This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under Marie-Sklodowska Curie grant agreement No 101034285

UNIVERSITY: Public University of Navarra (UPNA)

WIT PROGRAMME´S RESEARCH LINE NAME: Cardiology

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

Dr Natalia López-Andrés leads the Cardiovascular Translational Research Group at Navarrabiomed, with a major interest on the role of aldosterone/mineralocorticoid receptor signaling in cardiovascular, valvular and renal diseases. The group is part of the "Cardiovascular and Renal Diseases Area" of the Health Research Institute of Navarra. The overall goal is to unravel novel therapeutic targets and treatments for different types of heart valve disease by applying basic and clinic state-of-the art concepts and research approaches. Accordingly, our team consists of a multidisciplinary group of basic researchers, clinicians and nurses. The group has successfully established four lines of investigation: 1) Inflammation, remodeling and cardiovascular fibrosis in heart failure; 2) Non-rheumatic adult heart valve disease; 3) Identification of comorbidities, prognosis and diagnosis biomarkers in aortic stenosis; 4) New therapeutic strategies for infectious endocarditis, with a major interest on the heart valve disease pathogenesis. As a result, our per-year publication record reflects our strong translational and interdisciplinary character.

RESEARCH GROUP NAME: Translational Cardiology

Wit
Welcoming
International
Talent

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COORDINATOR: Natalia López-Andrés

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MEMBERS OF THE LINE RESEARCH:

- Natalia López Andrés: PI
- Lara Matilla Cuenca: PhD student
- Mattie Garaikoetxea Zubillaga: PhD student
- Eva Jover Garcia: Postdoctoral student
- Paula Aldaz Donamaria: Postdoctoral student
- Amaya Fernández de Celis: Laboratory Technician
- Rafael Sádaba Sagredo: Cardiac Surgeon
- Vanessa Arrieta Paniagua: Cardiologist (PhD student)
- Amaia García de la Peña Urtasun: Cardiologist (PhD student)
- Virginia Álvarez Asiain: Cardiologist
- Adela Navarro Echeverría: Cardiologist
- Carolina Tiraplegui Garjón: Cardiologist (PhD student)
- Alba Sádaba Cipriain: Cardiologist (PhD student)
- Alicia Gainza Calleja: Data study

ANOTHER RESEARCH LINES OF THE GROUP: list of them

- Impact of the MIneralocorticoid Receptor antagonism on COVID-19 pathogeny (MIRCOV project)
- MaxImizing caRdio vAsCular and renaL protEction with mineralocorticoid receptor antagonists in high-risk patients (MIRACLE project)

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- Effects of empagliflozin on lipid metabolism in patients wlth type 2 diabetes at high cardiovascular risk (SIMPLE study)
- Involvement of NGAL in chronic kidney diseases
- Role for Galectin-1 in aortic valve stenosis
- Reelin in aortic valve diseases
- Generating Novel Galectin-3 Inhibitors

- Entities involved in research lines and contact person:

✓ Academic entities:

- INSERM Paris. Frederic Jaisser (frederic.jaisser@inserm.fr)
- INSERM Nancy. Patrick Rossignol (p.rossignol@chu-nancy.fr)
- Rigshospitalet Denmark. Caroline Michaela Kistorp (caroline.michaela.kistorp@regionh.dk)
- Universidad Autónoma de Madrid-Fundación Jiménez Díaz. José Luis Martín Ventura (JLMartin@fjd.es)
- University of Texas Southwestern Medical Center, Texas. Laurent Calvier (calvier.laurent@gmail.com)

✓ Industrial entities:

- G3 Pharmaceuticals. Pieter Muntendam (Pmuntendam@g3pharma.com)

- Brief group overview

The group currently pioneers the study of Aldosterone/mineralocorticoid receptor signaling in different forms of heart valve disease. This investigation is currently supported by the Spanish Government, take part of a RHU French project and includes bench to bedside experiments. Moreover, our group is interested on the study of the molecular mechanisms driving endocarditis (supported by national and regional projects). Of special interest, we analyze

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the sex-specific differences in heart valve diseases. Our projects have a strong translational character. One of the key points of our projects is using preclinical cellular and animal models (both small and large) before bringing them to the clinics. Our results will lead to: 1) a better understanding of the cellular and molecular mechanisms underlying heart valve disease as well as the pathophysiological differences between women and men; 2) the identification of new potential therapeutic targets such as the aldosterone/mineralocorticoid receptor pathway to delay heart valve alterations and clinical outcomes; 3) the study of new specific targets to be used as biomarkers of heart valve alterations.

- Link of the group to the "Portal of scientific production"
  https://orcid.org/0000-0003-3728-2606

  https://www.navarrabiomed.es/es/investigacion/unidades-de-investigacion/cardiologia-traslacional

- Pictures, links… to academic or industrial partners (if any)
  https://www.g3pharma.com/about-us/

REQUIREMENTS:

Biological science o medical sciences

ADDITIONAL REQUIREMENTS: english. Knowledge of cell culture, histology and molecular biology is required. Use of deductive reasoning and critical thinking skills to solve problems are also required.