



**UNIVERSITY: NAVARRABIOMED- Public University of Navarre (UPNA)**

**WIT PROGRAMME'S RESEARCH LINE NAME: IMMUNOTHERAPY**

**DOCTORAL PROGRAMME:** Doctorate in Health Sciences

<https://www.unavarra.es/escuela-doctorado/doctorate-programs/current-plan/Health+Sciences/doctorate-in-health-sciences?languageId=1>

### **COMPLETE DESCRIPTION OF THE LINE**

We propose the development of a new immunotherapy based on the modulation of the fatty acid metabolism in the tumor microenvironment. Cutaneous melanoma is a form of skin cancer known for its metastatic capacity and responsible for 80% of skin cancer related deaths. The advent of immunotherapies (based on immune checkpoint inhibitors) has revolutionized melanoma management yet around 50% of patients do not respond to these therapies. In cancer, metastasis is dependent on enhanced lipid metabolism, which has been the focus of our recent research. Our results show that melanoma response to both targeted and immune-therapies is dependent on fatty acid metabolism. By targeting fatty acid oxidation, we hope to extend clinical response to either treatment. The aim of this PhD project is to establish a completely different type of immunotherapy, not based in the blockade of camouflage signals but on the metabolic regulation of immune effector cell antitumor potency.

**RESEARCH GROUP NAME:**

CANCER SIGNALING UNIT



### **COORDINATOR:**

- Last and first name: Arozarena, Imanol  
<https://orcid.org/0000-0001-6349-2442>
- Department: Oncology
- Email: iarozarm@navarra.es
- Telephone number: 0034 848423321

### **MEMBERS OF THE LINE RESEARCH:**

Paula Aldaz: postdoctoral researcher

Irene Lasheras-Otero: predoctoral researcher

Marta Redondo-Muñoz: predoctoral researcher

Idoia Morilla Ruiz: predoctoral researcher

Ana Olias-Arjona: lab technician

### **ANOTHER RESEARCH LINES OF THE GROUP:** list of them

- Melanoma:

Metabolic regulation of Circulating Tumor Cell biology and impact on melanoma metastatic spread.

- Glioblastoma:

Using glioblastoma as cancer model, we aim to identify and characterize new targets and drugs with the potential to improve radiotherapy responses in patients that otherwise barely survive 15 months after diagnosis. We have developed a translational line of research that includes basic researchers such as Paula Aldaz and radio- and medical oncologists, neurosurgeons and pathologists from the Neuro-Oncology Committee of the Complejo Hospitalario de Navarra. Ongoing projects:

- Metabolic regulation of Glioma Stem Cell response to radiotherapy



- Dexamethasone-induced epigenetic memory and response to ionizing radiation
- Mutagenic potential of dexamethasone and glioma progression

▪ **Entities involved in research lines and contact person:**

✓ Academic entities:

- Institut de Recerca Biomedica, IRB-Barcelona: Dr. Salvador Aznar-Benitah ([salvador.aznar-benitah@irbbarcelona.org](mailto:salvador.aznar-benitah@irbbarcelona.org))
- Centro Nacional de Investigaciones Oncológicas, CNIO-Madrid: Dr. Massimo Squatrito ([msquatrito@cniio.es](mailto:msquatrito@cniio.es))
- University College Dublin, UCD-Dublin): Dr. David Gomez Matallanas ([david.gomez@ucd.ie](mailto:david.gomez@ucd.ie))
- Centro de Investigación Médica Aplicada, CIMA-Pamplona: Silvestre Vicent ([silvevicent@unav.es](mailto:silvevicent@unav.es))
- Centro de Investigación Médica Aplicada, CIMA-Pamplona: Marta Alonso ([mmalonso@unav.es](mailto:mmalonso@unav.es))

✓ Industrial entities:

▪ Brief group overview

Dr. Arozarena established the Cancer Signalling group at Navarrabiomed-UPNA in April 2016. Between 2005 and 2016, Dr. Arozarena worked in the United Kingdom, at the University of Huddersfield, Institute of Cancer Research (London) and the University of Manchester. The Cancer Signaling group aims to understand the molecular basis of cancer cell metabolic adaption to anti-cancer therapies as well as their impact on the development of metastatic disease. Our aim is to develop high impact translational research to improve clinical practice. To do so we work closely alongside clinicians at the local public hospital. One of the main objectives of the team is to train future researchers in all aspects of the

scientific career: from technical to data analysis skills; from independent thinking to collaborative work; from data presentation to medical writing. We offer a supportive working environment intended to make the scientific experience as fulfilling as possible.

- Link of the group to the “Portal of scientific production”  
<https://pubmed.ncbi.nlm.nih.gov/?term=arozarena+i&sort=date&size=100>
  
- <https://www.navarrabiomed.es/es/investigacion/unidades-de-investigacion/senalizacion-cancer>
  
- <https://orcid.org/0000-0001-6349-2442>

## JOB REQUIREMENTS:

- **Academic degree:**
- 1. BSc/degree in Biological Sciences, Pharmaceutical sciences, Medical Sciences or similar.
- 2. MSc in Biological Sciences, Pharmaceutical sciences, Medical Sciences or similar.
- **Specific skills:**
- Language: English, high proficiency
- Theoretical: knowledge in cancer and cell signaling
- Technical: tissue culture, molecular biology techniques (PCR, SDS-PAGE), IT skills: Office and SPSS/GraphPad.