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introduction
As an accredited biomedical research center, INCLIVA Health Research Institute takes into consideration the biological complexity of life when planning research strategies, opting for integrative and multidisciplinary work methods. We are proud to announce that this approach has enhanced research excellence at our institute in 2019, resulting in an increased scientific production and a greater number of research projects and clinical trials developed.

Our researchers have submitted 596 articles which have earned over 3,400 impact factor points. The quality of our published scientific production is also noteworthy: articles published in journals in the first and second quartiles of their respective categories accounted for 50% and 20% of total production, respectively. In this regard, we underscore an average impact factor per article of nearly six points. During 2019 INCLIVA maintained almost 109 competitive projects active, and the participation in postgraduate programs has led to 52 doctoral theses defended, 11 of them with European mention.

Our researchers have also been highly successful in European Commission competitive calls, reaching near five million euros of funding in the areas of oncology, big data and artificial intelligence, women’s health, personalized medicine, aging and fragility. It also highlights our participation in international networks such as the Big Data Value Association (BDVA), the European Infrastructure for Translational Medicine (EATRIS), the European high-capacity screening network (EU-OPENSSCREEN) and the global Networking in Personalized Cancer Medicine (WIN) initiative.

Likewise, INCLIVA is the coordinator center of the new European project Human Uterus Cell Atlas (HUTER), led by Prof Carlos Simón. This project, under the umbrella of the international initiative Human Cell Atlas (HCA), involves partners from UK, Sweden and Estonia and will be running along the next two years (2020-2021). Over this year we launched the Precision Medicine Platform, a new support platform for our researchers to develop and promote targeted therapies, and we have also continued to invest in research platforms, dedicating one and a half million euros to new technologies.

Additionally, our Ethical Committee for investigation with medicinal products (CEIm) was one of the first two ones to receive this accreditation in the Valencian Community. In fact, our CEIm has served as the benchmark committee in 54 studies since the new legislation was adopted in 2016, and throughout 2019 we have initiated 159 new clinical studies, with a total of 508 active this year.

Continuing with the institute’s quality and excellence strategy, this year an important milestone has been reached by the accreditation in good clinical practices and certification of compliance with the ISO: 9001 quality standard for the Phase I Clinical Trials Unit of Oncology. This recognition, in addition to evidencing the commitment of management and staff to permanently achieve good results, will enhance the ability to attract relevant studies to INCLIVA in the coming years.
INCLIVA Health Research Institute is committed to establishing and developing policies for equality of treatment and opportunities in all areas of activity, from selection to promotion, passing through salary policies, training, labour and employment conditions, occupational health, regulation of working hours and work-family policies, adopting the equality of opportunity principle. INCLIVA is committed to the European Charter for Researchers and the Code of Conduct for the Recruitment of Researchers (Charter&Code) through the development of the Human Resources Strategy for Researchers - HRS4R and its Open, Transparent and Merit-based recruitment policy (OTM-R). INCLIVA’s HRS4R action plan was approved by the EU on 2019 and should be developed during the next years.

In addition, the Innovation Unit of INCLIVA gives support to researchers in the translational process from scientific knowledge to clinical practice. Besides, Innovation Unit is responsible for detecting ideas, evaluating them and facilitating their access to the market. This year, the Innovation Unit of INCLIVA has obtained a grant from the Agencia Valenciana de Innovación (AVI) in order to reinforce innovation within the Hospital Clínico de Valencia, improve the management of innovation projects according to the UNE166002 system and promote the diffusion of the innovation carried out in INCLIVA.

Another success that the Innovation Unit has had this year is the income it has received from more than 10 million euros with the aim of creating a new Spin-Off for the treatment of sepsis (HISTOS).

Finally, as general and scientific director of INCLIVA I would like to thank all the people who form part of this institute, the board of trustees and the governing board, the external and internal scientific committees, the technical and management staff, and the researchers, without whose commitment, effort and creativity our institution’s current strong growth and leading position would not be possible.

We have to remember that our main duty is to serve patients and eventually the whole society looking for useful solutions and actions to improve quality of life of our citizenship. Therefore, we must continue growing and generating high quality research. Our knowledge, and the breakthroughs results, needs to be transferred as soon as possible to clinical practice to facilitate progress in a sustainable public health system.
origin & structure
2. INCLIVA origin and structure

2.1 History

2.2 Organizational structure

2.2.1. Government structure

2.2.1.2 Board of Governors
2.2.1.3 General and Scientific Director
2.2.1.4 External Scientific Committee
2.2.1.5 Internal Scientific Committee
2.2.1.6 Ethical Committee in Clinical Research

2.2.2. Management structure

2.3 Core facilities
2.1. History

The Hospital Clínico Universitario of Valencia Research Foundation was constituted in the year 2000 as the first Valencian research foundation affiliated to a public hospital. Ten years later, various centers of excellence in biomedical research from the University of Valencia and IUIVI (Valencian Infertility Institute) joined the Foundation through the establishment of specific agreements, and thus INCLIVA Health Research Institute was created.

INCLIVA’s main aims are to manage the biomedical research carried out by the Hospital Clínico Universitario de Valencia and its Health Department, and to encourage teaching and scientific activities, thus improving patient treatment and knowledge sharing.

In 2011 INCLIVA was accredited as a Health Research Institute by the Ministry of Science and Innovation (Ministerio de Ciencia e Innovación) thus obtaining preferential treatment from the Carlos III Health Institute (Instituto de Salud Carlos III), in recognition of its excellence in research.

During 2016 INCLIVA received the official notification of renewal of its accreditation as Health Research Institute for the next five years.
2.2. Organizational structure

2.2.1. Government structure

The highest government body in the Foundation, the Board of Trustees is headed by the Regional Minister for Health of the Valencian Government. This body appoints a Board of Governors—headed by the Chief Executive Officer of the Health Department—the General Director, the Scientific Director and the Financial Director. These are guided by two Research Committees: the External Scientific Committee and the Internal Scientific Committee.

2.2.1.1 Board of Trustees

With a strong representation from the Valencian community, it is the highest collegiate body in the Institute and its function is to establish INCLIVA strategy and policies.

As at December 31st 2019, its members are as follows:

**President**, Ms. Ana Barceló Chico, Regional Minister for Health of the Valencian Government

**Vice-president**, Dr. Álvaro Bonet, Chief Executive Officer of the Hospital Clínico Universitario de Valencia and of the Valencia Clínico – Malvarrosa Health Department

**Board members**

• Mrs. María Vicenta Mestre, Distinguished Dean of the University of Valencia

• Dña. Concha Andrés Sanchis, Autonomous Secretary of Efficiency and Health Technology of the Conselleria de Sanidad Universal y Salud Pública (Autonomous Public Health Department) of the Valencian Government

• Dr. Javier Burgos Muñoz, General Director of Research and High Sanitary Inspection of the Conselleria de Sanidad Universal y Salud Pública (Autonomous Public Health Department) of the Valencian Government

• Mrs. Emilia Adán García, President of the Social Council of the University of Valencia

• Prof. Carlos Simón, Scientific Director of the IGENOMIX Foundation

• Prof. Francisco Javier Chorro, Distinguished Dean of the Faculty of Medicine of the University of Valencia

• Mr. José Bernardo Noblejas Pérez, Valencia Chamber of Commerce

• Dr. María Ángela Nieto Toledano, Instituto de Neurociencias de Alicante CSIC

• Mr. Rafael Alcón Traver, President of Bancaja Foundation

• Mr. Joaquín Santo, Valencian Council of Culture

• Mr. Juan López-Trigo Pichó, Cañada Blanch Foundation

• Dr. Andrés Cervantes Ruípérrez, INCLIVA General Director

**Board members under own name**

• Mr. Carlos Pascual

• Mr. Joaquin Ortega Serrano

• Dr. Ana Lluch Hernández

• Mr. Tomás Trénor Puig

• Mr. Manuel Delgado Rodríguez, Board of Trustees Secretary
2.2.1.2 Board of Governors

The Board of Governors executes and enforces the Board of Trustees agreements. Other duties are to prepare and approve activities and research project proposals and to decide on and allocate the budgetary means.

As at December 31st 2019, its members are as follows:

President, Dr. Álvaro Bonet Pla, Chief Executive Officer of the Hospital Clínico Universitario de Valencia and of the Valencia Clínico – Malvarrosa Health Department

Vice-president, Prof. Francisco Javier Chorro, Distinguished Dean of the Faculty of Medicine of University of Valencia

General Director, Dr. Andrés Cervantes Rupírez, INCLIVA General Director

Secretary General, Ms. Maite Sáenz González

Board members:
• Mr. Vicente de Juan Martín, Financial-Administrative Director
• Dr. Ana Sanmartín Almenar, Primary Care Director of the Hospital Clínico Universitario de Valencia and of the Valencia Clínico – Malvarrosa Health Department
• Dr. Jorge Navarro Pérez, Medical Director of Hospital Clínico Universitario de Valencia and of the Valencia Clínico – Malvarrosa Health Department
• Dr. Javier Burgos Muñoz, General Director of Research and

2.2.1.3 General and Scientific Director

Andrés Cervantes Rupírez is Professor of Medicine at the University of Valencia and Head of the Oncology Service of the Hospital Clínico Universitario de Valencia at the INCLIVA Health Research Institute.

His training as a resident medical intern took place at the Hospital Clínico Universitario de Valencia. After completing this residency he obtained a predoctoral fellowship at the Free University Hospital in Amsterdam, where he obtained his Doctorate in the laboratory of cellular pharmacology, with work on multidrug resistance.

His area of interest and research is cancer, as well as phase I trials and new drugs development.

As a clinical researcher in rectal cancer, he has published several papers on the quality of multidisciplinary work as well as on evaluating the quality of mesorectal surgery, how to optimize initial therapy choices and especially, how to treat cancer of the upper third of the rectum.

He is the Elected President of the European Society of Medical Oncology (ESMO) since July 2019.
2.2.1.4 External Scientific Committee

The External Scientific Committee assesses the collegiate government bodies on research carried out and safeguards the quality of that research.

Its national and international members are appointed by the Board of Trustees, who chooses at least one expert in every INCLIVA priority area of research. It is constituted by well-known professionals renowned within the scientific community.

The composition of the External Scientific Committee as at December 31st 2019, its members are as follows:

President, Dr. Javier Díez. Professor of Medicine, University of Navarra. Director of the Cardiovascular Sciences Area, Center for Applied Medical Research (CIMA), University of Navarra

Members

- Dr. Antonio Vidal-Puig. Professor of Molecular Nutrition and Metabolism, University of Cambridge. Honorary consultant in metabolic medicine. Metabolic research laboratories. Addenbrooke’s Hospital, Cambridge, United Kingdom
- Dr. Josep Tabernero. Head of the Medical Oncology Service. Vall d’Hebrón Hospital.
- Dr. José María Medina. Professor of Biochemistry and Molecular Biology. University of Salamanca. Institute of Neurosciences of Castilla y León, INCYL
- Dr. Josep Redón, Professor of the Department of Medicine of the University of Valencia. Head of the Internal Medicine Service of the Hospital Clínico Universitario de Valencia and of the Valencia Clínico – Malvarrosa Health Department
- Dr. Juan Carlos Lacał Sanjuán. Research Professor at the CSIC. Institute of Biomedical Research, Madrid
- Dr. Manuel Tena Sempere. Professor of University. Department of Cell Biology, Physiology and Immunology. University of Cordoba

2.2.1.5 Internal Scientific Committee

INCLIVA’s Internal Scientific Committee is advisory to the General Director and the Scientific Director, evaluating and supervising the scientific content of the research areas.

As at December 31st 2019, the Committee composition is as follows:

President, Dr. Andrés Cervantes Ruipérez, INCLIVA General Director

Members

- Dr. Ana Sanmartín Almenar. Primary Care Director of the Hospital Clínico Universitario de Valencia and of the Valencia Clínico – Malvarrosa Health Department
- Dr. Jorge Navarro Pérez. Medical Director of Hospital Clínico Universitario de Valencia and of the Valencia Clínico – Malvarrosa Health Department
- Dr. Julio Núñez, Associate Professor of the Department of Medicine of the University of Valencia, Attached to the Scientific Direction
- Dr. Vicente Bodí, Professor of the Department of Medicine of the University of Valencia
- Dr. Josep Redón, Professor of the Department of Medicine of the University of Valencia. Head of the Internal Medicine Service of the Hospital Clínico Universitario de Valencia and of the Valencia Clínico – Malvarrosa Health Department
- Dr. Juan Carlos Lacał Sanjuán. Research Professor at the CSIC. Institute of Biomedical Research, Madrid
- Dr. Manuel Tena Sempere. Professor of University. Department of Cell Biology, Physiology and Immunology. University of Cordoba
- Dr. María Jesús Sanz Ferrando, Professor of the Department of Pharmacology at the University of Valencia
- Dr. Ana Lluch Hernández, Emeritus Professor of the Department of Medicine of the University of Valencia
- Dr. María del Mar Tomero García. Oncologist at the Hospital Clínico Universitario de Valencia and of the Valencia Clínico – Malvarrosa Health Department Hematology Service
2.2.1.6 Ethical Committee for investigation with medicinal products (CEIm)

The Ethical Committee for investigation with medicinal products (CEIm) of the Hospital Clínico Universitario de Valencia is the independent body whose task is to safeguard the protection of the rights, security and welfare of the subjects taking part in a clinical trial or research project.

Among others tasks, this Committee assesses the protocol, the aptitude of the participating researchers, the adequacy of the center’s facilities, and ensures the use and quality of the Fact Sheet for Patients in order to secure the informed consent.

The members of the CEIm in the Hospital Clínico Universitario de Valencia, dated December 31st 2019, are the following:

**President**, Dr. Marina Soro Domingo. Head of Section of the Anesthesiology and Reanimation Unit

**Vice-president**, Prof. Esteban Morcillo Sánchez, Clinical pharmacologist

**Secretary**, Dr. Julio Palmero Da Cruz, Head of Radiodiagnosis Service

**Members**
- Dr. Manuel Alós Almiñana, Head of the Pharmacy Department
- Dr. Diego V. Cano Blanquer, Hospital Pharmacist
- Mrs. Mª José Tarín Blasco, Law Degree
- Dr. José Luis Trillo Mata, Primary Care Pharmacist
- Mrs. Mª Ángeles Mora Pla, Nurse
- Dr. Luis González Luján, Primary Attention doctor
- Prof. Joaquín Ortega Serrano, Head of the General Surgery Service
- Dr. Patricia Roselló Millet, Specialist of the Pediatrics Department
- Dr. Ricardo Ruiz Granell, Head of Section of Cardiostimulation of Cardiology Department
- Dr. Mª Jesús Puchades Montesa, Specialist of the Nephrology Department
- Dr. José Alejandro Pérez Fidalgo, Specialist of the Oncology Department
- Dr. Tania Fleitas Kanonnikoff, Specialist of the Oncology Department
- Dr. Mª Luisa Calabuig Muñoz, Médico Specialist of the Hematology Department
- Dr. Antonio Peláez Hernández, Allergy Specialist
- Dr. Francisco Dasí Fernández, Stabilized Miguel Servet Researcher
- Mr. Luis Miguel Bayo Calaforra, “Amics de la Gent Major” Foundation
- Mr. Rafael Barajas Cenobio, Responsible for Quality and Data Protection INCLIVA
- Mrs. Vanesa Carretero López, Coordinator
- Mrs. Maialen Llopis, Administrative

**Technical Secretary**
Dr. Julio Palmero Da Cruz, Head of Radiodiagnosis Service

**Administrative Secretary**
Vanesa Carretero López
Maialen Llopis Maiztegui
email: ceic_hcv@gva.es
phone number: 96 197 39 76
2.2.2. Management structure

The organizational chart, approved at the Board of Trustees held on December 4, is comprised of two sub-directorates, economic and scientific.

The first sub-directorate is in charge of the administrative area, which deals with the financial and administrative matters as well as with human resource management.

The second is in charge of the scientific activity management and innovation. It is responsible for integral scientific management that includes controlling and monitoring clinical trials and research projects, organizing courses, conferences and seminars, and several tasks related to general administration. Furthermore, it acts as an administrative support to the different affiliated scientific committees and to the Medical Research Central Unit. It comprises the innovation area in charge of quality and planning, innovation management, international programs and scientific and innovative culture promotion (UCCI).
INCLIVA origin and structure

2.3. Core Facilities

In 2004 INCLIVA and the Central Service for Experimental Research Support (SCIE) of the University of Valencia signed a collaboration agreement aimed at enhancing cooperation between both institutions, with special emphasis on research projects and collective research activities. It gives Hospital Clínico Universitario de Valencia research staff access to and use of the Central Unit for Medical Research facilities as well as research stay opportunities.

The Central Unit for Medical Research (UCIM) was created thanks to FEDER funds in 1990. From its inception, it has received several grants from both University of Valencia and INCLIVA funds, as well as from external funds (Comisión Interministerial de Ciencia y Tecnología, Generalitat Valenciana and Fondo de Investigaciones Sanitarias).

In addition to these support units, INCLIVA has four additional platforms: the Biobank, the Bioinformatics Unit, the Precision Medicine Unit and the Cytogenetics Laboratory. The latter was created as such in 2013, through a Carlos III Health Institute PROMIIS grant program to improve infrastructures. These laboratories are supported by several research technicians and technical assistants included in the organization’s structure thanks to diverse public grants or directly from the University budget.

The research support platforms are:

- Cell Culture Unit
- Flow Cytometric Unit
- Multigenic Analysis Unit
- Confocal Microscopy Unit
- Sequenom Platform
- Personal Autonomy, Dependence and Severe Mental Disorders Assessment Unit
- Laboratory of Molecular Imaging and Metabolomics
- Animal Housing and Experimental Operating Theaters Unit
- Proteomics Unit
- Small Animals PET/CT Camera and Laboratory for Radioactive Isotopes

INCLIVA Platforms are:

- Biobank
- Bioinformatics and Biostatistics Unit
- Precision Medicine Unit
- Cytogenetics Laboratory
global analysis
3. global analysis
   3.1 Scientific production global analysis
   3.2. Financial resources
   3.3 Cooperative research networks
   3.4 Knowledge transfer activities
      3.4.1 Knowledge transfer to the National Health System
      3.4.2. Innovation and Knowledge transfer
         3.4.2.1 Intellectual Assets
         3.4.2.2 Entrepreneurship
### 3.1 Scientific production global analysis

As in previous years, INCLIVA continued in 2019 with the upward trend in the quality of scientific production. The number of publications this year is 596, with a cumulative impact factor of 3.454,57 which translates into an average impact factor 5.80.

The following figures depict the number and quality of the published manuscripts expressed in terms of total and average impact factor:

The distribution by quartiles within their thematic categories is shown below. In 2019, about 80% of the papers that were published in indexed journals belong to the first and second quartiles of their corresponding thematic categories:

<table>
<thead>
<tr>
<th>Year</th>
<th>Publications indexed</th>
<th>Cumulative impact factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>635</td>
<td>2579</td>
</tr>
<tr>
<td>2016</td>
<td>649</td>
<td>2932</td>
</tr>
<tr>
<td>2017</td>
<td>584</td>
<td>3619</td>
</tr>
<tr>
<td>2018</td>
<td>550</td>
<td>3861</td>
</tr>
<tr>
<td>2019</td>
<td>596</td>
<td>3454</td>
</tr>
</tbody>
</table>

**3.454,576 Cumulative Impact Factor**

**5,806 Average Impact Factor**

**88 Publications with IF>7**

**150 First decile Publications**
global analysis

The distribution by quartiles within their thematic categories is shown below. In 2019, about 80% of the papers that were published in indexed journals belong to the first and second quartiles of their corresponding thematic categories:

The number and percentage of scientific publications according to category are:

<table>
<thead>
<tr>
<th>Category</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Articles</td>
<td>463</td>
</tr>
<tr>
<td>Corrections</td>
<td>10</td>
</tr>
<tr>
<td>Editorials</td>
<td>42</td>
</tr>
<tr>
<td>Letters</td>
<td>25</td>
</tr>
<tr>
<td>Reviews</td>
<td>56</td>
</tr>
</tbody>
</table>

One of the main success factors for a biomedical research institution, it is potent to do with its potential to establish high level scientific collaborations. The percentage of national and international collaborations which led to scientific output in 2019 is listed below.

Another key performance indicator is the leadership role in scientific publications. The chart below shows the number of published articles in which INCLIVA researchers sign as last author, corresponding author or both at the same time.

Leadership in scientific production

- Corresponding author: 198
- Last author: 225
- Corresponding author + Last author: 423
The annual evolution of research staff, classified according to their profile in the European research career, is shown in the followings graphs. The list of Research profiles descriptors can be found at https://euraxess.ec.europa.eu/europe/career-development/training-researchers/research-profiles-descriptors.
INCLIVA’s funding during 2019 totaled €10.447.574,25. The funds raised from competitive sources were still higher than the average of recent years.

Funding source in the indicated period is shown below.

The remaining income corresponds to private sources of funding, clinical trial revenues and grants among others. The graph below shows this distribution of the year 2019.
The analysis of the income obtained by the Foundation in its last fiscal year (2019) is shown in the table.

<table>
<thead>
<tr>
<th>INCOME</th>
<th>AMOUNT</th>
<th>OVERHEADS</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>TURNOVER</td>
<td>3,647,560,81</td>
<td>831,039,22</td>
<td>4,478,600,03</td>
</tr>
<tr>
<td>DONATIONS</td>
<td>353,801,27</td>
<td>32,636,59</td>
<td>386,437,86</td>
</tr>
<tr>
<td>GRANTS</td>
<td>4,323,623,14</td>
<td>537,790,64</td>
<td>4,861,413,78</td>
</tr>
<tr>
<td>CAPITAL GRANTS</td>
<td>716,812,91</td>
<td></td>
<td>716,812,91</td>
</tr>
<tr>
<td>FINANCIAL</td>
<td>1,750,27</td>
<td></td>
<td>1,750,27</td>
</tr>
<tr>
<td>EXTRAORDINARI</td>
<td>2,559,40</td>
<td></td>
<td>2,559,40</td>
</tr>
<tr>
<td>TOTAL INCOME</td>
<td>9,046,107,80</td>
<td>1,401,466,45</td>
<td>10,447,574,25</td>
</tr>
</tbody>
</table>

Also used as a source of information the Annual Accounts of 2019 approved by the Board of Trustees of the Foundation and audited by the General Intervention of the Generalitat Valenciana (through the audit firm BDO Auditores) the information of the expenses executed is provided, with the explanation of the use of the corresponding indirect costs.

<table>
<thead>
<tr>
<th>EXPENSES</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>CASH FUNDING</td>
<td>114,443,24</td>
</tr>
<tr>
<td>SUPPLIES</td>
<td>1,463,504,72</td>
</tr>
<tr>
<td>OTHER FUNCIONAL EXPENSES (ACTIVITY)</td>
<td>1,575,975,26</td>
</tr>
<tr>
<td>STAFF COSTS</td>
<td>5,438,425,63</td>
</tr>
<tr>
<td>OTHER FUNCIONAL EXPENSES (STRUCTURAL)</td>
<td>490,939,58</td>
</tr>
<tr>
<td>EXTRAORDINARY EXPENSES</td>
<td>26,267,41</td>
</tr>
<tr>
<td>INVENTORY ITEM DONATION EXPENSES</td>
<td>12,715,92</td>
</tr>
<tr>
<td>AMORTIZATION OF FIXED ASSETS</td>
<td>912,794,99</td>
</tr>
<tr>
<td>TOTAL EXPENSES</td>
<td>10,035,066,75</td>
</tr>
</tbody>
</table>
Finally, this is the balance sheet of the foundation in official format, extracted from the Annual Accounts of 2019:

<table>
<thead>
<tr>
<th>ASSETS</th>
<th>REPORT</th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A)</strong> NON-CURRENT ASSETS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I. Intangible assets</td>
<td>Note 8</td>
<td>2.624.281,98</td>
<td>2.714.513,78</td>
</tr>
<tr>
<td>2. Concessions</td>
<td></td>
<td>6.914,10</td>
<td>7.342,40</td>
</tr>
<tr>
<td>3. Patents, licences, trademarks and similar</td>
<td></td>
<td>54.393,13</td>
<td>94.080,44</td>
</tr>
<tr>
<td>5. Computer Software</td>
<td></td>
<td>4.948.109,93</td>
<td>5.155.310,57</td>
</tr>
<tr>
<td>III. Investment property</td>
<td>Note 5</td>
<td>4.948.109,93</td>
<td>5.155.310,57</td>
</tr>
<tr>
<td>2. Technical facilities and other tangible fixed assets</td>
<td></td>
<td>6.086.409,73</td>
<td>5.959.171,10</td>
</tr>
<tr>
<td>VI. Deferred tax assets</td>
<td>Note 10.1</td>
<td>2.592.470,13</td>
<td>3.117.003,90</td>
</tr>
<tr>
<td>1. Other government loans</td>
<td></td>
<td>330.010,06</td>
<td>351.776,00</td>
</tr>
<tr>
<td>2. Other loans from private entities</td>
<td></td>
<td>3.163.929,54</td>
<td>2.490.391,20</td>
</tr>
<tr>
<td>3. European Union loans</td>
<td></td>
<td>2,490,391.20</td>
<td>752,258.72</td>
</tr>
<tr>
<td><strong>B)</strong> CURRENT ASSETS</td>
<td></td>
<td>17.256.797,76</td>
<td>14.055.922,03</td>
</tr>
<tr>
<td>III. Trade and other receivables</td>
<td>Note 11</td>
<td>2.912.699,32</td>
<td>2.250.827,10</td>
</tr>
<tr>
<td>IV. Trade and other accounts receivable</td>
<td>Note 10.1</td>
<td>7.909.761,00</td>
<td>4.156.528,30</td>
</tr>
<tr>
<td>6. Other government loans</td>
<td>Note 16</td>
<td>7.909.761,00</td>
<td>4.156.528,30</td>
</tr>
<tr>
<td>VI. Prepayments for current assets</td>
<td>Note 10.1</td>
<td>2.416,00</td>
<td>500.000.00</td>
</tr>
<tr>
<td>5. Other financial assets</td>
<td></td>
<td>2.416,00</td>
<td>500.000.00</td>
</tr>
<tr>
<td>VIII. Cash and cash equivalents</td>
<td></td>
<td>6.431.921,44</td>
<td>7.148.566,63</td>
</tr>
<tr>
<td>1. Cash</td>
<td>Note 10.1</td>
<td>6.431.921,44</td>
<td>7.148.566,63</td>
</tr>
<tr>
<td><strong>TOTAL ASSETS (A + B)</strong></td>
<td></td>
<td>30.976.906,63</td>
<td>27.986.340,32</td>
</tr>
</tbody>
</table>
### EQUITY AND LIABILITIES

**REPORT** | **FISCAL YEAR 2019** | **FISCAL YEAR 2018**
---|---|---
**NOTES** | **11,768,753,72** | **11,565,676,83**
A) EQUITY | | |
A-1) Capital and reserves without valuation adjustments | **6,822,884,88** | **6,410,377,38**
I. Endowments | | |
II. Reserves | Note 13 | **617,482,67** | **617,482,67**
2. Other reserves | | |
IV. Annual surplus | | **412,507,50** | **954,551,73**
A-3) Grants, donations or gifts and legacies received | Note 21 | **4,945,868,84** | **5,155,299,45**
B) NON-CURRENT LIABILITIES | **6,420,138,34** | **6,277,039,96**
II. Non-current payables | Note 21 | **6,420,138,34** | **6,277,039,96**
5. Other financial liabilities | | **6,420,138,34** | **6,277,039,96**
C) CURRENT LIABILITIES | **12,788,014,57** | **10,143,623,53**
II. Current provisions | Note 18 | **249,934,64** | **171,714,54**
III. Current payables | Note 21 | **8,247,246,06** | **6,531,702,94**
5. Other financial liabilities | | **8,247,246,06** | **6,531,702,94**
V. Beneficiaries-Creditors | Note 12 | **2,326,797,76** | **1,469,891,39**
VI. Trade creditors and other accounts payable | | **1,945,644,51** | **1,970,314,66**
1. Suppliers | note 10.2 | **16,644,06** | **56,962,66**
3. Other payables | note 10.2 | **183,016,29** | **129,008,82**
4. Personnel (salaries payable) | note 16 | **143,47** | **0,00**
6. Public entities, other | note 16 | **1,745,840,89** | **1,765,990,99**
7. Advances from customers | note 10.2 | **18,391,60** | **18,352,19**
**TOTAL NET WORTH AND LIABILITIES (A + B + C)** | **30,976,906,63** | **27,986,340,32**
### 3.3 Cooperative research networks

The Carlos III Health Institute (Instituto de Salud Carlos III) develops – through the General Subdirection of Networks and Centers for the Cooperative Research – the creation of stable research network structures such as RETICS (Thematic Networks of Cooperative Research) and CIBER (Network of Centres for Biomedical Research). INCLIVA participates in many of these research structures through its associated groups.

The following table shows the participation in scientific networks according to the prioritized research area, the center and its principal investigator:

**CIBER**

<table>
<thead>
<tr>
<th>Research Area</th>
<th>INCLIVA PI</th>
<th>Scientific Network</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cardiovascular</strong></td>
<td>Dr. José Tomás Real Collado</td>
<td>CIBERdem</td>
<td>CB07/08/0018</td>
</tr>
<tr>
<td></td>
<td>Dr. Empar Lurbe i Ferrer</td>
<td>CIBERobn</td>
<td>CB06/03/0039</td>
</tr>
<tr>
<td></td>
<td>Dr. Francisco Javier Chorro Gascó</td>
<td>CIBERcv</td>
<td>CB16/11/00486</td>
</tr>
<tr>
<td></td>
<td>Dr. Juan Sanchis Forés</td>
<td>CIBERcv</td>
<td>CB16/11/00420</td>
</tr>
<tr>
<td><strong>Metabolism and Organ Damage</strong></td>
<td>Dr. Guillermo Sáez Tormo</td>
<td>CIBERobn</td>
<td>CB12/03/30016</td>
</tr>
<tr>
<td></td>
<td>Dr. Esteban Morcillo Sánchez</td>
<td>CIBERres</td>
<td>CB06/06/0027</td>
</tr>
<tr>
<td></td>
<td>Dr. Federico V. Pallardó Calatayud</td>
<td>CIBERrer</td>
<td>CB06/07/0073</td>
</tr>
<tr>
<td></td>
<td>Dr. Julio Sanjuán Arias</td>
<td>CIBERSam</td>
<td>CB07/09/006</td>
</tr>
<tr>
<td></td>
<td>Dr. Rafael Tabarés Seisdedos</td>
<td>CIBERSam</td>
<td>CB07/09/0021</td>
</tr>
<tr>
<td></td>
<td>Dr. Juan Vicente Esplugues Mota</td>
<td>CIBERehd</td>
<td>CB06/04/0071</td>
</tr>
<tr>
<td></td>
<td>Dr. José Viña Ribes</td>
<td>CIBERfes</td>
<td>CB16/10/00435</td>
</tr>
<tr>
<td><strong>Oncology</strong></td>
<td>Dr. Andrés Cervantes Ruipérez</td>
<td>CIBERonc</td>
<td>CB16/12/00473</td>
</tr>
<tr>
<td></td>
<td>Dr. Ana Lluch Hernández</td>
<td>CIBERonc</td>
<td>CB16/12/00481</td>
</tr>
<tr>
<td></td>
<td>Dr. Rosa Noguera Salvá</td>
<td>CIBERonc</td>
<td>CB16/12/00484</td>
</tr>
</tbody>
</table>
3.4 Knowledge transfer activities

INCLIVA Health Research Institute is fully committed to transfer the knowledge created both to the National Health System and to the industrial sector in order to fulfil its organizational mission.

3.4.1 Knowledge transfer to the National Health System

Clinical guidelines and consensus documents are one of the best indicators of knowledge transfer from research to clinical practice. The following table shows guidelines published in indexed journals in which authors attached to INCLIVA have been involved.

These clinical practice guidelines are implemented in the IIS health centers.

<table>
<thead>
<tr>
<th>Clinical guidelines</th>
<th>IF</th>
</tr>
</thead>
</table>


<table>
<thead>
<tr>
<th>Consensus documents</th>
<th>IF</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>60.869</td>
</tr>
</tbody>
</table>


3.4.2. Innovation and Knowledge transfer

One of the main objectives of INCLIVA is the development of translational research, that is, research that transports scientific knowledge into clinical practice. To achieve this objective, multidisciplinary collaboration between basic and clinical researchers is necessary, so that the discoveries generated can be taken as products or processes capable of effectively improving the diagnosis, treatment and, in conclusion, the quality of life of the patient.

The Innovation Unit of INCLIVA gives support in this translational process, detecting ideas, evaluating them and facilitating their access to the market. This process that goes from the identification of a wide range of ideas to the market launch of those selected products or services through different phases is known as an innovation funnel.

The breakdown of the INCLIVA innovation funnel in 2019 is the following:

<table>
<thead>
<tr>
<th></th>
<th>ITC Health</th>
<th>Device</th>
<th>Pharma</th>
<th>Bio</th>
<th>Imaging</th>
<th>Organizational</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detection</td>
<td>2</td>
<td>1</td>
<td>7</td>
<td>16</td>
<td>0</td>
<td>1</td>
<td>27</td>
</tr>
<tr>
<td>Assessment</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Development</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Transfer</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Market</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>11</td>
<td>0</td>
<td>0</td>
<td>12</td>
</tr>
</tbody>
</table>
3.4.2.1 Intellectual Assets

The protection of knowledge is the first step to move scientific findings and ideas from researchers to the industry and the most common way to protect technologies that are new, inventive and have industrial application are patents. Research institutions can exploit the patents they hold by licensing them to companies.

A large part of the results derived from the research activity, generated by the research staff in the field of their teaching and research functions, are capable of being protected by means of some of the forms of protection of industrial or intellectual property.

INCLIVA counts on 11 active patent applications in 2019, including one utility model. INCLIVA applied for two patents in 2019. In addition, during 2019 there was a software registration. The next plot summarizes the current status of these protected inventions.

During 2019, the extension to other countries of 3 patents and the PCT application of 2 patents were made. The following graph summarizes the status of patent applications by territory.
global analysis

3.4.2.2 Entrepreneurship

When the knowledge generated in INCLIVA is disruptive and the researches are willing to exploit it by themselves, the knowledge transfer is direct, thanks to the creation of a new venture (also known as a spin-off or start-up) based on such knowledge with the support of INCLIVA.

INCLIVA counts with the following companies officially recognized as spin-offs:

**Epidesase S.L.**
- Founding year: 2014
- **INCLIVA entrepreneurial team:** Dr. José Luis García Giménez and Dr. Federico Pallardó
- [http://www.epidisease.com/](http://www.epidisease.com/)

**Sequencing Multiplex S.L.**
- Founding year: 2013
- **INCLIVA entrepreneurial team:** Dr. Javier Chaves
- [https://www.seqplexing.com/es](https://www.seqplexing.com/es)

**ITEMAS PLATFORM**

INCLIVA is part of the ITEMAS Platform for the promotion of innovative ideas that arise from healthcare professionals. To do this, INCLIVA participates in 3 ITEMAS working groups: GT Best Practices in medicines and health products; GT Entrepreneurship and GT Medical Technologies e-Hospital.
4. scientific activity

4.1 Scientific structure

4.2 Scientific translational programs
  4.2.1 Overweight and cardiovascular and renal risk
  4.2.2 Myocardial ischemic damage
  4.2.3 Rare diseases
  4.2.4 Neurological impairment
  4.2.5 Translational oncology
  4.2.6 Reproductive medicine
  4.2.7 Aging and its associated diseases

4.3. Research areas
  4.3.1 Cardiovascular Area
  4.3.2 Oncology Area
  4.3.3 Metabolism and organic damage area
  4.3.4 Reproductive medicine area

4.4. Hospital divisions research areas

4.5 Other scientific contributions from scientific platforms
  4.5.1 Biobank
  4.5.2 Oncology Phase I clinical trials unit
  4.5.3 Innovation Platform ITEMAS
  4.5.4 Spanish Clinical Research Network (SCReN), Clinical Research and Clinical Trials of the Clinical Trials Platform (UICEC INCLIVA)
  4.5.5 Precission Medicine
  4.5.6 Bioinformatic and Biostatistics
4.1 Scientific structure

INCLIVA articulates its research in 4 areas of research, 8 scientific programs and 3 platforms.

**Areas of research constitute the basis on which to articulate the scientific work of the groups:**
- Research area in oncology.
- Research area in cardiovascular.
- Research area in metabolism and organ damage.
- Research area in reproductive medicine.

**Scientific programs are aimed at specific diseases from a translational perspective:**
- Program in overweight and cardiovascular and renal risk.
- Program in myocardial ischemic damage.
- Program in rare diseases.
- Program in neurological impairment.
- Program in translational oncology.
- Program in reproductive medicine.
- Program in aging and its associated diseases.

**Platforms are based on the provision of research services to the whole institute:**
- Inflammation platform.
- Metabolomics platform.
- Genomics, epigenomics and transcriptomics platform.
4.2 Scientific translational programs

4.2.1 Overweight and cardiovascular and renal risk

Obesity and overweight is a field in which new strategies are developed both for prevention and treatment with the use of traditional resources and the new technologies. The present program is focused on the study of pathology on the first stages of obesity (overweight with or without metabolic syndrome) integrating different clinical and experimental research studies.

**Coordinators** Dr. José Tomás Real and Dr. Josep Redon

**INCLIVA research groups involved**

**Clinical groups:**
- Research Group on the Study of Cardiometabolic and Renal Risk (Dr. Redón)
- Research Group on Cardiometabolic Risk (Dr. Ascaso)
- Research Group on the Study of Cardiovascular Risk in Children and Adolescents (Dr. Lurbe)
- Translational Research Group on Nutrition and Metabolism (Dr. Hernández)
- Cardiometabolic Research Group on Primary Care (Dr. Navarro)

**Experimental groups:**
- Research Group of the Genotyping and Genetic Diagnosis Unit (UGDG) (Dr. Chaves)
- Research Group on Endothelial Cells (Dr. Hermenegildo)
- Research Group on Inflammation (Dr. Morcillo y Dr. Sanz)
- Research Group on Molecular Imaging and Metabolomics (Dr. Monleón)

**Objectives**
- To deepen in the early alterations, mechanisms and biomarkers that contribute to the development of obesity, vascular and renal alterations as a complication, from its fetal, biological, genetic and environmental origins.
- To know potential signaling pathways susceptible to be therapeutic targets.
- Early application of new technologies for the prevention and treatment of obesity and vascular and renal alterations in overweight subjects.

**Research lines**
- To identify early vascular and renal changes in overweight subjects and in animal models.
- To study the state, mechanisms of vascular inflammation and endothelial injury in overweight and animal models.
- To analyze the relationship of “omic” markers (genomic, epigenetic and metabolomic) with obesity and vascular and renal alterations in overweight and animal models.
- Interaction of biomarkers (biological, genomic and metabolical) and intervention in progression to obesity and vascular and renal complications.

<table>
<thead>
<tr>
<th>OVERWEIGHT AND CARDIOVASCULAR AND RENAL RISK</th>
<th>ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJECTIVES</td>
<td>STATE</td>
</tr>
<tr>
<td>Metabolic, vascular and renal evaluation of overweight patients (children and adults)</td>
<td>Achieve</td>
</tr>
</tbody>
</table>
| Characterization of the relationship between overweight and vascular inflammation / endothelial function | Partially achieved

X

X
<table>
<thead>
<tr>
<th>Scientific Activity</th>
<th>Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of molecular markers that relate overweight with its associated diseases</td>
<td>Metabolomic measurements (80 spectral features) of 3 cohorts (4500 subjects) for associations between obesity, associated diseases and morbidities and early alterations of metabolism. Focus on the metabolic interaction between host and gut microbiota. Cohorts: Rio Hortega (general population), AWHS (working population) and PIANCAVALLO (obese and morbid obese)</td>
<td>X</td>
</tr>
<tr>
<td>Identification of metabolomic markers that relate overweight with its associated morbidities</td>
<td>Metabolomic measurements (80 spectral features) of 3 cohorts (4500 subjects) for associations between obesity, associated diseases and morbidities and early alterations of metabolism. Focus on the metabolic interaction between host and gut microbiota. Cohorts: Rio Hortega (general population), AWHS (working population) and PIANCAVALLO (obese and morbid obese)</td>
<td>X</td>
</tr>
<tr>
<td>Development of new early detection systems for obesity and its associated complications</td>
<td>Metabolomic measurements (80 spectral features) of 3 cohorts (4500 subjects) for associations between obesity, associated diseases and morbidities and early alterations of metabolism. Focus on the metabolic interaction between host and gut microbiota. Cohorts: Rio Hortega (general population), AWHS (working population) and PIANCAVALLO (obese and morbid obese)</td>
<td>X</td>
</tr>
<tr>
<td>Identification of molecular targets of obesity and its associated complications and development of new therapies</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
4.2.2 Myocardial ischemic damage

The program focuses on the study of the pathophysiological mechanisms involved in myocardial ischemic damage, on its structural, functional and electrophysiological repercussions on the evaluation of diagnostic tools and markers and prognoses and on the study of new therapeutic approaches that may help to prevent their adverse consequences.

It is a truly and translational research program that capitalizes the synergies between clinical and experimental research groups and also includes specialists in cardiac imaging techniques and technological development experts. The multidisciplinary approach extends the possibilities of collaboration between groups, strengthens those already existing and incorporates other groups into the activities of the program. Innovation through the development of analytical tools [imaging techniques such as cardiac magnetic resonance, cardiac electrical signals or cartographic techniques], allows the generalize of patents in the field of technological development.

Coordinator Dr. Francisco Javier Chorro Gascó

INCLIVA research groups involved

Clinical groups:
• Research Group on Clinical Cardiology (Dr. Sanchis, Dr. Nuñez)
• Group on Translational Research in Ischemic Heart Disease (Dr. Bodí)
• Research Group on Cardiac Experimental Electrophysiology (Dr. Chorro)

Experimental groups:
• Research Group on Aging and Physical Activity (Dr. José Viña)
• Research Group on Tissular Biochemistry (Dr. Juan Viña)
• Research Group on Inflammation (Dr. Morcillo and Dr. Sanz)
• Research Group on Endothelial Cells (Dr. Hermenegildo)
• Research Group on Molecular Imaging and Metabolomics (Dr. Monleón)

Others groups involved
Universitat Politècnica de València (Prof. D. Moratal, Prof. J. Millet), H. Clinic Barcelona (Dr. Ortiz), Heart Center Munich (Dr. Husser), ERESA (Dr. López), Universitat de València, Fac. Físicas (Prof. J. Guerrero), Center for Arrhythmia Research (University of Michigan, Prof. Jalife), School of Engineering (Univ. of California, Prof. Escobar).

Objectives
• Study of the pathophysiological mechanisms involved in myocardial ischemic damage and its structural, functional and electrophysiological repercussions.

• Evaluation of diagnostic and prognostic tools and markers.
• Evaluation of new therapeutic approaches.
• Study of the role played by: a) oxidative stress and its modifications in post-infarction damage; b) the vascular endothelial growth factor VEGF-A165b in microvascular obstruction, the deterioration of systolic function in the neoangiogenesis.
• Development of new diagnostic tools in cardiac magnetic resonance (MRI) for the detection of damage associated with ischemia / reperfusion and fibrosis.
• Evaluation of new prognostic and functional biomarkers in myocardial infarction from MRI, maximal O2 consumption, metabolomics and the combined use of CA125, galectin-1 and galectin 3.
• Development and analysis of preventive measures against the adverse consequences of postinfarction damage (remodeling, heart failure, arrhythmias).

Research lines
• Clinical research: acute coronary syndromes, interventionl cardiology, ventricular remodeling and heart failure.
• Translational research: regulation of post-infarction fibrosis; development of innovative tools for their characterization by MR after an infarct and study of new therapeutic approaches.
• Experimental study of arrhythmogenesis in the context of ischemia and myocardial damage. Influence of the substrate and the modulating mechanisms.
• Microimaging using RM. Metabolomics.
• Research of textures using RM.
- Analysis, using molecular biology and biochemical techniques of circulating metabolic factors associated with ischemic damage.
- Endothelial dysfunction.
- Microvascular obstruction.

<table>
<thead>
<tr>
<th>MYOCARDIAL ISCHEMIC DAMAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OBJECTIVES</strong></td>
</tr>
</tbody>
</table>
| Study of the basic mechanisms involved in myocardial damage | . Oxidative stress during reperfusion in acute myocardial infarction  
. Neoangiogenesis, the appearance of microvascular obstruction and impaired function systolic |       |
|                             | Achieve | Partially achieved | Not achieved |
| Diagnosis through new RM tools | . RM micro-image for the development of combinations of RM sequences without contrast  
. Analysis of myocardial textures  
. Offline evaluation of myocardial tension |       |
| Prediction through new biomarkers | . Definition of new serological indicators with NMR-S to predict DR and fibrosis  
. Serum CA125, galectin-1 and galectin-3 markers |       |
| Prevention                  | . DR prevention through multiple antioxidant treatment  
. Prevention of deterioration of systolic function, fibrosis and arrhythmias |       |

X means that the action is achieved or partially achieved.
4.2.3 Rare diseases

The main objectives of the program is to improve diagnosis and current treatments of rare diseases. To this end, we will proceed to identify and validate rare disease biomarkers for which we do not have effective diagnostic and / or prognostic indicators. On the other hand, new therapeutic strategies will be developed for the treatment of these diseases. Human and animal model samples will be used to understand the molecular basis of disease, to evaluate the activity of candidate drugs and to discover new biomarkers.

Basically, the program seeks to fill the gap between basic research and commercial development of diagnostic systems and treatments, so its aim is to transfer this knowledge to companies, in order to transform biomedical knowledge into products and services that improve the human health. With this objective contacts with biotechnology and pharmaceutical companies have been established. On the other hand, the program aims to disseminate its findings to society in order to get feedback about actual patients’ needs.

**Coordinators:** Dr. Federico Pallardó and Dr. Francisco Dasí

**INCLIVA research groups involved**

**Clinical groups:**
- Research Group on Respiratory Problems in Neuromuscular Diseases (Dr. Servera)

**Experimental groups:**
- Research Group on Cellular and Organic Physiopathology of Oxidative Stress (Dr. Pallardó)
- Research Group on Molecular Imaging and Metabolomics (Dr. Monleón)
- Research Group on Neurological Impairment (Dr. Montoliu)
- Research Group on Translational Genomics (Dr. Artero)

**Objectives**
- To improve diagnosis and current treatment of rare diseases.
- Identification and validation of rare diseases biomarkers for which, nowadays, no effective diagnostic and / or prognostic indicators are available.
- Development of new therapeutic strategies.

**Research lines**
- Study of the oxidative profile in rare diseases.
- Pathophysiology of alpha-1 antitrypsin deficiency and Primary Ciliary Dyskinesia Syndrome.
- Gene therapy for the treatment of rare respiratory diseases.
- Design and testing of new biomarkers and experimental treatments in animal models.
- Study by exploratory and directed metabolomics of altered metabolic clusters in rare diseases.
## RARE DISEASES

<table>
<thead>
<tr>
<th>OBJECTIVES</th>
<th>STATE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>extension to PCT phase of the European patent “Mass spectrometry-based methods for the detection of circulating histones H3 and H2B in plasma from sepsis or septic shock (ss) patients” (PCT/EP2017/078362)</strong></td>
<td>X</td>
<td>EP, US, CA, JP y CN</td>
</tr>
<tr>
<td><strong>Acquisition of budget and resources from different programs</strong></td>
<td>X</td>
<td>VLC-Bioclinic 2017 (2 projects), Plan Nacional I+D+i del Mineco (1 project, 2016-2019), AES 2016 (2 projects, 2017-2019), Fundación Ramón Areces (1 project, 2017-2019), AES 2017 (1 project, 2018-2019)</td>
</tr>
<tr>
<td><strong>Carry out teaching and outreach activities</strong></td>
<td>X</td>
<td>Subject “Enfermedades Raras”: Medicine degree (UV) Master course in Biomedical Research Master “Enfermedades raras” 2nd edition of the on-line course “Introducción a las EE.RR: investigación y atención clínica”</td>
</tr>
<tr>
<td><strong>Alliance for translational research in rare diseases</strong></td>
<td>X</td>
<td>Feder Funding</td>
</tr>
</tbody>
</table>
Inflammation, which is associated with many chronic diseases (diabetes, liver cirrhosis, etc.), aging or major surgeries, leads to neuroinflammation and brain alterations that eventually lead to cognitive and functional impairment. This deterioration reduces the quality of life and increases the risk of accidents, falls, fractures and adverse consequences, which implies an increase in hospitalizations and the use of public resources.

Cognitive and functional impairment associated with aging and many chronic diseases is one of the most important challenges in order to improve the quality of life of the population and secure the sustainability of health systems. Early detection and treatment and prevention of cognitive and functional impairment would improve the quality of life of the elderly or with chronic diseases and reduce the demand for resources to the health system, improving its sustainability. Therefore, it is necessary to design new approaches to address these challenges, based on advances in knowledge on mechanisms, early diagnosis, prevention and treatment of cognitive and functional impairment.

**Coordinators:** Dr. Carmina Montoliu and Dr. Vicente Felipo

**INCLIVA research groups involved**

**Clinical groups:**
- Research Group on the Study of Cardiometabolic and Renal Risk (Dr. Redón)
- Research Group on Cardiometabolic Risk (Dr. Ascaso)
- Research Group on Anesthesiology and Reanimation (Dr. Belda)

**Experimental groups:**
- Research Group on Neurological Impairment (Dr. Montoliu)
- Research Group on Inflammation (Dr. Morcillo and Dr. Sanz)
- Research Group on Aging and Physical Activity (Dr. José Viña)
- Research Group on Personal Autonomy, Dependence and Severe Mental Disorders (TMAP) (Dr. Tabarés)

**Others groups involved**
- IPPC Neurobiology Research Group (Dr. Felipo), Cognitive Social Neuroscience Research Group from UV (Dr. Salvador), Hospital Neurorehabilitation Service NISA (Dr. Noe)

**Objectives**
- To characterize in detail the cognitive and functional alterations.
- To identify biomarkers for the early detection of cognitive and functional impairment.
- To identify the mechanisms by which: a) peripheral inflammation leads to neuroinflammation; b) neuroinflammation leads to functional, structural and neurotransmission alterations in the brain; c) changes in the brain lead to cognitive and functional impairment.
- To identify therapeutic targets to reverse or prevent cognitive and functional impairment.
- To design and test new therapeutic procedures to reverse or prevent cognitive and functional impairment.

**Research lines**
- Characterization of cognitive and functional alterations.
- Cognitive impairment in diabetes.
- Cognitive impairment for major surgeries and anesthesia.
- Alzheimer’s and mild cognitive impairment.
- Cognitive and functional impairment in hyperammonemia and hepatic diseases.
<table>
<thead>
<tr>
<th>OBJECTIVES</th>
<th>STATE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Characterize the alterations in inflammation, neuroinflammation, neurotransmission, function and brain structure associated with the appearance of cognitive and functional impairment</td>
<td>Partially achieved</td>
<td>We analysed the presence of neuroinflammation in post-mortem samples of the cerebellum from patients died with different grades of liver disease, from mild steatohepatitis to cirrhosis. We are analysing alterations in neural connectivity by functional magnetic resonance imaging.</td>
</tr>
<tr>
<td>2. Characterize cognitive and functional disturbances in detail</td>
<td>Partially achieved</td>
<td>Gait, balance, hand strength and motor speed performance were evaluated in cirrhotic patients. Evaluation and characterization of sensory thresholds was also performed by quantitative sensory testing using a CASE IV. We are characterizing cognitive and functional disturbances in patients with other pathologies: NASH (non-alcoholic steatohepatitis), diabetes mellitus, schizophrenia, bipolar disorder, and post-surgery patients. We are better characterizing executive functions in cirrhotic patients by computerized tests.</td>
</tr>
<tr>
<td>3. Identify biomarkers for the early detection of cognitive and functional impairment</td>
<td>Partially achieved</td>
<td>We are studying the altered genes in peripheral blood cells and the involved pathways associated with the appearance of cognitive impairment; we are characterizing the changes in inflammation and metabolites associated to cognitive impairment. We are performing an integrated multiomics analysis to identify biomarkers of cognitive and functional impairment. We are characterizing eye movements in patients with different pathologies: cirrhosis, NASH, and diabetes mellitus.</td>
</tr>
</tbody>
</table>
### 4. Identify the mechanisms by which:

- a) peripheral inflammation leads to neuroinflammation;
- b) neuroinflammation leads to functional, structural and neurotransmission alterations in the brain;
- c) brain disorders lead to cognitive and functional impairment

<p>| | | |</p>
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<tbody>
<tr>
<td>4.</td>
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<td>X</td>
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</table>
| We have identified alterations of the immune system associated with the appearance of neurological alterations in cirrhotic patients with MHE. 
We have identified, in animal models, mechanisms by which peripheral inflammation induces neuroinflammation, and how this alters neurotransmission and cognitive and motor function. 
We have shown that there is a dysregulation in the urea cycle in non-alcoholic fatty liver disease. 
We are analyzing the role of exosomes as mediators of neuroinflammation and of alterations in neurotransmission and cognitive and motor function in animal models of MHE. |

### 5. Identify therapeutic targets to reverse or prevent cognitive and functional impairment

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<tr>
<td>5.</td>
<td>X</td>
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<tr>
<td>We have identified several therapeutic targets in animal models of MHE.</td>
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</tbody>
</table>

### 6. Design and test new therapeutic procedures to reverse or prevent cognitive and functional impairment

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<tbody>
<tr>
<td>6.</td>
<td>X</td>
<td></td>
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</tbody>
</table>
| We are testing the effect of treatments on cognitive impairment and immunophenotype in patients to reverse or prevent cognitive and functional impairment. 
We have designed several treatments that improve cognitive and motor function in animal models. |
4.2.5 Translational oncology

The translational oncology program called “Identification of oncogenic biomarkers: mechanisms and clinical implications, detection in non-invasive samples, omics analysis” tries to apply to the clinical practice the genomic screening in patients tumors. Its main objective is to evaluate the dynamics of the disease through non-invasive biopsies in order to detect minimal residual disease, early onset of markers after surgery and patient response to different treatments.

The high heterogeneity of cancer results in inefficiency of treatments, even when they are directed against specific molecular targets. The low availability of tumor specimens makes genomic studies difficult.

In this sense, the use of liquid biopsies would facilitate the serial collection of samples to carry out molecular analysis and would guarantee a minimum risk for the patient. Thus improving the follow-up and allowing a dynamic understanding of the evolution of the genomic parameters of the patient.

This point of view benefits the National Health System as a whole since it allows the application of more specific treatments to patients, thus avoiding those that would have been less effective, reducing hospitalization and improving life expectancy and quality thereof. It could also prevent generalized treatments, secondary toxicities and rapid treatment adequacy responses.

Finally, it would improve the inclusion of patients in clinical trials which are stratified by molecular mutations.

Coordinator: Dr. Andrés Cervantes

INCLIVA research groups involved

Clinical groups:

• Research Group on Colorectal Cancer and New Therapeutical Developments in Solid Tumours [Dr. Cervantes]
• Research Group on Breast Cancer Biology [Dr. Lluch]
• Translational Research Group on Pediatric Solid Tumours (Dr. Navarro)

Experimental groups:

• Research Group of the Genotyping and Genetic Diagnosis Unit (UGDG) [Dr. Chaves]
• Research Group on Cellular and Organic Physiopathology of Oxidative Stress (Dr. Pallardó)

Objectives

• To establish a routine for obtaining liquid biopsies in order to evaluate the detection of biomarkers as disease follow-up, minimal residual disease, early onset and response to treatment. (biobank, BEAMing PCR, NGS).
• To develop functional assays (modified cell lines, patient cell lines, xenografs) to evaluate mechanisms of disease.
• Incorporation of molecular results into clinical decision making.

Research lines

• Development of new therapeutic agents through Phase I clinical trials (first-in-human).
• Development of non-invasive early diagnostic methods and monitoring of therapeutic effects.
• Application of methodologies for clinical and molecular characterization of solid tumors and response to treatment (analysis of gene expression profiles, microRNAs, methylation).
• Translational studies for the identification of mechanisms of resistance to targeted therapies.
## 4 Scientific Activity

### Translational Oncology

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Actions</th>
<th>State</th>
</tr>
</thead>
</table>
| Identify biomarkers             | • Clinical recruitment-characterization and storage Biobank-Data Management  
• Subclassify tumours according to their profile  
• Identify biomarkers of inflammation / angiogenesis; miRe-detox from oxidative stress  
• Perform comprehensive omics data analysis with search of altered routes using Biology of systems | Achieve: X  
Partially achieved: X  
Not achieved: X |
| Validate promising biomarkers / mechanistic analysis | • Proof of concept on commercial cell lines  
• Establishment of cell lines with patient tumours  
• Establishment of tumours in mouse models (xenografts)*1  
• IHC antibodies in FFPE to validate expression / western blot in cell lines / xenotumours | Achieve: X  
Partially achieved: X  
Not achieved: X |
| Detect biomarkers in liquid biopsies to monitor disease progression (BEAMing PCR)*2 | • Start on biopsies of patients with advanced disease or disease progression  
• Implement technology optimized for initial detection, detection of residual disease, and disease evolution and response to treatment | Achieve: X  
Partially achieved: X |

*1 Despite the potential use of PDXs, we also develop PDO (patient derived organoids) that are also excellent models of the disease and mimic the molecular/genetic characteristic of tumor patients, so could be use similarly to PDX in some kind of experiments.

*2 The quick evolution of the technologies allows us to identify biomarkers on liquid biopsy buy using NGS or ddPCR.
4.2.6 Reproductive medicine

This program comprises two main lines:

1. Role of maternal miRNAs in the transmission of obesity and type 2 diabetes to the embryo:

Obesity and type 2 diabetes are increasingly important public health problems whose prevalence cannot be explained only by genetic and / or environmental factors, so the hypothesis of the program lies in the existence of an embryonic epigenetic regulation of maternal origin in these diseases. Preliminary data reveals that miRNAs secreted by the maternal endometrium to the endometrial fluid are internalized by the embryo, leading to a transcriptional and functionally modification and increasing its adhesion to the endometrium during its implantation. In this sense, the program goal is to explore if this new epigenetic mechanism of maternal origin could explain the origin of the development of certain adult-onset diseases such as obesity and type 2 diabetes.

2. Study of adult stem cells in human endometrium:

Use of autologous bone marrow stem cells by prior mobilization and collection of Peripheral Blood Progenitor Cells (PPSCs) and subsequent apheresis and transplantation of these cells in order to regenerate the endometrium de novo in patients undergoing assisted reproductive therapy (ART). The results of this study would allow a new therapeutic approach for the treatment of Asherman’s Syndrome and endometrial atrophy, which currently lack of specific treatment.

Coordinator: Dr. Carlos Simón

INCLIVA research groups involved

Clinical groups:

• Translational Research Group on Nutrition and Metabolism [Dr. Hernández]
• Research Group on Hematopoietic Transplantation [Dr. Solano]
• Research Group on Women Health [Dr. Cano]
• Research Group on the Study of Cardiovascular Risk in Children and Adolescents [Dr. Lurbe]

Experimental groups:

• Research Group on Stem Cells Applied to Reproduction, Embryo Viability and Endometrial Receptivity [Dr. Simón]
• Research Group on Reproductive Pathology [Dr. Remohi]

Objectives

• To advance in the understanding of the mechanisms that regulate maternal-fetal communication and that may be involved in the implantation of the embryo in the maternal uterus and to be able to understand the embryonic / fetal origin of adult diseases such as obesity and type II diabetes.

• To regenerate uterine function in patients suffering from endometrial atrophy and / or Asherman’s Syndrome through cell therapy.

• The creation of an in vitro model to obtain germ cells by direct reprogramming of human somatic cells.

Research lines

• Role of maternal miRNAs in the transmission of obesity and type 2 diabetes to the embryo.

• Use of autologous bone marrow stem cells in order to regenerate the endometrium in patients with Asherman Syndrome and endometrial atrophy undergoing assisted reproductive therapy (ART).

• Identification of the main regulating genes of the development of the germinal line in humans, as well as of the experimental conditions that allow obtaining of germinal cells in vitro.
## REPRODUCTIVE MEDICINE

<table>
<thead>
<tr>
<th>OBJECTIVES</th>
<th>STATE</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advance in the understanding of the mechanisms that regulate maternal-fetal communication</td>
<td>X</td>
<td>Results published in peer review journals. The project is outgoing.</td>
</tr>
<tr>
<td>Creation of an in vitro model to obtain germ cells through direct reprogramming of human somatic cells</td>
<td>X</td>
<td>This research line is on hold due to lack of financing.</td>
</tr>
</tbody>
</table>
4.2.7 Aging and its associated diseases

This program has the priority of improving the quality of life of the elderly and promoting longevity as much as possible. Aging population it’s a challenge for current health systems since the population over 65 years old contributes, in a very significant percentage, to health expenditure. As life expectancy increases, so do the diseases associated with aging.

In this context, the concept of “healthspan” [quality of life] has emerged. The program is formed by many researchers and health professionals who consider that efforts to extend life at the expense of causing a severe physical or psychic disability are undesirable and, on the contrary, they should focus on lengthening the part of life during which we are able to maintain autonomy, independence, productivity and well-being.

A central guiding idea in this program is that people who achieve exceptional longevity [i.e. centenarians] serve as a model of satisfactory aging. On the other hand, it is considered that the most problematic expression of the population aging is the clinical condition of the frailty since an important part of the collective of older people presents criteria of frailty. Approximately one-fourth of people over the age of 85 are estimated to be fragile. Frailty is a geriatric syndrome characterized by increased vulnerability to external aggressions as a result of an alteration in the physiological reserves of multiple systems, leading to difficulties in maintaining homeostasis. The program tries to identify specific molecular targets to be able to intervene in a concrete and rational way to improve the quality of life of the elderly.

For this, INCLIVA has an enormous advantage because of the great integration that exists, by proximity and interests, between the Hospital Clínico Universitario de Valencia and the Faculty of Medicine of the University of Valencia. This framework allows intense collaboration between basic research groups, that develop possible biomarkers associated with healthy aging, frailty or diseases associated with aging and clinical research groups that, on the one hand, provide samples of the subjects and, on the other hand, can transfer to the patient those results that have been interesting at the bench.

In addition to this, in INCLIVA has registered the first and only Spanish Group for the Study of Centenaries, which has research groups working in this field distributed in different Spanish communities.

Coordinator: Dr. José Viña

INCLIVA research groups involved

Clinical groups:
- Research Group on the Study of Cardiometabolic and Renal Risk [Dr. Redón]
- Research Group on Oxidative Pathology [Dr. Sáez]
- Cardiometabolic Research Group on Primary Care [Dr. Navarro]
- Research Group on Clinical Cardiology [Dr. Sanchís]
- Research Group on Women Health [Dr. Cano]
- Group on Translational Research in Ischemic Heart Disease [Dr. Bodí]

Experimental groups:
- Research Group on Aging and Physical Activity [Dr. José Viña]
- Research Group on Inflammation [Dr. Morcillo and Dr. Sanz]
- Research Group on Genetics of Osteoporosis [Dr. García]
- Research Group on Neurological Impairment [Dr. Montoliu]
- Research Group on Endothelial Cells [Dr. Hermenegildo]
- Research Group on Cellular and Organic Physiopathology of Oxidative Stress [Dr. Pallardó]

Objectives
- Determination of parameters of oxidative stress and inflammation associated with healthy aging, frailty and diseases associated with healthy aging, frailty and others associated diseases (mainly cardiovascular and neurodegenerative).
scientific activity

- Determination of genetic biomarkers (microRNAs, mRNAs and SNPs) associated with healthy aging and frailty and others associated diseases (mainly cardiovascular and neurodegenerative).
- Determination of epigenetic biomarkers associated with healthy aging, frailty and others associated diseases (mainly cardiovascular and neurodegenerative).
- Determination of metabolic biomarkers associated with healthy aging, frailty and others associated diseases (mainly cardiovascular and neurodegenerative).
- Physical exercise protocols for the prevention of frailty and others associated diseases.
- Impairment of other biomarkers associated with healthy aging, frailty and others associated diseases.

Research lines

- Oxidative stress, associated inflammation and healthy aging.
- Genetics and healthy aging.
- Epigenetics and healthy aging.
- Metabolomics and healthy aging.
- Exercise and healthy aging.

### AGING AND ITS ASSOCIATED DISEASES

<table>
<thead>
<tr>
<th>OBJECTIVES</th>
<th>ACTIONS</th>
<th>STATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Determination of parameters of oxidative stress and inflammation associated with aging healthy, frailty and diseases associated with aging (mainly cardiovascular and neurodegenerative)</td>
<td>• Oxidative signature of cerebrospinal fluid from mild cognitive impairment and Alzheimer disease patients.</td>
<td>X</td>
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<tr>
<td></td>
<td>• Reductive Stress: A New Concept in Alzheimer’s Disease.</td>
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<td>• Project: CIBER de Fragilidad y envejecimiento (CIBERfes)</td>
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<tr>
<td></td>
<td>• Project: Evolution-Age-Gender-Lifestyle-Environment: mitochondrial fitness mapping</td>
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<tr>
<td><strong>Thesis title:</strong> Role of p16ink4a and bmi-1 in oxidative stress-induced premature senescence in human dental pulp stem cells</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Thesis title:</strong> Regulation of antioxidant defenses in the prevention of skeletal muscle deconditioning</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>
| Determination of genetic biomarkers (microRNAs, mRNAs and SNPs) associated with healthy aging, frailty and diseases associated with aging (mainly cardiovascular and neurodegenerative) | • In Search of ‘Omics’-Based Biomarkers to Predict Risk of Frailty and Its Consequences in Older Individuals: The FRAILOMIC  
• Human exceptional longevity: transcriptome from centenarians is distinct from septuagenarians and reveals a role of Bcl-xL in successful aging.Aging (Albany NY).  
• A translational approach from an animal model identifies CDBO as a candidate gene for the study of bone phenotypes in postmenopausal women.  
• Centenarians maintain miRNA biogenesis pathway while it is impaired in octogenarians. Mechanisms of ageing and development. | X |
| --- | --- | --- |
| Determination of epigenetic biomarkers associated with healthy aging, frailty and diseases associated with aging (mainly cardiovascular and neurodegenerative) | • Epigenetic biomarkers for human sepsis and septic shock: insights from immunosuppression.  
• Epigenetic Regulation in the Pathogenesis of Sjögren Syndrome and Rheumatoid Arthritis. | X |
| Determination of metabolomic biomarkers associated with healthy aging, frailty and diseases associated with aging (mainly cardiovascular and Neurodegenerative) | • Sex Differences in Age-Associated Type 2 Diabetes in Rats-Role of Estrogens and Oxidative Stress. | X |
| Physical exercise protocols for the prevention of frailty | • A Multicomponent Exercise Intervention that Reverses Frailty and Improves Cognition, Emotion, and Social Networking in the Community-Dwelling Frail Elderly  
• Exercise training as a drug to treat age associated frailty.  
• Copenhagen consensus statement 2019: physical activity and ageing  
• Project: Nuevas intervenciones terapéuticas multidominio para retrasar la fragilidad y la discapacidad. Identificación de mecanismos moleculares con relevancia traslacional.  
**Thesis title:** Programa de ejercicio multicomponente para prevenir la fragilidad, y para la mejora cognitiva, emocional y social en ancianos frágiles  
**Thesis title:** Moderate overexpression of glucose-6-phosphate dehydrogenase improves healthspan in mice. Implications in skeletal muscle regeneration | X |
4.3. Research areas

INCLIVA Health Research Institute has four research areas in order to organize its scientific activity. Despite their independence, they have a common objective: meeting health needs and improving R&D&i system.

Their main aim is to establish a common reference framework to promote collaboration between INCLIVA attached researchers.

Each of the lines counts on the participation of one or several advisers from the External Scientific Committee. These lines are led by the following coordinators:

**Cardiovascular Area**

**Coordinator:** Dr. Francisco Javier Chorro Gascó

**Mission:** to contribute to the study of different aspects of cardiovascular disease (CVD) from its origins to its consequences.

**Oncology Area**

**Coordinator:** Dr. Andrés Cervantes Ruipérez

**Mission:** to contribute to the study of different aspects of oncological diseases, at the stage of diagnosis and molecular characterization and selection of specific molecular targets of therapeutic interest.

**Metabolism and Organic Damage Area**

**Coordinator:** Dr. José Viña Ribes

**Mission:** to contribute to the study of the etiology, pathophysiology and diagnosis mechanisms or treatment of various metabolic diseases; or those that generate organ damage as a fundamental link of its trigger action.

**Reproductive Medicine Area**

**Coordinator:** Dr. Carlos Simón Vallés

**Mission:** to advance in knowledge of human reproduction for translational application, improving the efficiency of assisted reproduction treatment and reducing adverse effects.

Scientific production analysis by research area

The following charts and figures summarize the main scientific activity indicators of the four areas of research and the other divisions from Hospital Clínico de Valencia.
Since there are some scientific articles which are shared by two or more areas, it is worth mentioning that the sum of publications by area exceeds INCLIVA's total scientific output. Additionally, the next tables show scientific publications distribution by area in terms of number of articles and impact factor.
4 scientific activity

4.3.1 Cardiovascular Area

Groups
Research Group on Cardiometabolic Risk
Genomics and Diabetes Unit
Research Group on Cardiac Experimental Electrophysiology
Research Group on Endothelial Cells (LINCE)
Research Group on Clinical Cardiology
Research Group on the Study of Cardiovascular Risk in Children and Adolescents
Cardiometabolic Research Group on Primary Care
Research Group on the Study of Cardiometabolic and Renal Risk
Research Group on Vascular Function
Research Group on Pediatric Nutrition
Group on Translational Research in Ischemic Heart Disease

- Number of articles: 131
- IF: 685,948
- Average IF: 5,236
- National collaborations: 75
- International collaborations: 43
- Corresponding author: 46

- D1: 27
- Q1: 76
- Q2: 33
- First author: 35
- Last author: 51

- Original articles: 107
- Letters: 11
- Editorial: 10
- Review: 2
- Corrections: 0
INCLIVA SCIENTIFIC REPORT 2019

Research Group on Cardiometabolic Risk
Consolidated group

**Group members**

**Principal Investigators**
José Tomás Real Collado. Hospital. University

**Collaborating researchers**
Juan Francisco Ascaso Gimilio. University
Rafael Carmena Rodríguez. University
Francisco Javier Ampudia Blasco. Hospital
Miguel Civera Andrés. Hospital
Marta Peiró Signes. INCLIVA. CIBERdem
Esther Benito Casado. CIBERdem
Miriam Moriana Hernández. Hospital

**Emerging Researchers**
Sergio Martínez Hervás. Hospital
Ana Bárbara García García. CIBERdem

**Technicians**
Blanca Alabadí Pardiñes. INCLIVA

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**Emerging Researcher**

*Sergio Martínez Hervás*

The line of research is based on cardiovascular risk, essentially on insulin resistance and diabetes, familial combined hyperlipidemia, inflammation, vitamin D, and atherosclerosis, just like new markers of cardiovascular risk.

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**Emerging Researcher**

*Ana Bárbara García García*

The research focuses mainly on DM2, one of the most frequent diseases of Western societies. On the other hand, another line of research is the identification of new genes responsible for abetalipoproteinemia with exome sequencing.
4 scientific activity

Strategic aims

• In terms of scientific activity of the research group during 2019 we wish to emphasize the continuity of three competitive and multidisciplinary research projects led by the Dr. Ascaso and Dr. Real. The project led by Dr. Ascaso, entitled “Immunopharmacological modulation of the systemic inflammation associated to metabolic disorders. Search for new therapeutic targets and synthesis of novel drugs”, studies the role of shaft CCL11/CCR3 in systemic inflammation associated with Familial Hypercholesterolemia and its immune modulation by oral lipid overload, as well as the study of the role of the axis CXCL16/CXCR6 in Ang-II-induced Endothelial dysfunction in subjects with metabolic syndrome.
• On the other hand, the main objective the project “Study of new inflammatory and angiogenic mechanisms associated to severe morbid obesity: Role of CXCR3 axis and nuclear receptors RORs” led by Dr. Real, is to explore the CXCR3 axis and RORs receptors in patients with severe morbid obesity or without diabetes undergoing a gastric bypass.

Main lines of research

• Pharmacological modulation of the immune system as a key target in the prevention of cardiovascular disease associated with metabolic disorders. Synthesis of novel drugs: This line of research focuses on the study of the different mediators and immunological mechanisms involved in cardiovascular disease associated with metabolic disorders.
• Identification of epigenetic markers related to insulin resistance or diabetes in morbid obesity. In this line of research research we focus on evaluating the role of genetic markers related to IR or diabetes in morbid obesity. Specifically, it aims to understand and analyze the role of the DNA methylation pattern of adipose, hepatic and peripheral blood tissues (lymphomonocytes) in relation to IR or diabetes.
• Identification of the genetic causes of complex diseases with high cardiovascular risk, especially in the case of type 2 diabetes (DM2). Our hypothesis is that numerous low frequency genetic markers are responsible for an important part of the genetic component of this disease and other complex diseases. Thus, our interest is to identify rare genetic variations with a high effect on risk / protection against the development of DM2.
• Study of inflammatory axes related to IR, diabetes and its implication as therapeutic targets: In this line of research we focus on the study of the role of the inflammatory axis CXCR3 and its ligands, chemokines that are characterized by showing chemotactic and proliferative responses of different leukocyte subpopulations and angiostatic activity in the vascular endothelium, in human obesity.
• Role of inflammatory processes associated with diabetes in the stability of atheromatous plaque and hepatic steatosis and study of the potential use of therapeutic strategies. This line of research aims to study molecular mechanisms that potentially connect these metabolic alterations, such as chronic inflammation, investigating the effect of the inflammatory mediator LIGHT in type 2 diabetes mellitus, fatty liver and atherosclerosis, as well as molecular mechanisms underlying.

Other research lines:

• Study of the neuroendocrine axes involved in obesity, RI and diabetes.
• Study of a new protein involved in IR in morbid obesity.
• Neurodegeneration in diabetes.
SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI18/00209
Title: Identificación de nuevos mecanismos implicados en la angiogénesis e inflamación en pacientes obesos. Modulación por ligandos de receptores nucleares constitutivos de androstano
Principal Investigator: Laura Piqueras Ruiz and José Tomas Real Collado
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2021
Total budget: €173,332.50

Reference: CB07/08/0018
Title: CIBER de Diabetes y Enfermedades Metabólicas Asociadas (CIBERdem)
Principal Investigator: José Tomas Real Collado
Funding Body: Centro de Investigación Biomédica en Red (CIBER) – Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2008-present

Reference: SAF2017-89714-R
Title: Modulación farmacológica del sistema inmune como diana clave en la prevención de la enfermedad cardiovascular asociada a desordenes metabólicos. Síntesis de fármacos novedosos
Principal Investigator: Mª Jesús Sanz Ferrando and Juan F. Ascaso Gimilio
4 scientific activity

**Funding Body:** Ministerio de Economía y Competitividad  
**Beneficiary Institution:** Fundación Investigación Hospital Clínico Universitario de Valencia  
**Duration:** 2018-2020

**THESIS**

**Thesis title:** Lipemia postprandial y regulación génica en la obesidad mórbida  
**Doctoral candidate:** Ana Artero Fullana  
**Director(s):** Jose Tomás Real Collado, Juan F Ascaso Gimilio  
**Date of the defense:** 21/03/2019  
**Grade:** Sobresaliente "cum laude"

**Thesis title:** Metilación del ADN de adipocitos en sujetos con obesidad mórbida  
**Doctoral candidate:** Juncal Martínez Ibáñez  
**Director(s):** Jose Tomás Real Collado, Juan F Ascaso Gimilio  
**Date of the defense:** 22/07/2019  
**Grade:** Sobresaliente "cum laude"
Genomics and Diabetes Unit
Consolidated group

Group members

Principal Investigators
Felipe Javier Chaves Martínez. INCLIVA

Collaborating researchers
Jesús Rodríguez Díaz. University
José Miguel Juanes Tébar. INCLIVA

Post-doctoral researchers
Irene Andrés Blasco. INCLIVA

Technicians
Sebastián Blesa Luján. INCLIVA
Azahara Mª Fuentes Trillo. INCLIVA

Strategic aims
• To identify genetic causes of complex diseases with high cardiovascular risk, especially of type 2 diabetes
• To identify genetic causes of some rare diseases (Abeta, ATA and hereditary forms of hypercholesterolemias not caused by known genes)
• Study the genetic factors and the human microbiota, associated with the infection of the enterovirus rotavirus and norovirus
• To identify alterations of methylation and hydroxymethylation in relation to the development of type 2 diabetes and its potential use as biomarkers
• Study of environmental factors involved in the development of diseases of high cardiovascular risk, especially type 2 diabetes and associated organic damage

Main lines of research
• Identification of frequent and rare functional variants involved in high cardiovascular risk disease development via exome sequence research and verification in population studies
• Genotyping and/or sequencing of complete rotavirus and norovirus genomes. Human genotype study of FUT2 and FUT3 genes related to viral genotypes and their relationship with intestinal microbiota
• Candidate gene and exome studies to identify genes involved in these diseases. Functional, population and family studies to demonstrate these roles
• Analysis of methylated and hydroxymethylated regions in the genome in patients with specific phenotypes at baseline compared with phenotypes present five years later, as pertains to type 2 diabetes
• Population studies on different aspects involved in high cardiovascular risk disease development
• Monitoring and molecular characterization of chronic lymphocytic leukaemia and study of molecular markers
• Identification of relationships between different genes, essential metals and pollutants in relation to diseases with high cardiovascular risk
PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: COST Action CM1406
Title: Epigenetic Chemical Biology [EPICHEM]
Principal Investigator: María Téllez Plaza (Azahara Fuentes y Francisco Javier Chaves as collaborating researchers)
Funding Body: European Commission
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2015-2019

Reference: PI17/00544
Title: Identificación de variantes genéticas protectoras frente al desarrollo de diabetes tipo 2 en octogenarios
Principal Investigator: Felipe Javier Chaves Martínez
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2020
Total budget: €196.020

Reference: AGL2017-84165-C2-2-R
Title: Descifrando las interacciones entre la microbiota intestinal/virus entéricos/hospedador: bases para proteger frente a la diarrea viral
Principal Investigator: Jesús Rodríguez Díaz
Funding Body: Ministerio de Economía y Hacienda
Beneficiary Institution: Universidad de Valencia
Duration: 2018-2020
Total budget: €133.100
Title: Metagenomics to identify viral indicators in the produce chain
Principal Investigator: Jesús Rodríguez Díaz, Gloria Sánchez Moragas
Funding Body: CPS Centre For Produce Safety (USA)
Beneficiary Institution: Instituto de Agroquímica y Tecnología de Alimentos (CSIC) y Universidad de Valencia
Duration: 2018-2019
Total budget: €226,070,25
4 scientific activity

Research Group on Cardiac Experimental Electrophysiology
Consolidated group

Group members

Principal Investigators
Francisco Javier Chorro Gascó. Hospital. University

Collaborating researchers
Luis Such Belenguer. University
Antonio M. Alberola Aguilar. University
Luis Such Miquel. University
Isabel Trapero Gimeno. University
Manuel Zarzoso Muñoz. University
Germán Parra Giraldo. INCLIVA
Irene del Canto Serrano. INCLIVA

PhD Researchers
Patricia Genovés Martínez. CIBER
Óscar Julián Arias Mutis. CIBER

Researchers by categories
R1 2
R2 5
R4 3

Researchers financed by competitive public calls or networks
R1 2
R2 2

Networks

Strategic aims
• Publication of the results obtained on using the 1,4-benzothiazepine derivative JTV-519 to modify the proarhythmogenic manifestations of mecanoelectric feedback and continuation of the programmed experimental series to analyze the effects of KN-93, carvedilol and analogues, late Na+ current inhibitors and the Nitric Oxide carrier S-nitrosoglutathione
• Continuation of the analysis of the effects of modifications of the basic electrophysiological properties on the processes involved in the induction and maintenance of ventricular fibrillation
• Analysis of the electrophysiological effects of chronic physical exercise and its protective effect against arrhythmias, the influence of the cardiac nervous system and mitochondrial oxidative stress and the involvement of the IKATP current
• Development of instruments for recording, processing and analysing cardiac electrophysiological signals obtained with mapping systems
• Progressive development of the experimental series aimed to study the mechanisms involved in the deterioration of the systolic function, fibrosis and the inducibility of arrhythmias in a chronic model of infarction
• Progressive development of an experimental model of metabolic syndrome to analyze the electrophysiological modifications and the inducibility of cardiac arrhythmias

Main lines of research
• Myocardial stretching: analysis of electrophysiological changes induced by mechanical stretching. Autocrine/paracrine influences and study of protective actions by means of drugs
• Clinical and basic research on heart failure: role of calcium homeostasis in arrhythmogenesis. Study on the effects of drugs acting on intracellular Ca2+ dynamics
• Analysis of the effects of modifications in basic electrophysiological properties on the processes involved in induction and maintenance of ventricular fibrillation
• Study of electrophysiological effects of chronic physical activity by: a) analysis of the protection against arrhythmias or scientific activity facilitation of its reversion; b) study of the influence of heart’s nervous system and mitochondrial oxidative stress; and c) analysis of the effects on the electrical instability induced by myocardial ischemia and the implication of IKATP current

• Development and extension of tools for the registration, processing and analysing of cardiac electrophysiological signals based on multielectrodes and optical mapping systems able to analyze voltage and calcium signals

• Study of mechanisms involved in the deterioration of the systolic function, fibrosis and the inducibility of arrhythmias in a chronic model of infarction

• Study of electrophysiological modifications and inducibility of cardiac arrhythmias in an experimental model of metabolic syndrome

PUBLICATIONS

SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: CB16/11/00486
Title: CIBER Cardiovascular
Principal Investigator: Francisco Javier Chorro Gascó
Funding Body: Centro de Investigación Biomédica en Red (CIBER) – Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2017-present

Reference: PIE15/00013
Title: A multidisciplinary project to advance in basic mechanisms, diagnosis, prediction, and prevention of cardiac damage in reperfused acute myocardial infarction
Principal Investigator: Vicente Bodí Peris (Francisco Javier Chorro as collaborating researcher)
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2016-2019
Total budget: €589,050

Reference: PROMETEO/2018/078
Title: Mecanismos protectores frente a la muerte cardiaca súbita de causa arrítmica
Principal Investigator: Francisco Javier Chorro Gascó
Funding body: Generalitat Valenciana
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2021
Total budget: €275,859,02

THESIS

Thesis title: Genetic and other intrinsic factors influencing risk for elbow tendinopathy
Doctoral candidate: Emily Renae McPeek
Director(s): Yasser Alakhdar Mohmara, Antonio Alberola Aguilar
Date of the defense: 08/03/2019
Grade: Sobresaliente “cum laude”

Thesis title: Implicación del canal KATP en las modificaciones que la realización de ejercicio físico crónico produce sobre algunas propiedades electrofisiológicas en el miocardio.
Estudio en corazón aislado sometido a isquemia global aguda
Doctoral candidate: Carlos Soler López
Director(s): Luis Such Belenguer, Francisco Javier Chorro Gascó, Antonio Iradi Casal
Date of the defense: 17/04/2019
Grade: Sobresaliente “cum laude”
Research Group on Endothelial Cells (LINCE)

Consolidated group

Group members

Principal Investigators
Carlos Hermenegildo Caudevilla. University

Collaborating researchers
Elena Monsalve Villalba. University
Ana Mompeón Campos. University

PhD researchers
Daniel Bernardo Pérez Cremades. University
Ana Belén Paes Martí. INCLIVA

Emerging researcher
Susana Novella del Campo. University

Emerging Researcher

Susana Novella del Campo

The research focuses on the study of endothelial dysfunction associated with aging and lack of estrogens in an experimental model of menopause. We also study the regulatory role of miRNAs associated with acute coronary syndrome and estrogen-dependent vascular function and aging.

Strategic aims

• To analyze the levels of selected miRNA of acute myocardial infarction patients included in the studies of PI16/00229
• To analyze the role of estrogen receptors on the regulation of miRNA by estradiol
• To collaborate with Rare Diseased group on the histone effects on endothelial cell function and to publish a first paper on this topic
• To incorporate new pre and postdoctoral researchers to our group

Main lines of research

• Gender differences in cardiovascular area
• Vascular effects of sex hormones
• Identification of new hormone-regulated signaling pathways in endothelium
• Identification and characterization of miRNA regulated by estradiol in endothelium
• Interaction of sex hormones with pro-atherogenic factors
• Determination of circulating endothelial progenitor cells and their link with hormone treatment
4 scientific activity

PUBLICATIONS

SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: COST Action CA17129
Title: Catalysing transcriptomics research in cardiovascular disease
Principal Investigator: Yvan Devaux (Susana Novella as collaborating researcher)
Funding body: European Commission
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2022

Reference: PI16/00229
Title: Perfil plasmático de miRNA en infarto agudo de miocardio: relación con la evolución clínica en pacientes y con la función cardiovascular y posible terapia con micropartículas en ratones
Principal Investigator: Carlos Hermenegildo Caudeviglia
Funding body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2017-2019
Total budget: €138.450

THESIS

Thesis title: Análisis de la expresión de miRNA circulantes en pacientes con infarto agudo de miocardio y su relación con citoquinas. Repercusión funcional en cultivos de células
Doctoral candidate: Ana Mompeón Campos
Director(s): Susana Novella del Campo, Carlos Hermenegildo Caudeviglia
Date of the defense: 04/03/2019
Grade: Sobresaliente "cum laude"
Quality recognition/Award: Extraordinary PhD program and European PhD
Research Group on Clinical Cardiology
Consolidated group

Group members

Principal Investigators
Juan Sanchis Forés. Hospital. University

Collaborating researchers
Vicente Ruiz Ros. Hospital. University
Sergio García Blas. Hospital. INCLIVA
Ernesto Valero Picher. Hospital
Gemma Miñana Escrivá. Hospital
Rafael de la Espriella Juan. Hospital
Vicente Pernias Escrig. INCLIVA
Enrique Santas Olmeda. Hospital
Anna Mollar Fernández. INCLIVA
Agustín Fernández Cisnal. Hospital

PhD researchers
Clara Sastre Arbona. CIBER

Emerging Researchers
Julio Núñez Villota. Hospital. University

Technicians
José Manuel Civera Gómez. INCLIVA
Adriana Conesa Bona. INCLIVA
Amparo Villaescusa Capilla. INCLIVA

Emerging Researcher

Julio Núñez Villota

The research team has focused on the development of new clinical tools to improve diagnosis, risk stratification and treatment of patients with ischemic heart disease and heart failure. More specifically, we focus on identifying new biomarkers and therapeutic strategies. We have already carried out several independent clinical trials and have undergone numerous observational studies [potential utility of peritoneal dialysis for patients with advanced heart failure, the development of new algorithms for the monitoring of patients and the development of a new multi-marker approach for the stratification of the risk].

Strategic aims

• Publication of manuscripts in high IF journals
• CIBER Cardiovascular
• Development of FIS projects

Main lines of research

• Research line in heart failure
• Research line in acute coronary syndrome
• Investigation line in interventional cardiology
selective scientific activity

PUBLICATIONS

SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI17/01426
Title: Retirada del tratamiento betabloqueante en pacientes con insuficiencia cardíaca con función sistólica preservada e incompetencia cronotrópica. Efecto sobre la capacidad funcional
Principal Investigator: Julio Nuñez Villota
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2020
Total budget: €127,050

Reference: PI17/01736
Title: Comparación aleatoria entre las estrategias invasivas y conservadoras en pacientes ancianos frágiles con infarto de miocardio sin elevación del segmento ST (MOSCA-FRAIL)
Principal Investigator: Gemma Miñana Escrivá
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2020
Total budget: €70,180

Reference: PIE15/00013
Title: A multidisciplinary Project to advance in basic mechanisms, diagnosis, prediction, and prevention of cardiac damage in reperfused acute myocardial infarction
Principal Investigator: Vicente Bodí Peris [Juan Sanchis and Julio Núñez as collaborating researchers]

Funding Body: Instituto de Salud Carlos III

Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia

Duration: 2016-2019

Total budget: €589,050

Reference: CB16/11/00420

Title: Incorporación nuevos grupos al Consorcio CIBER

Principal Investigator: Juan Sanchis Forés

Funding Body: Centro de Investigación Biomédica en Red (CIBER) – Instituto de Salud Carlos III

Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia

Duration: 2017-present
Research Group on the Study of Cardiovascular Risk in Children and Adolescents
Consolidated group

Group members
Principal Investigators
Empar Lurbe i Ferrer. University

Collaborating researchers
Isabel Torró Doménech. University
Julio Álvarez Pitti. University
Francisco Aguilar Bacallado. University
Nuria García Carbonell. University
Pau Redón Lurbe. CIBERobn

Technician
Francisco Ponce Zanón. CIBERobn
Carlos Planells Palop. INCLIVA
José Miguel Calderón Terol. INCLIVA
Gonzalo Collantes Pablo. INCLIVA
Irene Cuenca Ortolá. INCLIVA

Administrative assistant
Christine Deutsch. INCLIVA

Researchers by categories
R1 1
R2 2
R3 2
R4 1
STAFF 6

Networks

Strategic aims
• The iPEDITEC Unit brings healthcare workers into daily contact with engineers developing software for signal capture through mobile devices. Studying the psychological parameters that facilitate personalized therapy has been a priority aim during 2019, resulting in improved treatment of obese pediatric patients in the Unit
• The PAIDO Program is focused on personalized medical care extended through initiatives involving family, educators, nutritionists, physical education teachers and other social agents. Treatment goes beyond the hospital setting to include the child’s environment and personal sphere and is supported by state-of the art artificial intelligence technologies
• To improve the knowledge of fetal life and postnatal growth on the development of cardiometabolic risk factors early in life. The KITE cohort is a prospective study starting at birth and assessing the determinants of cardiometabolic risk factors in the first decades of life. Omics data from umbilical cord are available and the analysis of the interaction between clinical data and omics may help to introduce actions in critical periods of life and the potential contribution to reduce cardiometabolic disease later in life. Dr. Lurbe is the coordinator of the new document of the European Guidelines on Arterial Hypertension in Children and Adolescents

Main lines of research
• New technologies applied to the detection of congenital heart diseases and sepsis in asymptomatic newborn babies
• Childhood obesity: New insights in the personalized treatment: Study of the cardiorespiratory capacity
• New technologies applied to the treatment of obesity: Physical exercise preventing and treating obesity
• Arterial hypertension in children and adolescents
• Cardiovascular and renal risk in diabetes
• Early origins of cardiometabolic risk factors assessed in a prospective study starting at birth (Cohort KITE)
• Obese mothers: Influence of breast feeding in the offspring during the first year of life

Networks

CiBERobn
scientific activity

PUBLICATIONS

9
Number of articles

IF 28,773
Average IF 3,197

4
National collaborations

3
International collaborations

4
Corresponding author

SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI17/01517
Title: Programación fetal y desarrollo postnatal en hijos de madres obesas: modulación por la alimentación en el primer año de vida
Principal Investigator: Empar Lurbe i Ferrer
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2020
Total budget: €170.005

Reference: EAT4HEALTHYLIFE
Title: Obesity and abnormal eating behavior across the lifespan. A cross sectional and longitudinal approach of environmental and neurobiological factors
Principal Investigator: Fernando Fernández Aranda (Empar Lurbe, Julio Álvarez, Pau Redón as collaborating researchers)
Funding Body: CIBERobn. Instituto de Salud Carlos III
Beneficiary Institution: Consorcio Hospital General Universitario de Valencia
Duration: 2018-2020
Total budget: €69.220

Reference: CB06/03/0039
Title: Centro de Investigación Biomédica en Red (CIBER) de Fisiopatología de la Obesidad y Nutrición (CIBERobn)
Principal Investigator: Empar Lurbe i Ferrer
Funding Body: Centro de Investigación Biomédica en Red (CIBER) – Instituto de Salud Carlos III
Beneficiary Institution: Consorcio Hospital General Universitario de Valencia
Duration: 2006-present
Total budget: €85.000

INCLIVA SCIENTIFIC REPORT 2019
4 scientific activity

Reference: PROMETEO/2016/084
Title: Innovación tecnológica en la evaluación del sistema nervioso simpático en adolescentes y adultos jóvenes obesos: Papel en la estratificación del riesgo e intervención terapéutica
Principal Investigator: Josep Redón i Mas
Funding Body: Conselleria de Educación, Investigación, Cultura y Deporte
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2016-2019
Total budget: €246,190

Reference: PAIDO
Title: Marchando con mi pediatra Paido. Programa PAIDO
Principal Investigator: María Isabel Torró Doménech and Julio Álvarez Pitti
Funding Body: Consorcio Hospital General Universitario de Valencia and Ayuntamiento de Valencia
Beneficiary Institution: Fundación Investigación Hospital General Universitario de Valencia
Duration: 2016-present
Cardiometabolic Research Group on Primary Care
Consolidated group

Group members

Principal Investigators
Jorge Navarro Pérez. Clínico-Malvarrosa Health Department

Collaborating researchers
Alvaro Bonet Pla. Clínico-Malvarrosa Health Department
Victoria Gosalbes Soler. Clínico-Malvarrosa Health Department
Nidia Ruiz Varea. Clínico-Malvarrosa Health Department
Pilar Roca Navarro. University. Clínico-Malvarrosa Health Department
José Luis Trillo Mata. Clínico-Malvarrosa Health Department
Ruth Usó Talamantes. Clínico-Malvarrosa Health Department

Researchers by categories

- R2: 3
- R3: 4
- R4: 1

Strategic aims

- Consolidation of various lines of cardiometabolic research
- Consolidation of a network of partners in the area of primary care

Main lines of research

- Cardiovascular population studies (ESCARVAL)
- Studies monitoring cardiovascular risk factors (ADAMPA)
- Population studies on fractures prevention

PUBLICATIONS

- Number of articles: 7
- IF: 18,773
- Average IF: 2,681
- National collaborations: 7
- International collaborations: 0
- Corresponding author: 0
4 scientific activity

SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI16/02130
Title: Impacto de la auto-medición y el auto-ajuste de la medicación antihipertensiva en el control de la hipertensión arterial. Un ensayo clínico pragmático: estudio ADAMPA
Principal Investigator: Jorge Navarro Pérez, José Sanfélix-Genovés
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2017-2019
Total budget: €86.515

THESIS

Thesis title: Análisis epidemiológico de la fibromialgia en la Comunidad Valenciana
Doctoral candidate: Asensio Francisco Cabo Meseguer
Director[s]: Jose Luis Trillo Mata, Germán Cerdá Olmedo
Date of the defense: 25/02/2019
Grade: Sobresaliente "cum laude"
Research Group on the Study of Cardiometabolic and Renal Risk
Consolidated group

**Group members**

**Principal Investigators**
Josep Redón i Mas. Hospital. University

**Collaborating researchers**
Mª José García-Fuster González-Alegre. Hospital
Mª José Galindo Puerto. Hospital. University
Mª José Forner Giner. Hospital. University
María José Fabiá Valls. Hospital
Raquel Cortés Vergaz. INCLIVA
Ana Ferrer Albero. INCLIVA
Javier Gámez Payá. INCLIVA
Estela Selma Soriano. INCLIVA
Ana Ortega Gutiérrez. INCLIVA

**PhD researchers**
José Luis Holgado Sánchez. INCLIVA
Cristina López Zumel. INCLIVA
Adrián Ruiz Hernández. Hospital. INCLIVA
Elena Solaz Moreno. Hospital
Olga Martínez Arroyo. INCLIVA

**Emerging Researchers**
Fernando Martínez García. Hospital. University

**Technicians**
Óscar Calaforra Juan. CIBERobn
Noemí Dolz Gilba. INCLIVA
Antonio Fernández Giménez. INCLIVA
Alexandra Eugenia Muñoz Oliver. INCLIVA
María Inmaculada Saurí Ferrer. INCLIVA

**Emerging Researcher**
*Fernando Martínez Garcia*

During the last year we have focused our research activity on the mechanisms involved in the development of microalbuminuria and kidney damage in hypertensive patients. We are also studying the role of new imaging techniques for the early diagnosis of atherosclerosis and the potential value of markers of vascular rigidity for risk prediction. And we are conducting some collaborative studies on the metabolic syndrome and insulin resistance.
Strategic aims

- To start-up the laboratory for the analysis of podocytes [identification, cultivation and phenotyping] and its derivatives: micro-RNA, exosomes
- The integration of metabolomics and genomics in the study of factors related to the development of kidney damage
- Development of studies for noninvasive hemodynamic characterization in vascular pathology
- Analysis of morbidity and mortality linked to the presence of hypertension and renal injury
- Development of in vitro studies of platelet and leukocyte adhesion in venous thromboembolism
- Genetic studies related to obesity and overweight and venous thromboembolism
- Development of phase III and IV clinical trials

Main lines of research

- Mechanisms of development of renal damage associated with hypertension with special emphasis on the podocyte damage
- Impact of cardiovascular risk factors and renal function in absolute morbidity and mortality in high-risk population and in the general population
- Inflammation and oxidative stress in the development of cardiovascular disease
- Genomics, proteomics and metabolomics of early cardiometabolic and renal disorders
- Impact of environmental toxins [metals] in cardiometabolic risk
- Identification of polymorphisms and related to the control of BMI and waist circumference and the risk of obesity genes
- Venous thrombosis in young patients: factors associated with its development
- The relationship between risk of venous thromboembolic disease and arteriosclerosis

PUBLICATIONS

31 Number of articles
IF 178.66
Average IF 5,763
11 National collaborations
17 International collaborations
3 Corresponding author

SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: 779780 - BodyPass
Title: API-ecosystem for cross-sectorial exchange of 3D personal data
Principal Investigator: Josep Redón i Mas
Funding body: European Commission
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2020
Total budget: €351,937.50

Reference: 780495 - BigMedilytics
Title: Big Data for Medical Analytics
Principal Investigator: Josep Redón i Mas
Funding body: European Commission
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2021
Total budget: €1,062,136.25

Reference: 785815 - BigData@Heart
Title: Big Data for Better Hearts
Action: IMI2 Call 7 Topic 7 “Increase access and use of high quality data to improve clinical outcomes in heart failure (HF), atrial fibrillation (AF), and acute coronary syndrome (ACS) patients”, under the Big Data for Better Outcomes programme
Principal Investigator: Josep Redón i Mas
Funding body: European Commission
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2017-2022
Total budget: €386,250 (Contribution EC: 100%)

Reference: 724099 - ADVANTAGE
Title: Managing Frailty. A comprehensive approach to promote a disability-free advanced age in Europe: the ADVANTAGE initiative
Principal Investigator: Josep Redón i Mas
Funding body: European Commission [3rd Health Program]
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2016-2019
Total budget: €130,005

Reference: PI17/02217
Title: Modelos predictivos en insuficiencia cardiaca con FE preservada-intermedia a partir de información de los registros electrónicos de salud. Valor aditivo de marcadores de metabolómica
Principal Investigator: Fernando Martínez García and Vanina González
Funding body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2020
Total budget: €24,200

Reference: PI16/01402
Title: Estudio experimental in vivo e in vitro y la aplicación clínica del impacto de las proteínas del complejo Rhabphilin-Rab en el desarrollo del daño renal y cardiovascular
Principal Investigator: Josep Redón i Mas
Funding body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2017-2019
Total budget: €194,205

Reference: PROMETEO/2016/084
Title: Innovación tecnológica en la evaluación del sistema nervioso simpático en adolescentes y jóvenes obesos
Principal Investigator: Josep Redón Mas
Funding Body: Conselleria de Educación, Cultura y Deporte
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2016-2019
Total budget: €246,190
4 scientific activity

THESIS

Thesis title: Estudio de la evolución del sellado distal ilíaco en el tratamiento endovascular de la aorta abdominal

Doctoral candidate: Pau Bargay Juan

Director[s]: Josep Redón i Mas, Ángel Plaza Martínez

Date of the defense: 25/02/2019

Grade: Sobresaliente “cum laude”
**Research Group on Vascular Function**

**Consolidated group**

### Group members

**Principal Investigators**
José Mª Vila Salinas. University

**Collaborating researchers**
Martín Aldasoro Celaya. University
Mª Dolores Mauricio Aviñó. University

### Researchers by categories

<table>
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<td>R2</td>
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<tr>
<td>R4</td>
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</tr>
</tbody>
</table>

### Strategic aims
- Vascular changes associated with different pathologies
- Regulation of blood flow

### Main lines of research
- Characterization of alterations in the control of vascular tone and endothelial function induced by aging
- The effects of exercise training on the vascular response
- Vascular and extravascular effects of ranolazine
- Improvement of insulin vascular effects by ranolazine
- Vascular effects of nanoparticles

### PUBLICATIONS

**3** Number of articles

**IF**

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<td>11,268</td>
<td>3,756</td>
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**2** National collaborations

**1** International collaborations

**1** Corresponding author

### SELECTED PUBLICATIONS


### THESIS

**Thesis title:** Alteraciones vasculares inducidas por un modelo de síndrome metabólico en conejo

**Doctoral candidate:** Marc Gimeno Raga

**Director(s):** Martín Aldasoro Celaya, Soraya Vallé Martín

**Lilian, María Dolores Mauricio Aviño**

**Date of the defense:** 03/05/2019

**Grade:** Sobresaliente "cum laude"
Research Group on Pediatric Nutrition
Consolidated group

Group members

Principal Investigators
Cecilia Martínez Costa. Hospital. University

Collaborating researchers
Francisco Núñez Gómez. Hospital. University
Javier Buesa Gómez. Hospital. University
Mª Ángeles Montal Navarro. University
Pablo García Molina. University
Evelin Balaguer López. Hospital. University
Elena Crehuá Gaudiza. Hospital
Julia Sánchez Zahonero. Hospital
Inmaculada Tarazona Casany. Hospital
Javier Estañ Capell. Hospital. University
Laura Martínez Rodríguez. Hospital

PhD researchers
Ana Paula Grattarola. INCLIVA

Researchers by categories

| Researchers financed by competitive public calls or networks |
|---|---|---|---|---|
| R1 | 2 |
| R2 | 2 |
| R3 | 4 |
| R4 | 2 |
| STAFF | 2 |

Strategic aims

Cardiovascular area:
• Study of metabolome, epigenetic markers and microbiome in obese children with/without insulin resistance before and after personalized nutritional intervention and physical exercise

Area of human milk:
• Characterization of mother-infant microbiome in term and preterm infants

Area of hospital malnutrition and artificial nutrition:
• Validation of the pediatric screening tools for detecting the risk of malnutrition linked to chronic disease and pediatric hospitalization

Main lines of research

Cardiovascular area:
• Study of early markers of vascular damage in dyslipidemic obese children by Doppler ultrasonography to establish a correlation with insulin resistance and other metabolic markers
• Monitoring exercise and energy consumption in obese schoolchildren and teenagers to adjust nutritional intervention

Area of human milk:
• Analysis of mother-fetal microbiome in term and preterm infants
• Analysis of defensive factors against norovirus infections and its relationship with histo-blood group antigens and FUT genotype

Area of hospital malnutrition and artificial nutrition:
• Screening procedures for detecting the risk of malnutrition linked to chronic disease and pediatric hospitalization
• Multicenter study of acceptance and quality of life in children treated with home enteral nutrition
INCLIVA SCIENTIFIC REPORT 2019

PUBLICATIONS

SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: MAMI
Title: MAMI - The Power of Maternal Microbes on Infant Health
Principal Investigator: Mª Carmen Collado Amores (Cecilia Martínez Costa as collaborating researcher)
Funding body: European Commission
Beneficiary institution: Consejo Superior de Investigaciones Científicas
Duration: 2015-2020
Total budget: €1.499.978,43

Reference: INTIMIC-085
Title: Maternal obesity and cognitive dysfunction in the offspring: cause effect role of the GUT MicrobiOMe and early dietary prevention
Principal Investigator: Patricia Lozzo (Cecilia Martínez Costa as collaborating researcher)
Funding Body: JPI HDHL. European Commission
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2017-2020
Total budget: €778.240

Reference: PCIN-2017-117
Title: Obesidad materna y disfunción cognitiva en la descendencia: papel causa-efecto de la microbiota intestinal y prevención dietética temprana
Principal Investigator: Consuelo Borrás Blasco (Cecilia Martínez Costa as collaborating researcher)
Funding body: Ministerio de Economía y Competitividad
Beneficiary institution: Universidad de Valencia
Duration: 2017-2020
Total budget: €143.000
4 scientific activity

Title: PI19/00354
Title: Efectividad de la vacunación antigripal y antineumocócica para prevenir la hospitalización en personas menores de 65 años que presentan condiciones de riesgo
Principal Investigator: Ángela Domínguez García (Francisco Núñez as collaborating researcher)
Funding body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2022
Total budget: €220,220

Title: PI17/00565
Title: Evaluación de una intervención basada en la evidencia para reducir la bacteriemia asociada a catéter vascular central en recién nacidos de muy bajo peso (RNMBP)
Principal Investigator: Jose Ignacio Pijaón Zubizarreta (Javier Estañ Capell as collaborating researcher)
Funding body: Instituto de Salud Carlos III
Beneficiary institution: Asociación Instituto de Investigación Sanitaria Biocruces
Duration: 2018-2020
Total budget: €146,107.50

Title: GV/2019/150
Title: Úlceras por compresión: estudio de los mecanismos básicos y evaluación de polímeros para su prevención en un modelo animal murino
Principal Investigator: Iván Julián Rochina (Pablo García Molina as collaborating researcher)
Funding body: Conselleria de Innovación, Universidades, Ciencia y Sociedad Digital
Beneficiary institution: Universidad de Valencia
Duration: 2019
Total budget: €16,000
Group on Translational Research in Ischemic Heart Disease
Consolidated group

<table>
<thead>
<tr>
<th>Group members</th>
</tr>
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<tbody>
<tr>
<td><strong>Principal Investigators</strong></td>
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<tr>
<td>Vicente Bodí Peris. Hospital. University</td>
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<tr>
<td><strong>Collaborating researchers</strong></td>
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<tr>
<td>Clara Bonanad Lozano. Hospital. University</td>
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<td>Amparo Ruiz Saurí. University</td>
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<tr>
<td>Paolo Racugno. Hospital</td>
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<td>Ana Díaz Cuevas. University</td>
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<td>Víctor Marcos Garcés. Hospital</td>
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<td><strong>PhD researchers</strong></td>
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<tr>
<td>César Ríos Navarro. INCLIVA</td>
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<td>José Gavara Doñate. INCLIVA</td>
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<td>Elena de Dios Lluch. University</td>
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<td>Nerea Pérez Solé. INCLIVA</td>
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<th>Researchers by categories</th>
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<th>Researchers financed by competitive public calls or networks</th>
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Strategic aims

- From our research experience from the last years in the clinical and experimental field related to ischemic cardiopathy, our current goal is to focus into a translational approach.
- In 2019 we continued elucidating the physiological role of the immune dysregulation as well as the macroscopic, microscopic and molecular changes in the fibrotic process after a myocardial infarction by using a swine model. Moreover, we have started clarifying the implication of angiogenesis and new angiogenic biomarkers in the recovery of the microvasculature after a myocardial infarction in animal models and in patients.
- We have also developed new tools to study patients with ST-segment elevation myocardial infarction using cardiac magnetic resonance imaging.

Main lines of research

- Prospective registry of patients with first ST-segment elevation myocardial infarction studied with cardiac magnetic resonance imaging.
- Multicenter registry of patients with myocardial ischemia studied with stress cardiac magnetic resonance imaging.
- Porcine and mice model of experimental myocardial ischemia and myocardial infarction. To achieve a better understanding of the pathophysiology of ischemia, necrosis, fibrosis, angiogenesis, and reperfusion injury and test new novel therapeutic avenues.
- Involvement in several large international multicenter clinical trials in the field of acute coronary syndromes.
PUBLICATIONS

SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI17/01836
Title: Estudio multidisciplinar de la obstrucción microvascular y su reparación tras un infarto agudo de miocardio: de la arteria coronaria a la microcirculación. Foco en el factor VEGF-A165b
Principal Investigator: Vicente Bodi Pens
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2020
Total budget: €99,220

Reference: PIE15/00013
Title: A multidisciplinary project to advance in basic mechanisms, diagnosis, prediction, and prevention of cardiac damage in reperfused acute myocardial infarction
Principal Investigator: Vicente Bodi Pens
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2016-2019
Total budget: €589,050

Reference: GV/2018/116
Title: Estudio multidisciplinar de la dinámica, mecanismos básicos, diagnóstico y exploración de nuevas oportunidades terapéuticas en la obstrucción microvascular tras infarto agudo de miocardio
Principal Investigator: Clara Bonanad Lozano
Funding Body: Conselleria de Educación, Cultura y Deporte
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2019
Total budget: €15,000
Title: Dinámica e implicación de la isoforma anti-angiogénica VEGF-A165b en la fisiopatología tras un infarto agudo de miocardio: estudio en pacientes y en un modelo murino de infarto reperfundido

Principal Investigator: Clara Bonanad Lozano
Funding Body: Sociedad Española de Cardiología
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2019
Total budget: €20,000
4 scientific activity

4.3.2 Oncology Area

Groups
Research Group on Histopathology and Tissue Engineering
Research Group on Central Nervous System Tumours
Research Group of Innovative Diagnostic and Therapeutical Developments in Solid Tumours - InDeST
Research Group on Breast Cancer Biology
Research Group on Skin Cancer
Translational Research Group on Pediatric Solid Tumours
Research Group on Hematopoietic Transplantation
Research Group on Lymphoproliferative Disorders
Research Group on Myeloid Neoplasms
Research Group on Epigenetics and Chromatin
Research Group on Molecular Imaging and Metabolomics

- Number of articles: 174
- IF: 1094.105
- Average IF: 6.324
- National collaborations: 89
- International collaborations: 67
- Corresponding author: 45
- First author: 35
- Last author: 56
- Original articles: 140
- Letters: 12
- Editorial: 11
- Review: 5
- Corrections: 0
Researchers by categories

<table>
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<tr>
<td>Group members</td>
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</tr>
</tbody>
</table>

Group members

**Principal Investigators**
Carmen Carda Batalla. University

**Collaborating researchers**
Amando Peydró Olaya. University
Amparo Ruiz Saurí. University
María Sancho-Tello Vallés. University
José Javier Martín de Llano. University
Manuel Mata Roig. University
Lara Milián Medina. University
Teresa Sagrado Vives. University
Miguel Armengot Carceller. University
Carlos Tejerina Botella. Hospital
Miguel Puche Torres. Hospital. University
Mari Fe Minguez Rey. Hospital. University
Genaro Galán Gil. Hospital. University
Antonio Silvestre Muñoz. Hospital. University
Francisco Forriol Brocal. Hospital
Antonio Fons Font. University
Rosa María Cibrían Ortiz de Anda. University
Santiago Peydró Tomas. University
Javier Zurriaga Carda. Hospital

**PhD researchers**
Esperanza Núñez Benito. University
María Oliver Ferrándiz. University
Javier Alcácer Fernández-Coronado. University
Rubén Salvador Clavell. University
Ignacio Peregrín Nevado. Hospital
Giovanna Foschini Martínez. Hospital
Ángel Aguilar Hernández. Hospital. University
Zakaria Oguir. University

**Strategic aims**

- The group obtained funding to continue working on to the line of Tissue Engineering: cartilage and bone regeneration techniques and their application in tracheal pathology
4 scientific activity

Main lines of research

Regenerative Medicine:
- Study of articular cartilage regeneration
- Study of bone regeneration
- Study of the use of dental pulp cells as precursors in regenerative therapies
- Study of regeneration of dental and periodontal tissues

Histopathology:
- Study of ciliary pathology
- Study of recurrent myocardial infarction and its determinants
- Study of vascularization in renal tumors

PUBLICATIONS

SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: DTS18/00177
Title: Desarrollo de un nuevo sistema de fijación intramedular para implantes (prótesis, clavos para fracturas y exoprótesis)
Principal Investigator: Antonio Silvestre Muñoz
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2020
Total budget: €90,500

Reference: PI16/01315
Title: Sustitutos traqueales epitelizados generados por ingeniería tisular
**Principal Investigator:** Manuel Mata Roig y Miguel Armengot Carceller  
**Funding Body:** Instituto de Salud Carlos III  
**Beneficiary Institution:** Fundación Investigación Hospital Clínico Universitario de Valencia  
**Duration:** 2017-2019  
**Total budget:** €68,365

**Title:** Cell-free approach for articular cartilage regeneration using autologous and synthetic microspheres as supporting biomaterial (JOINTCART)  
**Principal Investigator:** José Luis Gómez Ribelles (Carmen Carda Batalla, María Sancho Tello, Manuel Mata Roig, José Javier Martín de Llano, Lara Milián Medina as collaborating researchers)  
**Funding Body:** Ministerio de Economía y Competitividad - CIBER-BBN  
**Beneficiary Institution:** Fundación Investigación Hospital Clínico Universitario de Valencia and Universidad de Valencia  
**Duration:** 2018-2021  
**Total budget:** €59,241,25

**Reference:** MAT2016-76039-C4-2-R  
**Title:** Diferenciación condrogénica de células cultivadas en interfases eléctricamente activas  
**Principal Investigator:** María Sancho-Tello Valls and Carmen Carda Batalla  
**Funding Body:** Ministerio de Economía y Competitividad  
**Beneficiary Institution:** Universidad de Valencia  
**Duration:** 2017-2019  
**Total budget:** €151,250

**Reference:** SAF2016-85806-R  
**Title:** Mecanismos reguladores de la inflamación y su resolución en enfermedades crónicas artificiales y de la piel  
**Principal Investigator:** Mª Carmen Montesinos Mezquita, Mª Luisa Ferrándiz Manglano (Antonio Silvestre Muñoz as collaborating researcher)  
**Funding Body:** Ministerio de Economía y Competitividad  
**Beneficiary Institution:** Universidad de Valencia  
**Duration:** 2018-2020  
**Total budget:** €182,246

**Reference:** INNVAL10/18/017  
**Title:** Validación mecánica inicial de un nuevo sistema de fijación intramedular para prótesis e internacionalización de la patente  
**Principal Investigator:** José Albelda Vitoria (Antonio Silvestre Muñoz as collaborating researcher)  
**Funding Body:** Agencia Valenciana de la Innovación-AVI

**Generalitat Valenciana**  
**Beneficiary Institution:** Universidad Politécnica de Valencia  
**Duration:** 2018-2019  
**Total budget:** €80,549

**THESIS**

**Thesis title:** Análisis de la marcha en pacientes con pie zambo tratados mediante el método de ponseti frente a la técnica quirúrgica de liberación posterior  
**Doctoral candidate:** Albert Ferrando De Jorge  
**Director(s):** Álvaro Felipe Page Del Pozo, Carlos Manuel Atienza Vicente, Marta Salom Taverner, Mª Fe Mínguez Rey  
**Date of the defense:** 28/03/2019  
**Grade:** Sobresaliente "cum laude"  

**Thesis title:** Análisis de los efectos secundarios en pacientes con trastornos respiratorios del sueño portadores de un dispositivo de avance mandibular durante un año  
**Doctoral candidate:** Marina García Selva  
**Director(s):** Antonio Fons Font, Rocío Marco Pitarch  
**Date of the defense:** 03/05/2019  
**Grade:** Sobresaliente "cum laude"  

**Thesis title:** Estudio experimental in vitro de la unión de dos compuestos híbridos a distintos cementos de resina compuesta  
**Doctoral candidate:** José Luis Bustos Salvador  
**Director(s):** Antonio Fons Font, Juan Luis Román Rodríguez  
**Date of the defense:** 05/07/2019  
**Grade:** Sobresaliente "cum laude"  

**Thesis title:** Mechanobiological computational model for the formation and development of synovial joints  
**Doctoral candidate:** Kalenia Márquez Flórez  
**Director(s):** María Del Carmen Carda Batalla, Diego Alexander Garzón Alvarado, María Sancho-Tello Valls  
**Date of the defense:** 22/07/2019  
**Grade:** Sobresaliente "cum laude"  
**Quality recognition/Award:** European PhD
4 scientific activity

Research Group on Central Nervous System Tumors
Consolidated group

Group members

**Principal Investigators**
Miguel Cerdá Nicolás. Hospital. University

**Collaborating researchers**
Rosario Gil Benso. University
Concepción López Ginés. University
Teresa San Miguel Díez. University
Pablo Cerdá Durán. University
Pedro Roldán Badía. University
Javier Megías Vericat. University

**PhD researchers**
Lisandra Muñoz Hidalgo. University

**Thecnicians**
Ana María Clarí Pérez. University
Lara Navarro Cerveró. University

Researchers by categories

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**Strategic aims**

Clinical-pathological study of 40 patients affected by primary glioblastoma according to established protocol. Sample collection (formaldehyde, freezing, collection in culture medium) was performed, tissue matrices of the 40 tumors and neuropathological, immunohistochemical and FISH analysis of the matrices were performed according to established methodology

- Short-cell cultures and their viability analysis have been performed. Analysis by FISH of EGFR status and freezing of the different passes according to established methodology
- The study of the proteomic analysis of the 40 tumors (frozen samples) by Western Blott according to established methodology has been completed
- A cell line has been established from a primary culture of glioblastoma. Morphological, genetic and behavioral analysis in vitro (generation of neurospheres, functional migration profiles) have been completed

Experimental study

- Spheres (neurospheres) have been elaborated from different cell lines and cell cultures of glioblastoma, characterizing and analyzing their behavior
- Analysis of cultures subjected to silencing and overexpression by transfection of miRNAs by the lipofection method
- Analysis of cell cultures in hypoxia situation, analyzing their characteristics and behavior before silencing and overexpression by transfection of selected miRNAs in hypoxia situation and in the different amplification status of the EGFR
- The pilot study of viability and effectiveness of xenotransplantation in nude mice has been completed with the achievement of neoplasias under study
Main lines of research

- Primary GBM. Amplification status of EGFR and angiogenic/infiltrative phenotype. Molecular networks responsible for tumor modulation and reprogramming processes
- Role of microRNA in the regulation of EGFR-dependent signalling pathways in high-grade astrocytic gliomas
- Development of a model for analyzing the modulation of microRNA gene activity in cell cultures of primary GBM and GBM cell lines
- Development of a model of population analysis and spatial distribution of these neoplasias
- Metabolomics and microvascular environment characterization of aggressive human glioma by DCE-MRI and genetic study of biopsies

PUBLICATIONS

SELECTED PUBLICATIONS


## Group members

### Principal Investigators
Andrés Cervantes Ruipérez. Hospital. University

### Collaborating researchers
Susana Roselló Keranen. Hospital
Maider Ibarrola Villava. INCLIVA
Josefa Castillo Aliaga. INCLIVA. University
Jose A. Pérez Fidalgo. Hospital. University
Amelia Insa Mollá. Hospital
Sheila Zúñiga Trejos. INCLIVA

### PhD researchers
Marisol Huerta Álvaro. Hospital
Noelia Tarazona Llavero. INCLIVA
Gema Bruixola Campos. Hospital
María Carolina Martínez Ciarpaglini. Hospital
Valentina Gambardella. Hospital
Sara Oltra Sanchis. INCLIVA
Marta Llorca Cardeñosa. INCLIVA
Fernanda Gutiérrez Bravo. INCLIVA
Jorge Martín Aranda. CIBER
Federica Papaccio. ESMO
Roberto Tebar Martínez. INCLIVA

### Technicians
Cristina Mongort Sanchis. INCLIVA
Francisca Carrasco Bailén. CIBER
Ana Ferrer Martínez. CIBER

### Emerging researchers
Gloria Ribas Despuig. INCLIVA
Joan Climent Batailler. INCLIVA
Desamparados Roda Pérez. Hospital
Tania Fleitas Kanonikoff. Hospital

### Nurses
Inma Blasco Blasco. INCLIVA
Celia Martínez Ridaura. INCLIVA
Luna Porta Campos. INCLIVA

### Administrative assistant
Gabriela Pérez Garrity. INCLIVA
Elena Jiménez Martí. INCLIVA
Julia Peláez Sánchez. INCLIVA
Enrique Castelló Moreno. INCLIVA
Ana Vercher Grau. INCLIVA
Emerging Researcher

Gloria Ribas Despuig

Our scientific interests are based on both the study of genetic susceptibility to complex diseases, such as melanoma, as well as the understanding of genomic deregulation in solid tumors, specially Breast Cancer in Young Women. We are also involved in the characterization of genetics and epigenetic alterations that play a role in gastric cancer, specifically in the positive subgroups of Epstein Bar virus and instability.

Emerging Researcher

Desamparados Roda Pérez

Our interest is focused in personalized medicine and new drug development with the main objective of identifying new biomarkers of response to targeted agents in advanced solid tumors. We are also focused in a new multiomic characterization of colorectal tumors, using a mathematical model specially in advanced rectal cancers.

Emerging Researcher

Joan Climent Bataller

Our research area focuses on exploiting “Systems” approaches for the understanding of cancer susceptibility and its subphenotype relationship. The main experience focuses on breast cancer research and covers the use of novel mathematical tools for the comprehensive analysis of gene and gene expression data, with the purpose of optimizing responses to targeted pharmacological treatment.

Emerging Researcher

Tania Fleitas Kanonnikoff

Our scientific interests are based on the understanding of the tumor immune microenvironment of Gastric Cancer and the mechanisms of tumor resistance. Moreover, we are also focused on understanding the different GC profiles from EU and Latin-America population through a multi-omic approach thanks to an international collaboration.

Strategic aims

Our group aims to improve the patient’s life through the development of new diagnostic and therapeutic methods. In addition to this main goal, we intend to implement strategies to facilitate the development of precision medicine in solid tumors with innovative therapeutic approaches and provide knowledge on how to approach precision medicine in colorectal and gastric cancer from different points such as molecular classification, the use of predictive biomarkers and new therapeutic approaches.

Main lines of research

• To develop first-in-human Phase I trials of antineoplastic agents with innovative designs
• To develop liquid biopsies (ctDNA, cmicroRNAs) for early diagnosis, monitoring and the prediction of therapeutic effects in patients with gastro-intestinal malignancies
• To use the latest technologies to improve our knowledge of the molecular and genetic causes of cancer
• To implement the use of organoids [3D cell cultures] from patients as functional models, in order to understand the underlaying causes of tumorigenesis and to test the appropriateness of the treatments

PUBLICATIONS
4 scientific activity

SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: MoTriColor
Title: Molecularly guided trials with specific treatment strategies in patients with advanced newly molecular defined subtypes of colorectal cancer (MoTriColor)
Principal Investigator: Josep Tabernero [Andrés Cervantes as collaborating researcher]
Funding Body: European Commission (H2020)
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2015-2019
Total budget: €271.424

Reference: 825832 – LEGACy
Title: CeLac and European consortium for a personalized medicine approach to Gastric Cancer
Principal Investigator: Andrés Cervantes Ruipérez
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2022
Total budget: €3.577.431,27 (INCLIVA: €638.315)

Reference: PI18/01508
Title: Macrófagos asociados al tumor, angiogénesis tumoral y resistencia a las terapias en Cáncer Gástrico Difuso fenotipo Mesenquimal
Principal Investigator: Tania Carolina Fleitas Kanonnikoff and Desamparados Roda Pérez
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2021
Total budget: €99.220

Reference: PI18/01909
Title: Medicina personalizada en pacientes con cáncer colorrectal localizado: abordaje multiómico de la Enfermedad Mínima Residual en biopsia líquida y modelos de organoides
Principal Investigator: Andrés Cervantes Ruipérez
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2021
Total budget: €141.570
Reference: PI16/00393
Title: De la genómica del cáncer a la inmunoncología. Búsqueda de biomarcadores de respuesta a la inmunoterapia anti-PD1/PDL1 en cáncer mediante una aproximación de biología de sistemas
Principal Investigator: Joan Climent Bataller
Funding Body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2017-2019
Total budget: €98.615

Reference: PI16/00395
Title: Caracterización genómica y funcional del cáncer gástrico VEB+/IMS+
Principal Investigator: Gloria Ribas Despuig
Funding Body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2017-2019
Total budget: €98.615

Reference: PT17/0017/0003
Title: Clinical Research and Trials Platform
Principal Investigator: Andrés Cervantes Ruipérez
Funding Body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2017-2020
Total budget: €266,475

Reference: CB16/12/00473
Title: Centro de Investigación Biomédica en Red Cáncer (CIBERonc)
Principal Investigator: Andrés Cervantes Ruipérez
Funding Body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2017-present

Title: Papel de la vía p53-Aurora kinasa en la resistencia a platino e inhibidores del PARP en cáncer de mama triple negativo y cáncer seroso de ovario de alto grado
Principal Investigator: Alejandro Pérez Fidalgo
Funding Body: Sociedad Española de Oncología Médica
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2019

Title: Nuevos biomarcadores en cáncer de recto: relevancia del perfil inmunológico en el pronóstico de la enfermedad
Principal Investigator: Desamparados Roda Pérez
Funding Body: Sociedad Española de Oncología Médica (SEOM)
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2019
Total budget: €30,000

Title: Utilidad de la biopsia líquida y organoides en el manejo y tratamiento de adenocarcinoma de páncreas: hacia una medicina de precisión
Principal Investigator: Maider Ibarrola Villava
Funding Body: Fundación Mutua Madrileña
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2022
Total budget: €100,000

THESIS

Thesis Title: Study of the epi/genomic dysregulation of breast cancer in women under 35 years and evaluation of cellular models
Doctoral candidate: Sara Oltra Sanchis
Director(s): Gloria Ribas Despuig, Ana Lluch Hernández
Date of the defense: 18/01/2019
Grade: Sobresaliente “cum laude”
Quality recognition/Award: European PhD, Extraordinary doctorate award

Thesis Title: Genetic determinants of atr inhibitor sensitivity and resistance in gastric cancer
Doctoral candidate: Marta Jessica Llorca Cardeñosa
Director(s): Andrés Cervantes Ruipérez, Gloria Ribas Despuig
Date of the defense: 22/07/2019
Grade: Sobresaliente “cum laude”
Quality recognition/Award: European PhD

Thesis Title: A multi-omic liquid biopsy-based signature as a valuable tool to assess minimal residual disease in localised colorectal cancer
Doctoral candidate: Noelia Tarazona Llavero
Director(s): Andrés Cervantes Ruipérez
Date of the defense: 23/07/2019
Grade: Sobresaliente “cum laude”
Quality recognition/Award: European PhD
4 scientific activity

**Thesis title:** Role of EDPR1 and the ZNF518B factor in the development of colorectal cancer

**Doctoral candidate:** Francisco Gimeno Valiente

**Director(s):** Josefa Castillo Aliaga, Gerardo López Rodas, Luis Franco Vera

**Date of the defense:** 03/12/2019

**Grade:** Sobresaliente "cum laude"

**Quality recognition/Award:** European PhD
Research Group on Breast Cancer Biology
Consolidated group

Group members

Principal Investigators
Ana Lluch Hernández. Hospital. University

Collaborating researchers
Begoña Bermejo De Las Heras. Hospital
Octavio Burgues Gasión. Hospital. University
Estela Contel Martín. INCLIVA
Isabel Catóira Domenech. INCLIVA
Patricia Martínez Belenguer. INCLIVA
Antonio Millet Serrano. Hospital. University
Begoña Pineda Merlo. INCLIVA. University
Eduardo Tormo Martín. CIBERONC
María Teresa Martínez Martínez. Hospital
Elvira Buch Villa. Hospital
Juan Miguel Céjalvo Andújar. Hospital
Ana Julve Parreño. Hospital
Liria Terrádez Mas. Hospital

Emerging researchers
Isabel Chirivella González. Hospital. University
Pilar Eroles Asensio. INCLIVA. University

PhD researchers
Paula Cabello Navarro. INCLIVA
Anna Adam-Artigues. INCLIVA
Iris Garrido Cano. INCLIVA
Birlipta Pattanayak. INCLIVA
Cristina Hernando Meliá. Hospital
Marcos Adrianzen Vargas. Hospital
Gemma Bellver Lobato. Hospital

Technician
Elisa Alonso Yuste. INCLIVA

Administrative assistant
Yolanda De La Cruz Robles. INCLIVA

Emerging Researcher
Isabel Chirivella González

The research line suggests a possible relation between mammographic density, as a genetic susceptibility marker and the risk to suffer breast cancer in women with a mutation in BRCA (hereditary breast cancer). We also have a project to evaluate the risk of breast cancer according to the model BRECANRISK in women with BRCA mutation without breast cancer.

Emerging Researcher
Pilar Eroles Asensio

The lines of research aim at deepening the knowledge of some of the molecular subtypes of breast cancer; especially HER2+ and triple negative, through studies of expression and epigenetic changes (microRNAs, methylation) to decipher the possible mechanisms of resistance to current treatments. We intend to develop new strategies for diagnostic and therapeutic intervention to reverse the identified resistance, based on combinations with other biologic agents and the use of predictive biomarkers of resistance.
4 scientific activity

Strategic aims

Resistance to treatments:
- Evaluation of the recent insights into the development of preclinical trastuzumab-resistant HER2+ breast cancer models

Metastatic setting:
- Identification of MSK1 as regulator of luminal cell differentiation and metastatic dormancy in ER+ breast cancer
- Multicenter phase II study of lurbinectedin in BRCA-mutated and unselected metastatic advanced breast cancer and biomarker assessment substudy
- Analysis of postmastectomy radiation therapy in women with T1-T2 tumors and 1 to 3 positive lymph nodes

ER+ breast cancer:
- Evaluation of the outcomes of single versus double hormone receptor-positive breast cancer
- Description that the ER+ breast cancers resistant to prolonged neoadjuvant letrozole exhibit an E2F4 transcriptional program sensitive to CDK4/6 inhibitors
- Design of adjuvant endocrine therapy for premenopausal breast cancer

Breast cancer in very young women:
- Identification of miR124-2 as a survival biomarker by methylation deregulation of its promoters
- Review of breast cancer in pregnant patients

Prognostic and prediction:
- Prognostic role for the derived neutrophil-to-lymphocyte ratio in early breast cancer
- Evaluation of the pathologic complete response rate to neoadjuvant chemotherapy in triple negative breast cancer subtypes
- Study of the incidence, characteristics, and prevention of the alopecia following adjuvant docetaxel

Main lines of research

- Study of methylation as a prognostic and predictive factor of neoadjuvant treatment in triple negative breast cancer
- Evaluation of microRNAs and mRNAs differentially expressed after chemotherapy treatment
- Involvement of miRNAs in breast cancer processes
- Role of tumor heterogeneity and dynamic reprogramming of tumor cell resistance to anti-HER2 therapy
- Evaluation of the involvement of stem cells and epithelial mesenchymal transition in the mechanisms of resistance to treatment in HER2+ breast cancer
- Primary and secondary resistance in HER2+ breast cancer: search for new treatments
- Interaction between estrogen receptors, tumor angiogenesis and breast cancer metabolism
- Molecular and Clinical characterization of breast tumors from very young women

PUBLICATIONS

- **24** Number of articles
- **IF 204,89**
- **Average IF 8,537**
- **13** National collaborations
- **9** International collaborations
- **2** Corresponding author
SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: COST Action CA15204
Title: European Platform for Outcomes Research into Perioperative Interventions during Surgery for Cancer
Principal Investigator: Pilar Eroles Asensio
Funding Body: European Commission
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2016-2020

Reference: CB16/12/00453
Title: CIBER Cáncer de mama
Principal Investigator: Ana Lluch Hernández
Funding Body: Centro de Investigación Biomédica en Red (CIBER) – Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2017-present

Reference: PI18/01219
Title: Caracterización y repercusión terapéutica de la ecología de cáncer de mama HER2 positivo
Principal Investigator: Pilar Eroles Asensio
Funding Body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2021
Total budget: €112.530

Reference: P18/01219
Title: Análisis del papel de la vía aurora kinasa-p53 como potencial marcador predictivo y dianas terapéuticas en cáncer de mama triple negativo
Principal Investigator: Begoña Pineda Merlo
Funding Body: Fundación de la Mutua Madrileña
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2019

Reference: PRECAM3
Title: Construcción de un modelo epigenético predictivo de respuesta al tratamiento neoadyuvante en cáncer de mama
triple negativo mediante técnicas de machine learning

Principal Investigator: Pilar Eroles Asensio
Funding Body: REDIT-INCLIVA Innovation network
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019
Total budget: €4,000

THESIS

Thesis title: Study of the epi-/genomic dysregulation of breast cancer in women under 35 years and evaluation of cellular models
Doctoral candidate: Sara Oltra Sanchis
Director(s): Gloria Ribas Despuig, Ana Lluch Hernández
Date of the defense: 18/01/2019
Grade: Sobresaliente “cum laude”
Quality recognition/Award: European PhD, Extraordinary doctorate award

Thesis title: Identificación de los factores clínico-patológicos relacionados con la obtención de la respuesta completa patológica en pacientes con cáncer de mama tratadas con quimioterapia neoadyuvante. Validación del Residual Cancer Burden (RCB) como factor pronóstico
Doctoral candidate: Vanesa Pons Sanz
Director(s): Ana Lluch Hernández, Jose Alejandro Pérez Fidalgo, Octavio Burgués Gasión
Date of the defense: 02/04/2019
Grade: Sobresaliente “cum laude”

Thesis title: Identificación de biomarcadores circulantes con valor pronóstico y predictivo de respuesta en cáncer de mama triple negativo
Doctoral candidate: Carmen Salvador Coloma
Director(s): Ana Lluch Hernández, Ana María Santaballa Bertrán, Jaime Font De Mora Sainz
Date of the defense: 10/05/2019
Grade: Sobresaliente “cum laude”

Thesis title: Evaluación de los cambios en la respuesta linfocitaria en el microambiente tumoral como factor pronóstico y predictivo de respuesta a la quimioterapia neoadyuvante del cáncer de mama triple negativo estadio II-III
Doctoral candidate: Carmen Herrero Vicent
Director(s): Amparo Ruiz Simón, Ana Calatrava Fons, Vicente Guillem Porta, Ana Lluch Hernández
Date of the defense: 27/05/2019
Grade: Sobresaliente “cum laude”
Research Group on Skin Cancer
Consolidated group

Group members

Principal Investigators
José Carlos Monteagudo Castro. Hospital. University

Collaborating researchers
David Ramos Soler. Hospital. University
José Mª Martín Hernández. Hospital. University
Liria Terrádez Más. Hospital
Inés Escandell González. Hospital
Jaime Agustí Martínez. Hospital
Anaïs Moscardó Navarro. Hospital
Bárbara Vázquez Fernández. Hospital

PhD researchers
Beatriz Sánchez Sendra. University
José Francisco González Muñoz. INCLIVA

Researchers by categories

| Researchers financed by competitive public calls or networks |
|-----------------------------|-----------------------------|
| R1  | R2  | R3  | R4  |
| 6   | 2   | 1   | 1   |

Strategic aims

- Transcriptomic identification of miRNA-205 target genes potentially involved in metastasis and survival of cutaneous malignant melanoma
- Search for a genetic and/or epigenetic signature which permit a more precise diagnosis and prediction of the metastatic potential of ambiguous melanocytic lesions, and particularly of spitzoid tumors
- Identification of circulating miRNAs which may serve as prognostic and/or staging biomarkers in patients with primary cutaneous melanoma

Main lines of research

- Prognostic value of intratumoral and circulating microRNAs in melanoma tumor progression and clinical outcome
- Improvement by circulating biomarkers of melanoma staging schedule at the time of diagnosis
- Machine learning in the study of whole slide digitized images of spitzoid melanocytic tumors for diagnosis and prognosis improvement
- Evaluation of long- and short-term morphological changes in melanocytic nevi in a digitized dermoscopic unit

PUBLICATIONS

- Number of articles: 12
- IF: 27,892
- Average IF: 2,324
- National collaborations: 4
- International collaborations: 2
- Corresponding author: 7

INCLIVA SCIENTIFIC REPORT 2019
SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI17/02019
Title: Estudio del valor del patrón de metilación y variaciones del número de copias del genoma para determinar el grado de malignidad en los tumores melanocíticos de potencial maligno incierto
Principal Investigator: José Carlos Monteagudo Castro
Funding Body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2020
Total budget: €99.220
Translational Research Group on Pediatric Solid Tumors
Consolidated group

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<th>Group members</th>
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<tbody>
<tr>
<td><strong>Principal Investigators</strong></td>
</tr>
<tr>
<td>Samuel Navarro Fos. Hospital. University</td>
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<td><strong>Collaborating researchers</strong></td>
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<tr>
<td>Rosa Noguera Salvé. University</td>
</tr>
<tr>
<td>Ana Pilar Berbegall Beltrán. CIBERONC</td>
</tr>
<tr>
<td>Mª Amparo López Carrasco. CIBERONC</td>
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<tr>
<td>Aitor Carretero Martínez. INCLIVA</td>
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<tr>
<td>Sabina Sanegre Sans. INCLIVA</td>
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<td>Federico Lucantoni. INCLIVA</td>
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<td><strong>PhD researchers</strong></td>
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<tr>
<td>Susana Martín Varó. INCLIVA</td>
</tr>
<tr>
<td>Maite Blanquer Maceiras. CIBERONC</td>
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<tr>
<td>Ezequiel Monferrer Garzarán. INCLIVA</td>
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<td>Rebeca Brugos Panadero. INCLIVA</td>
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Strategic aims

- Genomic heterogeneity in neuroblastoma (NB), especially in MYCN amplification
- Xenotransplant models of NB
- Importance of extracellular matrix and vascularization in NB
- Morphological and molecular analysis of neuroblastic and malignant infantile skeletal tumours

Main lines of research

- Genetic analysis in neuroblastoma. At the European level we participate in the establishment of a uniform nomenclature, and standard practices and quality validation studies, essential to obtain and maintain high quality in genetic results used for therapeutic stratification
- Identification of new genetic factors with prognostic value in neuroblastic and malignant infantile skeletal tumors
- Histopathologic studies of the expression of diagnostic and prognostic markers in solid pediatric tumors
- Tumor microenvironments in neuroblastoma – research findings
- Preclinical models. Obtaining and characterizing cell lines in vivo and in vitro from fresh neuroblastic and malignant infantile skeleton tumor material

**PUBLICATIONS**

- **Number of articles**: 34,999
- **Average IF**: 3,499
- **National collaborations**: 6
- **International collaborations**: 3
- **Corresponding author**: 3
SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI17/01558
Title: Identificación y validación de nuevas terapias, modelos preclínicos y marcadores de respuesta
Principal Investigator: Rosa Noguera Salvá
Funding body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2020
Total budget: €123,420
**Research Group on Hematopoietic Transplantation**

**Consolidated group**

**Group members**

**Principal Investigators**
Carlos Solano Vercet. Hospital. University

**Collaborating researchers**
David Navarro Ortega. Hospital. University
María José Remigia Pellicer. Hospital
Rosa Goterris Viciedo. Hospital
Paula Amat Martínez. Hospital
Estela Giménez Guiles. Hospital
Ariadna Pérez Martínez. Hospital
Eliseo Alejandro Albert Vicent. Hospital
Rafael Hernani Morales. Hospital
Ana Miralles Whitehead. INCLIVA
Ana Benzanquén Vallejos. Hospital

**Technicians**
Iván Martín Castillo. INCLIVA
Eva Villamón Ribate. INCLIVA
Joana Hernández Martín. INCLIVA

**Researchers by categories**

<table>
<thead>
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**Researchers financed by competitive public calls or networks**

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**Strategic aims**

- Translational research on biology and treatment of graft-versus-host disease after allogeneic transplantation of hematopoietic progenitor cells
- Infection and immune reconstitution after haematopoietic transplant
- Creation of a Multidisciplinary Unit of Advanced Therapies-CART in Hospital Clínico Universitario de Valencia - INCLIVA

**Main lines of research**

- Translational research on complications of allogeneic hematopoietic transplantation: graft-versus-host disease
- Infection and immune reconstitution after hematopoietic transplantation
- Translational research of alloreactivity in the context of new modalities of allogeneic transplantation from compatible and incompatible alternative donors (haploidentical transplant)
- Clinical application of gene and cellular therapy using CART and other immune effector cells

**PUBLICATIONS**

- Number of articles: 337,4
- IF: 8,435
- Average IF: 337,4
- National collaborations: 25
- International collaborations: 10
- Corresponding author: 15
SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI18/01473
Title: Inmunobiología de la infusión de linfocitos del donante con depleción ex vivo de linfocitos T CD45RA+ en pacientes con alto riesgo de infección viral tras TPH alogénico
Principal Investigator: Carlos Solano Vercet
Funding body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2021
Total budget: €123.420

Reference: PI18/00127
Title: Virología e inmunología de la infección por el citomegalovirus (CMV) en el paciente con neoplasia hematológicas en la era de las nuevas bioterapias
Principal Investigator: David Navarro Ortega
Funding body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2021
Total budget: €111.320

Reference: PI17/01097
Title: Score integrado de factores inmunológicos y genotípicos de predicción del riesgo y evolución de la infección por CMV en pacientes con trasplante renal
Principal Investigator: María José Remigia Pellicer
Funding body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2020
Total budget: €32.670

Reference: PI15/01396
Title: Inmunobiología de la alo-reactividad NK en el trasplante de progenitores hematopoyéticos haploidenticos asociado al uso de ciclofosfamida post-trasplante
Principal Investigator: Carlos Solano Vercet
Funding body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2015-2019
Total budget: €116.765
Reference: PI15/00090
Title: Inmunobiología de la infección por el citomegalovirus en el trasplante alogénico de precursores hematopoyéticos haplóideíntico asociado al uso de ciclofosfamida postrasplante
Principal Investigator: David Navarro Ortega
Funding body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2016-2019
Total budget: €98,615

THESIS

Thesis title: Concentración mínima inhibitoria de vancomicina para staphylococcus aureus y riesgo de bacteriemia complicada
Doctoral candidate: Rocío Falcón Abad
Director(s): David Navarro Ortega
Date of the defense: 02/10/2019
Grade: Sobresaliente "cum laude"
Group members

Principal Investigators
Mª José Terol Casterá. Hospital. University

Collaborating researchers
Antonio Ferrández Izquierdo. Hospital. University
Ana Isabel Teruel Casaús. Hospital
Edelmira Martí Sáez. Hospital
Lucía Brines Sirerol. INCLIVA
Blanca Ferrer Lores. Hospital
Alicia Serrano Alcalá. INCLIVA
Mercedes Bou Moreno. INCLIVA
Verónica García Oliver. INCLIVA

Researchers by categories

<table>
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<tr>
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Strategic aims

- During the year 2019, we were able to deepen the knowledge of the role of the NOTCH1 / FBXW7 / PI3K / PTEN / AKT signaling pathway in the progression of Chronic Lymphocytic Leukemia B (CLL-B) to advanced forms. Thus, in the cell lines and in the patient’s primary cells, we observed a variation in the number of gene copies by both FISH and PCRq in the NOTCH1, FBXW7 and PTEN genes, with an inverse relationship between NOTCH1 and FBXW7 / PTEN
- A second objective has been to analyze the clinical significance of the rearrangements of myc, bcl-2 and bcl-6 in diffuse large cell lymphoma. We have been able to verify that patients with concomitant c-myc and bcl-2 protein expression present a worse prognosis in terms of SLP and Sg than the rest
- Thirdly, during 2019, the study of the mutational status of IgVH in CLL and its prognostic impact in a wide series of patients has been implemented. New molecular markers (mutations TP53, BIRC3, MYD88, NOTCH1 and SF3B1) have also been studied in CLL by new generation sequencing techniques. In addition, we have continued the collaboration in the GENOMA CLL sequencing project, with a clinical-evolutionary update
- Finally, we have expanded our participation in clinical research projects in CLL, refractory lymphomas and multiple myeloma, both with the incorporation of new drugs and in the design and development of new therapeutic options

Main lines of research

- Analysis of the interactions of CLL cells with their cellular microenvironment: further study of the intracellular mechanisms triggered by VEGF. Analysis of the possible correlation with CXCR4 / CCR7 cytokines pathway. Transactivation mechanisms of the aforementioned receptors
- Role of the NOTCH1 / FBXW7 / PI3K / PTEN / AKT signaling pathway in the progression of Chronic Lymphocytic Leukemia B (CLL-B) to advanced forms: pathway molecular profile analysis in 100 patients with CLL-B of primary cells obtained at diagnosis and at the time of the progression, analyzing for this, the presence of mutations and number of copies of DNA, gene expression, FISH and (RT-PCR)
- Study of the rearrangements of bcl-2, bcl-6 and myc in diffuse large cell lymphoma: clinical significance and correlation with immunohistochemical expression using FISH and IHQ techniques
- Study of new molecular markers (mutations of IgVH, TP53, BIRC3, MYD88, NOTCH1 and SF3B1) in CLL: conventional versus NGS techniques. Implication in clonal evolution associated with tumor progression
- New therapeutic options for CLL/MM patients who are resistant to chemoimmunotherapy
SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Title: Clonal evolution and molecular monitoring in chronic lymphocytic leukemia under selective pressure of therapy: impact on clinical outcome

Principal Investigator: Mª José Terol Casterá

Funding Body: Gilead Sciences Fellowship Programme

Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia

Duration: 2018-2019
### Research Group on Myeloid Neoplasms

**Consolidated group**

#### Group members

**Principal Investigators**
- Mar Tormo Díaz. Hospital. University

**Collaborating researchers**
- Blanca Navarro Cubells. Hospital
- Marisa Calabuig Muñoz. Hospital
- Montserrat Gómez Calafaz. Hospital
- Juan Carlos Hernández Boluda. Hospital. University

**PhD researchers**
- Iván Martín Castillo. Hospital
- Irene Pastor Galán. Hospital
- Carlos Carretero Márquez. Hospital

#### Researchers by categories

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### Strategic aims

- Assess the effect of imiquimod on proliferation and differentiation of bone marrow cells of patients with myelodysplastic syndrome (MDS) or acute myeloid leukaemia (AML)
- Analyse the impact of genetic mutations and epigenetic regulation on response to hypomethylating drug azacitidine
- Analyze curcumin (cur) activity combined with azacitidine in myeloid cell lines and samples from MDS and AML patients
- NGS molecular characterization in patients with essential thrombocythemia or polycythemias developing resistance to hydroxycarbamide
- Develop prognostic model for myelofibrosis secondary to ET and PV. Spanish Myelofibrosis (MF) Registry study
- Study treatment discontinuation in chronic myeloid leukaemia (CML). Spanish LMC group (GELMC) study

### Main lines of research

- Study of mechanisms involved in leukemic transformation in myeloproliferative neoplasms
- Studies on molecular biomarker mutations in response to myelodysplastic syndromes (MDS) and AML treated with hypomethylating agents
- In vitro studies of Curcumin, a histone deacetylase inhibitor and apoptosis inducer, in combination with azacitidine in MDS and AML
- Effect of imiquimod on bone marrow cell proliferation and differentiation in myelodysplastic syndrome or acute myeloid leukaemia patients
- Collaborative studies with the CETLAM group (LMA, SMD), PETHEMA (LLA, LMA), the Spanish Philadelphia-negative chronic myeloproliferative disorders group (GEMFIN), the Spanish LMC group (GELMC) and the Spanish SMD group (GESMD)


**SELECTED PUBLICATIONS**

**RESEARCH PROJECTS AND GRANTS FOR RESEARCH**

Reference: GLD16/00047  
Title: Molecular characterisation with NGS of patients with essential thrombocythaemia or polycythemia vera who develop resistance to hydroxycarbamide according to the European LeukemiaNet criteria  
Principal Investigator: José V. Cervera Zamora (IP group: Juan Carlos Hernández-Boluda)  
Funding Body: Gilead Fellowship Program  
Beneficiary Institution: Instituto de Investigación Sanitaria del Hospital Politécnico Universitario La Fe  
Duration: 2018-2019  
Total budget: €49,657

Title: Síndromes mielodisplásicos con delección 20q: incidencia, valor pronóstico e impacto terapéutico de las delecciones cromosómicas del gen ASXL1, de otros genes próximos y de las mutaciones genéticas  
Principal Investigator: Mar Tormo Díaz  
Funding Body: Grupo Español de Síndromes Mielodisplásicos
4 scientific activity

Beneficiary Institution: Servicio de Hematología Hospital Clínico Universitario de Valencia
Duration: 2019
Total budget: €10,000

THESIS

Thesis title: Análisis de la relación coste-efectividad del tratamiento con azacitidina en pacientes con síndrome mielodisplásico en el Hospital Clínico Universitario de Valencia
Doctoral candidate: Teresa Torrecilla Junyent
Director(s): Manuel Alós Almiñana, María Del Mar Tormo Díaz, Julio Cortijo Gimeno
Date of the defense: 12/06/2019
Grade: Sobresaliente "cum laude"
Research Group on Epigenetics and Chromatin
Consolidated group

Group members

Principal Investigators
Luis Franco Vera. University

Collaborating researchers
Gerardo López Rodas. University
Josefa Castillo Aliaga. University
Francisco Gimeno Valiente. INCLIVA

Strategic aims

• Role of EPDR1 in CRC: Regulated by miRNA 193a-5p and related to the patients’ mutational state of KRAS, BRAF and APC; patients with higher expression of EPDR1 were in the CMS3 subtype
• Role of ZNF518B in CRC: The ratio of splicing isoforms is related to patients’ relapse; ZNF518B locates to nuclei and is a DNA-binding factor; ZNF518B silencing causes up-regulation of 276 genes and down-regulation of 322 in HCT116; some of the latter genes are also targets of the histone methyltransferases G9A and/or EZH2
• Collaboration with external groups: First report of nitrosative stress via cystathionine β-synthase nitration. Early-life exposure to pollutants causes epigenetic changes starting from adolescent age. Chd1 chromatin remodelling factor critically regulates memory-related molecular processes

Main lines of research

• Exploring the role of ZNF518B and EPDR1 genes in human colorectal cancer: a translational approach. The research is aimed at: a) Regulation of EPDR1 expression in CRC patients; the role of miRNAs and of the mutational state of patients have been studied. b) Possible use of the gene in panels for stratification of CRC patients, with special attention to the CMS classification. c) Analysis of ZNF518B isoforms in CRC patients. d) Search for the target genes of ZNF518B as a transcriptional factor
• Collaboration with external groups. a) Metabolomic and proteomic approaches to study nitrosative stress and the related epigenetic changes in a murine model of acute pancreatitis. b) Epigenetic changes induced by exposure to environmental insults. c) Role of chromatin changes in memory processes.Role of EPDR1 in bladder cancer: We will go on analysing the expression of the gene in tumour and adjacent tissues and studying the role of DNA methylation in the expression of the gene

PUBLICATIONS

6
Number of articles

IF
48,114

Average IF
8,019

1
National collaborations

3
International collaborations

1
Corresponding author

INCLIVA SCIENTIFIC REPORT 2019
SELECTED PUBLICATIONS


THESIS

Thesis title: Role of EDRPR1 and the ZNF518B factor in the development of colorectal cancer
Doctoral candidate: Francisco Gimeno Valiente
Director(s): Josefa Castillo Aliaga, Gerardo López Rodas, Luis Franco Vera
Date of the defense: 03/12/2019
Grade: Sobresaliente “cum laude”
Quality recognition/Award: European PhD

RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI18/01909
Title: Medicina personalizada en pacientes con cáncer colorrectal localizado: abordaje multiómico de la Enfermedad Mínima Residual en biopsia líquida y modelos de organoides
Principal Investigator: Andrés Cervantes Ruipérez [Josefa Castillo as collaborating researcher]
Funding Body: Instituto de Salud Carlos III
Research Group on Molecular Imaging and Metabolomics

Consolidated group

**Group members**

**Principal Investigators**
Daniel Monleón Salvadó. University

**Collaborating researchers**
Vannina González Marrachelli. University
Antonio Pellín Carcelén. University
Itziar Pérez Terol. INCLIVA
María Martín Grau. INCLIVA

**PhD researchers**
Mercedes Pardo Tendero. INCLIVA

**Technicians**
José Manuel Morales Tatay. University
Patricia Almudéver Folch. INCLIVA

**Researchers by categories**

- **R1** 1
- **R2** 2
- **R4** 1
- **STAFF** 4

Researchers financed by competitive public calls or networks

- **R1** 1
- **STAFF** 2

**Strategic aims**

- Identify new metabolomic markers of tumor aggressiveness in breast cancer
- Identify new markers of myocardial infarction
- Identify new metabolomic cardiovascular risk markers based on the microbiota-host interaction

**Main lines of research**

- Tumor metabolism through metabolic profiles in biopsies, biofluids and cells (breast cancer, glioblastoma multiforme, prostate, bladder)
- Metabolic profiles in the progression of cardiometabolic risk modulated by the microbiota-host interaction
- Metabolic profiles of healthy aging vs frailty
- MRI microimaging study of porcine cardiac tissue samples to develop new detection methods

**PUBLICATIONS**

- **5** Number of articles
- **IF 21,514**
- **Average IF 4,302**
- **3 National collaborations**
- **2 International collaborations**
- **1 Corresponding author**
SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: INTIMIC-085

Title: Maternal obesity and cognitive dysfunction in the offspring: cause-effect role of the GUT MicrobiOMe and early dietary prevention

Principal Investigator: Consuelo Borrás Blasco (Daniel Monleón Salvadó, Vannina González Marrachelli, José Manuel Morales Tatay as collaborating researchers)
4.3.3 Metabolism and organic damage area

Groups
Research Group on Genetics of Osteoporosis
Translational Research Group on Nutrition and Metabolism
Research Group on Neurological Impairment
Research Group on Inflammation
Research Group on Cellular and Organic Physiopathology of Oxidative Stress
Research Group on Oxidative Pathology
Research Group on Psychiatry and Neurodegenerative Diseases
Research Group on Respiratory Problems of Neuromuscular Diseases and Lung Damage
Research Group on Tissular Biochemistry
Research Group on Aging and Physical Activity
Research Group on Anesthesiology and Reanimation
Research Group on Translational Genomics
Research Group on General and Digestive Surgery
Research Group on Personal Autonomy, Dependence and Severe Mental Disorders (TMAP)
Research group on Rare Respiratory Diseases (RRD)
4 scientific activity

Research Group on Genetics of Osteoporosis
Consolidated group

Group members

Principal Investigators
Miguel Ángel García Pérez. University

Collaborating researchers
Rosa María Aliaga Corachán. University
Damián Mifsut Miedes. Hospital. University

PhD researchers
Álvaro Acebrón Fabregat. Hospital
Clara María Pertusa Viñuales. INCLIVA

Researchers by categories

- R1: 2
- R3: 1
- R4: 1
- STAFF: 1

Researchers financed by competitive public calls or networks

- R1: 1

Strategic aims

• During 2019 our group has continued its studies on the genetics of osteoporosis, carrying out functional approaches for the identification of candidate genes and conducting allelic association studies to bone phenotypes and also to cardiovascular risk phenotypes such as arterial hypertension.
• With respect to the candidate genes studied, our interest has focused on genes related to arginine metabolism and epigenetic mechanisms.
• In addition, during this year we have continued the characterization of the fragility fracture by studying its metabolome and certain cytokines and serum miRNAs as possible biomarkers.

Main lines of research

• Identification of genes and polymorphisms associated with bone and cardiovascular phenotypes, mainly related to epigenetic mechanisms, to immune system and to the metabolism of arginine
• Identification of genes and miRNAs differentially expressed in bone fracture due to fragility
• Analysis of metabolome and cytokines in bone fracture and low bone mineral density
• Functional characterization by genetic techniques of polymorphisms associated with bone and cardiovascular phenotypes
• Identification of genetic, biochemical and cytomic biomarkers in patients with the Idic15

PUBLICATIONS

- Number of articles: 1
- IF: 2.82
- Average IF: 2.82
- National collaborations: 1
- International collaborations: 0
- Corresponding author: 0
SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI17/01875
Title: Osteoporosis y fractura ósea: identificación de genes asociados y evaluación del papel del metabolismo de la arginina
Principal Investigator: Miguel Ángel García Pérez
Funding Body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2020
Total budget: €99.220

THESIS

Thesis title: Lipidograma y metabolismo óseo, estudio clínico y analítico en la cohorte “Carmen”
Doctoral candidate: Irene Zolfaroli
Director(s): Miguel Ángel García Pérez, Antonio Cano Sánchez
Date of the defense: 27/02/2019
Grade: Sobresaliente “cum laude”
4 \textbf{scientific activity}

\textbf{Translational Research Group on Nutrition and Metabolism}

\textbf{Consolidated group}

\textbf{Group members}

\textbf{Principal Investigators}
Antonio Hernández Mijares. University

\textbf{Collaborating researchers}
Milagros Rocha Barajas. Hospital Dr. Peset
Víctor Manuel Víctor González. Hospital Dr. Peset. University
Juan Vicente Esplugues Mota. Hospital Dr. Peset. University
Carlos Morillas Aniño. Hospital Dr. Peset. University
Eva Solá Izquierdo. Hospital Dr. Peset. University
Celia Bañuls Morant. Hospital. Hospital Dr. Peset
Ana Jover Fernández. Hospital Dr. Peset
Marcelino Gómez Balaguer. Hospital Dr. Peset
Nadezda Apostolova Atanasovska. University
Silvia Veses Martín. Hospital Dr. Peset. University
Susana Rovira Llopis. Hospital Dr. Peset. University
Iciar Castro de la Vega. Hospital Dr. Peset
Noelia Díaz Morales. Hospital Dr. Peset
Sandra López Doménech. Hospital Dr. Peset
Irene Escribano López. Hospital Dr. Peset
Aránzazu Martínez de Marañón Peris. Hospital Dr. Peset
Francesca Iannantuoni. Hospital Dr. Peset
Zaida Abad Jiménez. Hospital Dr. Peset
Rosa Falcón Tapiador. Hospital Dr. Peset
Carmen Grau del Valle. Hospital Dr. Peset
Neus Bosch Sierra. Hospital Dr. Peset

\textbf{Researchers by categories}

\begin{tabular}{|c|c|c|c|c|}
\hline
R1 & R2 & R3 & R4 & \textbf{STAFF} \\
9 & 6 & 4 & 2 & 1 \\
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\end{tabular}

\textbf{Researchers financed by competitive public calls or networks}

\begin{tabular}{|c|}
\hline
R1 \\
3 \\
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\textbf{Strategic aims}

\begin{itemize}
\item To evaluate the effects of the iSGLT2 empagliflozin on systemic inflammation and its potential antioxidant properties in patients with T2D
\item To analyze the relationship between mitochondrial function and endoplasmic reticulum stress parameters in a disease-related malnutrition population
\item To evaluate the effect of MitoQ on insulin secretion, oxidative stress, endoplasmic reticulum stress and nuclear factor kappa B (NFκB) signalling in a pancreatic β cell line under normoglycaemic, hyperglycaemic and lipidic conditions
\item To investigate whether dietary weight loss intervention improves markers of oxidative stress in leukocytes and subclinical parameters of atherosclerosis
\item To explore whether caloric restriction can modulate endoplasmic reticulum stress and mitochondrial function, as both are known to be mechanisms underlying inflammation and insulin resistance during obesity
\end{itemize}
To determine if glycemic control modulates the effects of T2D on the NLRP3 inflammasome
To evaluate the presence of alterations of hydrocarbonated metabolism and lipid profile together with inflammatory and adhesion molecules in subjects with FCH compared to controls
To explore alterations in the plasma lipid profile of patients with PCOS following metformin treatment
Efavirenz has been reported to alter mitochondrial dysfunction and bioenergetics in different cell types, including astrocytes. Here, we analyzed whether this mitochondrial effect is associated with alterations in autophagy and, more specifically, mitophagy
To analyze SUCNR1 expression in the intestine of Crohn’s disease patients and its role in murine intestinal inflammation and fibrosis
To assess the short-term effects of fibre-enriched orange juice on postprandial metabolism and satiety in a healthy adult population

Main lines of research
• Prevalence of nutritional risk and malnutrition
• Diabetes mellitus and cardiovascular risk
• Obesity, inflammation and endothelial dysfunction
• Polycystic ovary syndrome and insulin resistance
• Dyslipidemia and residual cardiovascular risk
• Functional foods and their influence on cardiovascular risk factors
• Endoplasmic reticulum stress, mitochondrial dysfunction and oxidative stress in metabolic diseases
• Characterization of new cellular mechanisms of antiretroviral hepatotoxicity

SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: RTI2018-096748-B-100
Title: Nuevas dianas farmacológicas para el tratamiento de la enfermedad hepática crónica: rutas de señalización JAK-STAT1 y JAK-STAT3 como punto de partida (FIBROSTAT)
Principal Investigator: Nadezda Apostolova and Ana Blas
Funding Body: Ministerio de Innovación, Ciencia y Universidades
Beneficiary Institution: Universidad de Valencia
Duration: 2019-2021
Total budget: €108,900

Reference: RTI2018-094436-B-100
Title: Receptores P2x7 y respuesta inflamatoria vascular: desde la evidencia obtenida con Abacavir hasta la caracterización de nuevos mediadores protombóticos
Principal Investigator: Juan Vicente Esplugues and Ángeles Álvarez
Funding Body: Ministerio de Innovación, Ciencia y Universidades
Beneficiary Institution: Universidad de Valencia
Duration: 2019-2021
Total budget: €229,900

Reference: PI18/00932
Title: Microbiota, Función mitocondrial y Salud Metabólica en la Obesidad
Principal Investigator: Celia Bañuls Morant and Antonio Hernández Mijares
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación para el Fomento de la Investigación Sanitaria y Biomédica de la Comunitat Valenciana (FISABIO)
Duration: 2019-2021
Total budget: €68,970

Reference: PI16/01083
Title: Estudio de la dinámica mitocondrial, el inflamasoma y su relación con las complicaciones cardiovasculares en la diabetes tipo 2: implicaciones fisiopatológicas y clínicas
Principal Investigator: Víctor Manuel Víctor González
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación para el Fomento de la Investigación Sanitaria y Biomédica de la Comunitat Valenciana (FISABIO)
Duration: 2017-2019
Total budget: €147,015

Reference: PI16/00301
Title: Papel de la autofagia y el inflamasoma en la fisiopatología de la obesidad: Efecto de la pérdida de peso y posibles implicaciones terapéuticas
Principal Investigator: Milagros Rocha Barajas
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación para el Fomento de la Investigación Sanitaria y Biomédica de la Comunitat Valenciana (FISABIO)
Duration: 2017-2019
Total budget: €92,565

Reference: CB06/04/0071
Title: CIBER Enfermedades Hepáticas y Digestivas (CIBERehd)
Principal Investigator: Juan Vicente Esplugues Mota
Funding Body: Centro de Investigación Biomédica en Red (CIBER) – Instituto de Salud Carlos III
Beneficiary Institution: Universidad de Valencia
Duration: 2007-present

Reference: PROMETEO/2018/141
Title: Farmacología del Tracto Hepato-Digestivo. Subvenciones del programa PROMETEO para grupos de investigación de excelencia
Principal Investigator: Juan Vicente Esplugues
Funding Body: Conselleria de Educación, Cultura y Deporte
Beneficiary Institution: Universidad de Valencia
Duration: 2018-2021
Total budget: €280,407,50

THESIS

Thesis title: Estudio del papel de los haplogrupos mitocondriales, el control glucémico y el tratamiento con metformina sobre los mecanismos moleculares subyacentes a la fisiopatología de la diabetes tipo 2
Doctoral candidate: Noelia Díaz Morales
Director(s): Víctor Manuel Víctor González, Milagros Rocha Barajas, Susana Rovira Llopis
Date of the defense: 01/02/2019
Grade: Sobresaliente “cum laude”
Quality recognition/Award: European PhD, Extraordinary doctorate award

Thesis title: Antiretroviral therapy and its role in the progression of acute and chronic liver injury
Doctoral candidate: Alberto Martí Rodrigo
Director(s): Juan Vicente Esplugues Mota, Ana Blas García
Date of the defense: 28/02/2019
Grade: Sobresaliente “cum laude”
Quality recognition/Award: European PhD, Extraordinary doctorate award

Thesis title: Study of the mechanisms of oxidative stress, mitochondrial function and endoplasmic reticulum stress in obesity. Role in subclinical atherosclerosis and therapeutic
Doctoral candidate: Sandra López Doménech
Director(s): Milagros Rocha Barajas, Víctor Manuel Víctor González, Antonio Hernández Mijares
Date of the defense: 12/03/2019
Grade: Sobresaliente “cum laude”
Quality recognition/Award: European PhD, Extraordinary doctorate award

Thesis title: Estudio del efecto de los antioxidantes con diana en la mitocondria, mitoq y SS-31, sobre los mecanismos moleculares asociados a la fisiopatología de la diabetes tipo 2
Doctoral candidate: Irene Escribano López
Director(s): Víctor Manuel Víctor González, Milagros Rocha Baraja, Celia Bañuls Morant
Date of the defense: 12/07/2019
Grade: Sobresaliente “cum laude”
Quality recognition/Award: Extraordinary doctorate award
### Group members

**Principal Investigators**
- Carmina Montoliu Félix. INCLIVA. University

**Researchers**
- Amparo Uniós Lluch. INCLIVA
- Andrea Cabrera Pastor. INCLIVA. University

**Collaborating researchers**
- Isabel Pascual-Moreno. Hospital. University
- Amparo Escudero García. Hospital. University
- Joan Tosca Cuquerella. Hospital
- Cristina Montón Rodríguez. Hospital
- José Ballester Fayos. Hospital
- Paloma Lluch García. Hospital. University
- Paula Cases Bergón. Hospital
- Nicolás Peñaranda Sarmiento. Hospital
- Rut Victorio Muñoz. Hospital
- José Luis León Guijarro. Hospital
- Roberto Aliaga Méndez. Hospital
- María Luisa García Torres. Hospital

**PhD researchers**
- Juan José Gallego Roig. INCLIVA
- Mika Aiko. Hospital
- María Pilar Ballester Ferrer. Hospital
- David Martí Aguado. Hospital
- Alessandra Fiorillo. INCLIVA
- Franc Casanova Ferrer. INCLIVA

**Collaborating staff nursing**
- Pilar Aguilar Santaisabel. Hospital
- María Jesús Campa Santiago. Hospital
- Nuria Casasús Moya. Hospital

**Technician staff**
- Laura Puchades Lanza. INCLIVA
- Consuelo Miguel Moreno. Hospital
Strategic aims

- To characterize in detail the early neurological alterations in MHE. Assess whether other tests may improve detection of MHE
- To characterize the inflammatory processes and create a bioinformatic model of the molecular and cellular events of the immune system associated to the onset of MHE. Assess its utility to predict or diagnose MHE
- To analyse cerebral alterations: visual evoked potentials; neuronal connectivity using functional magnetic resonance
- Assess the utility of the analysis of eye movements for early diagnosis of MHE
- Assess the effects of rifaximin treatment on the alterations analysed in the above objectives
- To identify procedures based on above results, which improve diagnosis of MHE allowing earlier and more sensitive detection

Main lines of research

- Main Line of research: Characterization of neurological and cerebral alterations in patients with minimal hepatic encephalopathy (MHE). Mechanisms: Contribution of inflammation. Diagnostic and therapeutic implications
  - Sublines:
    - Characterization of cognitive, functional and cerebral alterations in patients with minimal hepatic encephalopathy
    - Characterize alterations in inflammation, neuroinflammation, brain function and structure associated with the onset of MHE
    - Identify biomarkers for the early detection of mild cognitive impairment in MHE
    - To assess the effects of rifaximin treatment and new treatments: mechanisms involved
    - Identification and modelling of molecular and cellular events of the immune response associated to the appearance of minimal hepatic encephalopathy in cirrhotic patients
    - To assess the usefulness of eye movement analysis for the early diagnosis of MHE

PUBLICATIONS

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SELECTED PUBLICATIONS


**Research Projects and Grants for Research**

**Reference:** PI18/00150

**Title:** Caracterización de las alteraciones neurológicas y cerebrales en pacientes con encefalopatía hepática mínima. Contribución de la inflamación. Implicaciones diagnósticas y terapéuticas

**Principal Investigator:** Carmina Montoliu Félix

**Funding body:** Instituto de Salud Carlos III

**Beneficiary institution:** Fundación Investigación Hospital Clínico Universitario de Valencia

**Duration:** 2019-2021

**Total budget:** €171,820

**Reference:** PROMETEO/2018/051

**Title:** Mecanismos moleculares y cerebrales de las alteraciones cognitivas y motoras en hiperamonemia y encefalopatía hepática. Implicaciones terapéuticas y diagnósticas

**Principal Investigator:** Vicente Felipo Orts [Carmina Montoliu Félix as collaborating researcher]

**Funding body:** Conselleria de Educación

**Beneficiary institution:** Centro de Investigación Príncipe Felipe (CIPF)

**Duration:** 2018-2021

**Total budget:** €289,194,57
Research Group on Inflammation
Consolidated group

Group members

**Principal Investigators**
Esteban Morcillo Sánchez. University
María Jesús Sanz Ferrando. University

**Emerging researchers**
Laura Piqueras Ruiz. INCLIVA. University
Herminia González Navarro. INCLIVA. University
Nuria Cabedo Escrig. INCLIVA. University

**PhD researchers**
Aida Collado Sánchez. University
Patrice Gomes Marques. INCLIVA
Elena Domingo Pérez. University
María León Téllez. INCLIVA

**Technicians**
Andrea Herrero Cervera. INCLIVA
Ángela Vinué Visús. INCLIVA
Francisca Selles Sorli. INCLIVA
Laura Vila Dasí. INCLIVA
Carmen María Piqueras Tebar. INCLIVA

Researchers by categories

- **R1**: 4
- **R2**: 4
- **R4**: 2
- **STAFF**: 4

Researchers financed by competitive public calls or networks

- **R1**: 2
- **R2**: 2
- **STAFF**: 4

**Networks**

**ciberes**

Strategic aims

- Study of intracellular mucin MUC1 in lung fibrosis
- Study of the anti-inflammatory effects of AZD8999, a novel bifunctional muscarinic acetylcholine receptor antagonist/β2-adrenoceptor agonist (MABA) in COPD patients
- Study of MUC1 deficiency in corticosteroid insensitivity in asthma
- Study of the systemic inflammation associated to Primary Hypercholesterolemia and Metabolic Syndrome
- Study of the CCL11/CCR3 axis in Primary Hypercholesterolemia and atherosclerosis
- Study of the impact of PCSK9 blockade in the systemic inflammation associated to Familial Hypercholesterolemia
- Synthesis of new dual PPARα/γ agonists and pharmacology study in ob/ob mice
- Synthesis and biological evaluation of sphingosine kinase 2 inhibitors and their potential anti-inflammatory activity
- Study of the role of CXCR3 axis in obesity
- Study of SGLT-2 inhibitors in abdominal aortic aneurysm (AAA)
- Study of the role of CCR4 axis and constitutive androstane receptors in obesity
- Study of the role of the inflammatory axis LIGHT(TNFSF14)/Lyphotoxin β receptor in the mechanisms of atherosclerosis and insulin resistance

Main lines of research

- Pharmacological modulation of chronic inflammation and remodeling in the context of chronic obstructive pulmonary disease, asthma and idiopathic pulmonary fibrosis
scientific activity

- Study of the vascular inflammation induced by different risk factors of atherosclerosis: metabolic syndrome, primary and familial hypercholesterolemia. Effect of PCSK9 inhibitors in the systemic inflammation associated to familial hypercholesterolemia
- Synthesis of new dual PPARα/γ agonists to be used in the control of cardiometabolic disorders
- Study of the role of CXCR3 axis and nuclear ROR receptors in human obesity
- Study of new anti-angiogenic mediators in acute myocardial infarct
- Study of the CDKN2A/B genes and the LIGHT cytokine in the atherosclerosis associated diabetes
- Study of the role of CCR4 axis and constitutive androstane receptors in obesity NCE

Emerging Researcher

Herminia González Navarro

The research deals with the study of the molecular mechanisms of the diabetes mellitus (DM) and its effect on atherosclerosis, the main cause of cardiovascular disease. To perform these studies we employ genetically modified mice that develop metabolic alterations such as diabetes, insulin resistance, fatty liver and atherosclerosis. To translate our findings into the human pathology we also perform investigations in human subjects and in human cell cultures. We are especially interested in how the inactivation of some key inflammatory mediators or inhibition of intracellular signaling-cascades modulate immune cell balance and the impact of these in cellular reprogramming.

Emerging Researcher

Laura Piqueras Ruiz

The preclinical research focuses on the understanding of the molecular and cellular mechanisms that underlie the development and progression of the abdominal aortic aneurysm. We are also exploring the effect of SGLT-2 inhibitors in the development of AAA. We are also interested in characterizing the new molecular mechanism associated with the formation of aneurysms in animal models and human samples. Additionally, we are investigating the role of several chemokines, and nuclear receptors such ROR and CAR on inflammation and angiogenesis associated to obesity.

Emerging Researcher

Nuria Cabedo Escrig

In the field of medicinal chemistry, the research is focused on the development of new synthetic molecules, analogues of natural products, with potential effect to regulate lipid metabolism, glucose homeostasis, dopaminergic pathway and inflammatory processes in order to treat cardiometabolic disorders and neurological diseases. We are working in the hit-to-lead strategy on therapeutic targets such as peroxisome proliferator activating receptors (PPAR), liver X receptors (LXR), dopaminergic receptors, and pro-inflammatory cytokines.

PUBLICATIONS

- Number of articles: 14
- IF 70.39
- Average IF 5.028
- National collaborations: 6
- International collaborations: 5
- Corresponding author: 9
SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: COST Action CA15135
Title: Multi-target paradigm for innovative ligand identification in the drug discovery process (MuTeLig)
Principal Investigator: Stefano Alcaro (Nuria Cabedo as Management Committee substitute)
Funding Body: European Commission
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2016-2020

Reference: PI19/00209
Title: Identificación de nuevos mecanismos implicados en la angiogénesis e inflamación en pacientes obesos. Modulación por ligandos de receptores nucleares constitutivos de androstano
Principal Investigator: Laura Piqueras Ruiz and José Tomas Real Collado
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2021
Total budget: €173,332.50

Reference: PI19/01450
Title: Desarrollo químico y farmacológico de nuevos fármacos “multidiana” en el tratamiento de la diabetes mellitus tipo 2 y la enfermedad cardiovascular asociada
Principal Investigator: Nuria Cabedo Escribí
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2021
Total budget: €61,710
### Scientific Activity

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**Reference:** PI16/00091  
**Title:** Papel de los procesos inflamatorios asociados a la diabetes en la estabilidad de la placa de ateroma y estudio del uso potencial de estrategias terapéuticas  
**Principal Investigator:** Herminia González Navarro  
**Funding Body:** Instituto de Salud Carlos III  
**Beneficiary Institution:** Fundación Investigación Hospital Clínico Universitario de Valencia  
**Duration:** 2017-2019  
**Total budget:** €122,815

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**Reference:** PIE15/00013  
**Title:** A multidisciplinary Project to advance in basic mechanisms, diagnosis, prediction, and prevention of cardiac damage in reperfused acute myocardial infarction  
**Principal Investigator:** Vicente Bodí Peris (Laura Piqueras as collaborating researcher)  
**Funding Body:** Instituto de Salud Carlos III  
**Beneficiary Institution:** Fundación Investigación Hospital Clínico Universitario de Valencia  
**Duration:** 2016-2019  
**Total budget:** €121,500

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**Reference:** CB07/08/0043  
**Title:** CIBER de Diabetes y de Enfermedades Metabólicas asociadas (CIBERdem)  
**Principal Investigator:** Deborah J. Burks  
**Funding Body:** Centro de Investigación Biomédica en Red (CIBER) – Instituto de Salud Carlos III  
**Beneficiary Institution:** Universidad de Valencia  
**Duration:** 2007-present

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**Reference:** SAF2017-89714-R  
**Title:** Modulación farmacológica del sistema inmune como diana clave en la prevención de la enfermedad cardiovascular asociada a desórdenes metabólicos. Síntesis de fármacos novedosos  
**Principal Investigator:** Juan F. Ascaso and M. Jesús Sanz Ferrando  
**Funding body:** Ministerio de Economía y Competitividad  
**Beneficiary Institution:** Fundación Investigación Hospital Clínico Universitario de Valencia  
**Duration:** 2018-2020  
**Total budget:** €205,700

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**Reference:** AICO/2019/250  
**Title:** Efecto de la cirugía bariátrica en la inflamación vascular en pacientes con obesidad mórbida y diabéticos  
**Principal Investigator:** Laura Piqueras Ruiz  
**Funding body:** Conselleria de Educación  
**Beneficiary Institution:** Fundación Investigación Hospital Clínico Universitario de Valencia  
**Duration:** 2019-2020  
**Total budget:** €40,000

**THESIS**  
**Thesis title:** Study of the systemic inflammation associated to primary hypercholesterolemia, its modulation and its impact in atherosclerosis. Role of cxcl16/cxcr6 axis in abdominal aortic aneurysm formation  
**Doctoral candidate:** Aida Collado Sánchez  
**Director(s):** María Jesús Sanz Ferrando, Laura Piqueras Ruiz  
**Date of the defense:** 22/07/2019  
**Grade:** Sobresaliente "cum laude"  
**Quality recognition/Award:** European PhD
Research Group on Oxidative Pathology
Consolidated group

Group members

Principal Investigators
Guillermo Sáez Tormo. University

Collaborating researchers
Antonio Iradi Casal. University
Leticia Bagán Debón. University
Nuria Estañ Capell. University
Pedro Gargallo Bayo. University

Strategic aims

• To study the role of Mediterranean diet on hemodynamics, endotelial function, abdominal adiposity and gene expression in patients at high cardiovascular risk has been studied
• To monitor the morbidly obese patients in terms of anthropometric changes, metabolic and oxidative stress markers before and after dietary intervention, exercise and bariatric surgery
• To analyze in the role of DNA damage and different markers of oxidative stress in order to validate the modified base 8-oxo-dG as a possible tumor marker at high cardiovascular risk

Main lines of research

• Study of the role of OS as a physiopathological mechanism of cardiometabolic diseases
• Study of DNA damage and repair signaling routes in patients with cardiovascular evolution pathologies, in order to identify grades of expression in different genes
• Study of OS role in the pathology of neoplastic diseases, as well as the possible validation of their molecular oxidative products as clinical markers

PUBLICATIONS

Number of articles: 6
Average IF: 4.51
National collaborations: 4
International collaborations: 2
Corresponding author: 0
SELECTED PUBLICATIONS


THESIS

Thesis title: Relación del estrés oxidativo y lesión del material genético con la patogenia del tumor colorrectal

Doctoral candidate: Delia Acevedo León

Date of the defense: 19/07/2019

Grade: Sobresaliente “cum laude”

RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: CB12/03/0016

Title: CIBER de la Obesidad y Nutrición (CIBEROBN)

Principal Investigator: Guillermo Sáez Tormo

Funding Body: Centro de Investigación Biomédica en Red (CIBER) – Instituto de Salud Carlos III

Beneficiary Institution: Universidad de Valencia

Duration: 2013-present
Research Group on Psychiatry and Neurodegenerative Diseases
Consolidated group

Group members

Principal Investigators
Julio Sanjuán Arias. Hospital. University

Collaborating researchers
José Carlos González Piqueras. Hospital. University
Eduardo Jesús Aguilar García-Iturrospe. Hospital. University
Esther Lorente Rovira. Hospital
María José Escartí Fabra. Hospital
María Dolores Molto Ruiz. University
Marien Gadea Domenech. University
Gracián García Martí. CIBERSAM
Javier Gilbert Juan. CIBERSAM
Juan Nacher Roselló. University
Francisco Olucha Bordonau. University
Carlos Cañete Nicolás. Hospital. University
Miguel Hernández Viadel. Hospital. University
José Vicente Llorens Llorens. University
Pablo Calap Quintana. CIBERSAM
Noelia Sebastiá Ortega. CIBERSAM
Javier González Fernández. University
Ramón Guirado Guillén. University
Blanca Llàcer Iborra. CIBERSAM

PhD researchers
Pablo Soldevila Matías. INCLIVA

Researchers by categories

<table>
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<tr>
<th>Category</th>
<th>R1</th>
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Researchers financed by competitive public calls or networks

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Networks

cibersam

Strategic aims

• Elaboration of a mobile application associated to the Clinical Records to improve adherence to the treatment of patients with first episode psychosis
• Publication of Results of Gene –Environmental interaction First Episode Psychosis projects
• Development of new techniques to diagnosis psychosis by fMRI and machine learning approach
• Development of animal models in severe mental disorder and neurodegenerative diseases
• Models of Prediction of Response in First Psychotic Episodes

Main lines of research

• Identifying risk polymorphisms in psychosis and affective disorders
• Epigenetic studies (functional expression) of candidate genes in psychosis and mental illness
• Study on animal models in serious mental illness
### Scientific Activity

- Generating Studing models of neurodegenerative diseases (Friedreich Ataxia) on invertebrate animals (Drosophila)
- Study of mutations in monogenic neurodegenerative diseases
- Identifying genetic and environmental risk factors in affective and psychotic disorders
- Identifying abnormal patterns in neuroimaging (morphometry, functional, spectroscopy) in psychotic patients
- Design and coordination of clinical, genetic and neuroimaging data bases oriented to performing multicenter projects
- Development of interactive systems for improving therapeutic adherence
- Study on the efficiency of psycho-social intervention techniques in serious mental illness

### Publications

#### Number of articles: 28

- **Average IF:** 158,507
- **IF:** 5.56
- **National collaborations:** 14
- **International collaborations:** 13
- **Corresponding author:** 9

#### Selected Publications


### Research Projects and Grants for Research

**Reference:** PI17/00402

**Title:** Resonancia magnética funcional y expresión génica como predictores en primeros episodios psicóticos

**Principal Investigator:** Julio Sanjuán Arias

**Funding body:** Instituto de Salud Carlos III

**Beneficiary institution:** Fundación Investigación Hospital Clínico Universitario de Valencia

**Duration:** 2018-2020

**Total budget:** €110,210
Reference: CB07/09/0006
**Title:** CIBER de Investigación en Salud Mental (CIBERsam)
**Principal Investigator:** Julio Sanjuán Arias
**Funding Body:** Centro de Investigación Biomédica en Red (CIBER) – Instituto de Salud Carlos III
**Beneficiary institution:** Universidad de Valencia
**Duration:** 2008-present

**Beneficiary Institution:** Fundación Investigación Hospital Clínico Universitario de Valencia
**Duration:** 2017-2019
**Total budget:** €119,700

**THESIS**

**Thesis title:** Study of the population of immature neurons in the adult piriform cortex layer II
**Doctoral candidate:** María Bellés Esteller
**Director(s):** Juan Salvador Nácher Roselló, Esther Castillo Gómez
**Date of the defense:** 18/01/2019
**Grade:** Sobresaliente “cum laude”
**Quality recognition/Award:** European PhD

**Thesis title:** Analysis of structural plasticity in the adult and adolescent mouse brain. Effects of erythropoietin
**Doctoral candidate:** Yasmina Curto Sastre
**Director(s):** Juan Salvador Nácher Roselló
**Date of the defense:** 08/07/2019
**Grade:** Sobresaliente “cum laude”
**Quality recognition/Award:** European PhD, Extraordinary doctorate award

**Thesis title:** Resonancia magnética funcional con paradigma emocional en pacientes con un primer episodio psicótico
**Doctoral candidate:** Pablo Soldevila Matías
**Director(s):** Julio Sanjuán Arias, Raúl Espert Tortajada, Gracián García Martí
**Date of the defense:** 28/11/2019
**Grade:** Sobresaliente “cum laude”
**Quality recognition/Award:** European PhD
4 scientific activity

Research Group on respiratory problems of neuromuscular diseases and lung damage
Consolidated group

Group members

Principal Investigators
Emilio Servera Pieras. Hospital. University

Collaborating researchers
Jaime Signes-Costa Miñana. Hospital
Mª Pilar Barreto Martín. University
José Franco Serrano. Hospital. University
José Luis Díaz Cordobés. University
Francisco Carrión Valero. Hospital. University
Jesús Sancho Chinesta. Hospital
Pilar Bañuls Polo. Hospital
Manuela Marín González. Hospital
Mª Luisa Briones Urtiaga. Hospital
Mª Jesús Zafra Pirés. Hospital
Mª Cruz González Villaescusa. Hospital
Santos Ferrer Espinosa. Hospital

PhD researchers
Alba Mulet Arabi. Hospital
Alejandro Ochoa Alvarado. Hospital
Andrea Ballester Férriz. Hospital
Antonio Quezada Reynosa. Hospital
Carolina Lahosa Córdoba. Hospital
Claudia Heras Sánchez. Hospital
Cristina Rosario Martín. Hospital
Elvira Bondía Real. Hospital
Erick Monclou Garzón. Hospital
Heidi Mora Bastida. Hospital
Irene Bocigas Huéscar. Hospital
Lucía Fernández Presa. Hospital
Enric Burés Sales. Hospital
Mª Belén Safont Muñoz. Hospital
Nuria Garrido Zafra. Hospital
Paola Lisbeth Ordóñez Gómez. Hospital

Researchers by categories

R1 17
R2 2
R3 8
R4 2
Strategic aims

- To establish the usefulness of non invasive ventilation in the weaning process of patients with prolonged mechanical ventilation
- To improve the effectiveness of mechanically assisted cough procedures in patients with amyotrophic lateral sclerosis (ALS) with and without bulbar impairment
- To prevent and manage complicated grief in bereaved relatives of patients with chronic respiratory failure died in our Pulmonary Medicine Department
- To improve the accuracy of the available clinical tools to assess frontotemporal dementia in ALS patients
- To improve the quality of knowledge about the effectiveness of physical reconditioning and psychological support to improve dyspnea in patients with chronic respiratory failure
- To identify cardiac morphological changes in patients with sleep breathing disorders and ischemic heart disease treated with CPAP
- To establish and manage risk factors associated with frequent hospital admissions in patients with COPD

Main lines of research

- Usefulness of long term mechanically assisted cough in ALS patients with and without tracheotomy tubes
- Bulbar dysfunction and survival in ALS patients treated with non invasive mechanical ventilation
- Life-prolonging treatments, suffering and psycho-emotional needs in patients with severe chronic respiratory failure and incapacitating dyspnea: neuromuscular diseases- COPD
- Genetic polymorphisms and predisposition, severity and susceptibility to bacteremia in community-acquired pneumonia
- Effects of e-liquids [propylene glycol (PG), diethylene glycol (DG), and nicotine] from electronic cigarettes in human cell cultures
- Efficacy of a tobacco treatment program about severe exacerbation in smokers with moderate or severe COPD
- Evaluation of CPAP treatment on kidney function in patients with early-stage renal disease and sleep apnea syndrome (RENAS study)
- Characterization of asthmatic patients: new bio-markers and their relationship with the severity of bronchial asthma
- Cryptogenetic organizational pneumonia (COP)
  - diagnostic safety
  - predictive factors for relapse
- Drug induced pulmonary disorders and early detection of pulmonary GVHD in patients with halogenic BMT

PUBLICATIONS

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Title: Evaluación de la atención con compasión en el ámbito sanitario: traducción y validación en la población española de un instrumento centrado en el paciente. Estudio multicéntrico
Principal Investigator: José Luis Díaz Cordobés
Funding body: Conselleria de Innovación, Universidades, Ciencia y Sociedad Digital
Beneficiary institution: Universidad de Valencia
Duration: 2019-2021

Title: Effect of 1-year treatment of Dextrometorfan/Quinidine (DM/Q) in respiratory problems management in Amyotrophic lateral Sclerosis
Funding body: Jesús Sancho Chinesta
Funding body: European Respiratory Society (ERS)
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2017-2019

Title: Valor pronóstico del estudio del perfil de microRNAs en la neumonía adquirida en la comunidad hospitalizada
Principal Investigator: Mª Luisa Briones Urtiaga
Funding body: Sociedad Valenciana de Neumología
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2017-2019

Title: Utilidad de las oscilaciones añadidas a la in-exsufflación mecánica en los pacientes con ELA y ventilación mecánica por traqueostomía
Principal Investigator: Emilio Servera Pieras
Funding body: Sociedad Española de Neumología y Cirugía Torácica (SEPAR)
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2016-2019

Title: Efecto de VitaBreath para la recuperación tras el ejercicio en EPOC grave y muy grave
Principal Investigator: Emilio Servera Pieras
Funding body: Philips-Respironics
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2017-2019
Research Group on Tissular Biochemistry
Consolidated group

Group members

Principal Investigators
Juan R. Viña Ribes. University

Collaborating researchers
Luis Torres Asensi. University
Elena Ruiz García-Trevijano. University
Vicente Miralles Fernández. University
Teresa Barber Ballester. University
Rosa Zaragozá Colom. University
Sonia Company Hernández. University

Technicians
Concha García de Mier. University
Carmen Picher Latorre. University

Researchers by categories

- R1: 1
- R2: 1
- R3: 3
- R4: 2
- STAFF: 2

Strategic aims

- Calpains, activated in the mammary gland during involution can be implicated in cell anchoring loss. The isoform-specific function of CAPN1 and -2 was explored in two models of cell-adhesion disruption: mice mammary gland during involution and breast cancer cell lines
- Role of calpains in cancer cells, CAPNs appear in the nucleolar compartment, having a role in ribosomal biogenesis
- Calpains also seem to control cellular differentiation, their role in this process is being assessed in adipocytes and osteoblasts differentiation in vitro
- Vitamin A deficiency impairs several tissues. From rats with chronic vitamin A deficiency we are studying the alteration in several tissues such as liver, lung or mammary gland

Main lines of research

- The mammary gland as a physiological model for the study of programmed cell death
- Mammalian tissues metabolism and its regulation
- Role of calpains in proliferation and differentiation processes
- Vitamin A deficiency induces oxidative stress in several tissues including lung and liver

PUBLICATIONS

- Number of articles: 2
- IF: 7,891
- Average IF: 3,945
- National collaborations: 1
- International collaborations: 1
- Corresponding author: 1
4 scientific activity

SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PROMETEOII/2018/167
Title: Estudios tridimensionales de ductos mamarios para determinar el papel de las calpainas en la remodelación del tejido mamario. Implicaciones biomédicas
Principal Investigator: Juan Viña Ribes
Funding Body: Conselleria de Educación, Cultura y Deporte
Beneficiary Institution: Universidad de Valencia
Duration: 2018-2021
Total budget: €201.920,20

Reference: OTR-2019-19499INVES
Title: Molecular mechanisms in the development of scoliosis in limb-girdle muscular dystrophies
Principal Investigator: Juan Viña Ribes
Funding Body: Fundación Ramón Areces
Beneficiary Institution: Universidad de Valencia
Duration: 2019-2021
Total budget: €121.176

THESIS

Thesis title: Subcellular distribution of calpain-1 and calpain-2 as a key event for calpain-mediated functions in physiological and neoplastic mammary models
Doctoral candidate: Lucía Rodríguez Fernández
Director(s): Juan Viña Ribes, Rosa Zaragozá Colom, Elena Ruiz García-Trevijano
Date of the defense: 29/03/2019
Grade: Sobresaliente “cum laude”
Quality recognition/Award: European PhD
Research Group on Aging and Physical Activity
Consolidated group

Group members

Principal Investigators
José Viña Ribes. University

Collaborating researchers
Gloria Olaso González. University
José Viña Almunia. University
Marta Inglés de la Torre. University
Consolación García Lucerga. University
Eva Serna García. University
Cristina Amézcua García. INCLIVA
Mónica Cebrián Pinar: INCLIVA

PhD researchers
Cristina Más Bargues. University
Andrea Salvador Pascual. University
Paloma Monllor Taltavull. University
Coralie Arc-Chagnaud. University
Mar Dromant. University
Lucía Gimeno Mallench. INCLIVA
Adrián Marcel De la Rosa González. University

Emerging researchers
Consuelo Borrás Blasco. University
Mª Carmen Gómez Cabrera. University
Ana Lloret Alcañiz. University
Juan Gambini Buchón. University

Researchers by categories

Researchers financed by competitive public calls or networks

Networks

Strategic aims

• Prevented of neuronal death in Alzheimer’s by Glutaminase Inhibition
• Identification of exercise training as a drug to treat age associated frailty
• Testing that G6PD protects from oxidative damage and improves healthspan in mice
• Reductive stress: a new concept in Alzheimer’s disease

Main lines of research

• Aging: identification of genes associated with aging, particularly genes that are specific in centenary people. Implication of the estrogens and phytoestrogens in the prevention of age-related damage
• Physical activity: identification of the molecular mechanisms by which physical activity is good for health. Identification of the mechanisms by which physical activity and antioxidant supplements help preventing primary and secondary sarcopenia in both human and animal studies. Identification of the best exercise intervention to delay and to treat frailty in humans
• Physiopathology of the Alzheimer’s disease: identification of the mechanisms by which free radicals, originators of the oxidative stress are used to unleash cell signals that lead to cell death in Alzheimer disease

Emerging Researcher
Consuelo Borrás Blasco

The research focuses on stem cells and their optimization for the use of them, or their derived exosomes, in the regeneration of different tissues. We have studied the role of oxygen concentration in different parameters such as proliferation, pluripotency, senescence or apoptosis in the culture of human dental pulp stem cells (hDPSC) observing that the properties of stem cells are better maintained under physiological oxygen concentrations. The step we have taken now is to study if there is a beneficial effect of the addition of exosomes from “young” stem cells to “old” stem cells.

Emerging Researcher
María Carmen Gómez Cabrera

The main aim of this research is to study the beneficial effects of physical activity in prevention and treatment of several pathologies and more specifically on Alzheimer’s disease, senile sarcopenia and frailty. We are also interested in the study of the molecular bases of skeletal muscle atrophy during periods of immobilization, as well as in its prevention.

Emerging Researcher
Ana Lloret Alcañiz

Our main line of research has been the role of oxidative stress in Alzheimer’s disease. Our group elucidated the importance of mitochondria in the generation of oxidants by their direct interaction with the amyloid peptide of Alzheimer. In recent years, we have focused on the study of the molecular changes produced by the toxicity of beta-amyloid.

PUBLICATIONS

SELECTED PUBLICATIONS


**RESEARCH PROJECTS AND GRANTS FOR RESEARCH**

Reference: DIABFRAIL-LATAM-825546  
**Title:** Scaling-up of and evidence-based intervention programme in older people with Diabetes and Frailty in LatinAmerica  
**Principal Investigator:** José Viña Ribes and Leocadio Rodríguez Mañas  
**Funding Body:** European Commission  
**Beneficiary Institution:** CIBER (Fundación Investigación Hospital Clínico Universitario de Valencia as Third Party)  
**Duration:** 2019-2024  
**Total budget:** €273.720

Reference: INTIMIC-085  
**Title:** Maternal obesity and cognitive dysfunction in the offspring: cause-effect role of the GUT MicrobiOMe and early dietary prevention  
**Principal Investigator:** Patricia Lozzo (Consuelo Borrás Blasco as collaborating researcher)  
**Funding Body:** European Commission  
**Beneficiary Institution:** Universitat de Valencia  
**Duration:** 2017-2020  
**Total budget:** €778.240

Reference: 724099-ADVANTAGE  
**Title:** Managing Fraility. A comprehensive approach to promote a disability-free advanced age in Europe: the ADVANTAGE initiative. Joint actions (HP-JA). 3rd EU Health Programme  
**Principal Investigator:** José Viña Ribes  
**Funding Body:** European Commission  
**Beneficiary Institution:** Fundación Investigación Hospital Clínico Universitario de Valencia  
**Duration:** 2016-2019  
**Total budget:** €130.005

Reference: CA15203 MITOEAGLE  
**Title:** Evolution-Age-Gender-Lifestyle-Environment: mitochondrial fitness mapping  
**Principal Investigator:** Erich Gnaiger (Consuelo Borrás as collaborating researcher)  
**Funding Body:** European Commission  
**Beneficiary Institution:** Fundación Investigación Hospital Clínico Universitario de Valencia  
**Duration:** 2016-2020  

Reference: CB16/10/00435  
**Title:** CIBER de Fragilidad y envejecimiento (CIBERfes)  
**Principal Investigator:** José Viña Ribes  
**Funding Body:** Centro de Investigación Biomédica en Red (CIBER) – Instituto de Salud Carlos III  
**Beneficiary Institution:** Universitat de Valencia  
**Duration:** 2017-present

Reference: SAF2016-75508-R  
**Title:** Obesidad materna y disfunción cognitiva en la descendencia: papel causa-efecto de la microbiota intestinal y prevención dietética temprana  
**Principal Investigator:** Consuelo Borrás Blasco  
**Funding Body:** Ministerio de Economía, Industria y Competitividad  
**Beneficiary Institution:** Universitat de Valencia  
**Duration:** 2016-2019  
**Total budget:** €140.000

Reference: GV/2018/067  
**Title:** Estudio de posibles huellas genéticas de envejecimiento saludable en descendientes de centenarios  
**Principal Investigator:** Marta Inglés de la Torre  
**Funding Body:** Conselleria de Educación, Cultura y Deporte  
**Beneficiary Institution:** Universitat de Valencia  
**Duration:** 2018-2019  
**Total budget:** €12.040

Reference: POCTEP 0348_CIE_6_E  
**Title:** Estudio de la fragilidad cognitiva y su transición a la demencia mediante un conjunto de biomarcadores en sangre periférica. Intervención con genisteína  
**Principal Investigator:** José Viña Ribes  
**Funding Body:** Fundación General del Consejo Superior de Investigaciones Científicas (FGCSIC)  
**Beneficiary Institution:** Universitat de Valencia  
**Duration:** 2018-2019  
**Total budget:** €39.940
**THESIS**

**Thesis title:** Development of an ultrasound-based muscle texture analysis as a potential imaging biomarker for frailty phenotype  
**Doctoral candidate:** Rebeca Mirón Mombiela  
**Director(s):** Consuelo Borrás Blasco Juana Forner Giner  
**Date of the defense:** 28/01/2019  
**Grade:** Sobresaliente “cum laude”

**Thesis title:** Entrenamiento respiratorio: cambios en la presión inspiratoria máxima y relación con la funcionalidad del adulto mayor sano  
**Doctoral candidate:** Ainoa Roldán Aliaga  
**Director(s):** Cristina Blasco Lafarga, Nieves M Blasco Lafarga, M. Carmen Gómez Cabrera  
**Date of the defense:** 20/05/2019  
**Grade:** Sobresaliente “cum laude”  
**Quality recognition/Award:** European PhD

**Thesis title:** Moderate overexpression of glucose-6-phosphate dehydrogenase improves healthspan in mice. Implications in skeletal muscle regeneration  
**Doctoral candidate:** Andrea Salvador Pascual  
**Director(s):** José Viña Ribes, M. Carmen Gómez Cabrera  
**Date of the defense:** 15/07/2019  
**Grade:** Sobresaliente “cum laude”  
**Quality recognition/Award:** European PhD

**Thesis title:** El sedentarismo en los adultos mayores del entorno rural: estrategias de entrenamiento concentrado versus distribuido  
**Doctoral candidate:** Pablo Monteagudo Chiner  
**Director(s):** Cristina Blasco Lafarga, M. Carmen Gómez Cabrera, Caterina Pesce  
**Date of the defense:** 26/07/2019  
**Grade:** Sobresaliente “cum laude”  
**Quality recognition/Award:** European PhD

**Thesis title:** Regulation of antioxidant defenses in the prevention of skeletal muscle deconditioning  
**Doctoral candidate:** Coralie Arc-Chagnaud  
**Director(s):** José Viña Ribes, Carmen Gómez-Cabrera, Angèle Chopard, Thomas Brioche  
**Date of the defense:** 22/11/2019  
**Grade:** Sobresaliente “cum laude”  
**Quality recognition/Award:** European PhD
Research Group on Anesthesiology and Reanimation
Consolidated group

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<th>Researchers by categories</th>
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<td>Principal Investigators</td>
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<td>Francisco Javier Belda Nácher. Hospital. University</td>
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<td>Marina Soro Domingo. Hospital. University</td>
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<td>Gerardo Aguilar Aguilar. Hospital</td>
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<td>José García de la Asunción. Hospital</td>
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<td>Beatriz Garrigues Olivé. Hospital</td>
<td><a href="http://www.anestesiaclinicovalencia.org">www.anestesiaclinicovalencia.org</a></td>
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<td>Jorge Orduña Valls. Hospital</td>
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Strategic aims

- The effects of fluid administration and advanced monitoring on hemodynamic management in anesthesia and critically ill patients
- Open lung approach for respiratory management
- Management of chronic pain
- Recommendations on invasive candidiasis in patients with complicated intra-abdominal infection and surgical patients with ICU extended stay
- Pharmacokinetics of antifungic agents during venovenous extracorporeal membrane oxygenation
4 scientific activity

Main lines of research

- Epidemiology and management of patients with Traumatic Brain Injury
- Study of hyperglycemia and aldose reductase-mediated mitochondrial dysfunction and apoptosis in platelets in critical patients
- Ventilatory and pharmacological strategies to decrease organ damage in the lungs associated with mechanical ventilation in healthy and injured lungs
- Development of hemodynamic monitoring and its application in the field of patients undergoing surgery or admitted to critical care units
- Study and development of methods of detection of infections, especially fungal and virological, and how to prevent them
- Study and development of therapeutic drug monitoring (TDM) to describe antimicrobials pharmacokinetics (PK) and determination of minimum inhibitory concentration (MIC)
- Development of new strategies and drugs for pain treatment

PUBLICATIONS

SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI18/01611
Title: Reducción de complicaciones postoperatorias pulmonares mediante una estrategia ventilatoria perioratoria de apertura pulmonar individualizada en pacientes intervenidos de cirugía torácica

INCLIVA SCIENTIFIC REPORT 2019
Principal Investigator: Carlos María Ferrando Ortolá (Francisco Javier Belda, Marina Soro, José García de la Asunción as collaborating researchers)

Funding body: Instituto de Salud Carlos III

Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia

Duration: 2019-2021

Total budget: €134,007,50

THESIS

Thesis title: Rendimiento de los ventiladores de turbina para cuidados críticos

Doctoral candidate: Carlos Delgado Navarro

Director(s): Francisco Javier Belda Nácher, Jaume Puig Bernabeu, Carlos Ferrando Ortolá

Date of the defense: 01/07/2019

Grade: Sobresaliente "cum laude"
4 scientific activity

Research Group on Translational Genomics
Consolidated group

Group members

Principal Investigators
Rubén D. Artero Allepuz. University

Collaborating researchers
Manuel Pérez Alonso. University
Mª Beatriz Llamusí Troisi. University
Juan M. Fernández Costa. University
Ariadna Bargiela Schönbrunn. University
Estefanía Cerro Herreros. University

PhD researchers
Estela Selma Soriano. University, INCLIVA
Maria Sabater Arcís. University
Sarah Overby. University
Jorge Patricio Espinosa Espinosa. University
Nerea Moreno Cervera. University
Piotr Konieczny. University
Águeda Blázquez Bernal. University
Irene González Martínez. University

Technicians
Iván Gimeno Martínez. University
Arturo López Castel. University

Researchers by categories

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Researchers financed by competitive public calls or networks

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Networks

https://twitter.com/GenomicsLab_UV
http://medicina-genomica.blogspot.com.es
https://twitter.com/MPAlonso
https://twitter.com/RubenArtero3
http://www.uv.es/gt

Strategic aims

- We have accomplished the goal of publishing significant scientific studies based on the ongoing strategic research lines. Briefly, publication of results demonstrating the therapeutic potential of several molecules (miRNAs and chemical-based) on the improvement of key muscular myotonic dystrophy (DM) disease phenotypes, in parallel with the publication of the first in time Drosophila model simulating cardiac phenotypes displayed by DM patients. In addition, publication of proof of concept results in additional rare diseases (new therapeutic target in SMA and gene modifier in Huntington disease). Moreover, we have put the basis for the establishment of a start-up (Arthex) for developing of the promising molecules with therapeutic potential in DM discovered

Main lines of research

- Using miRNAs as therapeutic targets in myotonic dystrophy (DM)
- Discovery, development, and repurposing of drugs for the treatment of DM
- Study of the molecular causes of muscle atrophy, heart dysfunction, and CNS degeneration in DM
- Study of the molecular mechanisms associated with spinal muscular atrophy and search for potential therapies
- Understanding human podocyte function through Drosophila nephrocytes
- Drosophila modeling of limb girdle muscular dystrophy subtype 1F (LGMD1F)
PUBLICATIONS

2
Number of articles

IF 13,763

Average IF 6,882

1
National collaborations

0
International collaborations

2
Corresponding author

SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: CA17103

Title: COST: European Cooperation in Science and Technology. Delivery of Antisense RNA Therapeutics (DARTER)

Funding Body: European Commission

Principal Investigator: Virginia Arechavala (Artero Allepuz as Co-IP)

Beneficiary Institution: IIS Biocruces

Duration: 2018-2022

Total budget: €500,000

Reference: PI17/00352

Title: Modulación terapéutica de los genes MBNL como tratamientos innovadores para distrofia miotónica

Principal Investigator: Manuel Pérez Alonso and Beatriz Llamusi Troisi

Funding Body: Instituto de Salud Carlos III

Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia

Duration: 2018-2020

Total budget: €75,020

Reference: RTI2018-094599-B-I00

Title: Comprensión de las causas moleculares de la atrofia muscular en distrofia miotónica tipo 1

Principal Investigator: Rubén Artero Allepuz

Funding Body: Ministerio de Ciencia, Innovación y Universidades

Beneficiary Institution: Universidad de Valencia

Duration: 2019-2021

Total budget: €185,000

Reference: HR17-00268

Title: Therapeutic modulation of MBNL1-2 gene expression in myotonic dystrophy

Principal Investigator: Rubén Artero Allepuz

Funding body: Fundació Bancària La Caixa (Caixa Impulse)

Beneficiary Institution: Universidad de Valencia

Duration: 2017-2019

Total budget: €45,000

Reference: AFM 22346

Title: Development of combinatorial therapies for SMA

Principal Investigator: Rubén Artero Allepuz

Funding body: AFM Telethon

Beneficiary Institution: Universidad de Valencia

Duration: 2019-2020

Total budget: €175,000

Reference: IAP409

Title: Desarrollo de un modelo en Drosophila de LGMD1F

Principal Investigator: Rubén Artero Allepuz

Funding body: Asociación Conquistando Escalones

Beneficiary Institution: Universidad de Valencia

Duration: 2019-2020

Total budget: €17,303
Reference: FIPSE 3544-18  
Title: Antisense RNA-therapeutics in Myotonic Dystrophy  
Principal Investigator: Rubén Artero Allepuz and Beatriz LLamusí  
Beneficiary Institution: Instituto de Investigación Sanitaria INCLIVA  
Funding body: Fundación para la Innovación y Prospectiva en Salud en España FIPSE  
Duration: 2019-2020  
Total Budget €25,000
Research Group on General and Digestive Surgery
Consolidated group

Group members

Principal Investigators
Joaquín Ortega Serrano. Hospital. University

Collaborating researchers
Luis Sabater Ortí. Hospital. University
Alejandro Espí Macías. Hospital. University
Elena Muñoz Forner. Hospital. University
José Martín Arévalo. Hospital
David Moro Valdezate. Hospital. University
Vicente Pla Martín. Hospital
Norberto Cassinello Fernández. Hospital. University
Fernando López Mozos. Hospital. University
Roberto Martí Obiol. Hospital
Julio Calvete Chornet. Hospital. University
Elena Martí Cuñat. Hospital
Marina Garcés Albir. Hospital. University
Estefanía García Botello. Hospital. University
Raquel Alfonso Ballester. Hospital. University
Dimitri Dorcaratto. Hospital. University
Carlos León Espinoza. Hospital
David Casado Rodrigo. Hospital
Elvira Buch Villa. Hospital
Francisco Morera Ocón. Hospital
Gemma Bellver Lobato. Hospital
Marcos Adrianzén Vargas. Hospital
Mª Carmen Fernández Moreno. Hospital
María Eugenia Barrios Carvajal. Hospital

Strategic aims

• Incorporation of the retroperitoneoscopy as a new surgical technique for the department, as a treatment of adrenal tumors
• Development of the clinical pathway for thyroidectomy
• Completion of the national multicenter trial on the differences between the pancreato-gastrostomy and pancreato-jejunostomy in cephalic pancreaticoduodenectomy technique

Main lines of research

• About coloproctological surgery: study of the quality standards for coloproctology 3D endorectal ultrasound, sacral neuromodulation and perianal fistula surgery
scientific activity

- About hepatobiliary and pancreatic surgery: acute pancreatitis, gene transfection, pancreaticoduodenectomy
- About endocrine surgery: laparoscopic adrenal tumors, recurrences study in thyroid surgery, parathyroid adenomas intraoperative localization
- About metabolic and bariatric surgery: pathophysiology of postoperative changes
- About breast surgery: utility of fibrin sealants in postoperative seroma
- About gastroesophageal surgery: mutations in GIST tumors, overexpression of HER2 and HER3 in gastric tumors, perioperative QT in advanced gastric cancer

PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI15/00076
Title: Duodenopancreatectomía cefálica en tumores de páncreas y peripancreaticos: abordaje inicial de la arteria mesentérica superior versus abordaje clásico. Estudio prospectivo, aleatorizado y multicéntrico
Principal Investigator: Luis Sabater Ortí
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2016-2019
Total budget: €56,265
Reference: PI16/01465
Title: Impacto de la diseminación de las CTCs durante la duodenopancreatectomía cefálica en la aparición de metástasis y supervivencia en pacientes con tumores de páncreas y peripancreáticos
Principal Investigator: Javier Padillo (Elena Muñoz and Marina Garcés as collaborating researchers)
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia y Hospital Virgen del Rocío de Sevilla
Duration: 2017-2019
Total budget: €80,465

Reference: AMD-CPA-2016-01
Title: Estudio para el desarrollo y validación de una huella genética para el diagnóstico de cáncer de páncreas y lesiones precursoras
Principal Investigator: Luis Sabater Ortí
Funding Body: AMADIX
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2017-2019

Title: Utilidad de la biopsia líquida y organoides en el manejo y tratamiento de adenocarcinoma de páncreas: hacia una medicina de precisión
Principal Investigator: Maider Ibarrola Villava (Luis Sabater and Marina Garcés as collaborating researchers)
Funding Body: Fundación Mutua Madrileña
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2022
Total budget: €100,000
Research Group on Personal Autonomy, Dependence and Severe Mental Disorders (TMAP)
Consolidated group

Group members

Principal Investigators
Rafael Tabarés Seisdedos. University

Collaborating researchers
Gabriel Selva Vera. Hospital. University
Manuel Gómez Beneyto. University
Patricia Correa Ghisays. University
Inmaculada Fuentes Durá. University
Ferrán Catalá López. University
Vicente Balanzá Martínez. University
Constanza San Martín Valenzuela. University
Jaume Forés Martos. INCLIVA
Diego Macías Saint-Geroms. INCLIVA
Salvador Martínez Pérez. Hospital. University
Mikel Munarriz Ferrandis. University
Jose Salazar Fraile. INCLIVA

Technicians
Víctor Mestre Salvador. University

Researchers by categories

Networks

Strategic aims

- Project on “Comorbidity between Cancer and Central Nervous System Disorders”, which aims to synthesize epidemiological evidence and assess the validity of associations between central nervous system disorders and the risk of developing or dying from cancer. It is a collaborative meta-analysis in 5 countries (Spain, Canada, Australia, United Kingdom and the United States) coordinated by the University of Valencia/CIBERSAM
- “The Global Burden of Disease Study” is the largest international collaborative project on the epidemiology of diseases, injuries and risk factors at the global, national and regional levels
- Projects in advanced methods of systematic reviews and meta-analyses, including the publication in PLoS One interested in the identification of endophenocognitypes, as well as biomarkers of neuroprogression and clinical staging in bipolar and psychotic disorders
- Various papers and editorials have been published on methodological quality, biases and conflicts of interest in mental health research, public health and health economics

Main lines of research

- Study of neurocognitive endophenotypes in schizophrenia and bipolar disorder
- Study of pharmacological strategies for improving cognitive function in bipolar disorder
• Epidemiology and disability associated with TMG
• Identification of biomarkers in TMG
• Study of the direct and reverse comorbidity in TMG in relation to cancer and diabetes
• Development and efficacy study of psychoeducation and neurocognitive therapy and functional rehabilitation for people with SMI
• Establishment of a clinical staging system (ClinicalStaging) applied to bipolar disorder by the combination of biomarkers, neurocognitive and functional performance
• Global Burden of Disease studies
• Systematic revisions and web meta-analysis
• Nutritional Psychiatry
• Stigma in Sanitary Professionals (#VALMSE project)

PUBLICATIONS

<table>
<thead>
<tr>
<th>Number of articles</th>
<th>IF</th>
<th>Average IF</th>
<th>National collaborations</th>
<th>International collaborations</th>
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</table>

SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI17/00719
Title: Identificación de biomarcadores epigenéticos periféricos asociados con el déficit neurocognitivo en personas con trastorno bipolar, depresión, esquizofrenia y diabetes tipo 2
Principal Investigator: Rafael Tabarés Seisdedos
Funding Body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2020
Total budget: €105.270

Reference: CB07/09/0021
Title: CIBER de Enfermedades Mentales (CIBERSAM)
Principal Investigator: Rafael Tabarés Seisdedos
Funding Body: Centro de Investigación Biomédica en Red (CIBER) – Instituto de Salud Carlos III
Beneficiary institution: CIBERSAM
Duration: 2015-present
Reference: Programme Erasmus+ KA2 - Cooperation for innovation and the Exchange of Good Practices KA203 - Strategic Partnerships for higher education

Title: Development of innovative training solutions in the field of functional evaluation aimed at updating of the curricula of health sciences schools- TEACH project (2018-2020)

Principal Investigator: Rafael Tabarés Seisdedos

Funding Body: Universidad de Valencia

Beneficiary Institution: Universidad de Valencia

Duration: 2018-2020

THESIS

Thesis title: Funcionamiento neurocognitivo y psicosocial de pacientes con trastorno bipolar en una unidad de salud mental

Doctoral candidate: Sonia del Lluch Vidal Rubio

Director(s): Vicent Balanza Martinez, José Enrique Romeu Climent

Date of the defense: 19/06/2019

Grade: Sobresaliente "cum laude"
Research Group on Cellular and Organic Physiopathology of Oxidative Stress
Consolidated group

Group members

Principal Investigators
Federico V. Pallardó Calatayud. University

Collaborating researchers
Amparo Gimeno Monrós. University
Carlos Romá Mateo. University
Pilar González Cabo. CIBERer
José Manuel Torres Ibáñez. University
Pablo Calap Quintana. CIBERer
José Santiago Ibáñez Cabellos. University, CIBERer
Marta Seco Cervera. CIBERer
Silvia Castillo Corullón. Hospital

PhD researchers
Jesús Beltrán García. INCLIVA
Laura Rodríguez Robles. University
Rebeca Osca Verdegal. INCLIVA
Tamara Lapeña Luzón. CIBERer
Concepción Garcés Díaz. University
Selene Valero Moreno. University
Daniel Pellicer Roig. INCLIVA
Lucía Bañuls Soto. INCLIVA
María Magallón Serrano. INCLIVA

Emerging researchers
José Luis García Giménez. CIBERer
Francisco Dasí Fernández. INCLIVA

Technician
Mª Mercedes Navarro García

Strategic aims

• Among the scientific activity of the research group, remarkable achievements are the extension to PCT phase of
  the European patent “Mass spectrometry-based methods for the detection of circulating histones H3 and H2B in
  plasma from sepsis or septic shock (ss) patients” (PCT/EP2017/078362). Related to this patent, the technology
  was selected to participate in the mentorship program from FIPSE and MIT Idea2 global.

• In reference to acquisition of budget and resources, funding from the following programs and grants has been
  obtained: VLC-Bioclinic 2017 (2 projects), Plan Nacional I+D+i del Mineco (1 project, 2016-2019), AES 2016 (2

• Regarding teaching and outreach activities, the group has maintained the teaching of the subject “Enfermedades
  raras”, from the Grade on Medicine’s study plan at the University of Valencia and in the master course in Biomedical
  Research; and also in the “Máster de enfermedades raras”, directed by Dr. Pallardó, at the same University. Besides,
it was organized, in collaboration with the Escuela Valenciana de Estudios de la Salud and the CIBERER, the 2nd edition of the on-line course “Introducción a las EE.RR: investigación y atención clínica” addressed to residents of medical specialties from the Valencian public health system

- Within the framework of the Alliance for translational research in rare diseases of the Comunitat Valenciana, Dr. Pallardó has coordinated the joint application for FEDER funding for acquisition of research infrastructure. As result of that, our group have coordinated de acquisition of equipments for more than 500,000 € for the research on epigenetics and personalized medicine in rare diseases

Main lines of research

- Pathophysiology of Friedreich’s ataxia and other neuromuscular diseases
- Study of oxidative stress and mechanisms of DNA repair in different progeroid syndromes and genodermatosis
- Epigenetic regulation in the pathophysiology of rare diseases
- Pathophysiology of rare respiratory diseases: Alpha-1 Antitrypsin Deficiency, Primary Ciliary Dyskinesia
- Development of new therapeutic strategies based on gene therapy for treatment of rare respiratory diseases

Emerging Researcher

José Luis García Giménez

We aim to understand the role of epigenetics in the phenotypic variability of rare diseases (e.g., Friedreich’s ataxia, dyskeratosis congenita and adolescent idiopathic scoliosis). Furthermore, we collaborate with clinicians of Intensive Care Unit to study the role of circulating histones in the physiopathology of sepsis and septic shock. Our challenge is to identify epigenetic biomarkers (DNA methylation, microRNAs, and post-translational modifications of histones) to design new potential tools for diagnostic and prognostic and improve precision medicine.

Emerging Researcher

Francisco Dasi Hernández

Dr. Dasi’s group is currently conducting active basic research on two rare respiratory diseases; Alpha-1 Antitrypsin Deficiency (AATD) and primary ciliary dyskinesia (PCD). The specific lines of action of the group are:

1. To characterize the molecular mechanisms (especially those aspects related to REDOX regulation) involved in the development of disease in AATD and PCD
2. To evaluate the diagnostic and/or prognostic value of circulating nucleic acids in plasma/serum
3. Development of cellular models from cells of patients with rare respiratory diseases
4. To develop new therapeutic strategies based on gene therapy for treatment of AATD and PCD
5. To generate social awareness of rare respiratory diseases, through the scientific dissemination of biomedical advances and social and health policies aimed at improving the quality of life of patients

PUBLICATIONS

<table>
<thead>
<tr>
<th>Number of articles</th>
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<th>National collaborations</th>
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</table>
SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: COST Action BM1407
Title: Translational Research in primary ciliary dyskinesia – bench, bedside, and population perspectives (BEAT-PCD)
Principal Investigator: Jane Lucas, Antonio Moreno and Miguel Armengot (Amparo Escribano and Francisco Dasi as collaborating researchers)
Funding Body: European Commission
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2016-2019

Reference: COST Action CA16125
Title: European network for translational research in children’s and adult interstitial lung disease
Principal Investigator: Antonio Moreno (Amparo Escribano and Francisco Dasi as collaborating researchers)
Funding Body: European Commission
Beneficiary institution: University of Southampton (UK)
Duration: 2016-2019

Title: Communication role on perception and beliefs of EU citizens about science
Principal Investigator: Carolina Moreno Castro (Francisco Dasi as collaborating researcher)
Funding Body: European Commission
Beneficiary institution: Universidad de Valencia
Duration: 2018-2020
Total budget: €1.198 337

Reference: DTS17/00132
Title: Kit multiplex para la detección simultánea de biomarcadores de diagnóstico y pronóstico de sepsis y shock séptico por espectrometría de masas
Principal Investigator: Federico Pallardó Calatayud
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2019
Total budget: €78.210

Reference: PI17/01250
Title: Estudio del efecto de la hipoxia en la degranulación, producción de citoquinas y perfil oxidativo de neutrófilos de pacientes con déficit de alfa-1 antitripsina
Principal Investigator: Francisco Dasi Fernández
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2020
Total budget: €99.220

Reference: PI16/01036
Title: Respuestas epigenéticas a cambios en el entorno redox nuclear . Posibles dianas terapéuticas en enfermedades raras
Principal Investigator: Federico Pallardó Calatayud
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Centro de Investigación Biomédica en Red (CIBER) – Instituto de Salud Carlos III
Duration: 2017-2019
Total budget: €105.875

Reference: PI16/01031
Title: Epigenética e inmunosupresión. Uso de las histonas circulantes y sus modificaciones posttraduccionales como biomarcadores de diagnóstico y pronóstico en sepsis y shock séptico
Title: Edición génica del gen SERPINA1 mediante el uso de CRISPR/Cas9 en monocitos de pacientes con déficit de alfa-1 antitripsina
Principal Investigator: Francisco Dasí Fernández
Funding Body: Sociedad Española de Neumología y Cirugía Torácica (SEPAR)
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2017-2019
Total budget: €12.000

Title: Estudio del perfil de miRNAs circulantes en pacientes con déficit de alfa-1 antitripsina (DAAT). Implicaciones diagnósticas, pronósticas y terapéuticas
Principal Investigator: Amparo Escrivano (Francisco Dasí as collaborating researcher)
Funding body: Asociación Española de Pediatría 
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2014-2020
Total budget: €30.000

Title: Diseño y desarrollo de un método basado en CRISPR/Cas9 para la reparación del gen de la alfa-1 antitripsina
Principal Investigator: Amparo Escrivano (Francisco Dasí as collaborating researcher)
Funding body: Sociedad Valenciana de Neumología
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2016-2019
Total budget: €12.000

Title: Circulating miRNAs as potential prognostic biomarkers in alpha-1 antitrypsin deficiency. A Functional approach
Principal Investigator: Silvia Castillo (Francisco Dasí as collaborating researcher)
Funding body: Grifols S.A.
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2020
Total budget: €50.000
4.3.4 Reproductive medicine area

Groups
Research Group on Women Health
Research Group on Stem Cells Applied to Reproduction, Embryo Viability and Endometrial Receptivity

- **34** Number of articles
- **IF 148,359**
- **Average IF 4,363**
- **11 National collaborations**
- **18 International collaborations**
- **15 Corresponding author**
- **15** D1
- **24** Q1
- **9** Q2
- **12** First author
- **20** Last author

- 15 original articles
- 14 letters
- 4 editorial
- 7 review
**Research Group on Women Health**

**Consolidated group**

### Group members

**Principal Investigators**
- Antonio Cano Sánchez. University

**Collaborating researchers**
- Juan José Tarín Folgado. University
- Ana Martínez Aspas. Hospital
- Juan José Hidalgo Mora. Hospital
- Gemma Arribas Ferriol. Hospital

**Emerging researcher**
- Raúl Gómez Gallego. INCLIVA

### Researchers by categories

<table>
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<th>Researchers financed by competitive public calls or networks</th>
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### Strategic aims

We have positioned our group in the field of healthy ageing, with special interest to frailty, where we have collaborated in the support of INCLIVA in the project ADVANTAGE. We have collaborated to position the reference site of the Valencia Region within EIPAHA, the partnership of the European Commission. Moreover, we have participated in the application to different European projects with groups from different European countries, including an application to the Maire Curie grants.

### Main lines of research

- In healthy ageing in the female we are continuing our interest on osteoporosis but also have added frailty and functional decline. The group is consolidating the CARMEN cohort (see the EIPAHA commitment tracker: https://ec.europa.eu/eip/ageing/commitments-tracker/a3/integrated-care-and-ict-reduce-frailty-and-chronic-diseases-ageing-women_en)

- With regard to endometriosis:
  - To analyze the role of microRNA and vascularization regulators and pain mechanisms. Role of the TNF cytokine family
  - To analyze the initial atherogenesis and selective estrogen receptor modulators

### Emerging Researcher

**Raúl Gómez Gallego**

The lines of research have focused on the dissection of how the deregulation of the angiogenic component is related to the onset and maintenance of gynecological disorders such as endometriosis, ovarian hyperstimulation syndrome, recurrent miscarriage or preeclampsia. We are also interested in developing tests for the early non-invasive diagnosis of endometriosis through combined analysis of multiple biomarkers simultaneously.
PUBLICATIONS

5 Number of articles

14.89 IF

2,978 Average IF

2 National collaborations

3 International collaborations

2 Corresponding author

SELECTED PUBLICATIONS


THESIS

Reference: PI17/02329
Title: Papel de los agonistas dopaminérgicos en el dolor e infertilidad asociados a endometriosis en modelos animales de nueva generación
Principal Investigator: Raúl Gómez Gallego
Funding body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2020
Total budget: €111.320

RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: 777500- IMI-PainCare
Title: Improving the care of patients suffering from acute or chronic pain
Principal Investigator: Raúl Gómez Gallego
Funding body: European Commission
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2022
Total budget: €257.066,25
4 scientific activity

Research Group on Stem Cells Applied to Reproduction, Embryo Viability and Endometrial Receptivity

Consolidated group

Group members

Principal Investigators
Carlos Simón Vallés. University

Collaborating researchers
Tamara Garrido Gómez. IGENOMIX Foundation
Diana Valbuena Perilla. IGENOMIX Foundation
David Blesa Jarque. IGENOMIX Foundation
Carmen García Pascual. IGENOMIX Foundation
Inmaculada Moreno Gimeno. IGENOMIX Foundation
Mª Paz Moreno Murciano. IGENOMIX Foundation
Carmen Rubio Lluesa. IGENOMIX Foundation
Nandakumar Venkatesan. University

Emerging researchers
Felip Vilella Mitjana. INCLIVA

PhD researchers
Nuria Balaguer Cuenca. University
Iolanda García Grau. University
Irene Corachán García. University
David Bolumar Recuero. University
Claudia Abellán Onihuela. INCLIVA
Alba Machado López. IGENOMIX Foundation
Nerea Castillo Marco. IGENOMIX Foundation

Technicians
Roberto Alonso Valero. IGENOMIX Foundation
Marta González Monfort. IGENOMIX Foundation
Patricia Escorcia. IGENOMIX Foundation

Researchers by categories

Researchers financed by competitive public calls or networks

Strategic aims

• Our activity predominantly involves research in the field of Reproductive Medicine, with a particular focus on the fields of regenerative medicine concerning the endometrium and genomic studies on embryonic viability and endometrial receptivity, as well as other factors that cause infertility
• One of our aims is to advance in the understanding of the mechanisms that regulate maternal-fetal communication and that may be involved in the implantation and subsequent development of adult diseases such as obesity and type II diabetes
• Creation of an in vitro model to obtain germ cells through direct reprogramming of human somatic cells, to provide the ultimate solution for the treatment of infertility
Main lines of research

- Adult stem cells in the human endometrium: We have identified the existence of human endometrial stem cells, and we have demonstrated the therapeutic potential of autologous bone marrow CD133+ stem cells in the treatment of non-curable endometrial pathologies such as Asherman’s syndrome or endometrial atrophy.
- The embryo viability: Nowadays the selection of embryo is based solely on morphological parameters, which doesn’t guarantee its genetic viability. We aim to develop a non-invasive approach based on molecular techniques to identify euploid embryos.
- Study of endometrial receptivity: we discovered the transcriptomic signature of human endometrial receptivity. Now, we are focus on a new minimally invasive procedure using single-cell analysis.
- The endometrial microbiome in human reproduction: Our research group has described the existence of the endometrial microbiome and its clinical implications on the reproductive outcome. We investigate the impact of uterine microbiome dysbiosis and its clinical impact.
- Artificial gametes: creation of artificial gametes by transdifferentiating human somatic cells.
- The maternal implication in the origin of pre-eclampsia: Our research has provided evidence that endometrial decidualization resistance is implicated in the origin of this disease. This finding offers a new perspective based on the maternal contribution to gestation, aiming to develop a tool that will diagnose pre-eclampsia.
- Molecular diagnosis of myometrial tumors: Our previous work has demonstrated the genomic differential characterization of myomas and leiomyosarcomas. We aim to shift the diagnostic and therapeutic focus of uterine leiomyomas and leiomyosarcomas through genomic characterization.

Emerging Researcher

Felip Vilella Mitjana

The research line of Endometrial Receptivity is based on the study of endometrial secretions, specifically the endometrial fluid. We use secretomic and genomic approach so we can describe new molecules that can be correlated with the days of the menstrual cycle and may be involved in obtaining the window of implantation period, opening a new field of study for the analysis of the changes in the endometrium during the menstrual cycle and the cross-talk between the embryo and the endometrium.

PUBLICATIONS
SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: RTI2018-094946-B-I00
Title: Contribución maternal en la patogénesis de enfermedades gestacionales tardías como la preeclampsia
Principal Investigator: Carlos Simón Vallés
Funding Body: Ministerio de Ciencia, Innovación y Universidades
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2022
Total budget: €254,100
Reference: ACIF/2018/280
Title: Desarrollo de un método de diagnóstico prenatal no invasivo de enfermedades monogénicas mediante NGS
Principal Investigator: Carmen Rubio Lluesa
Funding Body: Conselleria de Educación, Cultura y Deporte
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2016-2019
Total budget: €66,572,40

Reference: ACIF/2016/024
Title: Estudio de los miRNAs secretados al líquido endometrial y su papel en la regulación del embrión en los primeros estadios de desarrollo
Principal Investigator: Felipe Vilella Mitjana
Funding Body: Conselleria de Educación, Cultura y Deporte
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2016-2019
Total budget: €66,578,40

THESIS

Thesis title: Maternal-fetal crosstalk. Elucitaing the role of mir30d in endometrial receptivity and pregnancy outcome
Doctoral candidate: Nuria Balaguer Cuenca
Director(s): Felip Vilella Mitjana, Carlos Simón Vallés
Date of the defense: 14/01/2019
Grade: Sobresaliente "cum laude"
Quality recognition/Award: European PhD
4 scientific activity

4.4 Hospital division research area

Groups

Department of Anesthesiology
Department of Biochemistry and Clinical Analysis
Department of Cardiac Stimulation
Department of Cardiology
Department of Dermatology
Department of Digestive Medicine
Department of General Surgery
Department of Intensive Medicine
Department of Maxillofacial Surgery
Department of Microbiology
Department of Nephrology
Department of Neurology
Department of Neurosurgery
Department of Nuclear Medicine
Department of Ophthalmology
Department of Otorhinolaryngology
Department of Pathological Anatomy
Department of Pediatrics
Department of Pharmacy
Department of Pneumology
Department of Preventive Medicine
Department of Psychiatry
Department of Radiologic Diagnosis
Department of Radiology
Department of Radiotherapy
Teaching and Dissemination of Knowledge Unit
Department of Thoracic Surgery
Department of Traumatology and Orthopedic Surgery
Department of Urology

133
Number of articles

558,422
IF

4,198
Average IF

83
National collaborations

32
International collaborations

21
Corresponding author

16
D1

42
Q1

36
Q2

29
First author

24
Last author

103
original articles

8
letters

11
editorial

1
review

8
corrections
Department of Anesthesiology

**Strategic aims**
- The effects of advanced monitoring and drugs on hemodynamic management in patients undergoing surgery
- Open Lung Approach for the Acute Respiratory Distress Syndrome
- Study and development of methods of detection of infections
- Development of new strategies and drugs for pain treatment

**Main lines of research**
- Oxidative stress and protection of organs in ischemia-reperfusion surgery
- Ventilatory and pharmacological strategies to decrease organ damage in the lungs associated with mechanical ventilation in healthy and injured lungs
- Development of hemodynamic monitoring and its application in the field of patients undergoing surgery or admitted to critical care units
- Study and development of methods of detection of infections, especially fungal and virological, and how to prevent them
- Study and development of therapeutic drug monitoring (TDM) to describe antimicrobials pharmacokinetics (PK) and determination of minimum inhibitory concentration (MIC)
- Development of new strategies and drugs for pain treatment
- Development of new strategies and monitoring for Traumatic Brain Injury

**PUBLICATIONS**

- **Number of articles**: 4
- **IF**: 22.843
- **Average IF**: 5.710
- **National collaborations**: 2
- **International collaborations**: 2
- **Corresponding author**: 0

**SELECTED PUBLICATIONS**


Department of Biochemistry and Clinical Analysis

Strategic aims

- Development of strategies for adapting the demand of requests to the Laboratory after the implementation of the GesPet system of on-line communication of the Laboratory with the Primary Care doctors of the Clinical Department-Malvarrosa: the tool to help the efficient use of the laboratory

Main lines of research

- Group-specific: managing laboratory test requests and patient safety through electronic requests
- Laboratory Service staff research is carried out in collaboration with the following clinical research groups: Clinical Cardiology (ischemic heart disease and heart failure), Cardiometabolic Risk and Diabetes (lipid metabolism and insulin resistance) Clinical Hematology (Minimal Residual Disease), Infant Gastroenterology (Inflammatory Bowel Disease), Public Health and Digestive System (Stratification of the priority of colonoscopy using the SOH test in the Colorectal Cancer Screening Program)

PUBLICATIONS

SELECTED PUBLICATIONS


4 scientific activity

Department of Cardiac Stimulation

Strategic aims

- Our department has received the Excellence Credit in the Program “Atrial Fibrillation Ablation” from the Spanish Society of Cardiology
- The multicentre project “Left atrial geometry and outcome in atrial fibrillation ablation, LAGO-AF” has been concluded. First results have been published

Main lines of research

- Collaboration in the national prospective observational study on Crioballoon ablation of atrial fibrillation (RECABA)
- Leading and Collaboration in the registry on sleep alterations in patients with pacemakers
- Leading a multicenter prospective study on ablation of typical atrial flutter without radioscopy and guided by electrogram amplitudes

PUBLICATIONS

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SELECTED PUBLICATIONS


Department of Cardiology

PUBLICATIONS

5
Number of articles

IF
27.578

Average IF
5.515

4
National collaborations

1
International collaborations

0
Corresponding author

SELECTED PUBLICATIONS


scientific activity

Department of Dermatology

Strategic aims

• To continue making a biobank of melanoma patients

Main lines of research

• Melanocytic tumors. Malignant Melanoma: study of cytokines involved in tumor growth
• Hemangiomas
• Contact dermatitis
• Alopecia
• Psoriasis: application of new molecules in treatment

PUBLICATIONS

1
Number of articles

IF
7.102

Average IF
7.102

SELECTED PUBLICATIONS

Department of Digestive Medicine

Strategic aims

- Update of protocols and clinical guidelines of the Department
- It has been possible to consolidate the relationship of the Unit of Inflammatory Bowel Disease of our Department with the network of National Units, through collaborative studies that have been published in international journals of category Q1 and Q3. The group has also consolidated motility and pancreas research in the national and international area through consensus guides that have been published in journals with categories Q1-Q4

Main lines of research

- On the section of gastroenterology, to continue the studies on digestive hemorrhage, acute pancreatitis, inflammatory bowel disease, motion sickness and digestive benign anorectal pathology
- On the hepatology division to continue the analysis of hepatic encephalopathy, the nonalcoholic, epidemiological, therapeutic and immunoprophylaxis on Hepatitis Virus steatohepatitis. Also hepatocellular damage and nitric oxide and liver tumors
- About endoscopy division: study on the therapeutic dilatation, the ecoendoscopia diagnostics and therapeutics, ampullectomy, diverticulotomy of Zencker and digestive prostheses

PUBLICATIONS

SELECTED PUBLICATIONS


scientific activity


Department of General Surgery

PUBLICATIONS

SELECTED PUBLICATIONS


Department of Intensive Medicine

Main lines of research

- Histones and septic shock
- UCI Epidemiology. Multiresistant bacteria surveillance
- Serious flu
- Genetics in severe NAC
- Quality of life of UCI (Mindfulness)

PUBLICATIONS

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SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI16/01036
Title: Epigenética e inmunosupresión. Uso de las histonas circulantes y sus modificaciones post-traducionales como biomarcadores de diagnóstico y pronóstico en sepsis y shock séptico
Principal Investigator: José Luis García Giménez (Nieves Carbonell as collaborating researcher)
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2017-2019
Total budget: €87.725

Title: Biomarcadores metabolómicos en suero para la detección precoz del vasoespasmo arterial en pacientes con hemorragia subaracnoidea espontánea
Principal Investigator: Mónica García Simón
Funding Body: Conselleria de Innovación, Universidades, Ciencia y Sociedad Digital
# Strategic aims

- Innovation in personalised prosthesis for maxillofacial reconstruction
- Translational research project for the development of implants with high added value through additive manufacturing
- Innovation in throat pack

# Main lines of research

- Cost-effectiveness analysis on the management of oral surgery processes in patients with severe dependence and/or plurypathological chronicles with comorbidities
- Proposal for a new organizational model of care
- Radiological evaluation of predictive factors of access to pterygopalatine fossa
- Research on materials involved in bone regeneration
- Research on materials involved in nerve repair
- Project: Mandibular Condylar Hyperplasia: Impact of Bone SPECT on Therapeutic Decision. Proposal of a decision algorithm

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### RESEARCH PROJECTS AND GRANTS FOR RESEARCH

**Reference:** INNVAL10/19/035  
**Title:** Dispositivo de taponamiento orofaríngeo desechable no neumático  
**Principal Investigator:** Miguel Puche Torres  
**Funding Body:** Agencia Valenciana de Innovación (AVI)  
**Beneficiary institution:** Fundación Investigación Hospital Clínico Universitario de Valencia  
**Duration:** 2019  
**Total budget:** €68,885
Department of Microbiology

Strategic aims

- We have identified rotavirus and norovirus genotypes infecting populations studied in Valencia during recent years
- We have characterized the most common phenotypes of histo-blood antigens (secretory, Lewis and ABO antigens) in children infected with rotavirus
- Isolation in culture of human enteroids from norovirus strains

Main lines of research

- Phylogenetic analysis of polymerase and capsid genes sequences of norovirus strains in patients with acute gastroenteritis and chronic infections in immunocompromised patients
- Study of association between histo-blood antigens (HBGA) of patients infected with different rotavirus and norovirus genotypes
- Anti-adhesive effect of human milk oligosaccharides against rotavirus and norovirus
- Human norovirus replication in enteroids

PUBLICATIONS

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SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PI18/00127
Title: Virología e inmunología de la infección por el citomegalovirus (CMV) en el paciente con neoplasia hematológicas en la era de las nuevas bioterapias
Principal Investigator: David Navarro Ortega
Funding Body: Instituto de Salud Carlos III
Beneficiary institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2021
Total budget: €111,320

Reference: PI16/01471
Title: Diversidad genética y antigénica de norovirus humanos: estudio de anticuerpos séricos protectores y de la inmunidad celular en ratones y en pacientes infectados
Principal Investigator: F. Javier Buesa Gómez

Department of Nephrology

Strategic aims

- To work together with cardiology Department in order to explore new developments in treatment of cardio-renal syndrome by peritoneal dialysis
- Diabetic kidney disease: risk factors and progression. Diabetic kidney disease in dialysis patients
- To analyze risk factors for developing hyperkalemia and the adherence to the current treatments
- To establish the picture of the renal problems detected in Oncology and Hematology patients: kidney damage in the onco-hematologic patients
- To analyze the incidence of acute kidney injury in hospitalized patients

Main lines of research

- Treatment of cardio-renal syndrome by peritoneal dialysis
- Diabetic kidney disease and chronic kidney disease: risk factors and progression and proteinuria development.
- Diabetic kidney disease in dialysis patients
- Hyperkalemia and chronic kidney disease
- Onco-nephrology: kidney damage in the oncologic patient
- Biomarkers of acute kidney injury
PUBLICATIONS

SELECTED PUBLICATIONS


5. Rodríguez-Borja E, Corchón-Peyrallo A, Quinones-Torrelo C, Ramos-Tomas C. Acute kidney failure and discrepant values of urinary proteins: When the case is not “crystal clear”. Clinical Biochemistry. 2019 May; 67: 60-62. doi: 10.1016/j.clinbiochem.2019.03.004. IF: 2.43

RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: BCM-PD-02-INT
Title: Iniciativa sobre la evolución de los pacientes con Diálisis-DP
Principal Investigator: Alfonso Miguel Carrasco [Miguel González Rico and Mª Jesús Puchades Montesa as collaborating researchers]
Funding Body: Fresenius medical care
Beneficiary Institution: Hospital Clínico Universitario de Valencia
Duration: 2015-2021
Total budget: €2.940
4 scientific activity

Department of Neurology

PUBLICATIONS

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SELECTED PUBLICATIONS


Department of Neurosurgery

PUBLICATIONS

**SELECTED PUBLICATIONS**


Department of Nuclear Medicine

**Strategic aims**

- Dosimetric assessment in patients with hyperthyroidism treated with 131-Iodine
- Cardiac sympathetic nerve activity by 123I-MIBG scintigraphy in heart failure patients
- Evaluation of left ventricular dysynchrony by Gated SPECT myocardial perfusion in the evaluation of cardiac resynchronization therapy
- Radioguided surgery by intraoperative scintigraphy with portable gamma camera in patients with primary hyperparathyroidism and not conclusive pre-surgical scintigraphy
- Sentinel node detection in breast cancer after neoadjuvant chemotherapy

**Main lines of research**

- Radioembolization of hepatocarcinoma by resin microspheres labeled with 90-Ytrium
- Assessment of cardiac sympathetic nerve activity by 123I-MIBG scintigraphy in heart failure patients
- Evaluation of left ventricular dysynchrony by Gated SPECT myocardial perfusion in patients with cardiac resynchronization therapy
- Sentinel lymph node detection in breast cancer in patients with previous mammary surgery
4 scientific activity

- Evaluation of screws loosening and other complications after lumbar spinal fusion surgery by bone SPECT
- Diagnosis and follow-up of hyperplasia of the mandibular condyles by bone SPECT

PUBLICATIONS

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SELECTED PUBLICATIONS


THESIS

Thesis title: Utilidad del análisis de los parámetros metabólicos de la 18F-fdg PET-TC en pacientes con cáncer de mama. Valor añadido de la tomografía por emisión de positrones (MAMMI-PET)

Doctoral candidate: Verónica López Prior

Director(s): Carlos Camps Herrero, Rafael Díaz Expósito, María Del Puig Cozar Santiago

Date of the defense: 12/06/2019

Grade: Sobresaliente "cum laude"

Quality recognition/Award: European PhD
Department of Ophthalmology

Strategic aims

- Study of retinochoroidal vascularization via techniques of OCT angiography, a new technology under development. The majority of Spanish-authored publications on OCT angiography appearing in ophthalmological journals correspond to research from the Hospital Clínico de Valencia group.

Main lines of research

- OCT for quantitative analysis of the retinal ganglion cell layer in patients with multiple sclerosis: correlation with the degree of disability and cerebral atrophy in magnetic resonance.
- Analysis of filtration blebs after glaucoma surgery using anterior pole OCT.
- Prospective study of peripapillary vasculization in patients with glaucoma.

PUBLICATIONS

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SELECTED PUBLICATIONS


THESIS

Title: Estrabismo y visión binocular tras cirugía refractive
doctoral candidate: Agustina Martínez Lajara
director(s): Antonio Miguel Duch Samper; Patricia Bayo Calduch
date of the defense: 01/03/2019
grade: Sobresaliente “cum laude”
4 scientific activity

Department of Otorhinolaryngology

Strategic aims

• Osseointegrated implants
• Cochlear Implants
• Otoneurology

Main lines of research

• Osseointegrated Implants: Results of New Implants with Hydroxyapatite
• Cochlear Implants: Result of unilateral IC
• Otoneurology: vHIT in cochlear implants

PUBLICATIONS

1 Number of articles

IF 0.485

Average IF 0.485

1 National collaborations

0 International collaborations

0 Corresponding author

SELECTED PUBLICATIONS


THESIS

Thesis title: Hipoacusia súbita: nueva pauta corticoidea intratimpánica precoz

Doctoral candidate: Jaume Redondo Martínez

Director(s): Jaime Marco Algarra, Francisco Javier García Callejo

Date of the defense: 29/01/2019

Grade: Sobresaliente “cum laude”
Department of Pathological Anatomy

PUBLICATIONS

SELECTED PUBLICATIONS

Department of Pediatrics

PUBLICATIONS

SELECTED PUBLICATIONS
4 scientific activity


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: COST Action BM1407
Title: Translational Research in primary ciliary dyskinesia – bench, bedside, and population perspectives (BEAT-PCD)
Principal Investigator: Antonio Moreno (Amparo Escribano Montaner as collaborating researcher)
Funding Body: European Commission
Duration: 2015-2019

Reference: PI16/01233
Title: Caracterización molecular de la discinesia ciliar primaria
Principal Investigator: Antonio Moreno (Amparo Escribano Montaner as collaborating researcher)
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación de Investigación Vall d’Hebrón
Duration: 2017-2019
Total budget: €110.715

Department of Pharmacy

Strategic aims

• Implementation of a new therapeutical drug monitoring system in a clinical analytical laboratory for pharmacokinetic control of antibiotic, antifungal and antineoplastic agents in the hospitalized patient, with the aim of optimal and rational use of pharmacological treatment
• Study of pharmacokinetics of caspofungin in patients under hemodiafiltration. Study approved by the Agencia Española del Medicamento y Productos Sanitarios with code MER-CAS-2013-01
• Observational Study of population pharmacokinetic model of voriconazole in allogeneic stem cell transplantation. Study approved by the Agencia Española del medicamento y Productos Sanitarios with code CSV-VOR-2014-01
• Study of pharmacokinetics of Ceftolozane in critical patients. Study pending of approval by the Agencia Española del Medicamento y Productos Sanitarios with code CEFT-TCRR-2017
• Study of Physico-chemical stability of a new mycophenolate mofetil intravenous solution in polypropilene infusion bag at different storage conditions
• Study of Physico-chemical stability of a new ophthalmic eyedrop formulation at different storage conditions

Main lines of research

• Implementation of a new therapeutical drug monitoring system in a clinical analytical laboratory for pharmacokinetic control of antibiotic, antifungal and antineoplastic agents in the hospitalized patient, with the aim of optimal and rational use of pharmacological treatment
• Study of pharmacokinetics of caspofungin in patients under hemodiafiltration. Study approved by the Agencia Española del Medicamento y Productos Sanitarios with code MER-CAS-2013-01
• Observational Study of population pharmacokinetic model of voriconazole in allogeneic stem cell transplantation. Study approved by the Agencia Española del medicamento y Productos Sanitarios with code CSV-VOR-2014-01
• Study of pharmacokinetics of Ceftolozane in critical patients. Study pending of approval by the Agencia Española del Medicamento y Productos Sanitarios with code CEFT-TCRR-2017
• Study of Physico-chemical stability of a new mycophenolate mofetil intravenous solution in polypropylene infusion bag at different storage conditions
• Study of Physico-chemical stability of a new ophthalmic eyedrop formulation at different storage conditions
• Dosing of caspofungin based on a pharmacokinetic/pharmacodynamic index for the treatment of invasive fungal infections in critically ill patients on continuous venovenous haemodiafiltration
• Cost effectiveness analysis of direct-acting antiviral therapy for treatment of patients with chronic HCV infection

PUBLICATIONS

9
Number of articles

37.438
IF

4.159
Average IF

7
National collaborations

1
International collaborations

2
Corresponding author

SELECTED PUBLICATIONS


THESIS

Thesis title: Análisis de la relación coste-efectividad del tratamiento con azacitidina en pacientes con síndrome mielodisplásico en el Hospital Clínico Universitario de Valencia

Doctoral candidate: Teresa Torrecilla Junyent

Director[s]: Manuel Alós Almiñana, María Del Mar Tormo Díaz, Julio Cortijo Gimeno

Date of the defense: 12/06/2019

Grade: Sobresaliente “cum laude”
scientific activity

Department of Pneumology

PUBLICATIONS

1 Number of articles
IF 4.214
Average IF 4.214
1 National collaborations
0 International collaborations
0 Corresponding author

SELECTED PUBLICATIONS


Department of Preventive Medicine

PUBLICATIONS

1 Number of articles
IF 1.879
Average IF 1.879
1 National collaborations
0 International collaborations
0 Corresponding author

SELECTED PUBLICATIONS


THESIS

Thesis title: Estudio epidemiológico de probabilidades y predictores entre distintos estadios de uso de sustancias y desarrollo de comorbilidad psiquiátrica a nivel poblacional en EEUU

Doctoral candidate: Ludwig Flórez Salamanca
Director(s): Carmen Sáiz Sánchez
Date of the defense: 08/11/2019
Grade: Sobresaliente "cum laude"
Quality recognition/Award: European PhD
Department of Psychiatry

SELECTED PUBLICATIONS


THESIS

Thesis title: Internacionalización y posicionamiento contemporáneo de la psicología española a través de las revistas españolas. El papel del Colegio de Psicólogos

Doctoral candidate: Macarena Tortosa Pérez

Director(s): Francisco Tortosa Gil, Francisco José Santolaya Ochando

Date of the defense: 20/12/2019

Grade: Sobresaliente “cum laude”

Department of Radiologic Diagnosis

Main lines of research

• To participate in clinical trials with Hematology and Oncology Departments by performing CT and / or biopsies to check inclusion of patients in new chemotherapy treatments

• To evaluate cerebral reperfusion syndrome after treatment of carotid stenosis by stent

• To study gastric pre-oesophagectomy conditioning to reduce the incidence of dehiscence of sutured anastomoses

PUBLICATIONS

1 Number of articles

IF 5.688

Average IF 5.688

1 National collaborations

0 International collaborations

0 Corresponding author
SELECTED PUBLICATIONS


Thesis title: Developing preclinical devices for neuroscience research in the fields of animal tracking, FMRI acquisition, and 3d histology cutting

Doctoral candidate: Darío Rubén Quiñones Colomer
Director(s): David Moratal Pérez, Santiago Canals Gamoneda
Date of the defense: 20/02/2019
Grade: Sobresaliente "cum laude"
Quality recognition/Award: European PhD

THESIS

Thesis title: El error diagnóstico en radiología. Análisis de variables explicativas

Doctoral candidate: Fernando Facal de Castro
Director(s): Delfina Dualde Beltrán, Estanislao Arana Fernández de Moya
Date of the defense: 18/01/2019
Grade: Sobresaliente "cum laude"

Department of Radiology

PUBLICATIONS

SELECTED PUBLICATIONS

scientific activity

Department of Radiotherapy

PUBLICATIONS

SELECTED PUBLICATIONS


Teaching and Dissemination of Knowledge Unit

PUBLICATIONS

SELECTED PUBLICATIONS


4 scientific activity

Department of Thoracic Surgery

Strategic aims

- Tracheal tissue bioengineering

Main lines of research

- Tracheal tissue bioengineering
- Rare diseases
- Endoscopic VATS resections
- Fast track pulmonary surgery and ERAS project

PUBLICATIONS

- Number of articles: 1
- IF: 3.847
- Average IF: 3.847
- National collaborations: 1
- International collaborations: 0
- Corresponding author: 0

SELECTED PUBLICATIONS


RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PROMETEO/2017/023
Title: Modulación del eje óxido nítrico-guanilato ciclasa soluble-GMPC como nueva diana farmacológica para el tratamiento del asma y la enfermedad pulmonar obstructiva crónica (EPDC)
Principal Investigator: Julio Cortijo Gimeno (Genaro Galán Gil as collaborating researcher)
Funding body: Conselleria de Educación, Investigación, Cultura y Deporte
Beneficiary institution: Universidad de Valencia
Duration: 2017-2021
Total budget: €315,728
Department of Traumatology and Orthopedic Surgery

**Strategic aims**

- Non-invasive image in orthopedics
- Mechanisms of inflammation and oxidative stress in bone pathologies
- New systems of fixation of prostheses applied to Traumatology

**Main lines of research**

- Cellular oxidative stress and its relationship with idiopathic femoral osteonecrosis
- Sequentiality of muscle contraction: importance in early detection of lumbopelvic, cervical and shoulder girdle dysfunction
- Diagnosis and monitoring of the diabetic foot using infrared thermography
- Cellular mechanisms to regulate inflammatory response in chronic inflammatory diseases
- Protection strategies against osteoarticular deterioration
- Robotics for precision in orthopedic reconstructive surgery
- Rehabilitation to improve outcomes after total knee arthroplasty prospective randomized study
- Local mechanical stimulation of mesenchymal cells for osteogenic and chondrogenic differentiation in regenerative medicine

**PUBLICATIONS**

- **Number of articles**: 3
- **IF**: 5.996
- **Average IF**: 1.998
- **National collaborations**: 1
- **International collaborations**: 2
- **Corresponding author**: 0

**SELECTED PUBLICATIONS**


**RESEARCH PROJECTS AND GRANTS FOR RESEARCH**

Reference: DTS18/00177
Title: Desarrollo de un nuevo sistema de fijación intramedular para implantes (prótesis, clavos para fracturas y exoprótesis)
4 scientific activity

Principal Investigator: Antonio Silvestre Muñoz  
Funding Body: Instituto de Salud Carlos III  
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia  
Duration: 2019-2021  
Total budget: €99,500  
Reference: SAF2017-85806-R  
Title: Mecanismos reguladores de la inflamación y su resolución en enfermedades crónicas articulares y de la piel  
Principal Investigator: Mª Carmen Montesinos Mezquita, Mª Luisa Ferrándiz Manglano (Antonio Silvestre Muñoz as collaborating researcher)  
Funding Body: Ministerio de Economía y Competitividad  
Beneficiary Institution: Universidad de Valencia  
Duration: 2018-2020  
Total budget: €182,246

Reference: INNVAL10/18/017  
Title: Validación mecánica inicial de un nuevo sistema de fijación intramedular para prótesis e internacionización de la patente  
Principal Investigator: José Albelda Vitoria (Antonio Silvestre Muñoz as collaborating researcher)  
Funding Body: Agencia Valenciana de la Innovación-AVI Generalitat Valenciana  
Beneficiary Institution: Universidad Politécnica de Valencia  
Duration: 2018-2019  
Total budget: €60,549

THESIS

Thesis title: Comparativa de los resultados clínicos y biomecánicos del tratamiento de la patología de la porción larga del bíceps braquial: tenotomía o tenodesis  
Doctoral candidate: José Emmanuel García Rellán  
Director(s): Francisco Gomar Sancho  
Date of the defense: 09/03/2019  
Grade: Sobresaliente “cum laude”

Department of Urology

Strategic aims

• Study the use of metabolics in urine and tissue in patients with prostate cancer  
• Study the use of perform biopsy liquid in bladder cancer using digital PCR

Main lines of research

• Usefulness of metabolomic analysis in the diagnosis and prognosis of prostate cancer: it involves performing a metabolomic analysis of urine and prostate tissue in patients with prostate cancer. The purpose is to define a metabolomic profile that allows establishing a diagnostic suspicion after urinalysis, as well as evaluating the metabolomic profile of prostate tumor tissue. In addition to evaluating its diagnostic utility, its prognostic capacity will be evaluated in patients with prostate cancer  
• Liquid biopsy in bladder cancer: The aim is to detect the presence of a certain genetic profile in patients with bladder cancer and to see its diagnostic correlation, as well as the correlation with grade and stage. Preliminary analysis

PUBLICATIONS

5  
Number of articles  
IF 8.946  
Average IF 1.789  
3  
National collaborations  
0  
International collaborations  
4  
Corresponding author
SELECTED PUBLICATIONS


4.5 Other scientific contributions from scientific platforms

4.5.1 Biobank

**Principal Investigator**  
Antonio Ferrández Izquierdo. Hospital. University

**Collaborating researchers**  
Lorena Peiró Chova. INCLIVA

**Technicians**  
Olga Bahamonde Ponce. INCLIVA  
Marta Belda Moscardó. INCLIVA  
Ángela Bañuls Alemany. INCLIVA

**Contact**  
biobanco@incliva.es

**ACTIVITIES DEVELOPED**

Incorporation of samples in pre-existing collections within the biobank regime:

**Oncological Node:**
- Collection of solid tumors: 111 sample donations
- Collection of peripheral blood and derivative products in patients suffering from breast cancer: 185 new sample donations
- Collections of peripheral blood and derivative products in patients suffering from lung cancer: 252 new sample donations
- Collection of peripheral blood and derivative products in patients suffering from melanoma: 5 new sample donations
- Collection of peripheral blood and derivative products in patients suffering from gastrointestinal cancer (including cases of TFK project): 930 new sample donations
- Collection of peripheral blood and derivative products in patients suffering from head and neck tumors: 276 new sample donations
- Collections of peripheral blood and derivative products in patients suffering from brain tumors: 3 new sample donations
- Collections of peripheral blood and derivative products in patients suffering from gynecological tumors (including cases of Aurk-Seom project): 33 new sample donations

**Immunological Diseases Node:**
- Collection of peripheral blood and derivative products in patients suffering from Systemic Lupus Erythematosus or other autoimmune diseases: 34 new sample donations

**Cardiovascular Node:**
- Collection of peripheral blood and derivative products and urine in patients suffering from Hyperaldosteronism: 13 sample donations
- Collection of peripheral blood and derivative products in patients suffering from heart failure (including cases of Acute heart failure collection): 13 new sample donations

**Other collections:**
- Collection of peripheral blood and derivative products in patients suffering from sepsis gravis and septic shock (including cases sepsis from internal medicine service): 90 new sample donations
- Collection of peripheral blood and derivative products in patients suffering from Multiple Esclerosis: no new cases
- Collection of peripheral blood and derivative products in standard population (including cases of Obenoutec subcollection): 67 new sample donations

Incorporation of new collections within the biobank regime in 2019:
- Acute heart failure: new Collection of peripheral blood and derivative products and urine from the cardiovascular node
- Sepsis: new Collection of peripheral blood and derivative products in patients with sepsis from Internal Medicine Service
- Aurk-Seom project: new SubCollection of peripheral blood and derivative products in patients suffering from breast cancer and gynecological tumors
- TFK project: new SubCollection of peripheral blood and derivative products and tissue in patients suffering from gastric cancer
- Obenoutec: new SubCollection of peripheral blood and deriva-
tive products and urine from standard population with a BMI greater than 28

- Endocrinology Node: new Node that will include peripheral blood and derivative products and urine in patients suffering from endocrine diseases

In summary, 2013 new sample donations have been received, 8333 samples have been processed and 41619 aliquots have been stored in 2019 at INCLIVA Biobank facilities from collections within biobank regime.

In addition, the Biobank has surplus diagnostic samples from the HCUV Pathology and Hematology services that may be used in research provided they have the corresponding Biobank Informed Consent.

Incorporation of samples in pre-existing collections outside the biobank regime in 2019. The collections are outside the organizational structure of the biobank that are generated in the scope of projects and/or private clinical trials. The biobank manages the storage and custody of the samples, as well as the processing of the same in some cases.

- MAMI Study: temporary custody of samples for the project: ERC-European Research Council, Horizon 2020 Program: European Project MAMI, the power of maternal microbes for infant health. ERC Starting Grant ref. 639226 (Finished project)
- Optimbioma Study: temporary custody of samples for the project: Optimization of antibiotic treatment in hematopoietic allograft recipients: impact on intestinal microbiota and clinical outcomes. PI16/02010: 56 sample donations (Finished project)
- Study of immunity in breast cancer and Olaparib: collaboration and delivery of SP tubes (original sample) to the project: Role of tumor heterogeneity and dynamic reprogramming of the tumor cell in resistance to anti-HER2 antibodies in HER2 positive breast cancer. PI15/01617; PI15/00146. 13 new sample donations
- Amadix Study: processing, conservation and shipment of processed samples for the PancreaDIX study: study for the development and validation of a genetic fingerprint for the diagnosis of pancreatic cancer and precursor lesions. AMD-CPA-2016-01: 6 new cases
- Cronotrial Study: processing, conservation and shipment of processed samples for the study: Exploratory study for the determination of cTNSA in blood samples of patients treated for breast cancer in follow-up and without evidence of recurrence. 17 new cases
- Renas Study: processing, conservation and shipment of processed samples for the study: Effect of CPAP on the deterioration of renal function in early stages of chronic kidney disease. 195/2015: 7 new cases
- Rolando Study: processing, conservation and shipment of processed samples for translational study within the framework of the ROLANDO trial: Multicenter and uncontrolled phase II clinical trial to evaluate the safety and efficacy of the combination of Olaparib and Pegylated Liposomal Doxorubicin (DLP) in patients with peritoneal carcinoma primary ovarian and resistant platinum fallopian tubes. GEICO-1601 ROLANDO: 21 new cases

Incorporation of new collections outside the biobank regime in 2019:

- I-Prove O2 Study: storage and custody of the samples for the study: Reduction of postoperative complications and hospital stay with an individualized perioperative strategy of pulmonary protection ventilation. A comparative, prospective, multicenter, randomized and controlled study. IPROVEO2. NCT02158923: 10 boxes (Finished project)
- Gen-Sep Study: storage and custody of the samples for the study: Variantes en genes involucrados en la respuesta inflamatoria y su asociación con la susceptibilidad y evolución de la sepsis, neumonía grave y ards: 2 boxes (Finished project)
- LEGACy Project: processing, conservation and shipment of processed samples for this project: 10 cases
- Clinical Trial IO102-012: processing and shipment of processed samples for this clinical trial: 27 sample donations
- Cardiology-Oncology Project: processing, conservation and shipment of processed samples for the project: Bioinformatic approach for understanding cancer and its relationship to cardiovascular diseases: In search of new targets: no sample donations in 2019
- ROTATE-3 Study: processing, conservation and shipment of processed samples for this clinical trial: no sample donations in 2019

In summary, 233 new sample donations have been received, 1573 samples have been processed and 2481 aliquots have been stored aliquots in 2019 at INCLIVA Biobank facilities from studies outside biobank regime.

Also, 1046 aliquots have been transferred for these projects and/or private clinical trials.
Transfer of samples

<table>
<thead>
<tr>
<th>Project</th>
<th>Ref./Agency</th>
<th>Principal Researcher /Institution</th>
<th>Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBI_10/2018</td>
<td>DTS17/00132, Ministerio de Economía y Competitividad</td>
<td>Federico Pallardó, Calatayud, UV</td>
<td>Collection sepsis gravis and septic shock: 66 plasma aliquots and 34 DNA aliquots. &lt;br&gt;Standard population: 10 DNA aliquots</td>
</tr>
<tr>
<td>BBI_11/2018</td>
<td></td>
<td>María Teresa Landi, National Cancer Institute, National Institutes of Health</td>
<td>Lung cancer: 4 DNA aliquots, 9 human FFPE tissues slides and 4 human OCT tissues slides</td>
</tr>
<tr>
<td>BBI_12/2018</td>
<td></td>
<td>Gema Bruixola, HCUV / INCLIVA</td>
<td>Head and neck tumors: 24 plasma aliquots</td>
</tr>
<tr>
<td>BBI_13/2018</td>
<td>Generalitat Valenciana</td>
<td>Carlos Romá, UV</td>
<td>Collection sepsis gravis and septic shock: 40 plasma aliquots. &lt;br&gt;Standard population: 15 plasma aliquots. &lt;br&gt;Systemic Lupus Erythematosus: 15 plasma aliquots</td>
</tr>
<tr>
<td>BBI_14/2018</td>
<td></td>
<td>Ana Lluch, HCUV</td>
<td>Breast cancer: 29 DNA aliquots</td>
</tr>
<tr>
<td>Código</td>
<td>Fecha</td>
<td>Título</td>
<td>Institución</td>
</tr>
<tr>
<td>--------</td>
<td>---------</td>
<td>------------------------------------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>BBI_01/2019</td>
<td></td>
<td>Perfil de microARNs exosomales y su valor pronóstico a largo plazo en el lupus eritematoso sistémico. Asociación con marcadores establecidos de daño renal</td>
<td>Instituto de Salud Carlos III</td>
</tr>
<tr>
<td>BBI_02/2019</td>
<td></td>
<td>Detección en biopsia líquida del efecto de las fuerzas mecánicas en el cáncer a través de mutaciones implicadas en remodelación del citoesqueleto</td>
<td>10-FISICMUTAONC-NOGUERA-CERVANTES-2017-B, VLC-Bioclínic SUBPROGRAMA B</td>
</tr>
<tr>
<td>BBI_03/2019</td>
<td></td>
<td>Estudio para la definición y validación de un perfil de expresión génica para la clasificación de riesgo en pacientes con cáncer de mama con el sistema HTG EdgeSeq</td>
<td>IVO-LBM-2017-01, Fundación Instituto Valenciano de Oncología y HTG Molecular Diagnostics</td>
</tr>
<tr>
<td>BBI_04/2019</td>
<td></td>
<td>Análisis del papel de la vía p53- Aurora kinasa como potenciales biomarcadores predictivos y dianas terapéuticas en cáncer de mama triple negativo</td>
<td>Fundación Mutua Madrileña</td>
</tr>
<tr>
<td>BBI_05/2019</td>
<td></td>
<td>Análisis de marcadores diagnósticos del adenocarcinoma ductal de páncreas en muestras tumorales y su expresión en biopsia líquida</td>
<td>Asociación Española Contra el Cáncer (AECC)</td>
</tr>
<tr>
<td>BBI_06/2019</td>
<td></td>
<td>Utilidad de la biopsia líquida y organoides en el manejo y tratamiento de adenocarcinoma de páncreas: hacia una Medicina de Precisión</td>
<td>Fundación Mutua Madrileña</td>
</tr>
</tbody>
</table>
## Scientific Activity

<table>
<thead>
<tr>
<th>Reference</th>
<th>Title</th>
<th>Principal Investigator</th>
<th>Beneficiary institution</th>
<th>Duration</th>
<th>Total budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>BBI_07/2019</td>
<td>Personalized circulating tumor DNA analysis to monitor colorectal cancer</td>
<td>V1.0 dated 10.06.2017, Natara Inc</td>
<td>Andrés Cervantes, HCUV/INCLIVA</td>
<td>Gastrointestinal tumors: 2519 plasma aliquots, 68 DNA aliquots and 1428 human FFPE tissues slides. Total: 4015</td>
<td></td>
</tr>
<tr>
<td>BBI_08/2019 (addendum to the project BBI_03/2016)</td>
<td>Enfermedad mínima residual en cánceres colorrectales de alto riesgo resecados. Valor de las biopsias líquidas en el seguimiento y análisis de la heterogeneidad tumoral</td>
<td>P15/02180, Instituto de Salud Carlos III</td>
<td>Andrés Cervantes, HCUV/INCLIVA</td>
<td>Gastrointestinal tumors: 1040 plasma aliquots and 158 DNA aliquots</td>
<td></td>
</tr>
<tr>
<td>BBI_09/2019</td>
<td>Medicina personalizada en pacientes con cáncer colorrectal localizado: abordaje multibiomático de la Enfermedad Mínima Residual en Biopsia líquida y modelos de organoides</td>
<td>P18/01909, Instituto de Salud Carlos III</td>
<td>Andrés Cervantes, HCUV/INCLIVA</td>
<td>Gastrointestinal tumors: 1401 plasma aliquots and 4 DNA aliquots</td>
<td></td>
</tr>
<tr>
<td>BBI_10/2019</td>
<td>Interaction between cancer cells and their microenvironment during metastatic dissemination and its impact on resistance to chemotherapy</td>
<td>CP16/00151, Instituto de Salud Carlos III</td>
<td>Alex Calón, Instituto Hospital del Mar de Investigaciones Médicas</td>
<td>Gastrointestinal tumors: 76 serum aliquots. Standard population: 10 serum aliquots</td>
<td></td>
</tr>
</tbody>
</table>

In summary, 7199 aliquots were transferred in 2019.

### RESEARCH PROJECTS AND GRANTS FOR RESEARCH

**Reference:** PT17/0005/0017  
**Title:** Biobank Network  
**Principal Investigator:** Josep Redón i Mas  
**Funding body:** Instituto de Salud Carlos III  

**Beneficiary institution:** Fundación Investigación Hospital Clínico Universitario de Valencia  
**Duration:** 2018-2020  
**Total budget:** 104.775€
Note that these are 2019 scientific articles derived from the use of samples or services provided by the biobank.

Original articles


4.5.2 Oncology Phase I Oncology Clinical Trials Unit

Team
Investigators and doctors
Andrés Cervantes Ruípérez. Hospital. University
Susana Roselló Keranen. Hospital
Desamparados Roda Pérez. Hospital
Valentina Gambardella. Hospital
Gema Bruixola Campos. Hospital
Jose A. Pérez Fidalgo. Hospital
Marisol Huerta Álvaro. Hospital
Alba Inmaculada Viala Monleón. Hospital
Cristina Herrando Meliá. Hospital
Juan Miguel Cevallo Andújar. Hospital

Nurses
Inma Blasco Blasco. INCLIVA
Celia Martínez Ridaura. INCLIVA
Luna Porta Campos. INCLIVA
Veronica García Oliver. INCLIVA
Cristina Jordá Guerola. INCLIVA

Data managers
Ana Vercher Grau. INCLIVA
Ignacio Castaño López. INCLIVA
Beatriz López Montero. INCLIVA

Administrative assistant
Helen Manzaneda López. INCLIVA

INCLIVA is the only hospital in Valencia performing Phase I cancer clinical trials, and one of the few in Spain. Phase I trials are those in which a substance or product is tested in humans for the first time.

INCLIVA is conducting, through the Oncology and Hematology Department, 158 clinical trials, 86 of them related to treatment in the early stages of testing (33 phase I or “first in human” and 53 phase II). INCLIVA’s new facilities provide a full floor and a half specifically dedicated to host the unit.

The unit aims to develop and select new drugs through clinical trials and to perform studies related to the pathogenesis, prognosis and new experimental therapies in solid tumors.

FUNCTIONS
The unit implements early clinical trials with experimental agents in the field of Oncology.

EQUIPMENTS
• -80º C Freezer
• -20º C Freezer
• Refrigerated desktop centrifuge
• Scientific refrigerator
• Conventional fridge
• Defibrillator
• Electrocardiographic equipment
• 7 monitors [blood pressure, heart rate and O2 saturation]
• 7 double medication infusion pumps
• 7 heads gases [oxygen and vacuum]

LOCATION
The following facilities are located on the second floor:
• Reception and waiting room
• 2 Consulting rooms
• Staff room
• Meeting room
• Therapy room

The third floor hosts the following facilities:
• Clinical trials office
• Monitoring room
• Clinical trials archives

RESEARCH PROJECTS AND GRANTS FOR RESEARCH
Reference: PT17/0017/0003
Title: Clinical Research and Trials Platform
Principal Investigator: Andrés Cervantes Ruipérez
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2017-2020
Total budget: €266.475
4 scientific activity

4.5.3. Innovation Platform ITEMAS

**Principal investigator**
Josep Redón i Mas. Hospital. University

**Collaborating Researchers**
Pedro Fernández Nohales. INCLIVA
Rafael Barajas Cenobio. INCLIVA
Justo Giner García. INCLIVA

<table>
<thead>
<tr>
<th>Indicators in 2019</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>National collaborations managed by the UAI that have been formalized through agreements</td>
<td>10</td>
</tr>
<tr>
<td>International collaborations managed by the UAI that have been formalized through agreements</td>
<td>2</td>
</tr>
<tr>
<td>Training activities, for IIS personnel, aimed at increasing competencies for the effective transfer of research results to healthcare practice</td>
<td>3</td>
</tr>
<tr>
<td>External diffusion events</td>
<td>19</td>
</tr>
<tr>
<td>Actions with companies to promote the innovation portfolio of the IIS</td>
<td>54</td>
</tr>
<tr>
<td>Projects requested to competitive national calls for innovation / knowledge transfer</td>
<td>22</td>
</tr>
<tr>
<td>Projects awarded through competitive external calls for innovation / knowledge transfer</td>
<td>9</td>
</tr>
<tr>
<td>Projects financed by internal innovation calls</td>
<td>3 (6,000€)</td>
</tr>
</tbody>
</table>

**Reference:** GIS17/00014
**Title:** Contract for management of research
**Principal Investigator:** Pedro Fernández Nohales
**Funding Body:** Instituto de Salud Carlos III
**Beneficiary Institution:** Fundación Investigación Hospital Clínico Universitario de Valencia
**Duration:** 2018-2020
**Total budget:** €80,598

**Title:** Banco de Patentes GVA
**Principal Investigator:** Andrés Cervantes Ruipérez
**Funding Body:** Generalitat Valenciana
**Beneficiary Institution:** Fundación Investigación Hospital Clínico Universitario de Valencia
**Duration:** 2019
**Total budget:** €10,000

**Reference:** INNTAL11/19/010
**Title:** Agente de Innovación INCLIVA
**Principal Investigator:** Fundación Investigación Hospital Clínico Universitario de Valencia
**Funding Body:** Agencia Valenciana de la Innovación
**Beneficiary Institution:** Fundación Investigación Hospital Clínico Universitario de Valencia
**Duration:** 2019-20
**Total budget:** €68,733

**RESEARCH PROJECTS AND GRANTS FOR RESEARCH**

**Reference:** PT17/0005/0017
**Title:** Innovation Platform ITEMAS-ISCIII
**Principal Investigator:** Josep Redón i Mas
**Funding Body:** Instituto de Salud Carlos III
**Beneficiary Institution:** Fundación Investigación Hospital Clínico Universitario de Valencia
**Duration:** 2018-2020
**Total budget:** €104,775
4.5.4. Spanish Clinical Research Network (SCReN), Clinical Research and Clinical Trials of the Clinical Trials Platform (UICEC INCLIVA)

Principal investigator
Andrés Cervantes Ruipérez. Hospital. University

Associated members
Julio Núñez Villota. Hospital. INCLIVA
Marta Peiró Signes. INCLIVA
María Carmen Román. INCLIVA
Dolores Iglesias Ferri. INCLIVA
Inmaculada Blasco Blasco. INCLIVA

Hired members
Ana Portolés Monzón. INCLIVA
Mireia Hernández Hernández. INCLIVA
Laura Silla Mira. INCLIVA
Mercedes Peris Costa. INCLIVA

UICEC participates in all activities related with the correct development of observational studies and clinical trials, in accordance with the applicable legal regulations and the standards of good clinical practice.

Currently, the portfolio of services includes, among others, the following activities:

1. Methodological and regulatory advice: collaboration tasks in the drafting of the protocol, CRF, Patient Information Sheet and Informed Consent and all documentation necessary for the correct development of the study in accordance with applicable regulations.

2. Start-up activities: in this phase the unit collaborate with economic viability evaluation; identification and selection of participating sites; submission to national and local authorities and Ethics Committee; contract management with the participating sites; monitoring plan; master file creation.

3. Development activities: project management activities, notifications; processing of amendments and reports; home visits; maintenance of file and monitoring visits.

4. Completion and closure activities: closing visits; resolution of queries, elaboration of final reports.

ACTIVITIES DEVELOPED

During 2019, UICEC had collaborated with the development of the following clinical trials and observational studies:

CLINICAL TRIALS

Study: ADAMPA
Title: Impact of self-measurement of blood pressure and self-adjustment of antihypertensive medication in the control of hypertension and adherence to treatment. A pragmatic, randomized, controlled clinical trial (ADAMPA Study)

EUCRACT: 2016-003986-25
Sponsor: Fundación Investigación Hospital Clínico Universitario de Valencia
Phase: Low intervention clinical trial

Study: BBLOQ-2017
Title: Betablockers withdrawal in patients with heart failure with preserved ejection fraction and chronotropic incompetence: effect on functional capacity and life quality
EUCRACT: 2017-005077-39
Sponsor: Fundación Investigación Hospital Clínico Universitario de Valencia
Phase: IV

Study: CECUM
Title: Efficacy of high-dose corticosteroid pulses added to conventional oral corticosteroid course in comparison with monotherapy oral corticosteroid course for moderate flares of ulcerative colitis: a randomized multicentre clinical trial
EUCRACT: 2016-001170-15
Sponsor: Grupo Español de Trabajo en Enfermedad de Crohn y Colitis ulcerosa (GETECCU)
Phase: IV

Study: CETUPANC
Title: Impact of the dissemination of the circulating tumor cells (CTCS) during the cephal duopancreatomy at the appearance of metastasis and survival in patients with tumors of pancreas and periampullars (CETUPANC Study)
Sponsor: Fundación Pública Andaluza para la Gestión en Salud de Sevilla (FISEV)
Phase: Intervention clinical trial
**Study:** CSIAl
**Title:** Randomized, masked, placebo-controlled study the effects of intralesional Adalimumab in intestinal stenosis of patients with Crohn’s Disease [CSIAl Study]
**EUCRACT:** 2012-001723-12
**Sponsor:** Fundación Clínica per a la Recerca Biomèdica
**Phase:** III

**Study:** DUOPAM-EPAM
**Title:** Duodenopancreatectomy in pancreatic and periam-pillary tumors: initial approach of the superior mesenteric artery versus classic approach. Prospective, randomized, multicenter study
**Sponsor:** Fundación Investigación Hospital Clínico Universitario de Valencia
**Phase:** Intervention clinical trial

**Study:** ELECLA
**Title:** Analysis of the effectiveness of neoadjuvant chemothera-py in treating colon cancer locally advanced
**EUCRACT:** 2016-002970-10
**Sponsor:** Jorge Arredondo Chaves, Complejo Asistencial Universitario de León
**Phase:** Low intervention clinical trial

**Study:** ESR-17-13447(DAPA-HF)
**Title:** Short-term effects of Dapagliflozin on Peak VO2 in pa-tients with heart failure with reduced ejection fraction
**EUCRACT:** 2018-002614-12
**Sponsor:** Fundación Investigación Hospital Clínico Universitario de Valencia
**Phase:** IV

**Study:** EXIT
**Title:** Suspension of anti-tnf treatment in patients with intestinal inflammatory disease: multicenter, prospective and randomized clinical trial
**EUCRACT:** 2015-001410-10
**Sponsor:** Fundación de Investigación Biomédica Hospital Universitario de la Princesa
**Phase:** IV

**Study:** FOREST
**Title:** Randomized, multicenter, open, controlled clinical trial, in phase III, to evaluate the efficacy of phosphomycin vs mero-penem or ceftriaxone in the directed treatment of bacteremic urinary infection by multiresistant Escherichia Coli
**EUCRACT:** 2013-002922-21
**Sponsor:** Fundación Pública Andaluza para la Gestión en Salud de Sevilla (FISEVI)
**Phase:** II

**Study:** HaploMUD Study
**Title:** Matched Unrelated vs. Haploidentical Donor for Allo-geneic Stem Cell Transplantation in Patients with Acute Leu-kemia with Identical GVHD Prophylaxis – A Randomized Pro-spective European Trial
**EUDRACT:** 2017-002331-41
**Sponsor:** University Medical Center Hamburg-Eppendorf Investigator Initiated Trial (IIT) (financial support by DKMS)
**Phase:** II

**Study:** INCLIVA SCIENTIFIC REPORT 2019

**Study:** MOOSCA FRAIL
**Title:** Randomized comparison between the invasive and con-servative strategies in elderly frail patients with non-ST eleva-tion myocardial infarction: The MOSCA-FRAIL Clinical Trial
**Sponsor:** Fundación Investigación Hospital Clínico Universitario de Valencia
**Phase:** Intervention clinical trial

**Study:** MYOCARDIALIRON
**Title:** Changes in myocardial iron content following adminis-tration of intravenous iron
**EUCRACT:** 2016-004194-40
**Sponsor:** Fundación Investigación Hospital Clínico Universitario de Valencia
**Phase:** IV
OBSERVATIONAL STUDIES

Study: DNO-IBR-2018-01
Title: Virology and immunology of cytomegalovirus (CMV) infection in patients with hematological malignancies in the time of new biotherapies.
Sponsor: Fundación Investigación Hospital Clínico Universitario de Valencia
Phase: EPA-AS

Study: FIS-ANT-2017-01
Title: Optimization of antibiotic treatment in recipients of allogenic LIIN transplantation: impact on the intestinal microbiota and on clinical results.
Sponsor: FISEVI- Fundación Pública Andaluza para la gestión de la Investigación en Salud de Sevilla
Phase: EPA-SP

Study: FIS-BAZ-2012-01
Title: Action of bazedoxifen about bone metabolism and the risk factors cardiovascular
Sponsor: Antonio Cano Sánchez
Phase: EPA-SP

Study: GOLD 0-DLCO 1
Title: GOLD 0 - DLCO 1: A look beyond obstruction. Is spirometry sufficient in COPD screening?
Sponsor: Fundación Investigación Hospital Clínico Universitario de Valencia
Phase: No-EPA

Study: INC-ACO-2013-01
Title: Prospective observational study of the perioperative management of direct oral anticoagulants (DOAC)
Sponsor: Fundación Investigación Hospital Clínico Universitario de Valencia
Phase: EPA-AS

Study: JMA-CO-2019-01
Title: Functional evaluation of Cochlear Osia implant in patients with moderate mixed hearing loss.
Sponsor: Jaime Marco Algarra
Phase: Post-marketing study of the prospective monitoring of CE-marked medical devices.
4 scientific activity

Study: JSC-TAB-2015-01
Title: Effectiveness of an intensive smoking treatment program on the serious exacerbations of smoking patients with moderate-severe EPOC
Sponsor: Jaime Signes Costa
Phase: EPA-SP

Study: TFK-RAM-2018-01
Title: Macrophages associated with tumor, tumor angiogenesis and resistance to therapies in diffuse gastric cancer mesenchymal phenotype
Sponsor: Tania Fleitas Kanonnikoff
Phase: EPA-AS

PUBLICATIONS

ADAMPA


DUOPAN-EPAM


IMPROVE

RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Reference: PT17/0017/0003
Title: Spanish Clinical Research Network (SCReN)
Principal Investigator: Andrés Cervantes Ruipérez
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2018-2020
4.5.5. PRECISION MEDICINE UNIT

The Precision Medicine Unit was established in March 2018. Since then, the group have developed a robust and wide portfolio of services to support research at INCLIVA.

To date, the unit closely collaborates with the Oncology Phase I Clinical Trial Unit. Together we have developed an integrated screening system to support personalized patient care and hence implementing the latest techniques into the clinical practice. In addition, the unit currently collaborates in several research projects from different groups at INCLIVA.

The group integrates professional profiles from multiple disciplines (Medical Oncology, Molecular Biology, Bioinformatics and Biochemistry) with large professional experience in Human Genetics and Genomics.

Molecular Biology techniques and Bioinformatics analyses can be ordered either together or separately.

FUNCTIONS

Our mission is to impulse, promote and execute quality translational research offering support in Molecular Biology as well as in Data Analysis techniques to the scientific community.

EQUIPMENT

LABORATORY

- Two massive sequencers with illumina chemistry: MiSeq and NextSeq550
- iScan System to scan illumina microarrays
- nanoString n-Counter platform
- Biorad ddPCR
- Quantitative thermalcycler
- Standard thermalcyclers
- TapeStation system to visualize DNA and RNA
- Laminar cabins, centrifuges, heat blocks, ovens, etc.

BIOINFORMATICS

- High capacity computing servers [48 threads, 192GB RAM ECC, 2TB SSD, 45TB work space]
- Backup system (45TB disk cabinet)

LOCATION

- Laboratories: Facultad de Medicina, Avenida Blasco Ibáñez 15, Pastilla 2, Segunda Planta, Pasillo UCIM, Laboratorio 1
- Bioinformatics: INCLIVA, Floor 0, Bioinformatics Unit

SERVICES

1. Next-Generation Sequencing (NGS)
   - Design, development, validation and sequencing of custom gene panels
   - Exome sequencing and analysis
   - Whole-genome sequencing
   - Sequencing small genomes “de novo”
   - RNA-sequencing (total RNA, poly(A) fraction, rRNA depleted…)
   - Microtranscriptome sequencing (smallRNA/miRNA…)

2. Microarrays
   - Genotyping arrays (laboratory + analysis)
   - Methylation arrays (laboratory + analysis)

3. Digital PCR

4. nanoString platform (laboratory + analysis)

5. Other molecular biology techniques
   - Nucleic acid isolation
   - Uniplex and Multiplex PCR
   - Quantitative PCR

6. Additional services
scientific activity

7. Advice and methodological support in writing protocols, research project proposals, scientific papers.
8. Mentoring of bachelor, master and doctorate students.
9. On demand training.
10. Consulting services.

DEVELOPED ACTIVITIES

516 oncologic patients have been molecularly tested to select the best treatment.

RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Title: Precision medicine in oncology: development of new technological approaches for personalized treatments in Immunotherapy
Principal Investigators: Desamparados Roda and Sheila Zúñiga
Funding Body: Fundación FERO
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2021
Total budget: €240.000
Reference: PI18/01909

Title: Precision Medicine in localized colorectal cancer patients: liquid biopsy-based multiomic approach in Minimal Residual Disease and organoids
Principal Investigators: Andrés Cervantes and Desamparados Roda
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2021
Total budget: €140.000
Reference: PI18/01508

Title: Macrophages associated with tumor, tumor angiogenesis, and resistance to therapies in Gastric Cancer Diffuse Mesenchymal phenotype
Principal Investigators: Tania Fleitas
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2021
Total budget: €99.000

PUBLICATIONS

4.5.6. BIOINFORMATICS AND BIOSTATISTICS

**Coordinators**
Miguel Herreros Martínez. INCLIVA
Sheila Zúñiga Trejos. INCLIVA

**Technician**
Juan Antonio Carbonell Asins. INCLIVA

**Researchers**
Jorge Martín Arana. INCLIVA

The Bioinformatics and Biostatistics Unit was created in 2013. Since then, the unit integrates qualified data analysts and a high performance computational infrastructure to support biomedical research. The unit is mainly dedicated to analyzing data from omics experiments, but also actively collaborates in different research projects, providing advice and support to researchers in the design, workflow implementation and analysis of experiments.

**FUNCTIONS**

Our mission is to promote and execute high quality translational research offering both methodological and analytical support.

**EQUIPMENT**

INCLIVA has a computing facility with 100 cores, 400GB of RAM memory, 80TB of redundant network storage and 20TB of fast non redundant storage local to the nodes for high I/O processes like short read alignments or variant calling from bam files.

**SERVICES**

Made-to-measure analytical and computing solutions to drive your research.

Our mission is to promote and execute high quality translational research offering both methodological and analytical support. To do so, we provide a competitive portfolio including:

1. **Bioinformatics services:**
   - Analysis of gene panels, exomes and genomes (SNVs, indels, CNVs) in both germline and somatic samples
   - Design and validation of gene panels
   - De novo’ assembly of small genomes
   - ‘De novo’ assembly of transcriptomes
   - RNA-Seq data analysis (gene and isoform quantification, differential expression analysis, variant identification, fusion genes)
   - Microarray data analysis (both expression and methylation arrays)
   - Functional enrichment analysis (identification of biological functions, cellular components or molecular functions with gene ontology terms, identification of altered metabolic pathways or related diseases)
   - Complex network data integration, analysis and visualization

2. **Biostatistics services:**
   - Design of clinical and epidemiological studies
   - Sample size estimation
   - Simulation techniques
   - Supervised and unsupervised analysis techniques
   - Predictive modelling

3. **Computing and storage services:**
   - Access to high performance computing (HPC) infrastructure
   - Data storage
   - Deployment, management and maintenance of computing infrastructure owned by our research groups in our data centre

4. **Additional services:**
   - Advice and methodological support to write protocols, research project proposals, articles, doctoral/MSc/BSc thesis
   - Data mining and exploratory analysis of public databases
   - Graphical representation of research results
   - Curation and analysis of databases
   - Training on demand
   - Consulting
RESEARCH PROJECTS AND GRANTS FOR RESEARCH

Title: Precision medicine in oncology: development of new technological approaches for personalized treatments in Immunotherapy
Principal Investigators: Desamparados Roda and Sheila Zúñiga
Funding Body: Fundación FERO
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2021
Total budget: €240,000

Reference: PI18/01909

Title: Precision Medicine in localized colorectal cancer patients: liquid biopsy-based multiomic approach in Minimal Residual Disease and organoids
Principal Investigators: Andrés Cervantes and Desamparados Roda
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2021
Total budget: €140,000

Reference: PI18/01508

Title: Macrophages associated with tumor, tumor angiogenesis, and resistance to therapies in Gastric Cancer Diffuse Mesenchymal phenotype
Principal Investigators: Tania Fleitas
Funding Body: Instituto de Salud Carlos III
Beneficiary Institution: Fundación Investigación Hospital Clínico Universitario de Valencia
Duration: 2019-2021
Total budget: €99,000

PUBLICATIONS

5. Clinical trials and other studies

5.1 Activity of the Ethical Committee for investigation with medicinal products (CElm)

5.2 Clinical research activity performed by Valencia Clínico-Malvarrosa Health Department
5.1. Activity of the Ethical Committee for investigation with medicinal products (CEIm)

The Ethics Committee for investigation with medicinal products is an independent board with a multidisciplinary composition whose main purpose is to oversee the protection of the rights, safety and well-being of subjects participating in clinical studies and biomedical research projects.

As a result of its activity along 2019, the CEIm has processed a total of 34 studies (clinical trials and observational studies): 32 positively valued and 2 are in the process of evaluating the response to the requested clarifications.

Of the 32 approved studies, 3 were approved in the first evaluation and 29 after requesting clarification from the promoter.

Of the 12 clinical trials with drugs evaluated, 2 have been evaluated through the Voluntary Harmonisation Procedure (VHP) process.

The following table shows the number of clinical trials and other studies according to their typology.

### TYPES OF EVALUATED STUDIES

<table>
<thead>
<tr>
<th>Types of Evaluated Studies</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Trials with Medicinal Products</td>
<td>12</td>
</tr>
<tr>
<td>Phase I</td>
<td>1</td>
</tr>
<tr>
<td>Phase II</td>
<td>8</td>
</tr>
<tr>
<td>Phase III</td>
<td>2</td>
</tr>
<tr>
<td>Phase IV</td>
<td>1</td>
</tr>
<tr>
<td>Clinical Trials with Medical Devices</td>
<td>2</td>
</tr>
<tr>
<td>Observational Studies with Medicinal Products</td>
<td>18</td>
</tr>
<tr>
<td>Post-authorization Studies other Designs: EPA-OD</td>
<td>8</td>
</tr>
<tr>
<td>Post-authorization Studies promoted by Health Authorities: EPA-AS</td>
<td>1</td>
</tr>
<tr>
<td>Post-authorization Studies inked to market authorization: EPA-LA</td>
<td>0</td>
</tr>
<tr>
<td>Post-authorization Studies with prospective follow-up: EPA-SP</td>
<td>9</td>
</tr>
<tr>
<td>Observational Studies with Medical Devices</td>
<td>2</td>
</tr>
<tr>
<td>Research Projects</td>
<td>154</td>
</tr>
<tr>
<td>Total</td>
<td>188</td>
</tr>
</tbody>
</table>

### TYPES OF EVALUATED STUDIES

- Clinical Trials with Medicinal Products: 6%
- Clinical Trials with Medical Devices: 1%
- Observational Studies with Medicinal Products: 10%
- Observational Studies with Medical Devices: 1%
- Research Projects: 82%
## Clinical Trials

Distribution of the clinical studies depending on the department where they are performed is the following:

<table>
<thead>
<tr>
<th>Clinical Trials by Department</th>
<th>Nº</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tutelage</td>
<td>6</td>
</tr>
<tr>
<td>Anaesthesiology and Reanimation</td>
<td>3</td>
</tr>
<tr>
<td>Oncology</td>
<td>3</td>
</tr>
<tr>
<td>Digestive Medicine</td>
<td>3</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>2</td>
</tr>
<tr>
<td>Gynecology</td>
<td>2</td>
</tr>
<tr>
<td>Cardiology</td>
<td>2</td>
</tr>
<tr>
<td>Nephrology</td>
<td>2</td>
</tr>
<tr>
<td>Primary Care</td>
<td>1</td>
</tr>
<tr>
<td>General Surgery</td>
<td>1</td>
</tr>
<tr>
<td>Dermatology</td>
<td>1</td>
</tr>
<tr>
<td>Endocrinology and Nutrition</td>
<td>1</td>
</tr>
<tr>
<td>Hospital Pharmacy</td>
<td>1</td>
</tr>
<tr>
<td>Haematology</td>
<td>1</td>
</tr>
<tr>
<td>Intensive Medicine</td>
<td>1</td>
</tr>
<tr>
<td>Microbiology</td>
<td>1</td>
</tr>
<tr>
<td>Neurology</td>
<td>1</td>
</tr>
<tr>
<td>Otolaryngology</td>
<td>1</td>
</tr>
<tr>
<td>Urology</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>34</td>
</tr>
</tbody>
</table>

## Research Projects

Distribution of the research projects depending on the department where they are performed is the following:

<table>
<thead>
<tr>
<th>Research Projects by Department</th>
<th>Nº</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oncology</td>
<td>24</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>13</td>
</tr>
<tr>
<td>Cardiology</td>
<td>12</td>
</tr>
<tr>
<td>General Surgery</td>
<td>11</td>
</tr>
<tr>
<td>Haematology</td>
<td>9</td>
</tr>
<tr>
<td>INCLIVA Research Groups</td>
<td>8</td>
</tr>
<tr>
<td>Pneumology</td>
<td>7</td>
</tr>
<tr>
<td>Anaesthesiology and Reanimation</td>
<td>6</td>
</tr>
<tr>
<td>Nursery</td>
<td>6</td>
</tr>
<tr>
<td>Endocrinology and Nutrition</td>
<td>5</td>
</tr>
<tr>
<td>Microbiology</td>
<td>5</td>
</tr>
<tr>
<td>Gynecology</td>
<td>4</td>
</tr>
<tr>
<td>Intensive Medicine</td>
<td>4</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>4</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>4</td>
</tr>
<tr>
<td>Pathological Anatomy</td>
<td>3</td>
</tr>
<tr>
<td>Primary Care</td>
<td>3</td>
</tr>
<tr>
<td>Urology</td>
<td>3</td>
</tr>
</tbody>
</table>
5.2. Clinical research activity performed by Valencia Clínico-Malvarrosa Health Department

5.2.1. Activity during 2019

INCLIVA Health Research Institute manages the clinical studies (trials, observational studies, and research projects) carried out by the Hospital Clínico Universitario de Valencia and the Valencia Clínico-Malvarrosa Health Department researchers.

As a result of its activity along 2019, the INCLIVA has managed a total of 159 studies (clinical trials and observational studies).

The distribution of these trials by phase is: Phase I: 17, Phase II: 43, Phase III: 43, Phase IV: 7, Observational studies: 42, others: 7. The following table shows the number of clinical trials and other studies according to their phase and department.

<table>
<thead>
<tr>
<th>Department</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ophthalmology</td>
<td>3</td>
</tr>
<tr>
<td>Digestive Medicine</td>
<td>3</td>
</tr>
<tr>
<td>Oral and maxillofacial surgery</td>
<td>2</td>
</tr>
<tr>
<td>Thoracic Surgery</td>
<td>2</td>
</tr>
<tr>
<td>Dermatology</td>
<td>2</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>2</td>
</tr>
<tr>
<td>Neurosurgery</td>
<td>2</td>
</tr>
<tr>
<td>Tutelage</td>
<td>2</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>1</td>
</tr>
<tr>
<td>Rheumatology</td>
<td>1</td>
</tr>
<tr>
<td>Nephrology</td>
<td>1</td>
</tr>
<tr>
<td>Orthopaedic and Traumatology Surgery</td>
<td>1</td>
</tr>
<tr>
<td>Clinical Analyses</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>159</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Phase I</th>
<th>Phase II</th>
<th>Phase III</th>
<th>Phase IV</th>
<th>Others</th>
<th>Observational</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiology</td>
<td>-</td>
<td>5</td>
<td>-</td>
<td>3</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Digestive Medicine</td>
<td>-</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Haematology</td>
<td>3</td>
<td>6</td>
<td>6</td>
<td>1</td>
<td>-</td>
<td>18</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>-</td>
<td>4</td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>11</td>
</tr>
<tr>
<td>Nephrology</td>
<td>-</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Neurology</td>
<td>-</td>
<td>6</td>
<td>2</td>
<td>-</td>
<td>5</td>
<td>13</td>
</tr>
<tr>
<td>Oncology</td>
<td>14</td>
<td>26</td>
<td>15</td>
<td>-</td>
<td>1</td>
<td>58</td>
</tr>
<tr>
<td>Others</td>
<td>-</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>17</td>
</tr>
<tr>
<td>TOTAL</td>
<td>17</td>
<td>43</td>
<td>43</td>
<td>7</td>
<td>7</td>
<td>159</td>
</tr>
</tbody>
</table>
The Department of Medical Oncology leads the number of trials performed in INCLIVA. It is followed by the departments of Haematology, Neurology, Digestive Medicine and Cardiology. These five services make over 70 % of the total processed trials.

Regarding the distribution of studies per promoter, 48 trials are considered Independent Clinical Research (trials from associations, groups, foundations, and private individuals), 11 of which have been promoted by researchers from the Hospital Clínico Universitario de Valencia and INCLIVA and the rest of them have been promoted by the pharmaceutical industry.

<table>
<thead>
<tr>
<th>PROMOTOR</th>
<th>Nº</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOSPITAL CLÍNICO UNIVERSITARIO DE VALENCIA RESEARCHERS AND INCLIVA</td>
<td>11</td>
</tr>
<tr>
<td>INDEPENDENT CLINICAL RESEARCH</td>
<td>48</td>
</tr>
<tr>
<td>COMERCIAL RESEARCH</td>
<td>100</td>
</tr>
</tbody>
</table>
5.2.2 Assessment activity during last 5 years

The table below shows the number of studies processed yearly.

<table>
<thead>
<tr>
<th>Year</th>
<th>Processed studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>120</td>
</tr>
<tr>
<td>2016</td>
<td>146</td>
</tr>
<tr>
<td>2017</td>
<td>143</td>
</tr>
<tr>
<td>2018</td>
<td>172</td>
</tr>
<tr>
<td>2019</td>
<td>159</td>
</tr>
</tbody>
</table>

One of INCLIVA's main goals is to develop clinical research at its early stages, thus contributing to translational research that moves scientific knowledge from bench to bedside. With this regard, during the period 2015-2019, Phase I and Phase II trials are prioritized and its number remains stable as shown in the table and graph below.

<table>
<thead>
<tr>
<th>PHASE</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>Phase I</td>
<td>12</td>
<td>17</td>
<td>13</td>
<td>20</td>
<td>17</td>
</tr>
<tr>
<td>Phase II</td>
<td>21</td>
<td>27</td>
<td>31</td>
<td>25</td>
<td>43</td>
</tr>
<tr>
<td>Phase III</td>
<td>37</td>
<td>49</td>
<td>46</td>
<td>67</td>
<td>43</td>
</tr>
<tr>
<td>Phase IV</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>7</td>
</tr>
<tr>
<td>Observational</td>
<td>37</td>
<td>42</td>
<td>43</td>
<td>51</td>
<td>42</td>
</tr>
<tr>
<td>Others</td>
<td>6</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>7</td>
</tr>
</tbody>
</table>

Evolution of clinical trial distribution by phase
5 clinical trials

5.2.3. Ongoing studies

During 2019, 508 studies have been active. The distribution of clinical trials per department analyzed below uses a semilogarithmic scale due to the great difference between the Department of Medical Oncology and the rest of the Departments.

<table>
<thead>
<tr>
<th>PHASE</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anesthesia and Reanimation</td>
<td>16</td>
</tr>
<tr>
<td>Cardiology</td>
<td>44</td>
</tr>
<tr>
<td>Digestive Medicine</td>
<td>44</td>
</tr>
<tr>
<td>Endocrinology</td>
<td>5</td>
</tr>
<tr>
<td>Gynecology and Obstetrics</td>
<td>7</td>
</tr>
<tr>
<td>Haematology</td>
<td>75</td>
</tr>
<tr>
<td>Infectious Diseases unit</td>
<td>5</td>
</tr>
<tr>
<td>Internal Medicine</td>
<td>11</td>
</tr>
<tr>
<td>Medical Oncology</td>
<td>211</td>
</tr>
<tr>
<td>Nephrology</td>
<td>11</td>
</tr>
<tr>
<td>Neurology</td>
<td>31</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>5</td>
</tr>
<tr>
<td>Primary Health Care</td>
<td>11</td>
</tr>
<tr>
<td>Respiratory Diseases</td>
<td>5</td>
</tr>
<tr>
<td>Others</td>
<td>27</td>
</tr>
<tr>
<td>TOTAL</td>
<td>508</td>
</tr>
</tbody>
</table>
The distribution of ongoing trials and other studies according to their typology are the following:

<table>
<thead>
<tr>
<th>PHASE</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase I</td>
<td>56</td>
</tr>
<tr>
<td>Phase II</td>
<td>111</td>
</tr>
<tr>
<td>Phase III</td>
<td>192</td>
</tr>
<tr>
<td>Phase IV</td>
<td>27</td>
</tr>
<tr>
<td>Observational</td>
<td>114</td>
</tr>
<tr>
<td>Other</td>
<td>8</td>
</tr>
</tbody>
</table>

![Graph showing the distribution of clinical trials by phase and type.]
initiatives
6. Initiatives for research promotion
   6.1 Grants for external fellowships
   6.2 Training and teaching activities
### 6.1. Grants for external fellowships

To allow researchers to acquire new knowledge for clinical and research techniques, INCLIVA promotes every year its Grants for research secondments in centers of excellence.

Since the establishment of this scholarship program, over 130 professionals have visited national and foreign centers. In 2019 the average number of awards was 13 outcomes and 14 incomings.

The awarded researchers and the assigned training centers in 2019 are shown in the following table:

<table>
<thead>
<tr>
<th>Awarded Researchers</th>
<th>Assigned Training Centers</th>
</tr>
</thead>
<tbody>
<tr>
<td>José Miguel Juanes Tébar</td>
<td>Andrea Cabrera Pastor</td>
</tr>
<tr>
<td>Universidad de Cambridge (Reino Unido)</td>
<td>Mario Negri Institute for Pharmalogical Research. Milán (Italia)</td>
</tr>
<tr>
<td>Iris Garrido Cano</td>
<td>Rebeca Burgos Panadero</td>
</tr>
<tr>
<td>Instituto Portugués de Oncología de Porto (Portugal)</td>
<td>Division of Translational Cancer Research. Faculty of Medicine, Lund University (Suecia)</td>
</tr>
<tr>
<td>Mª Mercedes Pardo Tendero</td>
<td>Maria Grau Pérez</td>
</tr>
<tr>
<td>Institute of Clinical Physiology (IFC) Italian National Research Council (CNR) Pisa (Italia)</td>
<td>Universidad De Cambridge (Reino Unido)</td>
</tr>
<tr>
<td>Birlipta Pattanayak Chaudhuri</td>
<td>Azahara Mª Fuentes Trillo</td>
</tr>
<tr>
<td>Federico II University Of Naples (Italia)</td>
<td>Yale University (EEUU)</td>
</tr>
<tr>
<td>Sheila Zúñiga Trejos</td>
<td>Ezequiel Monferrer Garzarán</td>
</tr>
<tr>
<td>The Institute of Cancer Research (Londres)</td>
<td>Instituto de Bioingenieria de Cataluña (IBEC)</td>
</tr>
<tr>
<td>José Gavara Doñate</td>
<td>Paula Cabello Navarro</td>
</tr>
<tr>
<td>Hospital St. Johannes de Drotmund (Alemania)</td>
<td>Royal College of Surgeons Ireland (Irlanda)</td>
</tr>
<tr>
<td>Pau Soldevila Martín</td>
<td></td>
</tr>
<tr>
<td>Zucker Hillside Hospital (New York -EEUU)</td>
<td></td>
</tr>
</tbody>
</table>

The incoming researchers in 2019 are shown in the following table:

<table>
<thead>
<tr>
<th>Incoming Researchers</th>
<th>Assigned Training Centers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nicoletta Zanaletti</td>
<td>Juliana Lopes Peixoto</td>
</tr>
<tr>
<td>Università Della Campania Luigi Vanvitelli, Nápoles</td>
<td>Hospital de Clínicas de Porto Alegre (Brasil)</td>
</tr>
<tr>
<td>Mª Mercedes Santos Sangüesa</td>
<td>Edoardo Mora</td>
</tr>
<tr>
<td>Laboratorios Kyowa Kirin</td>
<td>Universidad de Piamonte Oriental Amedeo Avogadro. [Italia]</td>
</tr>
<tr>
<td>Rocío Gumbau Rodenas</td>
<td>Fernando De Souza Pereira</td>
</tr>
<tr>
<td>Universidad de Valencia</td>
<td>Hospital de Clínicas de Porto Alegre (Brasil)</td>
</tr>
<tr>
<td>Guilherme Schunke Brondani</td>
<td>Aline Silvas Rodrigues</td>
</tr>
<tr>
<td>Hospital de Clínicas de Porto Alegre (Brasil)</td>
<td>Centro Universitário do Estado do Pará Cesupa (Brasil)</td>
</tr>
</tbody>
</table>
6.2 Training and teaching activities

INCLIVA and its researchers play an important role in the training of researchers and of health sciences degree and master students, which come from Valencian universities and other national and international regions.

The Institute has kept on developing, along the year, its annual training program. The courses, seminars and educational conferences that have been developed during the year 2019 are the following:

- **Congress (2)**
  - XII Congreso de la Sociedad Valenciano-Murciana de Cirugía Oral y Maxilofacial
  - Second Spanish Meeting on Oligonucleotide Therapeutics (SMOT2)

- **Courses (13)**
  - Debate Interactivo de Ginecología y Obstetricia
  - Anatomía quirúrgica aplicada de la mama y sus regiones ganglionares. Principios básicos de la oncoplastia en mama
  - Curso Anatomía Quirúrgica Aplicada Hepato-Bilio-Pancrética 8º Edición
  - Curso de introducción a la innovación y transferencia de conocimiento
  - 1er Curso Teórico-Práctico de Suelo Pélvico Hospital Clínico
  - Normativa de datos personales para proyectos de investigación biomédica
  - II Jornada de Investigación Clínica Translacional Post-ESMO 2019
  - Normativa de datos personales para proyectos de investigación biomédica

- **Scientific Conferences (19)**
  - Curso de Buenas Prácticas Clínicas (BPC) para investigadores
  - Diseño y elaboración de proyectos de investigación internacional
  - II Curso de Anatomía Quirúrgica Aplicada: aorta integral
  - II Curso de Anatomía Quirúrgica Aplicada: accesos vasculares periféricos
  - V Workshop Internacional de Ecografía y Resonancia Anorrectal

- **Seminars Meet the Expert (7)**
  - Jornada Genética Clínica y Enfermedades Raras para Atención Primaria
  - Jornada “Una realidad exponencial: Cronicidad y Estrategia Asistencial”
  - Jornada sobre Diabetes y Multimorbilidad
  - Nuevos retos en Onconefrología
  - Las patentes, herramienta clave para la investigación
  - 8ª Jornada de Actualización en Vacunas - Hospital Malvarrosa
  - Red CART - Hospital Clínico Universitario de Valencia
• Activate Science 2019
• Más allá del estudio DECLARE
• II Jornada valenciana del Pie Zambo
• Temas de actualidad en el Manejo de las Dislipemias
• II Jornada sobre Actualización en Trastorno Mental Grave” y todo en mayúsculas en “(TMG). Una visión multidisciplinar
• 11ª Jornada Valenciana Tabaquismo y Respiración
• III Jornada de Innovación en Diabetes de las Comunidades Autónomas
• Jornada VIH e ITS, dos epidemias convergentes.
• 1ª Jornada Científica en Actualización en Cirugía General
• Investigación en Prediabetes, Diabetes y Enfermedad Cardiovascular

Other activities in which INCLIVA participates (7)

• IV Jornada Científica de Residentes del Hospital Clínico Universitario de Valencia
• Programa Docente Unidad de Insuficiencia Cardiaca-Sesión V
• Festival de divulgación científica en bares “Pint of Science”
• III Nit Valenciana de les Investigadores
• Programa docente Unidad Insuficiencia Cardiaca
• Encuentro de pacientes y afectados de NMP
• I Encuentro INCLIVA-Asociaciones de pacientes de la Comunidad Valenciana

INCLIVA Seminars / Meet the Expert (7)

• Seminario INCLIVA - Dr. Ramón Bataller Alberola
• Seminario INCLIVA - Dr. Juan Navarro González
• Seminario INCLIVA - RAMCV: Dr. D. Antonio Culebras
• Seminario INCLIVA “Immune evasion and metastasis in colorectal cancer” Eduard Batlle, PhD
• Seminario multiómica en célula única.
• “La reacción hepática prometastásica del paciente con cáncer: implicaciones diagnósticas y terapéuticas”
• Molecular classification of CRC - from “definite optimistic” to “indefinite pessimistic”? 
Publicado el 29/07/2020
INCLIVA coordina un estudio para la detección precoz de la Enfermedad Pulmonar Obstructiva Crónica (EPOC)

INVESTIGADORES EMERGENTES

Felip Vilela Mitjana
communication
7. Communication
  7.1 Highlights
  7.2 Scientific report
7.1. Highlights

January

• A strategy facilitates the prognosis for the selection of patients with acute respiratory distress in clinical trials
• Researchers from INCLIVA and University of Valencia identify for the first time the relationship of a protein with resistance to treatment in gastric cancer
• INCLIVA develops with the support of the AVI a pioneering technique for the diagnosis of psychosis
• Professor Antonio Cano is elected President of the European Society of Menopause and Andropause
• INCLIVA coordinates an international project on gastric cancer

February

• A new model more accurately detects the risk of kidney injury in cardiac surgery
• There are currently few funds for research in childhood cancer
• APICEC is born, an association to give voice to patients with heart failure and cardiovascular diseases
• 11F: a date to make visible the role of women in science
• INCLIVA in collaboration with Bankia announces 10 Dual Training grants for medical and clinical research within the SANEC program
• INCLIVA, an international benchmark in cancer research and a pioneer in clinical trials
• 45% of Valencians have a chronic health problem

March

• INCLIVA consolidates its growth and scientific potential in 2018
• INCLIVA presents the economic and scientific results for the 2018 financial year at the Governing Board
• Sports training helps decrease age-related brain loss
• INCLIVA scholarships for training stays in prestigious centers increase their budget
• INCLIVA is recognized with the EU Seal of Excellence in Human Resources for Research
• The call for the Bankia Foundation’s SANEC 2019 program breaks the record for applications
• INCLIVA will receive 10 scholarship students from the SANEC Project of BANKIA
• INCLIVA and the Hospital Clínico de Valencia project for the early detection of breast cancer has been awarded
• INCLIVA brings together fifty European experts in cardiovascular big data
• Cerebrospinal fluid glucose and lactate concentrations, a prognostic marker in patients with traumatic brain injuries
• Two genes that predict the response to chemotherapy treatment in triple negative breast cancer have been identified

April

• An INCLIVA study confirms the relationship between hypothyroidism and infertility
• Early diagnosis of Alpha-1 antitrypsin deficiency is the key to prevent life-threatening pathologies of those affected
• Autistic brains share gene expression and abnormalities of biological pathways with cancer
• A European study associates the use of muscle relaxants with the increase in postoperative lung complications
• The implication of a family of microRNAs in the resistance to treatment in triple negative breast cancer is discovered
• Health Day: in defense of Public Health
• INCLIVA receives competitive aid from the Ramón Areces Foundation

May

• INCLIVA researchers participate in the development of an innovative therapy against leukemia and lymphoma
• The use of the ERAS protocol improves the results of patients undergoing colorectal surgery
communication

• A pioneering study manages to reduce the risk of end-stage kidney disease in diabetics by 30%
• NELA BioDynamics receives the award for the best StartUp in the Health & Bio category
• May 8: World Ovarian Cancer Day

June

• INCLIVA enters for the first time more than 10 million euros
• Vitronecin, the protein that could become a therapeutic target to treat neuroblastoma
• INCLIVA participates in the validation of a gene signature for the classification of patients with Colorectal Cancer

July

• The cervical plexus, anatomical target for the treatment of chronic postoperative pain
• INCLIVA and the Universitat de València meeting point for oncologists of the future
• INCLIVA Phase I Testing Unit receives GCP accreditation from the Health Department
• The Consell approves the joint purchase of laboratory supplies from the IIS La Fe, INCLIVA and FISABIO foundations
• INCLIVA develops an alternative security system for anesthesia in oral surgeries

September

• A research by the INCLIVA Inflammation Group finds a new pharmacological target for the treatment of aortic aneurysm
• The optimization of research models in rodents facilitates the development of analgesics for chronic pelvic pain, according to Dr Raúl Gómez
• European experts in health and big data address in Valencia the main challenges of the health sector
• INCLIVA’s Innovation Support Unit receives a grant from the Valencian Innovation Agency
• Recognition of the “Best publication derived from an ESMO grant in cancer research” at the European Cancer Congress
• An INCLIVA investigation will increase the survival rate in colon cancer through a liquid biopsy system to detect relapses
• The results of the PRINCE study on the global organization of neurocritical care are published
• INCLIVA’s Phase I Oncology Clinical Trials Unit turns 15, a pioneer in Spain and an international benchmark
• The Mutua Madrileña Foundation will support a study in pancreatic cancer that will be carried out in INCLIVA

October

• INCLIVA launches an awareness campaign on the importance of research in public health to save lives
• INCLIVA participates in the X National Biobank Congress that is being held today and tomorrow in Valencia
• INCLIVA joins the commemoration of World Anesthesia Day today
• A multi-center study, coordinated by INCLIVA, expands surgical options in pancreatic cancer
• INCLIVA begins today an intensive training course in colorectal cancer for oncologists in Latin America
• Valencia will host the II Spanish Meeting on Oligonucleotide Therapy (SMOT 2)
• INCLIVA hosts the II Post-ESMO Translational Clinical Research Conference 2019
• A research promoted by INCLIVA shows improvements in the treatment of acute heart failure and concomitant kidney failure
• INCLIVA researchers present their projects to investors in the first edition of VLC INNOSALUD
• The Spanish Society of Medical Oncology (SEOM) grants scholarships for two INCLIVA investigations, coordinated by Dr. Martínez and Dr. Fleitas
• Dr. Clara Bonanad, new President of the Geriatric Cardiology Section of the Spanish Society of Cardiology (SEC)
• Dr. Ana Lluch highlights before Breast Cancer Day that 85% of cases have a cure

November
• INCLIVA hosts the II Zambo Pie Conference, an intensive theoretical-practical course on its treatment
• INCLIVA researchers observe the local response to oxidative stress and the lack of oxygen induced by ischemic conditioning
• Dr. Ana Lluch is awarded by the College of Physicians in recognition of her professional career

December

• INCLIVA researchers carry out a dissemination activity on the risk factors and alarm symptoms of gastric cancer
• Resolution 1st Edition of the Ideas Competition of the Clinical Department-Malvarrosa
• The Hospital Clínico de Valencia applies the innovative CAR-T therapy against leukemia and lymphoma, which opens up hope for hitherto incurable patients
• INCLIVA researchers present at SMOT 2 their work to treat Type 1 Myotonic Dystrophy
• The Hospital Clínico de Valencia performs extreme liver surgery with the help of 3D printing of the tumor and liver of the patient
• I Update Day in Clinical Cardiology of the Valencian Society of Cardiology and INSVACOR
• The INCLIVA Health Research Institute of the Hospital Clínico de Valencia meets with patient associations to incorporate their proposals into research
• Dr. Fleitas, researcher at INCLIVA, explains the LEGACY project at the EULAC-PerMed Workshop, in Montevideo, on cooperation in personalized medicine
• INCLIVA research provides new data about brain disorders in psychiatric diseases
• INCLIVA’s Phase I Oncology Clinical Trials Unit, a pioneer in receiving the ISO 9001 certificate
• INCLIVA and PBM-Spain Agreement on Precision Medicine for patients with non-oncological pathologies
• The first phase of the OROTAPNN project ends successfully
7.2. Communication Indicators 2019

Press office

During 2019, INCLIVA issued a total of 80 press releases on the Web.

The most extensive media attention was generated by the oncology area together with the Transversal Program of Translational Oncology, while Dr. Ana Lluch is the researcher who appeared most frequently in the media.
communication

Social Media users 2019

- Facebook: 4,959
- Twitter: 3,265
- LinkedIn: 4,410

INCLIVA Website

Website users: 75,834
Website sessions: 147,926
Website new sessions: 50.51%

Outreach

- 53 Issued press releases
- 57 Newspieces on INCLIVA’s website
- 1,309 Total impact in digital and printed media
- 12 News on Radio

- 7 News on TV
- 6 Public engagement activities
- 275 Participants
social initiatives
8. INCLIVA social initiatives
   8.1 Philantropic projects
   8.2 Private philanthropic donations and acknowledgments
8. Social initiatives

In 2019, the Institute of Health Research of the Hospital Clíni-co de Valencia, INCLIVA, has launched an awareness campaign on the importance of health research to guarantee first-rate assistance in the field of public health and thus, save every time more lives.

Under the slogan ‘I support research’, which is part of its Pa-tronage Plan, INCLIVA affects the essential nature of research to achieve medical advances that translate into the improve-ment of the quality of life of all citizens.

These are the main highlights.

Patronage dossier

A dossier has been developed to present INCLIVA to poten-tial sponsors and patrons, which includes the work of some of the main researchers and collaboration formulas. This tool is updated and adapted according to the recipient, including the most related lines of research.

I Meeting with Patient Associations

Around 50 representatives from around twenty patient as-sociations attended the event to exchange knowledge and ex-periences with researchers. This initial contact will continue, throughout 2020, with new specific meetings between associ-ations and research groups related to their pathologies.

Awareness campaign “I support research”

The “I support research” campaign has been launched, with the starting point being the placement of the tarps on the facades of the Hospital Clínico de Valencia. This action is be-ing complemented by the publication of the project’s website (https://yoapoyoinvestigacion.es/), press office actions, and the dissemination and promotion of videos on social networks.
8.1 Philanthropic projects

**PROYECTO PAULA**

This project was set up in 2011 by Cristina Ponce, when her 8 year-old daughter Paula was diagnosed with type 1 diabetes mellitus, a disease that completely destroyed her insulin-producing cells.

*Proyecto Paula* focuses on raising public and private funds and resources, to research diabetes and to find a cure for Paula and other people with this illness.

INCLIVA has several groups dedicated to research in diabetes and belongs to the Biomedical Research Centre in Diabetes and Associated Metabolic Diseases (CIBERDEM), a public consortium led by Spain's excellence in research in diabetes and related metabolic diseases, as well as the translation of research results into clinical practice.

**FUNDACIÓN LE CADó**

*Fundación Le Cadó* was created in 2010 under the leadership of its president Elvira Monferrer Daudi. This initiative seeks to unite efforts and resources in supporting this kind of tumor research, which is currently the fourth leading cause of death in women.

*Fundación Le Cadó* collaborates with INCLIVA in funding the research project “Study of breast cancer in young women under 35 years,” conducted by Dr. Gloria Ribas. It also involves other researchers such as Dr. Isabel Chirivella (a genetic diagnosis specialist physician) and Ms. Carmen Peña Chilet, the entire team led by the oncologist Dr. Ana Lluch.
**NICO CONTRA EL CÁNCER**

The movement “Nico contra el cáncer” was formed in November 2015 in Ourense, after Nicolas Rodriguez Leal came home following a surgical intervention at the Hospital La Paz in Madrid.

The movement is led by his mother and aunts as an activity under the umbrella of the Asociación NEN, whose main objective is to finance research projects on childhood cancer, and more specifically solid tumors.

**FUNDACIÓN NEOBLASTOMA**

The Neuroblastoma Foundation, created in 2017, funds research on neuroblastoma, a particularly aggressive type of childhood cancer that affects the nervous system. Survival figures have not improved in recent years. The Neuroblastoma foundation informs families about existing treatments, and brings together families of sick children, motivating them to raise funds for research through numerous campaigns. The funds are destined to research projects and clinical trials in Spanish laboratories and hospitals.

**ASOCIACIÓN NACIONAL DE ALPHA 1**

The Alfa-1 Spain Association defends the interests of patients affected by the Deficit, their families and their caregivers, and promotes the research and training of health personnel who treat these patients. The defense of early diagnosis, access to available medical treatments and the daily support of patients and newly diagnosed, are its foundational tasks.
### Private donations

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### Corporative donations

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<td>Asociación para la Lucha Contra la Leucemia de la CV (ASLEUVAL)</td>
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social initiatives

Asociación Tiradas contra el Cáncer Memorial Vicente Estellés
Asociación Vivir Como Antes
Asociació contra el Càncer de Pego (Associació Esperança)
Autiber Motor, SL
Ayuntamiento de Real de Gandia
Biomed Central Ltd Springer Verlag London Limited
Británica de Automóviles, SL
British Car, SL
Canals contra el Cáncer
Construcciones Cisfercons, SLU
Doctaforum Servicios
El Conchel Original Food, SA
Fontanería Sorisoler
Forn Camí Nou
Fundación Bancaria La Caixa
Fundación Lecadó
Fundación Patrimonio Benéfico Marqués de Dos Aguas
GE Healthcare Biosciences, SA
Glaxosmithkline, SA
Grupo Español de Síndromes Mielodisplásicos
Hurtado
Ibérica de Automóviles, SL
Imperauto, S.L
Incyte Biosciences Iberia, SL
Junta Local contra el Cáncer de Llosa de Ranes
Logimed, SLU
Magestic Servicio 2013, SL
Palex Medical, SA
Queserías Romero Gozálbez, SL
Radiometer Ibérica, SL
Recordati Rare Diseases, SLU
Sanlúcar Fruit, SL
Scientia 2012 SLP
Sirtex Medical Europe GMBH
Sofpromed Investigación Clínica, SLU
SQR Medical Resources, SLU
Suministros Hospitalarios, SA
Valken Inversiones SL
Vifor Pharma España, SL
publications list
List of 596 scientific publications derived from the activity of the IIS


Rodríguez-Borja E, Corchon-Peyrallo A, Quinones-Torrelo C, Ramos-Tomas C. Acute kidney failure and discrepant values of urinary proteins: when the case is not “crystal clear”. Clinical Biochemistry. 2019 May; 67: 60-62. doi: 10.1016/j.clinbio-


4,4437126. IF: 7,163. 1Q-1D
Liu ZB, Ezzedine NE, Eterovic AK, Ensor JE, Huang HJ, Albanell


Liu ZB, Ezzedine NE, Eterovic AK, Ensor JE, Huang HJ, Albanell

1510-1512. doi: 10.1093/infdis/jiy746. PMID: 30597050. IF: 5.045, 1Q


INCLIVA SCIENTIFIC REPORT 2019

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Vila-Caballer M, González-Granado JM, Zorita V, Abu Nabah YN, Silvestre-Roig C, Del Monte-Monge A, Molina-Sánchez P, Ait-
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Rodríguez-Otero P, Mateos MV, Martínez-López J, Martín-Calvo N, Hernández MT, Ocio EM, Rosiñol L, Martínez R, Teruel AI, Gutiérrez NC, Bargay J, Bengeochea E, González Y, de Oteyza...


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1D


768. doi: 10.3389/fphar.2019.00768. PMID: 31354484. IF: 3.845. 1Q


Moreno I. Is it time to reconsider microbial health in ART?. BJOG. 2019 Jan; 126(2): 208. doi: 10.1111/1471-0528.15219. PMID: 29542278. IF: 5.193. 1Q-1D


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Álvarez-Guisasola F, Orozco-Beltrán D, Cebrián-Cuenca AM, Ruiz Quintero MA, Angulo Martínez E, Ávila Lachica L, Ortega...


Luperdi SC, Tabárés-Seisdedos R, Livianos L, Vieta E, Cuesta INCLIVA SCIENTIFIC REPORT 2019

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publication list


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74[10]: 3124. doi: 10.1093/jac/dkz331. PMID: 31377772. IF: 5.113. 1Q-1D


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9publication list


publication list


56. doi: 10.1007/s11657-019-0607-0. PMID: 31144117. IF: 2,469. 2Q


Santos E, Palau P, Guazzi M, de la Espriella R, Miñana G, Sanchis J, Bayes-Genis A, Lupón J, Chorro FJ, Núñez J. Usefulness of right ventricular to pulmonary circulation coupling as an indicator of risk for recurrent admissions in heart failure with preserved ejection frac-
9 publication list

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González-Darder JM, de Oliveira E. White matter relationships examined by transillumination technique using a lateral transcortical parietal approach to the atrium: three-dimensional images and surgical considerations. World Neurosurgery. 2019 Dec; 132: e783-e794. doi: 10.1016/j.wneu.2019.08.018. PMID: 31415888. IF: 1.723. 3Q


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