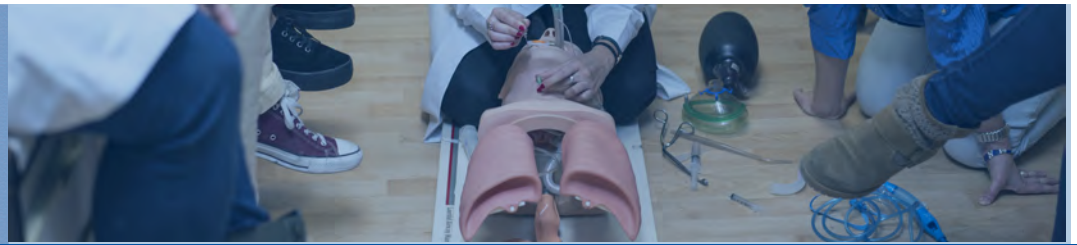




Universidad
de Alcalá



PATHOPHYSIOLOGY OF THE CARDIOVASCULAR, RENAL, AND NERVOUS SYSTEMS

Code
747

FISIONET

RESEARCH AREA

Hearh Sciences

COORDINATOR

Marta Saura Redondo

KEY WORDS

Nitric Oxide,
Extracellular matrix,
Cardiovascular
remodeling,
Kidney disease,
Metalloproteases,
Atherosclerosis,
Heart failure,
Proteasome,
Cell death, Pain,
Inflammation,
Ion channels

AIM

- Pharmaceutical industry

CONTACT



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ABOUT US

The FISIONET group investigates the molecular mechanisms of damage and tissue repair associated with kidney, cardiovascular diseases, and some types of cancer, pathologies related to inflammation and chronic pain. Together those pathologies have a higher incidence affecting 80% of the population.

Our group, by combining the experience from each of our group labs, aims to discover new therapeutic targets and biomarkers useful in the diagnostic and/or to monitor each pathology's progression.

RESEARCH LINES

- Identification of the molecular determinants involved in cardiovascular diseases and the development of new diagnostic and treatment tools
- Identification of biomarkers of acute renal failure (AKD): Characterization of the parathormone-related protein (PTHrP) as a urinary biomarker for AKD
- Characterization of kidney and cardiovascular damage produced by Bisphenol-A (BPA) through experimental and translational studies
- Mechanisms of hypoxic injury to proximal renal tubular cells, role of extracellular vesicles as mediators of tubular injury
- Role of the prostaglandin transporter in prostatic proliferative pathology
- Role of nociceptive primary afferent fibers during chronic pain processes: study of ion channels and transcription factors involved in regeneration processes
- Identification of objective pain predictors in animal models and search for biomarkers of pain

OFFERED SERVICES

- Cellular studies using cell lines and primary cell cultures
- Management of experimental animal colonies and the creation of murine lines of mice genetically modified
- Experimental in vivo models of cardiovascular disease, chronic pain, and kidney disease.
- Measurement of physiological parameters; echocardiography, ECG, blood pressure, kidney function
- Awake animal behavior studies
- Electrophysiological recordings
- Measurement of extracellular vesicles by flow cytometry
- Histology, immunohistochemistry, and inCLARITY techniques

MARKETABLE RESULTS

