

UMR1031 TOULOUSE

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RESTORE



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R&D OFFER

- **R&D collaborative projects**
- **Sponsored research agreements**
- **CIFRE PhD Thesis (French Industrial partnership for PhD program in research)**
- **Internship in public-private cotutorship (Master, engineer or other students)**
- **Consulting / Expertise / Training**
- **Access to Technical platforms**
- **Access to biological collections and databases (under conditions)**

RESEARCH RECOGNITION 2014- 2019

- LIPSTIC LABEL (LABORATORY OF EXCELLENCE)
- MEMBER OF ECELLFRANCE – Consortium of excellence in regenerative medicine
- 4 ACTIVE PATENTS
- 3 PUBLIC-PRIVATE RESEARCH PARTNERSHIPS
- 25 MANY NATIONAL, EUROPEAN AND INTERNATIONAL GRANTS
- 129 PUBLICATIONS (2014-2019) *SCIENTIFIC ARTICLES & BOOK CHAPTERS*
- QUALITY CERTIFICATIONS (LabHPEC certified GMP, ISO9001)
- 10 INVITATIONS TO INTERNATIONAL CONGRESSES
- MANY PHD STUDENTS (6 IN 2019)

RESEARCH AREA & OBJECTIVES

- **Tissue regeneration, tissue repair**
- **Plasticity of adipose tissue: Regeneration and biology of Adipose stem cells (ASC)**
- **Mesenchymal stromal cells (MSC) & cell engineering:** native MSC, **interaction between immune system** and MSC, **therapeutic** potential of MSC, physiological and pathological stroma in bone marrow
- **Mathematical models** for regenerative medicine
- **2D & 3D cell culture:** Organoids, scaffold, bioreactor microfluidic systems, primary cultures (human, mouse), adipocyte stem cells (ASC), bone marrow derived MSC (MSC), white & brown adipocytes, immune cells
- **Quality control** of stem cells

KEYWORDS:

Tissue regeneration and repair, Mesenchymal stromal cells, cell and tissue engineering, 3D models, cell therapy, Haematopoietic niche

DOMAINS OF EXPERTISE

- REGENERATIVE MEDICINE
- CELL THERAPY, HAEM
- 3D CULTURE (TISSUE ENGINEERING)

SKILLS

- 2D & 3D CELL CULTURE (MSC, ASC, Bone marrow organoids, adipocytes organoids, bioreactors studies)
- IMMUNOLOGY (Study of immune cells interactions with MSC)
- IN-VITRO & IN-VIVO MODELS
- AEROBIC, ANAEROBIC STUDIES (Xvivo, BioSpherix)
- PRECISION IMAGING (Confocal, Electronic microscopes)
- GENETICS (Transcriptomic & proteomic analysis, qPCR, sequencing, Microarray)
- MOLECULAR BIOLOGY
- MATHEMATIC MODELS
- QUALITY CONTROL
- PRE-CLINICAL & CLINICAL STUDIES

PLATFORMS & TECHNICAL RESSOURCES

- TECHNICAL PLATFORMS
 - **RESTORE equipment:** anaerobic/aerobic cell culture, bioreactor, transcriptomic, cell analysers, microscopy & flow cytometry, sorter flow cytometry, metabolic studies, in-vivo imaging, metabolomics et lipidomic approaches
 - **In-vitro platform** - ECellFrance (cytometry, imaging platform, production & control of MSC)
 - **In-vivo platform** - LabHPEC: Experimental compared Histopathology
- ACCESS TO BIOLOGICAL COLLECTIONS: MSC biobanks, healthy donors, patients & other biological samples (EFS, CHU, AVIESAN...)