-Fuentes A, Molina M, Vazquez-Martinez RM, Gahete MD, Jimenez-Reina L, Moreno J, Benito-Lopez P, Quintero A, de la Riva A, Diéguez C, Soto A, Leal-Cerro A, Resmini E, Webb S, Zattelli MC, DegliUberti EC, Malagón MM, Luque R, Castaño JP. Expression of functional KiSS-1 and KiSS-1R system is altered in human pituitary adenomas: evidence for apoptotic action of kisspeptin-10. *European Journal Of Endocrinology*. 2001, 164: 355-362.
IF: 3,482

Clinical Trials

0033/10: Open multicenter, single-treatment arm with Pasireotide LAR in patients with rare neuroendocrine tumors.
PI: Pedro Benito López

Group Bas-03



Study of Growth. Endocrinology and Child Nutrition

Ramón Cañete Estrada. em1caesr@uco.es

Scientific Activity

Among other lines of research, this group studies obesity in prepubertal children, focusing on children with metabolic syndrome, inflammatory factors, vascular risk biomarkers and adipose tissue gene expression, diet effects on these factors, study of steatohepatitis, and physical activity.

Another line of research is centered on aspects related to nutrition in children with extrauterine growth retardation, especially in those that might later develop metabolic syndrome.

This group also carries out comparative cord blood proteomic analyses of healthy term neonates and neonates with IUGR to identify potential differences that might be 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 is developing another line of research centered on food allergies.

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

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Cañete	Estrada	Ramón	AR	Researcher
Cañete	Vázquez	M ^a Dolores	R	Researcher
Díaz	Morales	Olga	R	Researcher
García	Martínez	Elena	R	Researcher
Guzmán	Cabañas	Juana M ^a	R	Researcher
Jiménez	Reina	Luis	R	Researcher
Martos	Estepa	Rosario	R	Researcher
Mata	Rodríguez	Cristina	R	Researcher
Melgar	Jiménez	María	R	Researcher
Parraga	Quiles	M ^a José	R	Researcher
Rodríguez	Salas	Mónica	R	Researcher
Ruiz	González	M ^a Dolores	R	Researcher
Tofe	Valera	Inés	R	Researcher
Torres	Borrejo	Javier	R	Researcher
Valle	Jiménez	Miguel	R	Researcher
Vázquez	Rueda	Fernando	R	Researcher

(*) AR: Associate Researcher; R: Researcher

List of Publications

Olza, J; Gil-Campos, M; Leis, R; Bueno, G; Aguilera, CM; Valle, M; Canete, R; Tojo, R; Moreno, LA; Gil, A. Presence of the Metabolic Syndrome in Obese Children at Prepubertal Age. *Annals of Nutrition and Metabolism*. 2011, 58(4): 343-350.

IF: 2,173

Gil-Campos M, Tortosa MCR, Aguilera CM, Canete R, Gil, A. Fasting and postprandial adiponectin alterations anticipate NEFA and TNF-alpha changes in prepubertal obese children. *Nutrition Metabolism and Cardiovascular Diseases*. 2011, 21(1): 62-68.

IF: 3,438

Research Projects

Project Name: Clinical trial on the effect of metformin in child obesity: Effects on body mass, inflammatory and cardiovascular risk biomarker profiles and impact on metabolic syndrome (Ramón Cañete Estrada)

Funding Body: Spanish Ministry of Health and Social Policy

File Number: EC10-243

Group Bas-05



Clinical Analysis

Cristóbal Aguilera Gámiz. Cristobal.aguilera.sspa@juntadeandalucia.es

Fernando Rodríguez Cantalejo

Javier Caballero Villarraso

Scientific Activity

Our group is currently developing two lines of research related to the assessment of the diagnostic accuracy of new technologies. On the one hand, we are assessing the diagnostic efficacy of the methodologies used for prenatal diagnosis of aneuploidy such as chorionic villus sampling in screening for aneuploidy in the first trimester and the karyotype study in the first and second trimester of pregnancy. On the other hand, we are assessing new point-of-care testing (POCT) methodologies as gas, blood metabolite and ion determination; diagnosis and evolution of celiac disease, and use of POCT methods in coagulometry for to the follow-up of anticoagulated patients.

Keywords

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

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Aguilera	Gámiz	Cristóbal	AR	Researcher
Caballero	Villarraso	Javier	AR	Researcher
Rodríguez	Cantalejo	Fernando	AR	Researcher
Bellido	Muñoz	Enrique	R	Researcher
Gavilán	León	Francisco	R	Researcher
Martínez	Peinado	Antonio	R	Researcher

(*) AR: Associate Researcher; R: Researcher

List of Publications

Caballero-Villarraso, J; Villegas-Portero, R; Rodríguez-Cantalejo, F. Portable coagulometer devices in the monitoring and control of oral anticoagulation therapy: a systematic review. *Atención Primaria*. 2011, 43(3): 148- 156.
IF: 0,619

Yubero-Serrano EM, Garcia-Rios A, Delgado-Lista J, Delgado-Casado N, Perez-Martinez P, Rodríguez-Cantalejo F, Fuentes F, Cruz-Teno C, Tunez I, Tasset-Cuevas I, Tinahones FJ, Perez-Jimenez F, Lopez-Miranda J. Postprandial effects of the mediterranean diet on oxidant and anti-oxidant status in elderly men and women. *Journal of American Geriatrics Society*. 2011, 59(5): 938-940.
IF: 3,913

Delgado-Lista J, Garcia-Rios A, Perez-Martinez P, Solivera J, Yubero-Serrano EM, Fuentes F, Parnell LD, Shen J, Gomez P, Jimenez-Gomez Y, Gomez-Luna MJ, Marin C, Belisle SE, Rodríguez-Cantalejo F, Meydani SN, Ordovas JM, Perez-Jimenez F, Lopez-Miranda J. Interleukin 1B variant-1473G/C (rs1143623) influences triglyceride and interleukin 6 metabolism. *Journal of Clinical Endocrinology & Metabolism*. 2011, 96(5): E816-E820.
IF: 6,495

Area C



Regenerative Cell Therapy: Organ Transplants

Coordinator: Inmaculada Concepción Herrera Arroyo

C-01

Cell Therapy

C-02

Invasive Cardiology and Cell Therapy

C-03

Cell Biology in Haematology

C-04

Physiopathology of Endocrine Vitamin D System
Biotechnology and Aging

C-05

Translational Research in Surgery of Solid Organ Transplantation

Cas-04

Urology and Sexual Medicine

Group C-01



Cell Therapy

Inmaculada Herrera Arroyo. inmaculada.herrera.sspa@juntadeandalucia.es

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 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.

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Herrera	Arroyo	Inma. Concepción	HR	Coordinator of Area C
Nogueras	Martín	Sonia	PDR	Researcher
Carmona	Luque	María Dolores	R	Researcher
Jiménez	Moreno	Rosario	PDR	Researcher
Carrillo	Díaz-Pinés	María Paz	AT	Auxiliary Technician
Castilla	Rodríguez	María Luisa	AT	Auxiliary Technician
Gutiérrez	Fernández	Rosario	AT	Auxiliary Technician
Luque	Zafra	María	AT	Auxiliary Technician
Muñoz	Liñán	Teresa	AT	Auxiliary Technician

(*) HR: Head Researcher; PI: Principal Investigator; R: Researcher; PDR: Post-doctoral Researcher

List of Publications

Serrano-Lopez J, Sanchez-Garcia J, Serrano J, Alvarez-Rivas MA, Garcia-Castellano JM, Roman-Gomez J, de la Rosa O, Herrera-Arroyo C, Torres-Gomez A. Nonleukemic myeloid dendritic cells obtained from autologous stem cell products elicit antileukemia responses in patients with acute myeloid leukemia. Transfusion. 2011, 51(7): 1546 - 1555.
IF:3,3

Clinical Trials

0291/10: Phase I/II, multicenter, semi cross-section randomized, double-blind trial assessing the safety and feasibility systemic therapy based on mesenchymal cells derived from autologous bone marrow in patients with multiple sclerosis.

PI: Inmaculada Concepción Herrera Arroyo

0140/08: The efficacy and safety of esli-carbazepina acetate as therapy in patients with fibromialgia: A multicenter, double-blind, double-masked, randomized, placebo-controlled parallel-group trial.

PI: Inmaculada Concepción Herrera Arroyo

Research Projects

Project Name: Comparative study of the myocardial regenerative capacity of bone marrow mononuclear cells versus bone marrow/adipose tissue mesenchymal cells in an in vivo model of dilated cardiomyopathy (Sonia Nogueras Martín).

Funding Body: Andalusian Health Department
File Number: 0191/2010

Group C-02



Invasive Cardiology and Cell Therapy

José Suárez de Lezo Cruz-Conde. jose.suarezlezo.sspa@juntadeandalucia.es

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 y dilated cardiomyopathy.

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Suárez de Lezo	Cruz-Conde	José M ^a	HR	Researcher
Pan	Álvarez-Ossorio	Manuel	PI	Researcher
Mazuelos	Bellido	Francisco	R	Researcher
Ojeda	Pineda	Soledad	R	Researcher
Pavlovic	Djurovic	Djordje	R	Researcher
Romero	Moreno	Miguel Ángel	R	Researcher
Segura	Saint-Gerons	José M ^a	R	Researcher
Suárez de Lezo	Herreros de Tejada	Javier	R	Researcher

(*) HR: Head Researcher; PI: Principal Investigator; R: Researcher

List of Publications

Castillo JC, Anguita MP, Ruiz M, Pena L, Santisteban M, Puentes M, Arizon JM, Suárez de Lezo J. Changing epidemiology of native valve infective endocarditis. *Revista Española de Cardiología*. 2011, 64(7): 594 - 598. IF:2,157

Pan M, Medina A, Suárez de Lezo J, Romero M, Segura J, Martín P, Suárez de Lezo J, Hernández E, Mazuelos F, Moreno A, Pavlovic DJ, Ojeda S, Toledano F, León C. Coronary bifurcation lesions treated with simple approach (from the Cordoba & Las Palmas [CORPAL] Kiss Trial). *American Journal of Cardiology*. 2011, 107(10): 1460 - 1465. IF:3,681

León, C; de Lezo, JS; Mesa, D; Pan, M; Ruiz, M; Delgado, M; Segura, J; Romero, M. Early Development of Leaks in the CoreValve Percutaneous Aortic Valve Prosthesis: Echocardiographic Assessment. *Revista Española de Cardiología*. 2011, 64(1): 67 - 70. IF:2,157

León C, Suárez de Lezo J, Mesa D, Pan M, Ruiz M, Delgado M, Segura J, Romero M.. Evolución precoz de fugas en prótesis aórtica percutánea Corevalve: valoración ecocardiográfica.. *Revista Española de Cardiología*. 2011, 64: 67 - 70. Bonilla JL, Gamez A, Anguita M, Castillo JC, García D, Crespin M, Lopez-Granados A, Suárez de Lezo J. Impact of malnutrition on long-term mortality in hospitalized patients with heart failure. *Revista Española de Cardiología*. 2011, 64(9): 752 - 758. IF:2,157

Suárez de Lezo J, Romero M, Segura J, Pan M, Suárez de Lezo J jr., Pavlovic DJ, Mazuelos F, Delgado M, Mesa D. Long-term outcome of patients with isolated thin discrete subaortic stenosis treated by balloon dilation: a 25-year study.. *Circularion*. 2011, 124(13): 1461 - 1468. IF:14,432

Mesa D, Suárez de Lezo J, Pan M, Ruiz M, Delgado M, León MC, Toledano F, Segura J, Ojeda S, García D, Crespin M, Espejo S, Ysamat R. Measurement of aortic valve annulus using different cardiac imaging techniques in transcatheter aortic valve implantation: agreement with finally implanted prosthesis size. *Echocardiography-A Journal of Cardiovascular Ultrasound and Allied Techniques*. 2011, 28(4): 388 - 396. IF:1,415

Ortiz MR, Romo E, Mesa D, Delgado M, Ibanez CL, Anguita M, Castillo JC, Arizon JM, de Lezo JS. Outcomes and safety of antithrombotic treatment in patients aged 80 years or older with nonvalvular atrial fibrillation. *American Journal of Cardiology*. 2011, 107(10): 1489 - 1493. IF:3,681

Pan M, Romero M, Ojeda S, Segura J, Mazuelos F, Suárez de Lezo J jr., Medina A, Suárez de Lezo J.. Técnica de aplastamiento invertido para la oclusión infranqueable de la rama lateral en la angioplastia coronaria de bifurcaciones: un nuevo papel de la guía enjaulada. *Revista Española de Cardiología*. 2011, 64: 718 - 722. IF:2,157

Medina A, Martín P, Suárez de Lezo J, Novoa J, Melian F, Hernández E, Suárez de Lezo J, Pan M, Burgos L, Amador C, Morera O, García A. Ultrasound study of the prevalence of plaque at the carina in lesions that affect the coronary bifurcation: Implications for treatment with provisional stent. *Revista Española de Cardiología*. 2011, 64(1): 43 - 50. IF:2,157

Romo Penas E., Ruiz Ortiz M., Mesa Rubio M.D., Delgado Ortega M., Castillo Domínguez J.C., Lopez Granados A., Arizon del Prado J.M., Suarez de Lezo J.. Usefulness of emerging echocardiographic techniques (speckle tracking and tridimensional echocardiography) in the management of patients with indication of cardiac

resynchronization therapy [Utilidad de las técnicas ecocardiográficas emergentes (speckle tr. Cardiacore. 2011: 0 - 0.

Clinical Trials

1707: Evaluation of the feasibility, validity and reliability of a three-day voiding diary in women attending functional urology and urodynamics units. DM.3D

PI: Manuel Leva Vallejo

0173/09: Open, randomized, non-inferiority study of Micafungin versus standard treatment for the prevention of invasive fungal disease in high-risk liver recipients.

PI: Juan Carlos Pozo Laderas

Research Projects

Project Name: Influence of side branch predilatation on the success of the treatment of bifurcation lesions with pharmaco active stents: A prospective, randomized study. (Manuel Pan Álvarez-Ossorio).

Funding Body: Andalusian Health Department
File Number: 0209/2009

Project Name: Effect of intracoronary infusion of bone marrow-derived mononuclear cells on the functional recovery of patients with chronic myocardial infarction and severe left ventricular dysfunction. (Miguel Ángel Romero Moreno).

Funding Body: Spanish Ministry of Health and Political Social
File Number: CMMo/CIC/2009

Group C-03



Cell Biology in Haematology

Antonio Torres Gómez. md1togo@uco.es

Joaquín Sánchez García

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.

Keywords

Immunology of hematopoietic transplantation. Cell biology of acute leukemias.

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Torres	Gómez	Antonio	HR	Researcher
Sánchez	García	Joaquín	ER	Researcher
Serrano	López	Josefina	R	Researcher
Serrano	López	Juana	R	Researcher

(*) HR: Head Researcher; R: Researcher; ER: Emerging Researcher

List of Publications

Rodríguez-Otero, P; Roman-Gomez, J; Vilas-Zornoza, A; Jose-Eneriz, ES; Martin-Palanco, V; Rifon, J; Torres, A; Calasanz, MJ; Agirre, X; Prosper, F. Deregulation of FGFR1 and CDK6 oncogenic pathways in acute lymphoblastic leukaemia harbouring epigenetic modifications of the MIR9 family. *British Journal of Haematology*. 2011, 155(1): 73 - 83.
IF:4,942

Vilas-Zornoza, A; Agirre, X; Martin-Palanco, V; Martin-Subero, JI; San Jose-Eneriz, E; Garate, L; Alvarez, S; Miranda, E; Rodriguez-Otero, P; Rifon, J; Torres, A; Calasanz, MJ; Cigudosa, JC; Roman-Gomez, J; Prosper, F. Frequent and Simultaneous Epigenetic Inactivation of TP53 Pathway Genes in Acute Lymphoblastic Leukemia. *Plos One*. 2011, 28;6(2): e17012 - .
IF:4,411

Martin-Palanco, V; Martinez, F; Arquerros, V; Torres, A; Roman-Gomez, J. Long-term durability of molecular and chimerism responses in patients treated with imatinib for chronic myeloid leukemia relapse after allogeneic transplantation. *European Journal of Haematology*. 2011, 87(29): 182 - 185.
IF:2,785

Martin-Palanco, V; Rodriguez, G; Martin, C; Rojas, R; Torres, A; Roman-Gomez, J. microRNA Methylation Profile Has Prognosis Impact in Acute Lymphoblastic Leukemia Patients Undergoing Stem Cell Transplantation. *Biology of Blood and Marrow Transplantation*. 2011, 17(5): 745 - 748.
IF:3,275

Serrano-Lopez J, Sanchez-Garcia J, Serrano J, Alvarez-Rivas MA, Garcia-Castellano JM, Roman-Gomez J, de la Rosa O, Herrera-Arroyo C, Torres-Gomez A. Nonleukemic myeloid dendritic cells obtained from autologous stem cell products elicit antileukemia responses in patients with acute myeloid leukemia. *Transfusion*. 2011, 51(7): 1546 - 1555.
IF:3,3

Ruiz-Camps I, Len O, de la Cámara R, Gurguí M, Martino R, Jarque I, Barrenetxea C, Díaz de Heredia C, Batlle M, Rovira M, de la Torre-Cisneros J, Torres A, Aguilar M, Espigado I, Martín-Dávila P, Bou G, Borrell N, Aguado JM, Pahissa A. Valganciclovir as pre-emptive therapy for cytomegalovirus infection in allogeneic haematopoietic stem cell transplant recipients. *Antiviral Therapy*. 2011, 16: 951 - 957.
IF:3,774

Clinical Trials

0112/10: Phase II, multicenter, randomized, open study of Vidaza (Azacitidine) versus supportive treatment in low-risk patients with myelodysplastic syndrome (low and intermediate IPSS1) without 5q deletion and anemia with transfusion requirements.
PI: Joaquín Sánchez García

0052/09: Multicenter, no randomized, open study assessing the efficacy and safety of azacitidine combined with erythropoietin beta in patients with myelodysplastic syndrome low-risk RBC transfusion-dependent.
PI: Antonio Torres Gómez

0167/09: Multicenter, randomized, double-blind, phase III study of Revlimid (lenalidomida) versus placebo in patients with low-risk myelodysplastic syndrome (low-medium IPSS-1) with altered 5q- and anemia and transfusion requirement.
PI: Antonio Torres Gómez

0290/09: Phase III, multicenter, randomized, double-blind study, double-blind, placebo-controlled study of panobinostat in combination with bortezomib and dexamethasone in patients with relapsed multiple myeloma.
PI: Antonio Torres Gómez

0211/08: Phase I/II study assessing the safety and activity Lenalidomide in combination with Rituximab (LenRtx) in patients with refractory or relapsed chronic lymphocytic leukemia (CLL).
PI: Antonio Torres Gómez

0190/07: Autologous hematopoietic stem cell transplant, with conditioning regimen including Zevalin + BEAM in patients with refractory diffuse large B cell lymphoma.
PI: Antonio Torres Gómez

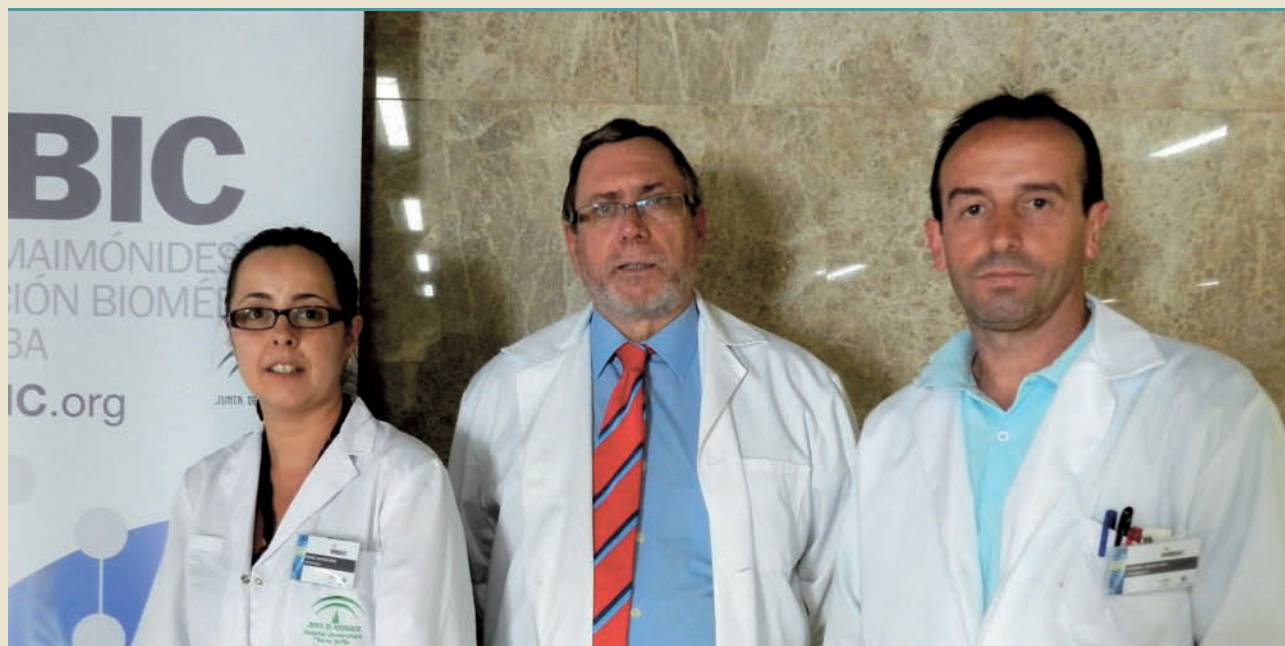
0089/08: Phase III, randomized, three-arm, open trial assessing the efficacy and safety of combining in naïve >65 year patients with multiple myeloma who are not eligible for hematopoietic stem cell transplantation.
PI: Antonio Torres Gómez

0299/10: Maintenance treatment with 5-azacitidine in patients with acute myeloblastic leukemia non-eligible for intensive treatment and with partial or complete response after induction chemotherapy.
PI: Antonio Torres Gómez

Research Projects

Project Name: The role of Th17 cells in the pathogenesis of graft-versus-host disease after allogeneic peripheral blood stem cell transplantation. (Joaquín Sánchez García).
Funding Body: Spanish Ministry of Science and Innovation
File Number: BFU2009-11826

Group C-04



Physiopathology of Endocrine Vitamin D System Biotechnology and Aging

José Manuel Quesada Gómez. md1qugoj@uco.es

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 sociated 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.

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Quesada	Gómez	José Manuel	HR	Researcher
Casado	Díaz	Antonio	R	Researcher
Cuenca	Acevedo	Rafael	R	Researcher
Mata	Granados	José María	R	Researcher
Santiago	Mora	Raquel	R	Researcher
Serrano	Alfárez	Ignacio	R	Researcher

(*) HR: Head Researcher; R: Researcher

List of Publications

Calderón-Santiago M, Mata-Granados JM, Priego-Capote F, Quesada Gómez JM, Luque de Castro MD. Analytical platform for verification and quantitation of target peptides in human serum: application to cathelicidin. *Analytical and Bioanalytical Chemistry*. 2011, 415: 39 - 45. IF:3,841

Ferreiro-Vera C, Mata-Granados JM, Priego-Capote F, de Castro MDL. Automated method for targeting analysis of prostanoids in human serum by on-line solid-phase extraction and liquid chromatography-mass spectrometry in selected reaction monitoring. *Journal of Chromatography A*. 2011, 1218(20): 2848 - 2855. IF:4,194

Ferreiro-Vera C, Mata-Granados JM, Priego-Capote F, Quesada-Gomez JM, de Castro MDL. Automated targeting analysis of eicosanoid inflammation biomarkers in human serum and in the exometabolome of stem cells by SPE-LC-MS/MS. *Analytical and Bioanalytical Chemistry*. 2011, 399(3): 1093 - 1103. IF:3,841

Gomez JMQ, Rubio JB, Curiel MD, Perez AD. Calcium citrate and vitamin D in the treatment of osteoporosis. *Clinical Drug Investigation*. 2011, 31(5): 285 - 298. IF:1,622

Gonzalez-Padilla E., Soria Lopez A., Gonzalez-Rodriguez E., Garcia-Santana S., Mirallave-Pescador A., Groba Marco M.D.V., Saavedra P., Quesada Gomez J.M., Sosa Henriquez M.. High prevalence of hypovitaminosis D in medical students in Gran Canaria, Canary Islands (Spain). [Elevada prevalencia de hipovitaminosis D en los estudiantes de medicina de Gran Canaria, Islas Canarias (España)]. *Endocrinología y nutrición*. 2011, 58(6): 267 - 273.

Meza-Herrera CA, Hernández-Valenzuela LC, González-Bulnes A, Tena-Sempere M, Abad-

Zavaleta J, Salinas-Gonzalez H, Mellado M, Veliz-Deras F. Long-Term Betacarotene-Supplementation Enhances Serum Insulin Concentrations Without Effect On The Onset Of Puberty In The Female Goat. *Reproductive Biology*. 2011, 11: 236 - 249. IF:1,5

Santiago-Mora R, Casado-Díaz A, De Castro MD, Quesada-Gomez JM. Oleuropein enhances osteoblastogenesis and inhibits adipogenesis: the effect on differentiation in stem cells derived from bone marrow. *Osteoporosis International*. 2011, 22(2): 675 - 684. IF:4,859

Ferreiro-Vera C, Mata-Granados JM, Gomez JMQ, de Castro MDL. On-line coupling of automatic solid-phase extraction and HPLC for determination of carotenoids in serum. *Talanta*. 2011, 85(4): 1842 - 1847. IF:3,722

Ferreiro-Vera C, Ribeiro JPN, Mata-Granados JM, Priego-Capote F, de Castro MDL. Standard operation protocol for analysis of lipid hydroperoxides in human serum using a fully automated method based on solid-phase extraction and liquid chromatography-mass spectrometry in selected reaction monitoring. *Journal of Chromatography A*. 2011, 1218(38): 6720 - 6726. IF:4,194

Quesada-Gomez JM, Muschitz C, Gomez-Reino J, Greisen H, Andersen HS, Dimai HP. The effect of PTH(1-84) or strontium ranelate on bone formation markers in postmenopausal women with primary osteoporosis: results of a randomized, open-label clinical trial. *Osteoporosis International*. 2011, 22(9): 2529 - 2537. IF:4,859

Clinical Trials

0009/09/EPA: PRIMARA: Prospective, descriptive, observational study reviewing the use of Mimpara® (Cinacalcet) in clinical practice in patients with primary hyperparathyroidism. PI: Jose Manuel Quesada Gómez

0192/07: Extension, open, one-arm study assessing the long-term safety and efficacy of Denosumab (AMG 162) in the treatment of postmenopausal osteoporosis. PI: Jose Manuel Quesada Gómez

Research Projects

Project Name: Effects of β -cryptoxanthin on adipogenesis, angiogenesis and osteoblastogenesis. Application in the treatment of osteoporosis, obesity and in the prevention of glitazone adverse effects in the treatment of Mellitus Diabetes (Jose Manuel Quesada Gómez). Funding Body: Andalusian Health Department File Number: 0200/2009

Project Name: Effect of lipid peroxidation and the presence of antioxidants on adipogenic and osteoblastic differentiation of mesenchymal stem cells. Role in osteoporosis (Jose Manuel Quesada Gómez). Funding Body: Carlos III Health Institute File Number: 08/1692

Group C-05



Translational Research in Surgery of Solid Organ Transplantation

Francisco Javier Briceño Delgado. javibriceno@hotmail.com

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 improvements in surgical techniques and technological innovations in the transplant of solid organs.

Keywords

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

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Briceño	Delgado	Francisco Javier	HR	Researcher
Montero	Álvarez	José Luis	PI	Researcher
Rufián	Peña	Sebastián	PI	Researcher
Campos	Hernández	Juan Pablo	R	Researcher
Ciria	Brú	Rubén	R	Researcher
Jiménez	Gómez	Jesús	R	Researcher
López	Cillero	Pedro	R	Researcher
Pleguezuelo	Navarro	María	R	Researcher
Pozo	Laderas	Juan Carlos	R	Researcher
Robles	Ariza	Juan Carlos	R	Researcher
Leva	Vallejo	Manuel	TR	Researcher
Regueiro	López	Juan Carlos	TR	Researcher

(*) HR: Head Researcher; PI: Principal Investigator; R: Researcher; TR: Trainee Researcher

List of Publications

Laderas, JCP. Antifungal prophylaxis in HIV-seropositive liver transplant recipients. *Revista Iberoamericana de Micología*. 2011, 28(4): 183 - 190.
IF:1,074

Ciria R, Davila D, Heaton N. Auxiliary liver transplantation in children. *Curr Opin Organ Transplant*. 2011, 16(5): 489 - 493.
IF:2,818

Xirouchakis E, Marelli L, Cholongitas E, Manousou P, Calvaruso V, Pleguezuelo M, Guerrini GP, Maimone S, Kerry A, Hajjawi M, Nair D, Thomas M, Patch D, Burroughs AK. Comparison of cystatin C and creatinine-based glomerular filtration rate formulas with 51Cr-EDTA clearance in patients with cirrhosis. *Clinical Journal of the American Society of Nephrology*. 2011, 6(1): 84 - 92.
IF:4,763

Gonzalez R, Cruz A, Ferrin G, Lopez-Cillero P, Briceno J, Gomez MA, Rufian S, Padillo J, De la Mata M, Marin JG, Muntane J. Cytoprotective properties of rifampicin are related to the regulation of detoxification system and bile acid transporter expression during hepatocellular injury induced by hydrophobic bile acids. *Journal of Hepato-Biliary-Pancreatic Sciences*. 2011, 18(5): 740 - 750.
IF:1,968

Herencia C, Rodriguez-Ariza A, Canalejo A, Naranjo A, Briceno FJ, Lopez-Cillero P, De la Mata M, Munoz-Castaneda JR. Differential bone marrow

hematopoietic stem cells mobilization in hepatectomized patients. *Journal of Gastrointestinal Surgery*. 2011, 15(8): 1459 - 1467.
IF:2,733

Salinas CL, Beltran ODG, Sanchez-Hidalgo JM, Bru RC, Padillo FJ, Rufian S. Emergency adrenalectomy due to acute heart failure secondary to complicated pheochromocytoma: a case report. *World Journal of Surgical Oncology*. 2011, 9: Art n° 49 - .
IF:1,116

Briceno J, Ciria R, de la Mata M, Montero JL, Rufian S, Lopez-Cillero P. Extended criteria donors in liver transplant candidates with hepatorenal syndrome. *Clinical Transplantation*. 2011, 25(3): E257 - E263.
IF:1,751

Haym MB, Torra RC, Acevedo JMP, Canizares RB, Morencos FC, Fuste LC, Martinez VCM, Blanco MD, Vazquez IF, Pajares FG, Rodriguez AG, Perez SL, Perez EM, Anadon MN, Lopez MFN, Minano JAP, Lopez JMR, Garcia MR, Tarrero MT, Quingles XX, Salgado JGV, Vega PJ, Sanchez FP, Aguirre IB, Llanillo LH, Andujar RL, Santamaria ML, Municio AM, Vazquez-Garza JN, De la Rosa G, Delgado JB, Aulio TS, Martinez JMA, Garcia MD, Obregon JF, Gutierrez MG, Lopez JOD, Sastre FR, Perez BS, Lazaro JJP, Ricote GC, Perez EV, Prous JF, Gil AG, Lara DG, Arrillaga IGP, Morena LAH, Santos JIH, Castro JM, Sanchez DP, Castillo MP, Romero PR, Peck GS, de Lugo ASB, Martin JMS. III Consensus Meeting of the Spanish Society of Liver Transplantation. Hepatitis C, living-donor liver transplantation, quality of liver grafts and of liver transplantation programs. *Cirugia Española*. 2011, 89(8): 487 - 504.

Ruiz-Rabelo J, Vazquez R, Arjona A, Perea D, Montilla P, Tunez I, Muntane J, Padillo J. Improvement of capecitabine antitumoral activity by melatonin in pancreatic cancer. *Pancreas*. 2011, 40(3): 410 - 414.
IF:2,607

Munoz-Casares FC, Rufian S, Arjona-Sanchez A, Rubio MJ, Diaz R, Casado A, Naranjo A, Diaz-Iglesias CJ, Ortega R, Munoz-Villanueva MC, Muntane J, Aranda E. Neoadjuvant intraperitoneal chemotherapy with paclitaxel for the radical surgical treatment of peritoneal carcinomatosis in ovarian cancer: a prospective pilot study. *Cancer Chemotherapy and Pharmacology*. 2011, 68(1): 267 - 274.
IF:2,759

Gonzalez R, Cruz A, Ferrin G, Lopez-Cillero P, Fernandez-Rodriguez R, Briceno J, Gomez MA, Rufian S, De la Mata M, Martinez-Ruiz A, Marin JG, Muntane J. Nitric oxide mimics transcriptional and post-translational regulation during alpha-Tocopherol cytoprotection against glycochenodeoxycholate-induced cell death in hepatocytes. *Journal of Hepatology*. 2011, 55(1): 133 - 144.
IF:9,334

Jiménez E, Zurera L, Espejo JJ, Requena MJ, Campos P, Rodríguez de Tembleque L, Canis M. Percutaneous radiofrequency ablation of renal tumors in solitary kidney patients. *Arch Esp Urol*. 2011, 64(1): 51 - 58.

Arjona-Sanchez A, Munoz-Casares FC, Rufian-Pena S, Diaz-Nieto R, Casado-Adam A, Rubio-

Perez MJ, Ortega-Salas R.. Pseudomyxoma peritonei treated by cytoreductive surgery and hyperthermic intraperitoneal chemotherapy: results from a single centre. *Clinical & Translational Oncology*. 2011, 13(4): 261 - 267.
IF:1,254

Naranjo A, Cruz A, Lopez P, Chicano M, Martin-Malo A, Sitges-Serra A, Muntane J, Padillo J. Renal function after Dopamine and fluid administration in patients with malignant obstructive jaundice. A prospective randomized study. *Journal of Gastrointestinal and Liver Diseases*. 2011, 20(2): 161 - 167.
IF:1,434

Manousou P, Kalambokis G, Grillo F, Watkins J, Xirouchakis E, Pleguezuelo M, Leandro G, Arvaniti V, Germani G, Patch D, Calvaruso V, Mikhailidis DP, Dhillon AP, Burroughs AK. Serum ferritin is a discriminant marker for both fibrosis and inflammation in histologically proven non-alcoholic fatty liver disease patients.. *Liver International*. 2011, 31(5): 730 - 739.
IF:3,84

Clinical Trials

1707: Assessing the feasibility, validity and reliability of the three-day voiding diary of women attending functional urology and urodynamics units. DM.3D
PI: Manuel Leva Vallejo

0173/09: Open, randomized, non-inferiority Study of Micafungin versus the standard treatment in the prevention of invasive fungal disease in high-risk liver recipients.
PI: Juan Carlos Pozo Laderas

Research Projects

Project Name: The role of intraoperative intraperitoneal chemotherapy with Paclitaxel. Radical surgery of peritoneal carcinomatosis of ovarian origin: Hyperthermia versus normothermia. (Sebastián Rufián Peña).
Funding Body: Andalusian Health Department
File Number: 0678/2010

Group Cas-04



Urology and Sexual Medicine

María José Requena Tapia josefa.requena.sspa@juntadeandalucia.es

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 in 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, renal cancer, renal transplant, erectile dysfunction.

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Requena	Tapia	María José	AR	Researcher
Anglada	Curado	Francisco	R	Researcher
Campos	Hernández	Pablo	R	Researcher
Carrasco	Valiente	Julia	R	Researcher
Prieto	Castro	Rafael	R	Researcher

(*) HR: Head Researcher; PI: Principal Investigator; R: Researcher; TR: Trainee Researcher

List of Publications

Perez-Calvo JJ, Montero-Perez-Barquero M, Camafort-Babkowski M, Conthe-Gutierrez P, Formiga F, Aramburu-Bodas O, Romero-Requena JM. Influence of admission blood pressure on mortality in patients with acute decompensated heart failure. QJM-An International Journal of Medicine. 2011, 104(4): 325- 333.
IF: 2,146

Jiménez E, Zurera L, Espejo JJ, Requena MJ, Campos P, Rodríguez de Tembleque L, Canis M. Percutaneous radiofrequency ablation of renal tumors in solitary kidney patients. Arch Esp Urol. 2011, 64(1): 51-58

Clinical Trials

0031/08/EPA: Prospective, observational post-authorization study assessing the prevalence of metabolic syndrome in prostate cancer patients before and after twelve months of treatment with quarterly formulations of LHRH analogs (ANAMET)
PI: M^a José Requena Tapia

1658: Epidemiological study estimating the incidence of prostate cancer in Spain (2010).
PI: M^a José Requena Tapia

0216/10: Comparative efficacy of Duodart (r) and lifestyle patterns versus watchful waiting and lifestyle patterns with or without escalation to tamsulosin in the management of treatment of naïve patients with moderate symptoms of prostatic hyperplasia.
PI: M^a José Requena Tapia

Area D



Integrative Medicine and New Technologies

Coordinator: Rafael Medina Carnicer

D-01

Applications of Computer Vision

D-03

Genetics and Behavior Diseases

D-04

Metabolomics. Identification/Quantification of Bioactive Components

D-05

Epigenetics

D-06

Calcium Metabolism. Vascular Calcification

DE-07

Identification of Antigenic Proteins for the Development of New Vaccines

Group D-01



Applications of Computer Vision

Rafael Medina Carnicer. rmedina@uco.es

Scientific Activity

Our group performs practical research studies on the use of computer vision in biomedical or industrial environments. 3D vision systems are used for automatic analysis of human and animal mobility in evaluating specific therapies, for automatic calculation of the geometry of irregular objects for optimal storage of waste, for predicting risk of falls in the elderly and in automatic test systems for digital radiographs aimed at helping in the diagnosis of a particular disease. The basic lines of research correspond to the usual problems which all the technology developed in our applied lines faces: detection, monitoring and quantification of 2D/3D objects in image sequences (segmentation, edge detection, tracking, dominant points, etc ..)

Keywords

Segmentation, Edge Detection, Threshold, Hysteresis, Tracking, Dominant Points. 3D-Vision.

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Medina	Carnicer	Rafael	HR	Coordinator of area D
Garrido	Castro	Juan Luis	PI	Researcher
Carmona	Poyato	Ángel	R	Researcher
Díaz	Mas	Luis	R	Researcher
Fernández	García	Nicolás Luis	R	Researcher
Madrid	Cuevas	Francisco José	R	Researcher
Muñoz	Salinas	Rafael	R	Researcher
Yeguas	Bolívar	Enrique	R	Researcher

(*) HR: Head Researcher; PI: Principal Investigator; R: Researcher

List of Publications

Medina-Carnicer, R., Muñoz-Salinas, R., Yeguas-Bolívar, E., Díaz-Mas, L. A novel method to look for the hysteresis thresholds for the Canny edge detector. Pattern Recognition. 2011, 44: 1201 - 1211.
IF:2,682

Medina-Carnicer, R., Muñoz-Salinas, R., Carmona-Poyato, A., Madrid-Cuevas, F.J.. A novel histogram transformation to improve the performance of thresholding methods in edge detection. Pattern Recognition letters. 2011, 32: 676 - 693.
IF:1,235

Carmona-Poyato, A., Medina-Carnicer, R., Madrid-Cuevas, F.J., Muñoz-Salinas, R., Fernández-García, N.L. A new measurement for assessing polygonal approximation of curves. Pattern Recognition. 2011, 44: 45 - 54.
IF:2,682

Yeguas, E., Joan-Arinyo, R., Luzón, M.V. Modeling the performance of evolutionary algorithms on the root identification problem: A case study with PBIL and CHC algorithms. Evolutionary Computation. 2011, 19: 107 - 135.
IF:2,652

Joan-Arinyo, R., Luzón, M.V., Yeguas, E.. Parameter tuning of PBIL and CHC evolutionary algorithms applied to solve the Root Identification Problem. Applied Soft Computing Journal. 2011, 11: 754 - 767.
IF:2,097

Research Projects

Project Name: 3D vision system without markers for unsupervised mobility assessment. (Rafael Medina Carnicer).
Funding Body: Spanish Ministry of Science and Innovation
File Number: TIN2010-18119

Group D-03



Genetics and Behavior Diseases

Manuel Ruiz Rubio. ge1rurum@uco.es

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.

Keywords

Autism, behavioural genetics, synapses, neurotoxins, neuroligins, SHANK protein, postsynaptic density, *C. elegans* as a model organism in synaptic function.

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Ruiz	Rubio	Manuel	HR	Researcher
Alejandro	Durán	Encarna	R	Researcher
Burgos	Marín	Rafael	R	Researcher
González	Izquierdo	Patricia	R	Researcher
Guijarro	Granados	Teresa	R	Researcher
Martín	Borreguero	Pilar	R	Researcher
Romero	Balsera	María Auxiliadora	R	Researcher
Sánchez	Vázquez	Vicente	R	Researcher
Tienda	Carril	Pilar	R	Researcher
Zamora	Pérez	Aurora	R	Researcher
Calahorra	Núñez	Fernando	TR	Researcher
Suárez	Gómez	María	TR	Researcher

(*) HR: Head Researcher; R: Researcher; TR: Trainee Researcher

List of Publications

Calahorra F, Ruiz-Rubio M. Caenorhabditis elegans as an experimental tool for the study of complex neurological diseases: Parkinson's disease, Alzheimer's disease and autism spectrum disorder. *Invertebrate Neuroscience*. 2011, 11(2): 73 - 83.

Suarez-Gomez M., Alejandro-Duran E., Ruiz-Rubio M. MicroRNAs in bipolar disorder: Diagnostic and therapeutic applications [MicroARN en el trastorno bipolar: Posibles aplicaciones diagnosticas y terapeuticas]. *Revista de Neurologia*. 2011, 53(2): 91 - 98.

Research Projects

Project Name: Using *Caenorhabditis Elegans* As an experimental model in autism. Molecular Mechanism of the synaptic function. (Manuel Ruiz Rubio).
Funding Body: Andalusian Health Department
File Number: 0197/2009

Group D-04



Metabolomics Identification of Bioactive Components

M^a Dolores Luque de Castro. qa1lucam@uco.es

Scientific Activity

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

Keywords

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

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Luque	De Castro	María Colores	HR	Researcher
Priego	Capote	Feliciano	PDR/PI	Researcher
Alcaide	Molina	Miguel	R	Researcher
Álvarez	Sánchez	Beatriz	R	Researcher
Delgado	De la Torre	María Pilar	R	Researcher
Fernández	Peralbo	María Auxiliadora	R	Researcher
Ferreiro	Vera	Carlos	R	Researcher
Gómez	González	Soledad	R	Researcher
Peralbo	Molina	Ángela	R	Researcher
Calderón	Santiago	Mónica	TR	Researcher
Orozco	Solano	María Isabel	TR	Researcher
Sánchez de Medina	Baena	Verónica	TR	Researcher

(*) HR: Head Researcher; PI: Principal Investigator; R: Researcher; PDR: Post-doctoral Researcher; TR: Trainee Researcher

List of Publications

Calderón-Santiago M, Mata-Granados JM, Priego-Capote F, Quesada Gómez JM, Luque de Castro MD. Analytical platform for verification and quantitation of target peptides in human serum: application to cathelicidin. *Analytical and Bioanalytical Chemistry*. 2011, 415: 39 - 45. IF: 3,841

Ferreiro-Vera C, Mata-Granados JM, Priego-Capote F, de Castro MDL. Automated method for targeting analysis of prostanoids in human serum by on-line solid-phase extraction and liquid chromatography-mass spectrometry in selected reaction monitoring. *Journal of Chromatography A*. 2011, 1218(20): 2848 - 2855. IF: 4,194

Ferreiro-Vera C, Mata-Granados JM, Priego-Capote F, Quesada-Gomez JM, de Castro MDL. Automated targeting analysis of eicosanoid inflammation biomarkers in human serum and in the exometabolome of stem cells by SPE-LC-MS/MS. *Analytical and Bioanalytical Chemistry*. 2011, 399(3): 1093 - 1103. IF: 3,841

León-González Z, Ferreiro-Vera C, Priego-Capote F, Luque de Castro MD. Bioaccumulation assessment of the sunscreen agent in human semen by automated onlin SPE-LC-MS/MS. *Analytical and Bioanalytical Chemistry*. 2011, 401: 1003 - 1011. IF: 3,841

Luque de Castro, MD. Cosmetobolomics as an incipient '-omics' with high analytical involve-

ment. *Trac-Trends in Analytical Chemistry*. 2011, 30(9): 1365 - 1371. IF: 6,602

Mata-Granados JM, Ferreiro-Vera C, Luque de Castro MD, Quesada Gómez JM. Determinación de los metabolitos principales de vitamina D en suero mediante extracción en fase sólida en línea con cromatografía líquida y espectrometría de masas en tándem. *Revista de osteoporosis y metabolismo mineral*. 2011, 2: 55 - 61.

Lummas S, Ruiz-Jiménez J, Luquede Castro MD, Colston B, González-rodríguez J., Chen B, Corns W. Determination of arsenic, mercury and barium in herbarium mount paper using dynamic ultrasound-assisted extraction prior to atomic fluorescence and absorption spectrometry. *Analytical letters*. 2011, 44: 1842 - 1852. IF: 0,92

Hugo Cruz-Hipólito, Antonia Rojano-Delgado, María Dolores Luque de Castro. Glyphosate tolerance by *Clitoria ternatea* and *Neonotonia wightii* plants involves differential absorption and translocation of the herbicide. *Plant Soil*. 2011, 347: 221 - 230. IF: 2,773

Priego-Capote F, Ramirez-Boo M, Hoogland C, Scherl A, Mueller M, Lisacek F, Sanchez JC. Human hemolysate glycosylated proteome. *Analytical Chemistry*. 2011, 83: 5673 - 5680. IF: 5,874

ElRiachy M, Priego-Capote F, León L, Rallo L, Luque de Castro MD. Hydrophilic antioxidants

of virgin olive oil. Part 2. *European Journal of Science and Technology*. 2011, 113: 692 - 707. IF: 1,487

ElRiachy M, Priego-Capote F, León L, Rallo L, Luque de Castro MD. Hydrophilic antioxidants of virgin olive oil. Part 2. *European Journal of Science and Technology*. 2011, 113: 692 - 707. IF: 1,487

Orozco MI, Priego-Capote F, de Castro MDL. Influence of deep frying on the unsaponifiable fraction of vegetable edible oils enriched with natural antioxidants. *Journal of Agricultural and Food Chemistry*. 2011, 59(13): 7194 - 7202. IF: 2,816

Orozco-Solano MI, Priego-Capote F, de Castro MDL. Influence of simulated deep frying on the antioxidant fraction of vegetable oils after enrichment with extracts from olive oil pomace. *Journal of Agricultural and Food Chemistry*. 2011, 59(18): 9806 - 9814. IF: 2,816

Pinzi S, Mata-Granados JM, López-Giménez FJ, Luque de Castro MD, Dorado MP. Influence of vegetable oils fatty-acid composition on biodiesel optimization. *Bioresource Technology*. 2011, 102: 1059 - 1065. IF: 4,365

Pérez-Serradilla JA, Luque de Castro MD. Microwave-assisted extraction of phenolic compounds from wine lees and spray-drying of the extract. *Food Chemistry*. 2011, 124: 1652 - 1659. IF: 3,458

C. Ferreiro-Vera, J.M. Mata-Granados, J.M. Quessada, M.D. Luque de Castro. On-line coupling solid-phase extraction and HPLC fTalarandetermination of carotenoids in serum. *Talanta*. 2011, 85: 1842 - 1847.

Priego-Capote, F, Ramírez-Boo, M., Hochstrasser, D., Sanchez, J.C.. Qualitative and quantitative analysis of glycated proteins in human plasma by glucose isotopic labeling with ¹³C6-reducing sugars. *Methods in Molecular Biology*. 2011, 728: 219 - 232.

de Medina VS, Priego-Capote F, Jimenez-Ot C, de Castro MDL. Quality and stability of edible oils enriched with hydrophilic antioxidants from the olive tree: the role of enrichment extracts and lipid composition.. *Journal of Agricultural and Food Chemistry*. 2011, 59(21): 1432 - 1441. IF: 2,816

Ferreiro-Vera C, Ribeiro JPN, Mata-Granados JM, Priego-Capote F, de Castro MDL. Standard operation protocol for analysis of lipid hydroperoxides in human serum using a fully automated method based on solid-phase extraction and liquid chromatography-mass spectrometry in selected reaction monitoring. *Journal of Chromatography A*. 2011, 1218(38): 6720 - 6726. IF: 4,194

Sanchez BA, Capote FP, de Castro MDL. Targeted analysis of sphingoid precursors in human biofluids by solid-phase extraction with in situ derivatization prior to mu-LC-LIF determination. *Analytical and Bioanalytical Chemistry*. 2011, 400(3): 757 - 765. IF: 3,841

León-González Z, Ferreiro-Vera C, Priego-Capote F, Luque de Castro MD. Targeting metabolomics analysis of the sunscreen agent in human urine by automated on-line solid-phase extraction-liquid chromatography-time-of-flight/mass spectrometry confirmation. *Journal Chromatography A*. 2011, 1218: 3013 - 3021. IF: 4,194

Luque de Castro MD, Priego-Capote F, Peralbo-Molina A. The role of ultrasound in analytical derivatizations. *Journal Chromatography B*. 2011, 879: 1189 - 1195. IF: 2,971

Research Projects

Project Name: Developing analytical platforms in metabolomics for identifying cardiac biomarkers and helping design individualized food plans. (M^a Dolores Luque De Castro).

Funding Body: Spanish Ministry of Innovation and Science

File Number: CTQ2009-07430

Project Name: Additional research in the search for new nutraceuticals, colorants and antioxidants (M^a Dolores Luque De Castro).

Funding Body: Spanish Ministry of Innovation and Science

File Number: CTQ2009-08064-E

Project Name: Developing analytical platforms to identify glycosylated protein biomarkers: Application to diabetic patients (Feliciano Priego Capote).

Funding Body: Andalusian Department of Innovation, Science and Entrepreneurship

File Number: P10-FQM-6420

Group D-05



Epigenetics

Teresa Roldán Arjona. ge2roarm@uco.es

Scientific Activity

Our scientific activity focuses 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.

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Roldán	Arjona	M ^a Teresa	HR	Researcher
García	Ortiz	Victoria	R	Researcher
Hermoso	Rodríguez	Rosa	R	Researcher
Rodríguez	Ariza	Rafael	R	Researcher
Córdoba	Cañero	M ^a Dolores	PDR	Researcher
Morales	Ruiz	M ^a Teresa	PDR	Researcher
Ponferrada	Marín	M ^a Isabel	PDR	Researcher
Martínez	Macías	M ^a Isabel	TR	Researcher
Parrilla	Doblas	Jara Teresa	TR	Researcher
Ramiro	Merina	Ángel	TR	Researcher

(*) HR: Head Researcher; R: Researcher; PDR: Post-doctoral Researcher; TR: Trainee Researcher

List of Publications

Ponferrada-Marín MI, Parrilla-Doblas JT, Roldán-Arjona T, Ariza RR. A discontinuous DNA glycosylase domain in a family of enzymes that excise 5-methylcytosine. *Nucleic Acids Research*. 2011, 39(4): 1473 - 1484.
IF:7,836

Córdoba-Cañero D, Roldán-Arjona T, Ariza RR. Arabidopsis ARP endonuclease functions in a branched base excision DNA repair pathway completed by LIG1. *Plant Journal*. 2011, 68(4): 693 - 702.
IF:6,948

Dubois E, Córdoba-Cañero D, Massot S, Siaud N, Gakière B, Domenichini S, Guérard F, Roldán-Arjona T, Doutriaux MP. Homologous recombination is stimulated by a decrease in dUTPase in Arabidopsis. *Plos One*. 2011, 6(4).
IF:4,411

Research Projects

Project Name: Epigenetic reprogramming by demethylation of DNA (M^a Teresa Roldán Arjona).
Funding Body: Andalusian Department of Innovation, Science and Entrepreneurship
File Number: P07-CVI-02770

Project Name: DNA demethylation: The role of basic molecular mechanisms in reversing epigenetic silencing (M^a Teresa Roldán Arjona).
Funding Body: Spanish Ministry of Innovation and Science
File Number: BFU2010-18838

Group D-06



Calcium Metabolism Vascular Calcification

Mariano Rodríguez Portillo. marianor@senefro.org

Scientific Activity

In our group we study different aspects of the metabolism of calcium and vascular calcification. Our first main area focuses on the pathogenetic mechanisms of the alterations related to secondary hyperparathyroidism in renal failure. We therefore assess the parathyroid function on a cellular and molecular level (essentially the synthesis and secretion of PTH and cell proliferation) in normal and hyperplastic parathyroid glands and the development of vascular calcification in in vivo and in vitro experimental models. Among other things, this includes the regulation of gene expression of calcium and vitamin D receptors, intracellular signalling pathways, the role of phosphatonins (FGF23-klotho axis), the role of diet in the development of parathyroid hyperplasia, the osteoblastic transformation of vascular smooth muscle cells and the mechanisms of action, at a cellular and molecular level, of therapeutic agents such as vitamin D derivatives and calcimimetics. We have also initiated a proteomic-economic approach to these studies.

Keywords

Calcium, phosphorus, metabolism, parathyroid, calcification, uremia. Mineral metabolism, parathyroid hormone, HPTH2[®], vascular calcification, renal failure, VDR, CaR. Mesenchymal stem cells, Wnt / beta-catenin.

Group Members

Surname 1	Surname 2	Name	Category (*)	Post
Rodríguez	Portillo	Mariano	HR	Researcher
Almadén	Peña	Yolanda	CO-HR	Researcher
Aguilera	Tejero	Escolástico	PI	Researcher
López	Villalba	Ignacio	PI	Researcher
Muñoz	Castañeda	Juan Rafael	PI	Researcher
Estepa	Nieto	José Carlos	R	Researcher
Guerrero	Pavón	Fatima	R	Researcher
Montes de Oca	González	Addy	R	Researcher
Rodríguez	Ortiz	M ^º Encarnación	R	Researcher
Canalejo	Raya	Antonio Luis	R	Researcher
Herencia	Bellido	Carmen	TR	Researcher
Martínez	Moreno	Julio Manuel	TR	Researcher

(*) HR: Head Researcher; CO-HR:CO-Head Researcher; PI: Principal Investigator; R: Researcher; TR: Trainee Researcher.

List of Publications

Mendoza FJ, Perez-Ecija RA, Monreal L, Estepa JC.. Coagulation profiles of healthy Andalusian donkeys are different than those of healthy horses.. Journal of Veterinary Internal Medicine. 2011, 25(4): 967 - 970.
IF: 2,227

Herencia C, Rodriguez-Ariza A, Canalejo A, Naranjo A, Briceno FJ, Lopez-Cillero P, De la Mata M, Munoz-Castaneda JR. Differential bone marrow hematopoietic stem cells mobilization in hepatectomized patients. Journal of Gastrointestinal Surgery. 2011, 15(8): 1459 - 1467.
IF: 2,733

Lopez I, Rodriguez-Ortiz ME, Almaden Y, Guerrero F, de Oca AM, Pineda C, Shalhoub V, Rodriguez M, Aguilera-Tejero E. Direct and indirect effects of parathyroid hormone on circulating levels of fibroblast growth factor 23 in vivo. Kidney International. 2011, 80(5): 475 - 482.
IF: 6,105

Mendoza FJ, Martinez-Moreno J, Almaden Y, Rodriguez-Ortiz ME, Lopez I, Estepa JC, Henley C, Rodriguez M, Aguilera-Tejero E. Effect of calcium and the calcimimetic AMG 641 on Matrix-Gla protein in vascular smooth muscle cells. Calcified Tissue International. 2011, 88(3): 169 - 178.
IF: 2,759

Gonzalez-Parra E, Gonzalez-Casas ML, Galan A, Martinez-Calero A, Navas V, Rodriguez M, Ortiz A. Lanthanum carbonate reduces FGF23 in chronic kidney disease stage 3 patients. Nephrology Dialysis Transplantation. 2011, 26(8): 2567 - 2571.
IF: 3,564

Damment S, Secker R, Shen V, Lorenzo V, Rodriguez M. Long-term treatment with lanthanum carbonate reduces mineral and bone abnormalities in rats with chronic renal failure. Nephrology Dialysis Transplantation. 2011, 26(6): 1803 - 1812.
IF: 3,564

Cunningham J, Locatelli F, Rodriguez M. Secondary hyperparathyroidism: pathogenesis, disease progression, and therapeutic options. Clinical Journal of the American Society of Nephrology. 2011, 6(4): 913 - 921.
IF: 4,763

Torregrosa JV, Bover J, Andia JC, Lorenzo V, de Francisco ALM, Martinez I, Portillo MR, Arenas L, Parra EG, Caravaca F, Martin-Malo A, Giraldez EF, Torres A. Spanish Nephrology Society recommendations for controlling bone and mineral metabolism alterations in chronic kidney disease patients (S.E.N.-MM). Nefrología. 2011, 31(1): 3 - 32.
IF: 0,738

Mendoza FJ, Perez-Ecija RA, Estepa JC.. Thoracic emphysematous lymphadenitis in a foal. Journal of Comparative Pathology. 2011, 145(1): 77 - 79.
IF: 1,529

Rodriguez M, Martinez-Moreno JM, Rodriguez-Ortiz ME, Munoz-Castaneda JR, Almaden Y. Vitamin D and vascular calcification in chronic kidney disease. Kidney & Blood Pressure Research. 2011, 34(4): 261 - 268.
IF: 1,5

Research Projects

Project Name: (SysKID). Systems Biology towards Novel Chronic Kidney Disease Diagnosis and Treatment (Mariano Rodríguez Portillo).
Funding Body: European Commission
File Number: FP7-241544

Project Name: Vascular calcification, epigenetics and oxidative stress (Escolástico Aguilera Tejero).
Funding Body: Carlos III Health Institute, Madrid
File Number: PI11/00098

Project Name: Effect of phosphorus on epigenetic modifications and Wnt/b-Catenin and TGF / BMP pathways in mesenchymal stem cells differentiated to vascular smooth muscle cells. (Mariano Rodríguez Portillo).
Funding Body: Andalusian Health Department (SAS)
File Number: 10/0132

Project Name: Vascular calcification. Regulating osteogenic gene expression in vascular smooth muscle cells and smooth muscle progenitor cells via the Wnt/Beta-Catenin pathway (Mariano Rodríguez Portillo).
Funding Body: Carlos III Health Institute, Madrid
File Number: PI11/02055

Project Name: In vivo and in vitro studies of oxidative stress, inflammation and vascular calcification in chronic renal disorders: using mesenchymal stem cells to identify new therapeutic targets. (Juan Rafael Muñoz Castañeda).
Funding Body: Andalusian Department of Innovation, Science and Entrepreneurship
File Number: CVI-7925

Group DE-07



Identification of Antigenic Proteins for the Development of New Vaccines

Manuel José Rodríguez Ortega. mjrodriguez@uco.es

Scientific Activity

Our group studies the surface proteins of different pathogenic bacteria from the genus *Streptococcus* and *Staphylococcus*, with the aim of discovering new candidates for more effective vaccines. Surface proteins are fundamental in the interaction between cells and their environment, and are the best potential targets for drug and vaccine development. We carry out the selection of protein candidates by different strategies of proteomics, mainly based on a second-generation proteomics approach ("shotgun proteomics"), in which peptides are obtained from the surface-exposed domains of living cells by digestion with proteases. These peptides are then analyzed and identified by two-dimensional chromatography coupled with tandem mass spectrometry. The most interesting proteins enter the recombinant production line and are used in protection trials against infection in animal models.

Keywords

Surface proteins, immunogens, antigens, vaccines, bacteria, proteomics, 2-D LC/MS/MS, mass spectrometry, chromatography, electrophoresis

Groups Members

Surname 1	Surname 2	Name	Category (*)	Post
Rodríguez	Ortega	Manuel José	ER	Researcher
Gómez	Gascón	Lidia	R	Researcher
Orbegozo	Medina	Ricardo Alfredo	R	Researcher
Jiménez	Munguía	Irene	TR	Researcher
Olaya	Abril	Alfonso	TR	Researcher

(*) R: Researcher; ER: Emerging Researcher; TR: Trainee Researcher.

Research Projects

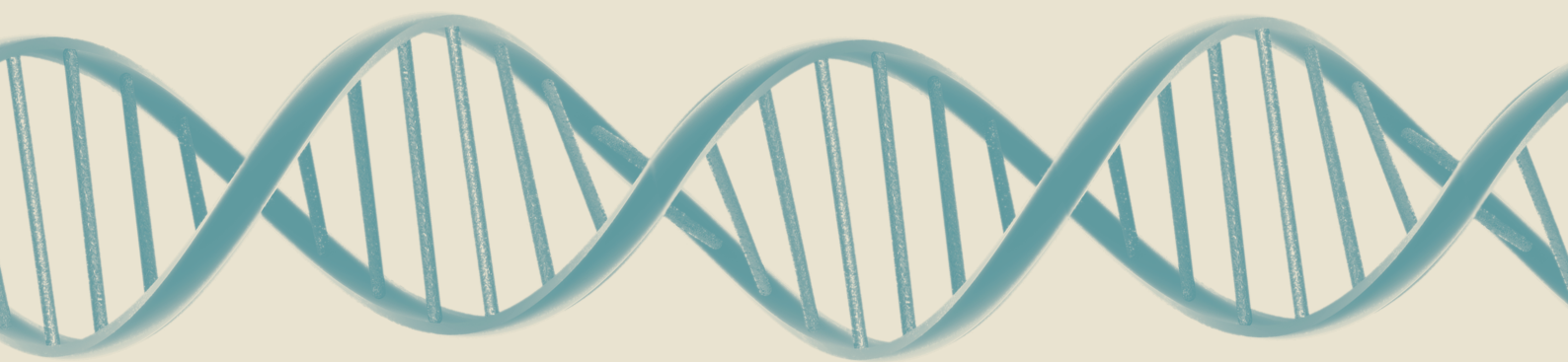
Project Name: Using proteomics to identify new proteic candidates to develop vaccines and diagnostic chips against *Streptococcus Pneumoniae* (Manuel José Rodríguez Ortega).
Funding Body: Andalusian Health Department
File Number: 0207/2010

Project Name: Selection of protein candidates for the development of vaccines against *Streptococcus pneumoniae* via new proteomic strategies (Manuel José Rodríguez Ortega).
Funding Body: Spanish Ministry of Science and Innovation
File Number: SAF2008-00733

Project Name: Identification and evaluation of protein vaccine candidates against pathogenic bacteria *Streptococcus* by new proteomic strategies. (Manuel José Rodríguez Ortega).
Funding Body: Andalusian Department of Innovation, Science and Entrepreneurship
File Number: P09-CTS-4616

9

Dissemination of Scientific Results



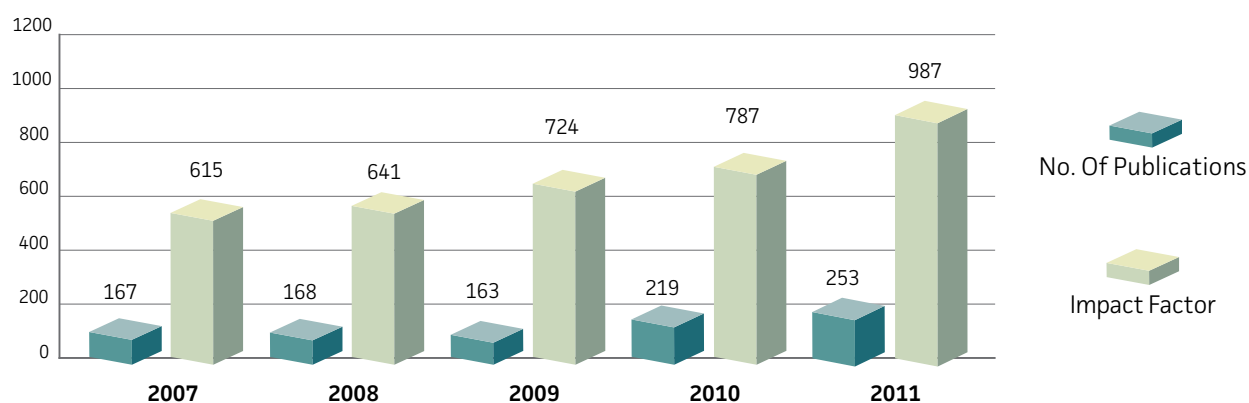
9. Dissemination of Scientific Results

9.1 List of Publications

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

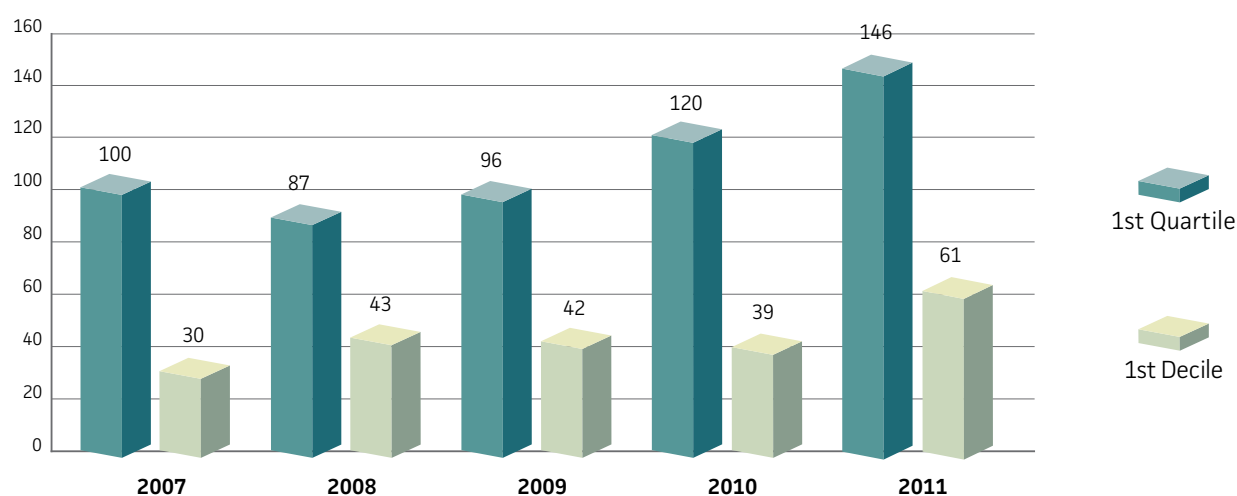
- A total of 287 published articles, of which 253 are indexed and 34 un-indexed
- A total Impact Factor of 987,424 points, with a mean Impact Factor of 3.9 (including only indexed items)

The figure below shows the evolution of the TR of our publications in the last five years:

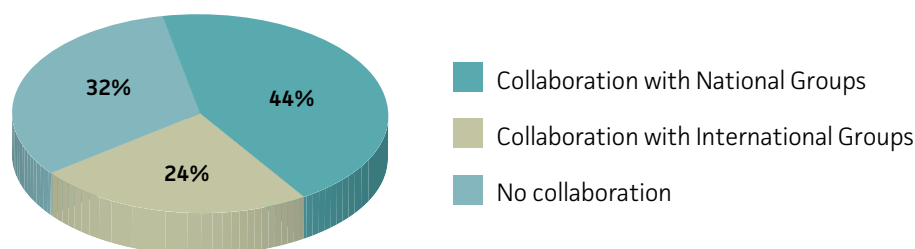


As regards the authorship of the published papers, in 56% of the papers the principal investigator was an IMIBIC researcher, while in 44% of papers IMIBIC researchers were referenced as co-authors.

In turn, these publications are concentrated mainly in journals in the first two quartiles, which vouches for the scientific quality of the papers published. The following table shows the evolution of the number of publications in the first decile and first quartile are shown in the table below:



As to the authors' affiliation, the table below shows the percentage of studies conducted in collaboration with other groups:

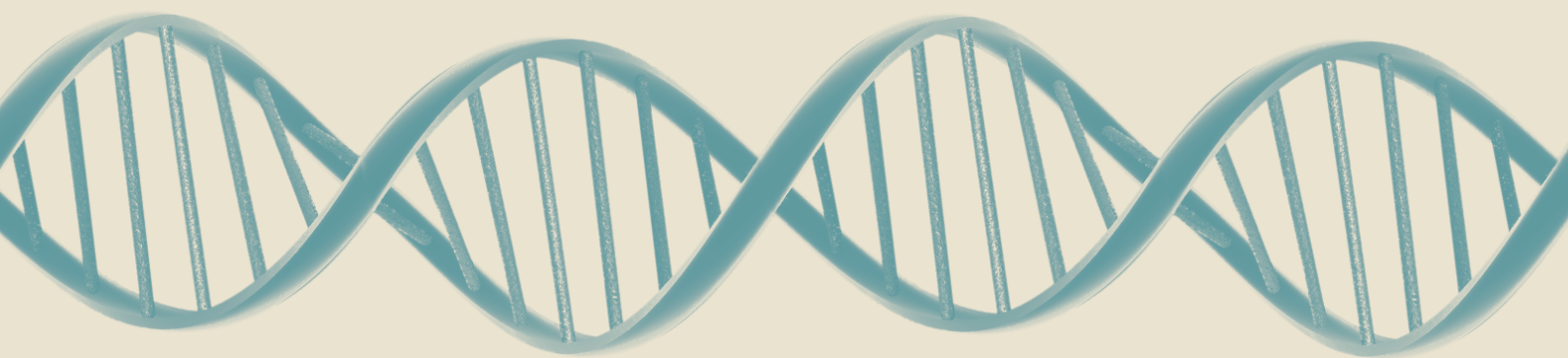


9.2 List of journals where our work has been published

In 2011, IMIBIC researchers published their articles in a total of 176 different journals, which are listed below:

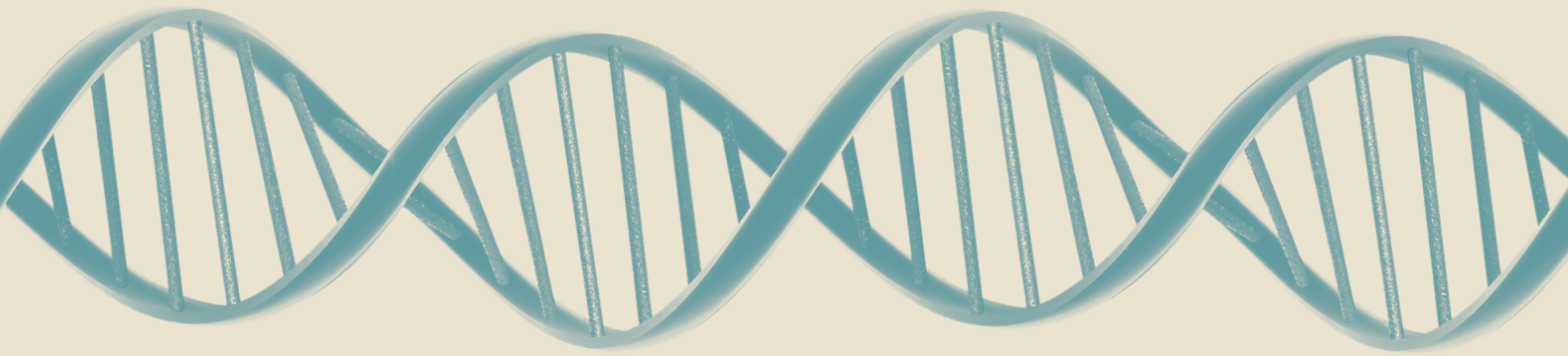
- AGE
- AIDS
- AIDS PATIENT CARE AND STDs
- AMERICAN JOURNAL OF CARDIOLOGY
- AMERICAN JOURNAL OF CLINICAL NUTRITION
- AMERICAN JOURNAL OF GASTROENTEROLOGY
- AMERICAN JOURNAL OF PHYSIOLOGY-ENDOCRINOLOGY AND METABOLISM
- AMERICAN JOURNAL OF TRANSPLANTATION
- ANALES DE PEDIATRIA
- ANALYTICAL AND BIOANALYTICAL CHEMISTRY
- ANALYTICAL CHEMISTRY
- ANALYTICAL LETTERS
- ANNALS OF NUTRITION AND METABOLISM
- ANNALS OF THE NEW YORK ACADEMY OF SCIENCE
- ANNALS OF THE RHEUMATIC DISEASES
- ANTI-CANCER AGENTS IN MEDICINAL CHEMISTRY
- ANTIVIRAL THERAPY
- APPLIED SOFT COMPUTING JOURNAL
- ARCHIVOS DE BRONCONEUMOLOGIA
- ARCHIVOS DE LA SOCIEDAD ESPAÑOLA DE OFTALMOLOGÍA.
- ARTHRITIS AND RHEUMATISM
- ATENCION PRIMARIA
- ATHEROSCLEROSIS
- BIOCHIM BIOPHYS ACTA.
- BIOCHIMIE
- BIOLOGY OF BLOOD AND MARROW TRANSPLANTATION
- BIOLOGY OF REPRODUCTION
- BIORESOURCE TECHNOLOGY
- BLOOD
- BMC FAMILY PRACTICE
- BMC MEDICAL GENETICS
- BREAST CANCER RESEARCH AND TREATMENT
- BRITISH JOURNAL OF HAEMATOLOGY
- BRITISH JOURNAL OF NUTRITION
- CALCIFIED TISSUE INTERNATIONAL
- CANCER CHEMOTHERAPY AND PHARMACOLOGY
- CANCER IMMUNOLOGY IMMUNOTHERAPY
- CARDIOCORE
- CELLULAR AND MOLECULAR LIFE SCIENCES
- CHEMICAL RESEARCH IN TOXICOLOGY
- CHEST
- CIRCULATION
- CIRUGIA ESPAÑOLA
- CLINICA E INVESTIGACION EN ARTERIOSCLEROSIS
- CLINICAL & TRANSLATIONAL ONCOLOGY
- CLINICAL AND EXPERIMENTAL RHEUMATOLOGY
- CLINICAL DRUG INVESTIGATION
- CLINICAL JOURNAL OF THE AMERICAN SOCIETY OF NEPHROLOGY
- CLINICAL MICROBIOLOGY AND INFECTION
- CLINICAL NUTRITION
- CLINICAL RHEUMATOLOGY
- CLINICAL TRANSPLANTATION
- CONTRIBUTIONS TO NEPHROLOGY
- CRITICAL REVIEWS IN ONCOLOGY HEMATOLOGY
- CURR OPIN ORGAN TRANSPLANT
- CURRENT DRUG TARGETS
- CURRENT PHARMACEUTICAL DESIGN
- CURRENT VASCULAR PHARMACOLOGY
- DIGESTIVE AND LIVER DISEASE SUPPLEMENTS
- ECHOCARDIOGRAPHY-A JOURNAL OF CARDIOVASCULAR ULTRASOUND AND ALLIED TECHNIQUES
- ENDOCRINOLOGIA Y NUTRICION
- ENDOCRINOLOGY
- ENFERMEDADES INFECCIOSAS Y MICROBIOLOGIA CLINICA
- ENFERMERÍA CLÍNICA
- EUROPEAN JOURNAL OF CARDIO-THORACIC SURGERY
- EUROPEAN JOURNAL OF ENDOCRINOLOGY
- EUROPEAN JOURNAL OF HAEMATOLOGY
- EUROPEAN JOURNAL OF INTERNAL MEDICINE
- EUROPEAN JOURNAL OF SCIENCE AND TECHNOLOGY
- EUROPEAN RESPIRATORY JOURNAL

- EVOLUTIONARY COMPUTATION
- FASEB JOURNAL
- FOOD CHEMISTRY
- FRONT BIOSCI
- GASTROENTEROLOGIA Y HEPATOLOGÍA
- GENERAL & COMPARATIVE ENDOCRINOLOGY
- HAEMATOLOGICA
- HEPATOLOGY
- HISTOLOGY AND HISTOPATHOLOGY
- HIV MEDICINE
- INTERNATIONAL JOURNAL OF ANDROLOGY
- INTERNATIONAL JOURNAL OF OBESITY
- INTERNATIONAL JOURNAL OF PEDIATRIC OBESITY
- INTERNATIONAL JOURNAL OF SPORT SCIENCE
- INVERTEBRATE NEUROSCIENCE
- JAIDS-JOURNAL OF ACQUIRED IMMUNE DEFICIENCY SYNDROMES
- JOURNAL CHROMATOGRAPHY A
- JOURNAL CHROMATOGRAPHY B
- JOURNAL NATURAL PRODUCTS
- JOURNAL OF AGRICULTURAL AND FOOD CHEMISTRY
- JOURNAL OF AMERICAN GERIATRICS SOCIETY
- JOURNAL OF ANTIMICROBIAL CHEMOTHERAPY
- JOURNAL OF BIOLOGICAL CHEMISTRY
- JOURNAL OF CELLULAR AND MOLECULAR MEDICINE
- JOURNAL OF CHROMATOGRAPHY A
- JOURNAL OF CLINICAL ONCOLOGY
- JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM
- JOURNAL OF CLINICAL ENDOCRINOLOGY & METABOLISM
- JOURNAL OF COMPARATIVE PATHOLOGY
- JOURNAL OF ENDOCRINOLOGICAL INVESTIGATION
- JOURNAL OF GASTROINTESTINAL AND LIVER DISEASES
- JOURNAL OF GASTROINTESTINAL SURGERY
- JOURNAL OF HEPATO-BILIARY-PANCREATIC SCIENCES
- JOURNAL OF HEPATOLOGY
- JOURNAL OF IMMUNOLOGY
- JOURNAL OF INFECTION
- JOURNAL OF INFECTIOUS DISEASES
- JOURNAL OF INNATE IMMUNITY
- JOURNAL OF MEDICINAL CHEMISTRY
- JOURNAL OF NEUROENDOCRINOLOGY
- JOURNAL OF NEUROLOGY
- JOURNAL OF PATHOLOGY
- JOURNAL OF PROTEOMICS
- JOURNAL OF RHEUMATOLOGY
- JOURNAL OF SPORTS MEDICINE AND PHYSICAL FITNESS
- JOURNAL OF THE AMERICAN SOCIETY OF NEPHROLOGY
- JOURNAL OF THROMBOSIS AND HAEMOSTASIS
- JOURNAL OF THROMBOSIS AND THROMBOLYSIS
- JOURNAL OF VETERINARY INTERNAL MEDICINE
- KIDNEY & BLOOD PRESSURE RESEARCH
- KIDNEY INTERNATIONAL
- LIPIDS IN HEALTH AND DISEASE
- LIVER INTERNATIONAL
- LIVER TRANSPLANTATION
- MASS SPECTROMETRY REVIEWS
- MEDICINA CLÍNICA
- MEDICINE
- METHODS IN MOLECULAR BIOLOGY
- MICROSC RES TECH.
- MOLECULAR & CELLULAR PROTEOMICS
- MOLECULAR NUTRITION & FOOD RESEARCH
- MYCOSES
- NATURE REVIEWS IN ENDOCRINOLOGY
- NEFROLOGIA
- NEPHROLOGY DIALYSIS TRANSPLANTATION
- NEPHRON CLINICAL PRACTICE
- NEUROENDOCRINOLOGY
- NEUROSCIENCE
- NUCLEIC ACIDS RESEARCH
- NUTRICION HOSPITALARIA
- NUTRITION METABOLISM AND CARDIOVASCULAR DISEASES
- NUTRITIONAL NEUROSCIENCE
- OSTEOPOROSIS INTERNATIONAL
- PANCREAS
- PATTERN RECOGNITION
- PATTERN RECOGNITION LETTERS
- PEDIATRIC CARE MED
- PEDIATRIC INTERNATIONAL
- PEPTIDES
- PHARMACOGENOMICS JOURNAL
- PITUITARY
- PLANT JOURNAL
- PLANT SOIL
- PLOS ONE
- PROGRESS IN NEURO-PSYCHOPHARMACOLOGY & BIOLOGICAL PSYCHIATRY
- QJM-AN INTERNATIONAL JOURNAL OF MEDICINE
- RENAL FAILURE
- REPRODUCTION
- REPRODUCTIVE BIOLOGY
- REUMATOLOGIA CLINICA
- REVISTA DE CALIDAD ASISTENCIAL
- REVISTA DE NEUROLOGIA
- REVISTA DE OSTEOPOROSIS Y METABOLISMO MINERAL
- REVISTA ESPANOLA DE CARDIOLOGIA
- REVISTA ESPAÑOLA DE ENFERMEDADES DIGESTIVAS
- REVISTA ESPAÑOLA DE QUIMIOTERAPIA
- REVISTA ESPAÑOLA DE SALUD PÚBLICA
- REVISTA IBEROAMERICANA DE MICROLOGIA
- RHEUMATOLOGY
- TALANTA
- TRAC-TRENDS IN ANALYTICAL CHEMISTRY
- TRANSFUSION
- TRANSPLANTATION
- TRANSPLANTATION PROCEEDINGS
- TRANSPLANTATION REVIEWS
- WORLD JOURNAL OF SURGICAL ONCOLOGY



10

Knowledge Transfer



10.- Knowledge Transfer

In the modern knowledge-focused society, having an appropriate knowledge management system is crucial, especially in the field of biomedical research. The Technology Transfer Units ensures the protection of the technology systems developed by IMIBIC researchers under the Spanish Intellectual Property Act. This Unit is a tool for emphasizing the value of knowledge and promoting the commercial exploitation of the new technologies developed at IMIBIC.

The main tasks of the Technology Transfer Unit are:

- Identification of results with social / economic value.
- Safeguarding the potential value of research results by means of different protection measures (patents, utility models, etc.)
- Optimization of the potential value of research results.
- Dissemination of results.

The ultimate aim of a Technology Transfer Unit is to generate a positive impact on society and, where possible, an economic return to the State investments in R+D+i.

Specifically, in the field of Health services, the positive impact generated by these Units results in an improvement in the population's quality of life and health status by improvements in care services' quality, and new medical practices, medicines, diagnostic methods and medical devices.

It is noteworthy that the knowledge transference process at IMIBIC involves the interaction of the OTRI-UCO, the IMIBIC's Technology Transfer Unit and the OTT-SSPA. These three institutions work in close coordination for the registration and appropriate exploitation of all technologies and knowledge generated in the province of Cordoba, Spain. As regards the technology transfer activity of the scientific achievements obtained in the IMIBIC, the main objectives have been those groups classified as groups of "scientific or multidisciplinary excellence", as well as the areas most directly involved in primary care, because of their direct, daily involvement in improving patient care.

In 2011, the transfer activity began with an exhaustive analysis of the projects submitted to the Biomedical Research and Health Sciences of the Ministry of Health funding process or projects that applied for other processes such as those of the Carlos III Health Institute, Madrid, etc, identifying the potential transfer value of each, so as to establish some measure of protection of intellectual property, where necessary.

The tasks carried out during the year 2011 in this area are listed below:

Identification and Project Evaluation

In 2011 this Unit identified new projects with potential value that should be protected. In November 2011 a total of 42 research projects had been evaluated. The sum of the 2010 and 2011 technology projects involved in a transfer process was 22. In addition, in 2011 there were other projects which had not been completed or were in the potential value evaluation process that will be included in the statistics of the 2012 Annual Report.

Intellectual Property Records

During 2011, a total of 7 records were made.

Reference	Name	Type of Record	Holders
IMIBIC 33	Motion Analysis and Tracking System	Patent	SAS y UCO
IMIBIC 36	Uses of a specific concentration of olive oil phenolic compounds	Patent	SAS y UCO
IMIBIC 38	Laparoscopic port	Patent	SAS
IMIBIC 39	Relevant data collection method for diagnosis of vascular calcification	Patent	UCO y SAS
IMIBIC 40	Ghrelin variant and its uses	internacional PCT	UCO y SAS
IMIBIC 42	A pharmaceutical composition of olive leaf extract for inducing angiogenesis and vasculogenesis	internacional PCT	UCO, SANYRES y SAS
IMIBIC 43	A pharmaceutical composition of olive leaf extract for inducing angiogenesis and vasculogenesis	European Patent	UCO, SANYRES y SAS

Contacts with companies, licenses and private-state partnership agreements

Over 2011, a total of 50 national and international companies of the biomedical sector have been contacted.

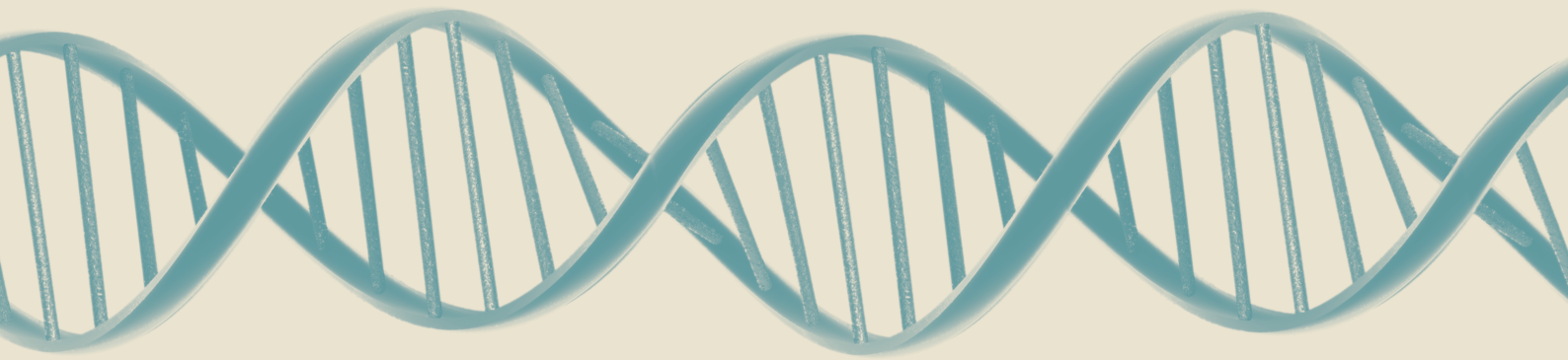
In 2011, negotiations for two patent exploitation licenses started.

Over 2011, one spin-off devoted to the commercial exploitation of a technology system developed by IMIBIC's researchers was created.

Evaluated Projects	42
Projects managed by the Transfer Area	22
Industrial property registers applications	6
Contacts with companies	50
License under negotiation	2
Spin-off creation processes	1

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Objectives for the Year 2012



11. Objectives for the Year 2012

1. To increase the promotion and involvement in international research activities by increasing the number of European proposals submitted.
2. To foster actions promoting knowledge transfer and translationality.
3. To promote institutional relationships with major national and international agents within the objectives of the Alliance Plan.
4. To incorporate new equipments and infrastructures into IMIBIC areas within the Infrastructure and Support Services Plan.
5. To ensure long-term sustained funding by improving fundraising and maintaining a balance of public and private support.
6. To promote communication and personal contact among IMIBIC researchers to create a sense of belonging to the institution.
7. To revise and improve the Training and Quality Plan.
8. To encourage UCAIB and the Management Unit to work on a goal-driven basis.
9. To increase IMIBIC's brand recognition in the marketplace and among patients.
10. To search for additional funding sources by the implementation of a fundraising plan.

Abbreviations and Acronyms

CAIBER:	Consortio de Apoyo a la Investigación Biomédica en Red (Support Consortium for On-line Biomedical Research)
CIBER:	Centros de Investigación Biomédica en Red (Biomedical Research Networking Center)
CEIC:	Consejería de Economía, Innovation y Ciencia (Andalusian Regional Government - Department of Economy, Innovation and Science)
CNIC:	Centro National de Investigaciones Cardiovasculares (National Centre for Cardiovascular Research)
CS:	Consejería de Salud (Andalusian Regional Government - Department of Health)
ER:	Emerging Researcher
FI:	Factor de impacto según el Journal Citation Reports (Impact Factor, according to Journal Citation Reports)
FIBICO:	Fundación para la Investigación Biomédica en Córdoba (Foundation for Biomedical Research in Cordoba)
FHRS-C:	Fundación Hospital Reina Sofia Cajasur (Reina Sofia Hospital-Cajasur Foundation)
FIPSE:	Fundación para la Investigación y Prevención del SIDA en España (Foundation for AIDS Research and Prevention in Spain)
HR:	Head Researcher
HURS:	Hospital Universitario Reina Sofía (Reina Sofia University Hospital, Cordoba)
IMIBIC:	Instituto Maimónides de Investigación Biomédica de Córdoba (Maimonides Institute for Biomedical Research, Cordoba)
ISCIH:	Instituto de Salud Carlos III (Carlos III Health Institute) (Head of Carlos III Health Institute, Madrid)
JCR:	Journal Citation Reports
PAIDI:	Plan Andaluz de Investigación, Desarrollo e Innovation (Andalusian Plan for Research, Development and Innovation)
PI:	Principal Investigator
RETICS:	Redes Temáticas de Investigación Cooperativa (Thematic Networks for Research Cooperation)
UCAIB:	Unidad Central de Apoyo a la Investigación Biomédica (Central Support Unit for Biomedical Research)
UCO:	Universidad de Córdoba (University of Córdoba)



IMIBIC

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