



**UNIVERSITY: University of Navarre (UNAV), Center for Applied Medical Research**

**WIT PROGRAMME'S RESEARCH LINE NAME:** Immunology and Immunotherapy

**DOCTORAL PROGRAMME:** Doctoral program of applied medicine and biomedicine <https://en.unav.edu/web/doctoral-program-of-applied-medicine-and-biomedicine>

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

##### **Cancer immunotherapy based on bifunctional immunostimulatory molecules expressed by modified mRNAs**

Cancer immunotherapy has been a revolution in oncology and hematology thanks to the discovery of antibodies that block immune checkpoints and chimeric antigen receptor T cells. However, new therapeutic strategies are needed for those patients who do not benefit from current therapies. To this end, in this Project, we will develop a platform for the discovery of bifunctional immunostimulatory molecules (bispecific antibodies and immunocytokines) taking advantage of modified mRNA technology. This platform will search for synergistic combinations in patient samples and the selected constructs will be validated in murine and humanized cancer models.

#### **RESEARCH GROUP NAME:**

Cytokine-based Therapies Laboratory



## COORDINATOR:

- Last and first name; link to the “Portal of scientific production”:

Pedro Berraondo

<https://cima.cun.es/en/research/research-programs/immunology-immunotherapy-programs/research-group-cytokine-based-therapies>

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## MEMBERS OF THE LINE RESEARCH:

Fernando Aranda. Researcher.

Nuria Ardaiz. Laboratory technician.

Celia Gomar. Laboratory technician.

Joan Russo. Laboratory technician.

Myriam Fernandez. Predoctoral researcher.



Angela Bella. Predoctoral researcher.

Claudia Di Trani. Predoctoral researcher.

Leire Arrizabalaga. Predoctoral researcher.

### **ANOTHER RESEARCH LINES OF THE GROUP:**

- 1) Evaluation and characterization of apolipoprotein A-I fusion proteins.
- 2) New immunotherapy strategies in peritoneal carcinomatosis.
- 3) New formulations of vitamin D derivatives for cancer treatment.

- Entities involved in research lines and contact person:

- ✓ Academic entities:

The group has collaborated with Dr. Dietmar Zaiss (University of Edinburgh) and Dr. Alice Sijts (Utrecht University) on the MSCA-ITN Tumor-Treg-Targeting grant.

- ✓ Industrial entities:

The group has collaborated with Onena Medicines, BMS, Sanofi, Ferring, Moderna, Hookipa and Bavarian Nordic.

- Group review



The cytokine-based therapeutics laboratory was founded in 2007 with the arrival of Dr. Pedro Berraondo after a postdoctoral stay at the Pasteur Institute in Paris. Throughout these years, the group has participated in more than 110 publications including publications in Nature, Nature Medicine, Nature Reviews Drug Discovery, Immunity and Cancer Cell. Seven patents have been generated and licensed to national and international companies and six students have completed their doctoral thesis and another four are currently working on their thesis. The group has experience in European programs for student's training. Dr. Berraondo has been supervisor of postdoctoral and predoctoral researchers in Marie Curie programs, and is currently PI of an MSCA-ITN grant (<http://www.tumortregtargeting.eu/>) of the H2020 program

- Link of the group to the “Portal of scientific production”

<https://cima.cun.es/en/research/research-programs/immunology-immunotherapy-programs/research-group-cytokine-based-therapies>