



# Laboratoires et plateformes hospitalières

IRMB gathers scientist and medical expertise on regenerative medicine and innovative immunotherapies.

## Hospital laboratories

## Biochemistry Lab & Clinical Proteomics Platform

Director : Pr. Sylvain LEHMANN



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The “Laboratory of Biochemistry – Clinical Proteomic” (LBPC) of the Montpellier University Hospital , France (CHU) is a laboratory that combines specialized clinical assays and R&D activities in the field of clinical proteomics.

The LBPC is responsible for the measurement of biomarkers for the diagnosis of different neurological diseases including Alzheimer and Prion diseases. The laboratory is also in charge of the detection of dystrophy related proteins in muscle biopsies. The LBPC is part of the CHU Biological Resource Centre (CCBHM) as it is responsible for different blood (serum, plasma, RNA) and cerebrospinal fluid (CSF) collections, especially in the Neurological field. The LBPC is the coordinator/partner of several clinical research programs (AOI/ANR/PSTIC/PHRC) to detect biomarkers using mass spectrometry and antibody microarray biochips.

The LBPC operates also as a Clinical Proteomics Platform (<http://ppc.chu-montpellier.fr/>) (Responsible: Christophe Hirtz, [c-hirtz@chu-montpellier.fr](mailto:c-hirtz@chu-montpellier.fr)) of the Proteome Pole of



Montpellier (PPM: <http://www.ppm.cnrs.fr>).

The PPM is a network of laboratories with a complementary expertise in distinct fields of proteomics, ranging from large-scale, quantitative proteomics, analysis of post-translational modifications, interactomics, clinical proteomics to mass spectrometry-based imaging.

## Laboratory "Cell Therapy for Diabetes"

Director : Pr. Anne WOJTUSCISZYN



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- Dr Christophe Broca, Lab Manager, Research Engineer
- Dr Mathieu Armanet, Research Engineer, European Project Holder
- Morgane Roussel, PhD student
- Pr Eric Renard, Consultant for clinical research
- Dr Stéphane Dalle, Consultant for basic research

The "Laboratory of Cell therapy for Diabetes" (LCTD) of the Montpellier University Hospital, France (CHU) is a clinical research laboratory dedicated to the isolation of islets from human pancreas in order to study their preservation and regeneration, with the ultimate goal of improving and developing human islet transplantation as a cell therapy for type 1 diabetes. The pancreatic islet beta cells are the only cells capable of producing insulin, and their inadequate functional mass is the main cause of the onset of diabetes. The LCTD combines expertise on human islet isolation, culture and research activities. This laboratory exists since 2009 and performs 10 to 15 islet isolations from human pancreas per year. The first axis of activities at LCTD is the setting of human islet isolation routinely in order to promote islet transplantation in type 1 diabetic patients: the aim of the LCTD is to reach the GMP grade in 2014 to add a new islet isolation center into the GRAGIL network

<https://www.chu-montpellier.fr/fr/irmb/laboratoires-et-plateformes-hospitalieres>

and extend islet graft for patients in the southern and western regions of France. Islet grafts in patients are already possible in Montpellier thanks to islets provided through the GRAGIL group, a network of clinical research centers also including Strasbourg, Lyon, Nancy, Grenoble, Besançon, Clermont-Ferrand and Geneva (Investigator: Pr Anne Wojtusciszyn, in the Department of Endocrinology, Diabetes Nutrition directed by Pr Eric Renard). The second axis is basic research, in tight connection with the INSERM U661 pancreatic beta cell team directed by Dr Stephane Dalle. The aim of the collaborative work is to study the mechanisms regulating the balance survival / apoptosis and insulin secretory function of human pancreatic islets in order to deepen the understanding of the pathophysiological phenomena determining diabetes or loss of functional beta mass after transplantation. The application of this research includes the preservation of pancreatic beta cells in vivo in type 2 diabetes as well as in transplantation in type 1 diabetes.

Combined expected outcomes of the two leading axes are improvements of the isolation of human islets procedure from whole pancreas donors in order to obtain a larger number of islets with a higher level of survival and function. The LCTD also contributes to the CHU Biological Resource Centre (CCBHM) by the production of biological collections: fresh pancreas and exocrine or endocrine cells, pancreas and purified islet proteins, RNA, and tissue slides. The LCTD is the coordinator/partner of several clinical research programs (AOI/ANR/FP7/PHRC) dedicated to the promotion of cell therapy in the field of diabetes. The team has many national and international collaborations ongoing and participates in the FP7 project BIOSID on bioartificial pancreas using macro-encapsulated human islets.

## Platforms

# SAFE-IPs platform

Manager : Jean-Marc LEMAITRE



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**Operations Manager** : Romain DESPRAT Phone number : 04 67 33 26 41 / 06 60 94 09 96  
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**SAFE-iPS platform** SAFE-iPSC is a hospital platform located inside the Institute For Regenerative Medicine & Biotherapie (IRMB). It's one among the five plateforms labelled

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"Infrastructure Nationale du consortium INGESTEM". This platform is composed with :

- › Lydiane PICHARD (I.R. INSERM)
- › Fabienne BECKER (Technician CHU).

[INGESTEM website](#) This platform can furnish services to industrial and academic laboratories such as :

- › non integrative IPs derivation from skin biopsies and blood
- › fonctionnal characterization : autorenew & differentiation.

Two engineers and one technician are full time dedicated to this platform.

The R & D activity of the platform consists in developing new reprogramming strategies and improvements in producing IPs in GMP conditions. **A.N.R. project** : In your project (such A.N.R.) which must integrate Ips production, the platform can furnishe technical specifications and invoices. **Facilities** :

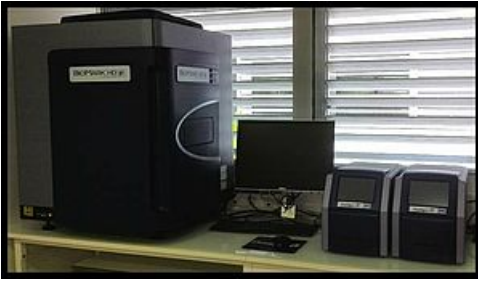
- › 2 dual hoods from RUSKINN Company



- › Fluidigm C1



- › Fluidigm BioMark HD & HX



## EcellFrance platform

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[ECELLFRANCE platform](#) is an integrated network ensuring a high level of expertise in the production and the development of MSC for the treatment of major medical indications.

ECELLFRANCE federates:

- › state-of-the-art Advanced Therapy Medicinal Products (ATMP) production platforms
- › research teams with expertise on translational research in cell therapy
- › clinical research teams to cover phase I and II clinical studies.

ECELLFRANCE offers to assist both academic and industrial partners with the implementation of their preclinical or clinical programs. The platform provides services covering the entire MSC-based production and development pipeline.

The Montpellier node is dedicated to the:

National coordination and clinical trial design and support: Pr. Christian Jorgensen

[MSC safety and efficacy in preclinical models of osteoarticular and autoimmune diseases](#): Danièle Noël & Karine Toupet

[Immunomonitoring of MSC-treated patients](#): Pascale Louis-Plerce & Mailys Cren

[E-CellFrance website](#)

## Montpellier Rio-Imaging Cytometry

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# platform

Manager : Christophe DUPERRAY



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**Objective** : As a core lab, we offer expertise and help for flow cytometry experimentations : sorting, fluorochrome panel design, data analysis.

**Flow Cytometry Instrumentation** : Analyzers : Beckman Coulter Cyan and Gallios Sorter : FACSAria

**Softwares** : Kaluza, FlowJo, ModFit, Diva [Cytobase website](#) [M.R.I website](#)

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✓ OK, tout  
accepter

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