

Dr Natalia López-Andrés, Head, Cardiovascular Translational Research group and WG3 Leader

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Research Team

Natalia López-Andrés, PhD. Head of the group

Ernesto Martínez-Martínez, PhD. Postdoctoral student

Andrea Medrano. Master student

Amaya Fernández de Celis. Technician

Rafael Sádaba, MSc. Cardiac surgeon

Virginia Álvarez, MSc. Cardiologist

Vanessa Arrieta, MSc. Cardiologist

Amaia Melero. Data manager

Research Focus

The group is a multidisciplinary research team specialized in the study of the mechanisms leading to heart failure, aortic stenosis and metabolic syndrome, with the aims of

- Unravelling the mechanisms through Aldosterone damage the myocardium, the cardiac valves and the arterial wall, contributing to the development of the aforementioned pathologies.
- Analyze the role of biomarkers, such as Galectin-3 or ST-2, which could be useful for diagnosis and prevention of these pathologies.
- Identify new therapeutic targets related to Aldosterone activation in order to design new therapeutic agents for a more effective treatment of these pathologies.

More specifically, the group is focused on the mechanisms whereby Aldosterone acts in the pathophysiology of the cardiovascular system.

Facilities

The Navarrabiomed-Miguel Servet Foundation (MSF), is an entity that belongs to the Navarra Public Health Services where medical professionals of the Hospital Complex of Navarra carry out their research activity. The MSF building is located on the campus of the Navarra Hospital. This center supports research and applied clinical and experimental.

Biomolecular laboratory: Analysis of nucleic acids (DNA and RNA) and proteins

Cell culture laboratory: the equipment includes a biological security cabin, CO₂ incubators and inverse microscope.

FISH, Immunohistochemistry and Imaging: this unit is equipped with a micro-arrayer, a machine to dye tissues, bright field and fluorescence microscopes with fluorite lens and monochrome chamber.

Proteomic: this unit has a mass spectrometer 5500 QTrap with a nanoHPLC ultra 1D+ and autosampler AS2. This also has the ProteinPilot software of AB Sciex to process, identify and quantify the results.

Biobank: since 2010 the biobank of the MSF belongs to the Spanish National Biobank Network by the recognition of the Institute of Health Carlos III. The installations have all the equipment needed for the conservation and processing of frozen samples and those included in paraffin. There are seven freezers of -86°C (with back-up), a frozen bath, an automatic processor of tissues, modular station of tissue inclusion, microtome of semiautomatic rotation, microtome of automatic rotation, cryostat and flotation bath.

Experimental unit: currently the MSF has an animal house (rodents and pigs), an operating theatre and a microsurgery room.

Expertise

The Cardiovascular Translational Research group participates in the EU FP7 Project Fibrotargets and has international collaborations with the group of Faiez Zannad and Patrick Rossignol (Nancy, France), Frederic Jaisser (Paris, France), Philippe Rouet (Toulouse, France), Salvatore di Somma (Rome, Italy), Leon de Windt (Maastricht, The Netherlands), and also national collaborations with the group of Victoria Cachafeiro (Madrid) and Benjamín Muñoz (Alcalá).