

DIRECTOR
Sébastien Roger
DEPUTY DIRECTOR
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The research unit studies the interactions between cells of the stressed tissue/organ (cardiac cells, normal and cancer epithelial cancer cells) and immune cells, with the objective of modulating immuno-inflammatory responses in hypoxia/ischemia, by developing new strategies using pharmacological drugs and antibodies targeting ion channels and purinoreceptors.

RESEARCH TOPICS

Role of purinergic signaling in inflammation and tissue remodeling in ischemia-reperfusion physiopathological conditions (Cardiac infarction, Organ transplantation, Cardio-kidney syndrome).

EQUIPMENT AND TECHNOLOGY

- Cell sorting and flow cytometry
- RT-qPCR
- Western blotting
- ELISA
- Hypoxic chamber
- Cell culture equipment
- Patch clamp
- Spectrofluorimetry
- Flow cytometry
- Ca²⁺ imaging
- Epifluorescence micro and macroscopy
- Platelet aggregation

SKILLS AND EXPERTISE

- Cell culture (human dendritic cells, cardiomyocytes, fibroblasts, renal tubular cells, endothelial cells, normal and cancer epithelial mammary, colorectal cells and human induced pluripotent stem cells (hiPSC))
- Cultures in hypoxic and ischemic conditions,
- B cell immortalization,
- Cell phenotyping,
- Cellular and tissue electrophysiology,
- Bio-clinical studies in transplant patients
- in vivo models of ischemia-reperfusion
- Isolation, characterization and study of Extracellular vesicles (exosomes, microvesicles...)

INDUSTRIAL COLLABORATIONS

GreenPharma, ArtImmune, Melkin Pharmaceuticals, KeyObs, MabSilico, Théradiag, Medtronic France, Hemarina

ISCHEMIA

Membrane Signalling and Inflammation in reperfusion injuries

UMR 1327

université de TOURS

Inserm

La science pour la santé
From science to health

INTERNATIONAL COOPERATIONS

Spain (University of Murcia), Germany (University of Munster), Romania (University of Timisoara), Denmark (University of Copenhagen), Italy (University of Bari, University of Ferrara), UK (University of Dundee, University of Leeds, University of Sussex, University of York), USA (University of Birmingham, AL; University of Portland, OR), Mexico (National Autonomous University of Mexico), Canada (University of Toronto), China (Central south University, Changsha; Xinxiang medical University, Xinxiang)

ACADEMIC

PARTNERSHIPS

Local : Inserm: UMR1259, UMR1253, UMR1100, UMR1069 and EA7502 SIMBA

National : Inserm UMR1083/CNRS UMR6214 Angers, Inserm UMR1003 Lille, Inserm UMR1060 Lyon, Inserm UMR1087/CNRS6291 Nantes, Inserm UMR1046 Montpellier, CNRS UMR7370 Nice, CNRS UMR7355 Orléans, CNRS UPS44 TAAM-CIPA Orléans

Member of the Fédération Hospitalo-Universitaire « SURvival oPtimization in ORgan Transplantation » (FHU SUPPORT)

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