
COOPERATIVE SCIENTIFIC PLAN
2026 2030

Cooperative Scientific Plan

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1. Introduction

This document includes the scientific-cooperative cooperation project of the Institute for Biomedical Research and Innovation of Cádiz (INiBICA) for the five-year period 2026-2025, defining the actions contemplated in order to promote research activity of excellence in the Institute; to increase translational collaboration, both intramural (between research groups from different programmes) and intergroup (between research groups from the same programme) and extramural, with other institutions dedicated to R+i at national and international level, based on the III Strategic Plan of INiBICA.

The Cooperative Scientific Plan is considered a fundamental tool to manage the process of consolidation of INiBICA as a Health Research Institute (IIS) focused on improving people's health and the quality of public health care, based on the transfer of knowledge between professionals with healthcare and university activity for the improvement of clinical practice and improvement of the competitiveness of the productive sector. This document constitutes, therefore, a roadmap to promote and increase the cooperation and interrelation of research groups, therefore, their scientific production and impact on Cadiz society.

The Cooperative Scientific Plan has a general objective, segmented into specific objectives with different actions aimed at promoting collaboration between groups, diversifying their lines of research and innovation and improving the scientific production generated within the institute. All this should strengthen the capacities to attract resources and the impact of the results of the research carried out in the province of Cádiz, as the basis of a translational health institute whose vocation is accreditation by the ISCIII.

2. Scientific structure

2.1. Scientific programs

The Institute for Biomedical Research and Innovation of Cádiz (INiBICA) articulates its scientific-technical activity around six thematic programmes (P1-P5; A1) to which the different research groups are attached. Programs 1, 2 and 3 are considered pillars, while programs 4 and 5 are considered as transversal to all biomedical areas. The institute also has a transversal area for research groups on marine health and resources.

The Program Coordinators are integrated into the Internal Scientific Committee where they express and represent the opinions of the members that make up their areas and work with the INiBICA Management and other key figures in actions aimed at promoting clinical and university IP and co-IP strategies, formation of groups and junior staff (such as residents) to promote clinical lines of collaboration, as well as attracting and retaining talent. Among other actions, the Coordination of the Programmes has collaborated in the design of actions such as the 2023 Own Plan, where a line of collaborative projects was offered with the need to have research groups and proposals led by SAS and UCA IPs.

2.1.1. P1 - NEUROSCIENCE AND BEHAVIOR

2.1.1.1. Introduction

The Neuroscience and Behavior Program is oriented towards the study of disorders that directly or indirectly affect the central and peripheral nervous system as well as their repercussions on behavior. The Program focuses particularly on disorders with unmet needs for innovation in research and development of diagnostic and therapeutic strategies of all kinds. Specifically, the Program is interested in neurodevelopmental disorders, neurodegenerative diseases, neurological diseases in general, and mental health disorders. In short, the Programme aims to improve and increase scientific knowledge about the nervous system and behaviour in conditions of health and disease in order to offer proposals in this field that result in an improvement in the diagnosis, treatment and quality of life of people throughout the life cycle.

2.1.1.2. Gender composition and dimension

The composition of the Program and its lines of research can be seen in the following link on the INIBICA website

[Scientific Programs – INiBICA](#)

Programme 1 is currently made up of 129 people (53 clinicians and 76 preclinical or non-care), of whom 62% are women (80 people) and 38% men (49 people).

These data reflect an effort to achieve greater gender equality in the P1 programme. Although there is still a slight majority of male leaders and co-leaders in the associated and emerging groups, a gender balance is achieved in the consolidated groups, with a greater presence of women in leadership positions. It is important to continue working to promote gender equality and encourage the equal participation of men and women in leadership roles in all research groups of the P1 programme.

2.1.1.3. Situation Analysis

SWOT

Analysis

Weaknesses

- Low interdisciplinarity (clinical – non-clinical) within the Groups.
- Fewer clinical vs. non-clinical investigators, especially PIs.
- Clinical researchers integrated into consolidated or emerging groups with incipient or low scientific productivity, considered a handicap instead of an opportunity in the evaluation of projects.
- Some groups are still in the process of consolidation.
- At least up to the present time, some Groups have a low participation in the activities already initiated by the Programme.

Strengths

- Consolidated groups with fundraising capacity (public and private) and publications in Q1 even D1 in different thematic areas.
- Groups with a diversity of abilities: different units, and techniques, some of them unique to INiBICA.
- High motivation of researchers, with great openness of ideas that could favor intergroup and interdisciplinary collaboration.

- Given the heterogeneity in the composition of the Groups, we have the potential to establish interesting and novel synergies within the Programme. Future collaborations should have a clear clinical or translational focus.

Opportunities

- Given the heterogeneity in the composition of the Groups, we have the potential to establish interesting and novel synergies with the rest of the INiBICA Programmes.
- Stable collaborations of many Groups with other prestigious National and International Institutions: launch pad for Groups/Institutes in Horizon Europe and European/international calls.
- SAS-University initiatives towards transfer specifically in biomedicine.
- SAS-University initiatives to promote the research career of clinicians. (Program: of intensifications, María Castellano Arroyo, talent attraction).

Threats

- Current economic context: high competitiveness (local, regional, national, international, private); possible discouragement among researchers, even more so in those who have not yet had the opportunity to lead a competitive institutional project.
- High bureaucratization in research: it can also lead to discouragement.
- This program is considered within INiBICA as powerful and consolidated, so it could receive less stimulus from INiBICA itself compared to other programs: it can also lead to discouragement.
- High burden of care on clinical researchers.

2.1.1.4. Actions for the development of the programme

- Create a Program identity that encompasses all its areas.
- To increase the relationship between SAS/UCA researchers in order to promote a real increase in the translationality of research, which should be reflected in an increase in scientific productivity, fundraising and training activities for young people and seniors in the Programme.
- Integrate into national and international research networks or aggregations in our thematic area to promote the internationalization of the Program (it would increase Q1, H2020 publications).
- To increase the transfer activities of the Programme to transform knowledge into economic and social value (Conferences on research management, meetings with companies, projects with companies (CDTI, CPP)).
- Social Projection: To make current and reliable information available to the general population on the latest findings in the main diseases of the nervous system, their diagnosis and treatment. As well as behavioral patterns that influence quality of life and/or pathologies. Special emphasis will be given to the contributions made by the Programme.
- Increase social communication through the empowerment of patients and their associations in the thematic area of the Program. Special emphasis will be given to the contributions made by the Programme.

2.1.2. P2 - INFLAMMATION

2.1.2.1. Introduction

Program 2 is considered a pillar within the areas of INiBICA, being one of the programs with the largest number of affiliated groups. The Inflammation Program targets the inflammatory processes that are at the crossroads that define human health and disease, by directing the delicate balance of our immune system. The mission of the line is the multidisciplinary study of these inflammatory processes – cellular and molecular – in different pathologies, as well as the inflammatory agents that trigger them. It includes direct connections to areas such as immunology, microbiology, endocrinology, infectious diseases, and multisystem diseases, among others.

2.1.2.2. Gender composition and dimension

The composition of the Program and its lines of research can be seen in the following link on the INIBICA website

[Scientific Programs – INiBICA](#)

Program 2 is currently made up of 234 people (192 clinical and 42 preclinical or non-care), of which 53% are women (125 people) and 47% men (109 people).

In general, a predominant presence of male people is observed in the roles of group leaders and co-leaders in the P2 program. It is important to work towards greater gender equity and encourage the participation of women in leadership roles at all levels of research groups.

2.1.2.3. Situation Analysis

SWOT Analysis

Weaknesses

- A large number of groups that carry out similar activities.
- Lack of interaction with healthcare researchers, as well as between consolidated, emerging and associated groups.
- Need to determine or strengthen a priority line of research.
- Low research activity in the groups.

Strengths

- Young researchers with a desire for development, and attracting economic and human resources
- Lines of research with great interest in the biomedical and social fields.
- Collaborations with institutions abroad.

Opportunities

- Linking the basic activities with some aspects to be developed in clinical trials.
- The lines and studies can have a direct relationship with diseases of high social and economic impact

- Collaboration with healthcare and basic research groups could open up different lines of work.
- Networking at events of national and international prestige organized by different institutions, societies and Associations.

Threats

- Little collaboration between the different members.
- Lack of collaboration with pharmacology areas and powerful companies
- Lack of reinvestment in research activity by groups with the capacity to attract economic resources through clinical trials.
- Difficulty in obtaining funding that highlights the importance of R+i in this area.

2.1.6.4. Actions for the development of the programme

General objectives for the development of the PROGRAM

- Strengthen intramural cooperation and cohesion between research groups.
- To increase the quality and quantity of indexed scientific publications (JCR) with leadership from INiBICA.
- To promote participation in competitive national and European programmes.
- To promote knowledge transfer, innovation and collaboration with industry.
- To promote the training of human resources and the development of doctoral theses.
- To increase the visibility and social involvement of the programme through informative activities.

To achieve these objectives, the following specific objectives must be worked on:

Intramural strengthening and structuring of Program 2

- Establish priority lines of research within Program 2, aligned with the strategies of the AEI.
- To promote synergies between consolidated and emerging groups, through cooperative projects, co-supervision of research staff and joint activities.
- Carry out an analysis of the limitations and strengths of each group, in order to define specific improvement plans.
- Develop a group characterization plan to facilitate resource allocation and joint project planning.

Boosting scientific production

- To increase the quality and leadership of scientific publications by creating a technical and editorial support network.
- Establish direct incentives (e.g. funding for open access publications or temporary technical support) for groups with high scientific productivity.
- Promote the recruitment of human resources (HR) through competitive calls, encouraging co-tutelage work between groups with different research maturity.

Collaboration with industry and technology transfer

- Design a collaboration plan with companies and pharma industry by attending sectoral meetings and creating a list of interests and potential contributions by research group.
- To promote the identification and bidding of existing patents, as well as the development of new ones, with the support of the INiBICA Innovation Department.
- Promote interaction with companies interested in products or technologies generated by the groups.

Participation in European programmes

- Analyse the roadmaps of each group to detect common lines of action in European calls.
- To create the Inflammation-INiBICA node as a reference entity for joint participation in European consortia.
- Draw up a list of potential European partners by line of research and establish active networking to facilitate the presentation of collaborative proposals.

Promotion of research and clinical trials (EECC)

- Provide technical and administrative support to the groups involved in the development of EECC.
- To encourage the updating of clinical protocols within the groups with care activity, reinforcing the translationality of research.
- Establish minimum criteria for participation (fundraising, HR, EECC) and mechanisms for recognising research commitment.

Integration of Primary Care and Nursing staff

- To draw up a list of Primary Care centres interested in participating in research projects.
- Promote collaboration between these centres and Programme 2 groups, especially in multicentre projects.
- To promote the participation of nursing staff in translational projects and population cohorts.

Training, mentoring and development of doctoral theses

- To encourage the completion of doctoral theses within research groups by attracting HR (R1) and implementing co-supervision between groups.
- Develop mentoring seminars aimed at the compatibility of healthcare activity and research, especially aimed at residents (MIR, BIR, PIR, EIR).
- Define a career plan for R3 and R4 researchers, with a medium-term projection (2–5 years) to ensure their consolidation and success in competitive calls.

Teaching and dissemination activity

- Design an annual schedule of scientific seminars, in which each group gives at least one thematic session, including the invitation of external speakers.
- Maintain the high participation of Programme 2 in scientific dissemination activities, with regular sending of information on events to encourage citizen involvement.
- To promote collaboration with patient associations, integrating their contributions in the definition of priorities and project design.

For the evaluation and monitoring of these objectives, the following indicators will be measured annually, and their evolution will be monitored.

- Number and quality of JCR publications.
- Participation in competitive and European projects.
- HR recruitment and doctoral theses.
- Generation and bidding of patents.
- Outreach and collaboration with industry.
- The results will be evaluated annually, with a review of compliance with the objectives and readjustment of strategies according to the needs detected

2.1.3. P3 - ONCO-HEMATOLOGY

2.1.3.1. Introduction

The Oncohaematology Programme is aimed at developing research of excellence in relation to cancer, both clinical and translational, basic and public health, taking advantage of the potential synergy between the research groups that make it up. To achieve this, collaboration mechanisms are established between the different agents related to research, especially those directly located in our environment, and collaboration is promoted for the implementation of new lines of biomedical research on cancer.

The transfer of the results of cancer research is one of the pillars that are promoted in this programme as an inseparable part of the knowledge management system, with the aim of having a greater positive impact on the health of citizens.

2.1.3.2. Gender composition and dimension

The composition of the Program and its lines of research can be seen in the following link on the INIBICA website

[Scientific Programs – INIBICA](#)

Programme 3 is currently made up of 132 people (113 clinicians and 19 preclinical or non-care), of whom 59% are women (78 people) and 41% men (54 people).

In general, a majority presence of women is observed in the roles of group leaders and co-leaders in the P3 programme. However, it is important to continue to promote gender equality and ensure the equal participation of people of both genders at all levels of leadership in research groups.

2.1.3.3. Program Situation Analysis

SWOT

Analysis

Weaknesses

- Small center with more limited capacity to capture patients compared to nearby hospitals in other provinces, such as Seville and Malaga.
- Only emerging groups; There are no groups with a track record in consolidated research or innovation projects, which would increase the probability of attracting very competitive calls (international-European).

Strengths

- Growing participation in late-stage commercial clinical trials and good relations with companies in its groups, both pharma-biotech and technology companies (sensor development, etc.).
- Multidisciplinarity: the program has clinical and basic programs, the latter in various branches such as psychology or mathematics, which allow collaborations and networks to be established inside and outside the institute, with the possibility of generating differential projects for Cádiz.

Threats

- Clinical researchers have few human resources due to the high care load.
- The dispersion of health centres and university campuses makes it difficult for groups to interact, as they do not have their own building.

Opportunities

- Supervision of undergraduate, master's and doctoral theses by clinical and basic groups, which would allow, with the appropriate strategy, to promote collaborations.
- Possibility of attracting trials in an early phase from the incorporation of new members to the institute.
- INiBICA has a public health and epidemiology program made up of groups working in sports sciences, among others, which could open new intramural collaborations and differentiate INiBICA's activity at the national level.

2.1.3.4. Actions for the development of the programme

STRATEGIC OBJECTIVES

1. Generation of new risk prediction calculators/algorithms based on clinical and psychological variables.
2. Generation of new mathematical models in childhood cancer applied to oncology.
3. Start-up of early-phase clinical trials and increased participation in the late phase

ACTIONS

Organize an annual oncology conference to learn about and identify areas of collaboration with other INiBICA groups from other programs.

- To detect common training needs of the groups of the program to transfer to the Training Commission for the Institute's Plan of Activities.
- Establish at least one collaboration with Program 4 in Epidemiology and Public Health
- To dynamize seminars of the Clinical Trials Units of INiBICA (for now, H. Puerta del Mar and H. Jerez) in the area of oncology.
- Dissemination activity on childhood cancer with associations in Cádiz
- Organization of the onco-hematology area conference to present the work and progress of the area

2.1.4. P4 – EPIDEMIOLOGY AND PUBLIC HEALTH

2.1.4.1. Introduction

The Epidemiology and Public Health Programme is made up of a multidisciplinary group, with high motivation, ambition and scientific projection; they have a high capacity for disseminating research due to their scientific production, based on the number of articles published (Q1 and Q2) and their cumulative impact factor, and also a high possibility of transferring research findings to healthcare practice, due to their capacity for healthcare innovation.

It collaborates with other national and international clinical-epidemiological research centers and participates in different national and international networks in the field of epidemiology and public health.

2.1.4.2. Gender composition and dimension

The composition of the Program and its lines of research can be seen in the following link on the INIBICA website

[Scientific Programs – INiBICA](#)

Program 4 is currently made up of 195 people (122 clinicians and 73 preclinical or non-care), of whom 58% are women (114 people) and 42% men (81 people).

In general, a majority presence of women is observed in the roles of group leaders and co-leaders in the P4 program. However, it is essential to continue promoting gender equality and ensuring the equal participation of people of both genders at all levels of leadership in research groups.

2.1.4.3. Program Situation Analysis

SWOT Analysis

Weaknesses

- Professional instability of most researchers and technicians, which makes it difficult, among other things, to easily participate in competitive calls.
- Scarce and inadequate workspace
- Lack of knowledge of material resources and infrastructure of INIBICA.
- Limited access to the clinical data of patients in the public health system.
- Limited participation of clinicians in the lines of research due to excessive care load.
- Limited relationship with other INIBICA groups.
- Limited internal visibility of groups.

Strengths

- Multidisciplinary group, with high motivation, ambition and scientific projection.
- Demonstrated ability to disseminate the group's research in scientific production, based on the number of articles published (Q1 and Q2) and their cumulative impact factor.
- High possibility of transferring research findings to healthcare practice.
- Capacity for healthcare innovation.
- Demonstrated ability to attract financing.
- Demonstrated capacity for training doctors and researchers.
- Collaboration with other national and international clinical-epidemiological research centers that can be found in the publications.
- Mobility of researchers.
- Participation in different national and international networks in the field of epidemiology and public health.
- High percentage of female researchers.

Threats

- Viability of the groups due to job instability of researchers and unstable funding.
- Deficit of collaboration of the Andalusian Data Information System with university groups.
- Excessive dedication of researchers to bureaucratization tasks to the detriment of research.
- Feeling of integration problems in INIBICA due to lack of awareness of the research carried out in Primary Care.
- Prevalence of clinical research with respect to social and health research (Epidemiology and Public Health).
- Poor research culture of patients.
- Insufficient calls for public funding.
- Bioethics Committee of the University Hospital of Puerta del Mar.

Opportunities

- Possibility of stability of researchers and growth of groups.
- Possibility of improving facilities and workspaces through integration into INIBICA.
- Possibility of increasing collaboration with INIBICA groups.
- Possibility of increasing clinical research and access to health information, allowing the development of long-term follow-up studies.
- Possibility of increasing participation in projects of the National, Regional and European Plan.
- Promotion of research carried out by women.

2.1.4.4. Actions for the development of the programme

General objective

Strengthen INIBICA's epidemiology program by consolidating professional stability, improving infrastructure, increasing internal and external collaboration, and optimizing access to clinical data, in order to enhance multidisciplinary research, the transfer of results, and scientific visibility.

Specific Objectives and Actions

1. Improve professional stability and talent recruitment

Actions:

Design a job stabilization plan for researchers and technicians through agreements with institutions and funding programs.

Identify competitive calls (national, regional and European) and create an internal calendar to facilitate participation.

Implement a mentoring system for young researchers.

2. Optimize material resources and infrastructure

Actions:

To make an updated inventory of resources available in INIBICA and disseminate it among the groups.

Manage the expansion and adaptation of workspaces.

Request specific funding for equipment and spaces in calls.

3. Increase access to clinical data and collaboration with clinicians

Actions:

Design projects that integrate clinicians into research, offering incentives such as co-authorship and research training.

Create a joint committee (investigator-clinician) to define priorities and facilitate communication.

4. Encourage internal and external

collaboration Actions:

Organise scientific conferences to give visibility to the groups and their lines of research.

Create a digital repository of projects and publications accessible to all groups.

Enhance participation in national and international networks by identifying opportunities and administrative support.

5. Increase visibility and knowledge transfer Actions:

Develop a scientific communication plan (web, social networks, newsletters) to disseminate results and achievements.

Promote publication in high-impact journals and participation in international conferences.

Establish alliances with health entities to apply findings in care practice.

2.1.5. P5 - INNOVATIVE PROCEDURES AND THERAPIES - EMERGING

2.1.5.1. Introduction

The "Innovative Procedures and Therapies – Emerging" programme includes research groups that work on research and innovation, mainly in techniques for application in basic research and the development of new biomarkers and new drugs. among others.

These research groups are especially active not only in collaboration with other programs but also with INiBICA's central services such as biobanking, bioinformatics, etc.

2.1.5.2. Gender composition and dimension

The composition of the Program and its lines of research can be seen in the following link on the INiBICA website

[Scientific Programs – INiBICA](#)

The P5 program is coordinated by a clinical professional, Dr. García Rojo, head of the pathological anatomy service in the Health Management Area of Jerez, Northwest Coast and Sierra de Cádiz.

Program 5 is currently made up of 97 people (48 clinical and 49 preclinical or non-care), of which 53% are women (51 people) and 47% men (46 people).

2.1.5.3. Situation Analysis

SWOT Analysis

By carrying out the analysis of Weaknesses, Threats, Strengths and Opportunities (SWOT analysis) of the different groups that make up the P5 and a global vision of it, it is possible to know their situation and positioning both internally and in their environment. The main conclusions derived from this analysis are presented below.

Weaknesses

- In general, research is not perceived as an important product of the activity of professionals with a clinical profile.
- The interest and promotion of research is heterogeneous, which hinders collaboration between groups and the research activity itself.
- Some groups of basic researchers have a modest interaction with INiBICA healthcare researchers.
- Some lines of research in the programme have high future potential, but with limited clinical translation in the short term.
- High dependence on other groups for the development of certain technologies that require high specialization (microelectronics, nanomanufacturing, etc.).
- The number of lines of research in this program is very high.
- Difficulty in hiring or maintaining (instability) the contracts of the research staff members of the groups.
- There is a high teaching load in basic researchers.
- Some researchers work on different campuses (teaching/research), which reduces productivity.

- Some groups with excellent scientific production are considered emerging groups, due to lack of funding.
- Some groups are calling for improved communication with INiBICA Management to strengthen their lines.
- INiBICA must further enhance the interaction between clinical and basic researchers.

Strengths

- Some groups have accumulated experience of more than 10 years, and have a remarkable scientific quality, measured based on the number of articles published and their cumulative impact factor.
- Newly created groups have a high potential to achieve results in the short term.
- Groups often include established researchers alongside young researchers.
- Experience and application of multiple analysis techniques in basic research (from microscopy, flow cytometry, to massive sequencing or in vivo assays).
- Great capacity for interaction with other groups and/or companies.
- Multidisciplinary composition of many groups (existence of clinical and basic staff, doctors, surgeons, engineers, laboratory technicians, bioinformaticians, etc.), which favors the development of the Institute's translational research activities.
- Some groups of the programme do maintain a very active collaboration with other groups of INiBICA.
- Diversified lines of research with the capacity for innovation to bring clinically useful biotechnological products to clinical practice or to the market.
- Consolidated collaborations with other public entities (public research organisations, reference hospitals, universities and public administrations, etc.) and private entities (technology and pharmaceutical companies, etc.) for the development of multidisciplinary and cooperative scientific activity.
- There are professionals with experience in research management: coordinators of areas in research networks, project evaluators, etc.
- Collaboration with European and American groups and in international clinical trials.

Threats

- National and international competitiveness on the part of other groups and exclusive research centres. The current possibilities of obtaining funding for the lines closest to clinical research involve the participation of other groups, often from other Spanish regions or even abroad.
- Reduced budgets dedicated to R+D+i, which means a limitation in the allocation of resources to hire personnel and undertake projects.
- In general, there is no institutional framework that encourages stable research contracts.
- Collaboration with pharmaceutical companies does not reach the desired level in our environment.
- Shortage in the area of companies with technological capacity to scale our developments.

Opportunities

- Potential for growth and collaboration with other groups of the Institute, mainly between healthcare and basic researchers.
- The participation of researchers from the SAS of the University of Cádiz (UCA) offers the possibility of opting for various calls, increasing the probability of attracting resources for the development of scientific activities.
- The volume of patients accessible in the province of Cádiz facilitates the development of clinical research, since there is a very wide universe of study for the analysis of

various pathologies.

- INIBICA's capacity to provide service/technical support. The available techniques facilitate interaction with other lines of the Institute, most of which are made up of professionals in the field of health.
- Institutional support and experience in the transfer of results.
- Interest from other groups at local, national and European level to collaborate with INIBICA.
- New collaborations have been established with Andalusian and national groups, with advanced equipment, which could improve the effective translation of research results.
- Funding opportunities due to interest and prioritization in some of the program's lines of research.

2.1.5.4. Actions for the development of the programme

Scientific, innovation and translation objectives

The strategic objectives identified for the P5 programme are as follows:

- a) To generate knowledge in the area of health by applying tools and methods used in various areas of engineering or basic research methods and by providing innovative solutions.
- b) Understand the mechanisms of action and cellular response, including immunological aspects, in pathological situations, in order to modulate them and use them as cell therapy.
- c) To promote the transfer of knowledge and technology to the clinic through research in signal processing and medical or natural language images, the development of hardware and software, including artificial intelligence techniques, for the solution of problems in the area of health sciences and for the identification of technological development needs in this sector.
- d) To improve knowledge in the nanostructure of materials, tissue engineering and additive manufacturing.
- e) To promote research in optimization and safety in pharmacotherapy.
- f) To generate knowledge in the clinical field by designing and developing diagnostic tools, prognostics and decision support systems in the context of various pathologies of notable prevalence, proposing interventions of local, regional, national and international impact.
- g) To establish strategic alliances with research groups with common themes within INIBICA and other universities, with private companies and with the public sector, promoting scientific and academic cooperation with leading interdisciplinary groups at national and international level.
- h) To study the impact of the use of new technologies and management protocols in healthcare services
- i) To support the formative research of predoctoral and postdoctoral researchers.

Strategic challenges for the future

In order to strengthen and develop the P5 Innovative Procedures and Therapies program, it is necessary to meet the following objectives:

Strategic objectives related to research staff

- a) Increase predoctoral and postdoctoral staff.
- b) Increase the completion of doctoral theses.
- c) To promote the training stays of members in centres of international relevance.

Strategic objectives related to the lines of research

- a) Maintain the scientific productivity achieved in recent years.
- b) To promote collaboration with other research groups of the Institute, both clinical and basic, opening new collaborations or strengthening existing ones.

Strategic objectives related to financing

- a) To increase the participation of researchers in the leadership of funded projects, especially in national and international ones.
- b) To increase the collection of funds for research, which allow the hiring of research staff and the acquisition of equipment.
- c) Collaborate with companies and other local/regional agents, which can act as potential sources of financing and promotion of the lines of this program

Strategic objectives related to the provision of equipment

- a) Provide the group with the necessary equipment to undertake specific tasks.

Strategic objectives related to external projection and dissemination of results

- a) To promote transfer activities with the business sector, at provincial, regional, national and international level. To promote collaboration with pharmaceutical-biotechnology companies, whose activity is focused on the lines included in P5
- b) To promote networking at international and national level, establishing stable research relationships focused on the group's lines of research.
- c) To transfer research results by generating marketable patents and procedures that can be transferred to clinical practice.
- d) To consolidate themselves as international reference groups for the training of researchers from other centres, both national and international.

2.2. Strategic lines

2.2.1. E1 - HEALTH-ORIENTED SCIENCE-BUSINESS TRANSFER BASED ON MARINE RESOURCES

2.1.6.1. Introduction

The strategic line of health based on marine resources is transversal and is configured to mobilize interdisciplinary synergies that integrate groups from different programs, addressing complex biomedical problems based on marine resources and scientific collaborative strategies.

It is currently coordinated by the head of the CO10 group (Molecular Immunology and Gene and Cellular Immunotherapy) in collaboration with the group of Dr. Ignacio Ruiz-Jarabo, Senior Scientist at the Institute of Marine Sciences of Andalusia (CSIC). This strategic line takes advantage of the geographical location of the province of Cadiz, its relationship with the sea and the role of the UCA in this area. The UCA is one of the universities that make up SEA-EU, it has a Campus of International Excellence of the Sea (CEI· MAR) and with its own institute, the University Institute of Marine Research (INMAR).

Within the framework of this area of INiBICA, a variety of topics are raised: from the study of the effect of human activities on the environment (climate change, discharges, overexploitation of resources, taxonomy and diversity of species) and its impact on human health, to the evaluation of the bioactive properties of marine organisms and the design of new biotechnological strategies to exploit these properties to the development of new therapies against diseases based on molecules

derived from marine algae or marine invertebrates. In addition, it is

It drives the development of nanobodies or single-chain antibodies, available only in sharks (apart from camelids), as an innovative platform for next-generation diagnostic and therapeutic applications.

The evolution of the programme is currently reinforced by collaborations with non-INIBICA groups of the UCA and supported by the Scientific Directorate and Management of the programme with entities in the area that finance actions in favour of the development of this area, such as the Unicaja Foundation. In addition, a connection is beginning to be established with CEI·MAR and INMAR to promote common strategic lines or diversify their own a priori unrelated, to promote the capture of resources, R+i in this area and, of course, public-private collaboration in order to transfer knowledge and research results to the population. In this sense, it is worth highlighting the boost that the collaboration with the company Smart Talos Technologies S.L. has given to the Cadiz Hub initiative for the incorporation into the province of biomedical companies that settle in Cadiz and use INIBICA instruments, which has come to promote the Cadiz Free Trade Zone initiative that offers spaces in the province to companies dedicated to the blue economy.

2.1.6.2. Gender composition and dimension

The composition and its lines of research can be seen at the following link on the INIBICA website

[Scientific Programs – INIBICA](#)

As with other INIBICA programs, the line shows a commitment to gender equality and the promotion of diversity in leadership. Of the three main groups that make up the line, one of them is led by a woman (CO17 Group: Diabetes Mellitus – Autoimmunity and Chronic Complications), which shows the promotion of female leadership in clinical and translational areas. The CO10 Group, coordinator of the strategic line, has a very balanced gender composition (12 men and 11 women), being led by a basic researcher and highlighting the participation of women in the research team, as well as a wide representation of clinical researchers. For its part, the CO13 Group shows a clear diversity in its team, with the integration of several outstanding female researchers, illustrating the relevance and visibility of women in biomedical research.

This collective structure adds strategic value to the line, both for its gender balance and for the combination of multidisciplinary profiles (basic and clinical), in a context where equal opportunities and diversity enrich scientific production and innovation in health.

2.1.6.3. Situation Analysis

Taking into account the activity, the SWOT analysis shows its current situation.

Strengths

- Transversal and multidisciplinary nature of the line, with active collaboration between basic and clinical groups, and gender-balanced leadership.
- Generation and innovation in platforms of single-chain antibodies (nanobodies) derived from sharks, with unique diagnostic, therapeutic and industrial potential in the national environment.
- Direct biotechnological application of marine knowledge, including bio-inspired molecules from invasive algae and waste recovery for human health and environmental sustainability.
- Strategic location in an area that generates important marine resources Network of collaborations already active with marine institutions (CEIMAR, INMAR, SEA-EU, CSIC),

- Platforms Technological y Companies biotechnology, Promoting so much internationalization as transfer.
- Results that have generated patents and projects in execution with competitive national and international financing.

Weaknesses

- Despite the multidisciplinary interaction, there is still room to further strengthen the integration between basic and clinical research and transfer to business.
- Dispersion of groups and the need to consolidate emerging teams in key areas.
- Infrastructural and administrative constraints for project scaling (laboratories, access to marine compounds, regulatory).
- Emerging program with low availability of consolidated groups and limited access to patients compared to larger hospitals.
- Dependence in part on external alliances for some advanced technical resources (INMAR, CEIMAR, CSIC).
- Lack of clinical human resources due to high care load; geographical dispersion of centres makes collaborative work difficult.

Opportunities

- Possibility of exploiting underdeveloped niches in marine health, such as personalized immunotherapy based on marine nanobodies and biomedical solutions against inflammatory, chronic and infectious diseases.
- Growing social and political interest in the sustainable valorisation of marine resources and waste management, aligning biotechnological lines with environmental challenges.
- Access to specific financing in health through differential use of marine resources and alignment with national and European initiatives.
- Potential to attract young talent and train new generations of researchers in marine science and applied immunology.
- Networking at national/international events (Innovazul), opening to quality projects and public-private technology transfer.
- Attraction of innovative companies dedicated to biotechnology, health and marine resources to the Innovazul ecosystem in the Cadiz Free Trade Zone, through preferential and collaborative access to advanced instruments and scientific services offered by INiBICA.

Threats

- International competition in advances in biotechnology and marine health, especially from countries with more consolidated infrastructures.
- Bureaucratization and regulatory delays that can slow down the rapid transfer of scientific development to the applied and business environment.
- Risk of institutional lack of coordination or loss of relational and scientific capital if incentives and human/infrastructural resources are not reinforced.
- Variability in public funding for translational and frontier research.
- High care and teaching load and campus dispersion hinder research integration and productivity.

2.1.6.4. Actions for the development of the area

For the strengthening and development of the area of Marine Resource-Based Health, it is necessary to open new collaborations, or reinforce existing ones with:

- Consolidated and emerging groups of INiBICA, both clinical and basic
- UCA-CEI· Group MAR and INMAR who may be interested in the clinical translational experience
- Pharmaceutical-biotechnology companies, such as PharmaMar, whose activity focuses on the development of innovative therapies based on marine resources
- Companies and local/regional agents, which can act as potential sources of financing and promotion of the lines of this programme, such as the Unicaja Foundation
- To promote multidisciplinary collaborative networks that integrate both consolidated and emerging INiBICA groups with experts in marine biotechnology, thus facilitating the transfer of knowledge and the development of joint projects aimed at innovative clinical solutions.
- Promote cooperation with institutions such as UCA-CEI· MAR, INMAR and CSIC, taking advantage of their experience in marine research and orienting the work towards clinical translationality, through stays, staff exchanges and joint preclinical and clinical trials.
- Explore strategic alliances with leading biotechnology and pharmaceutical companies (e.g. PharmaMar), expanding the development of therapies based on marine resources through co-development agreements, shared licenses and access to innovative technology platforms.
- Expand the search for and incorporation of local, regional and national agents as potential sources of funding, including foundations, scientific societies and business promotion entities (e.g. Unicaja Foundation), establishing co-financing mechanisms and sponsorship programmes aimed at biomedical innovation.
- Implement crowdfunding initiatives and create digital platforms that allow the capture of private microfinance aimed at marine health projects, facilitating the direct participation of citizens, researchers and companies through blockchain mechanisms. The use of decentralized organization (DAO) based on smart contracts will ensure transparency and traceability in fund management, and allow key decisions on project financing, resource allocation, and priority line selection to be made in a participatory, secure, and efficient manner. This diversifies funding sources and promotes democratic innovation, expanding the programme's impact on society.
- Facilitate the formation of marine-health innovation clusters, which promote networking activities, thematic workshops, round tables and pilot projects focused on the sustainable use of marine resources for health.
- To promote the international visibility of the area's capacities, through participation in European consortia, Horizon Europe and Pathfinder projects and global blue biotechnology platforms, enhancing the positioning of Andalusia as a benchmark in sea-based health

3. Objectives, actions and indicators

3.1. General objective

To consolidate an integrated and transparent governance model between the University, the Regional Government of Andalusia and the IIS Management Foundation, which strengthens territorial cohesion, responsible participation (RRI) and the coordinated scientific leadership of INiBICA as an element of territorial cohesion and a reference in R+i in health at national and international level.

3.2. Specific objectives and actions

OE1. Ensure planning, transparency, and accountability.

In order to move towards evidence-based management and continuous evaluation, INiBICA will implement a **scorecard aligned with the new Technical Evaluation Guide (GTE) for IIS Accreditation of the ISCIII** and the Sustainable Development Goals. This system will make it possible to monitor the degree of compliance with the strategic and operational objectives, as well as the key performance indicators (KPIs) of each axis and action plan. Annual reports on results and accountability will be prepared and approved by the Governing Council and published to guarantee institutional transparency before the consortium entities and the public. The Institute will also advance in the automation and digitization of its administrative and data management processes, ensuring traceability, efficiency and alignment with open science and data governance regulations. All this will contribute to consolidating a **culture of strategic planning and institutional responsibility**, aimed at continuous improvement and the financial sustainability of the Institute.

The actions that will be developed are the following:

[A1.1] Promotion and support for the raising of funds, both public and private, in competitive and non-competitive modalities, to promote the sustainability of research groups through their intra-IIS collaboration, as well as the operation of the IIS.

[A1.2] Promotion of FAIR policies and good practices in open data sharing, disseminating institutional repositories and IIS support material (open data policy).

[A1.3] Promotion of the publication of open research results, continuing support through the IIS's own plan.

OE2. To promote scientific leadership in priority areas, as well as the international dimension of the groups.

In order to position INiBICA as a regional and national scientific benchmark, the current scientific organization of the Institute (programs, areas and research groups) will be reviewed and restructured to optimize its coherence, critical mass and capacity for interdisciplinary collaboration. Strategic areas of high potential will be identified and prioritised, providing them with specific technical and financial support to favour their consolidation and external projection. proactive strategies to increase the Institute's revenues. This includes improving the success rate in competitive calls (e.g. ISCIII Strategic Action in Health, calls from the State Plan and Horizon Europe, ERDF funds, etc.), promoting our groups to present quality proposals and promoting

consortia coordinated from Cádiz. Likewise, it will be promoted

Private fundraising: research contracts with the biopharmaceutical industry, sponsorship of clinical trials, philanthropic donations and collaboration with foundations. Annual fundraising targets will be set and closely monitored. In addition, the consortium institutions (SAS, UCA, etc.) will be advocated for adequate structural financing of the Institute, so that there are regular financial contributions for infrastructure maintenance costs and support personnel. The financial sustainability of INiBICA must be supported by a diversification of sources and the creation of reserves or contingency funds that allow unforeseen events to be faced. At the same time, internationalisation and external cooperation will be strengthened, encouraging participation in European programmes (Horizon Europe, ERA-NET, Interreg), national and international mobility of researchers and collaboration with visiting talent. The dissemination of INiBICA's scientific achievements in English will be promoted, increasing its visibility and global recognition. In addition, institutional visibility and scientific reputation actions will be developed (congresses, conferences, leadership in networks and societies) that consolidate INiBICA as a centre of excellence and strategic partner of reference in the European biomedical ecosystem.

[A2.1] Organization of conferences and thematic sessions to promote collaboration between basic and clinical researchers with different profiles (care, social sciences, engineering, etc.).

[A2.2] Promotion of actions aimed at promoting collaboration with external entities, both regional, national and European/international, in research and innovation projects: seminars, events and conferences, stays, etc.

[A2.3] Promotion of project applications and HR grants aimed at increasing the capacities of the IIS scientific programmes, especially at the national, European and international levels. As well as participation of groups in (inter)national thematic networks and ISCIII platforms.

OE3. Strengthen the participation of PC and healthcare professionals in research.

INiBICA will promote the active integration of Primary Care professionals, hospitals and clinical units in biomedical and translational research, consolidating the provincial and inclusive character of the Institute. Specific measures will be implemented to **Bringing research closer to the first level of care**, through a Primary Care Research Plan that includes methodological training, technical support, specific internal calls and mechanisms for institutional recognition. The Institute will organize **Periodic meeting forums** Between groups research and care units, where clinical problems susceptible to study are identified and synergies are generated between centres. These actions will facilitate the incorporation of new groups from hospitals and health districts of the province, eliminating administrative barriers and promoting the participation of nursing, family medicine, Physiotherapy y
Other Areas related. The ultimate goal is **Promoting applied research and healthcare innovation** from the clinical practice, contributing to the strengthening of the public health system and the real impact on health.

[A3.1] Organization of conferences and thematic sessions to promote collaboration between basic and clinical researchers with different profiles (care, social sciences,

engineering, etc.).

[A3.2] Promotion of actions aimed at promoting and recognising research activity in primary care (with special attention to the relevance of the IMPaCT Chipiona-Rota Cohort node) and health care (nursing, physiotherapy, etc.).

3.3. Indicators

ID	Indicator	2026	2027	2028	2029	2030
PCC1.1	Competitive funding raised by the IIS (€)	≥2025	≥2026	≥2027	≥2028	≥2029
PCC1.2	Non-competitive funding raised by the IIS (€)	≥2025	≥2026	≥2027	≥2028	≥2029
PCC1.3	Number of datasets published to open repositories following FAIR policy	≥75%	≥75%	≥75%	≥75%	≥75%
PCC1.4	Number of Open Access Publications	>80%	>85%	>90%	100%	100%
PCC2.1	Number of publications indexed in JCR	≥2025	≥2026	≥2027	≥2028	≥2029
PCC2.2	Percentage of Q1 and D1 publications out of the total	≥2025	≥2026	≥2027	≥2028	≥2029
PCC2.3	Percentage of publications with international collaboration	≥30%	≥30%	≥30%	≥30%	≥30%
PCC2.4	Percentage of publications led by IIS staff	≥35%	≥35%	≥35%	≥35%	≥35%
PCC2.5	Percentage of intra-institute collaborative publications	>15%	>15%	>20%	>20%	>20%
PCC2.6	Normalized Impact Index (Normalized Citation Rate)	≥1.5	≥1.5	≥1.5	≥1.5	≥1.5
PCC2.7	Number of IIS PIs with active competitive public projects, at the state, EU or international level	≥40	≥40	≥45	≥45	≥50
PCC2.8	Percentage of IIS healthcare PIs with public projects active competitive companies, at the national, EU or international level	>40%	>40%	>40%	>40%	>40%
PCC2.9	Number of projects funded in public calls competitive, national, EU or international	≥70	≥70	≥70	≥70	≥70
PCC2.10	Number of projects in international consortia	≥2025	≥2026	≥2027	≥2028	≥2029
PCC3.1	Number of projects with the participation of Primary Care	≥2025	≥2026	≥2027	≥2028	≥2029
PCC3.2	Number of projects in the field of health care	≥2025	≥2026	≥2027	≥2028	≥2029
PCC3.3	Number of projects with the participation of patient associations and other key agents (companies, etc.)	≥20%	≥30%	≥40%	≥50%	≥50%

4. Related documentation

This Plan is closely related to the following documents:

- INiBICA Internal Regulations
- INiBICA Strategic Plan 2026-2030
- Open Science Policy of INiBICA.