**Director of the Research Center**
Prof. Bernard Combe, MD, PhD
b-combe@chu-montpellier.fr

**Department of Rheumatology Montpellier**
Montpellier-Nimes University
INSERM unit U844, UMR 5535 and EA 2415

Hôpital LAPEYRONIE
371, avenue du Doyen Gaston Giraud
34295 Montpellier cedex 5, France
Phone : +33 4 67 33 87 10
Fax : +33 4 67 3373 11

Two Different units:
Immuno-rheumatology unit
Unit of clinical immunology and therapeutic

**Professors**
Prof. Christian Jorgensen, MD, PhD
Head of the clinical immunology and therapeutic unit and director of INSERM unit U844
christian.jorgensen@inserm.fr

Prof. Jacques Morel, MD, PhD
Head of the immunology rheumatology unit
j-morel@chu-montpellier.fr
Members of the Center

**Associate Professors**

Dr Cécile Gaujoux-Viala, MD, PhD  cecile.gaujoux.viala@chu-nimes.fr
Dr Cédric Lukas, MD, PhD               c-lukas@chu-montpellier.fr

**Rheumatologists**

Jean-David Cohen, MD                   jd-cohen@chu-montpellier.fr
Claire Daien, MD, PhD                  c-daien@chu-montpellier.fr
Hélène Che                               h-che@chu-montpellier.fr
Nathalie Filippi                          n-filippi@chu-montpellier.fr
Marlene Genty MD                        m-genty@chu-montpellier.fr
Charlotte Hua, MD                       c-hua@chu-montpellier.fr
Gaël Mouterde, MD                       g-mouterde@chu-montpellier.fr
Yves-Marie Pers, MD                     jm-pers@chu-montpellier.fr
Camille Roubille, MD                    c-roubille@chu-montpellier.fr
Eric Thomas, MD                         e-thomas@chu-montpellier.fr
Véronique Vesperini, MD                 v-vesperini@chu-montpellier.fr

**Researchers**

Florence Apparailly PhD               florence.apparailly@inserm.fr
Rachel Audo, PhD                       rachel.audo@igmm.cnrs.fr
Jean Marc Brondel                      jmbrondel@gmail.com
Daniele Noel PhD                       daniele.noel@inserm.fr
Farida Djouad PhD                     farida.djouad@inserm.fr
Sylvie Grandemange PhD                 sylvie.grandemange@inserm.fr
Mickael Hahne, PhD                     michael.hahne@igmm.cnrs.fr
Marc Mathieu PhD                       marc.mathieu@inserm.fr
Jerome Pene PhD                        jerome.pene@inserm.fr
Pascale Plence PhD                    pascale.plence@inserm.fr
Isabelle Touitou MD,PhD                isabelle.touitou@inserm.fr
Marie-Luce Vignais PhD               marie-luce.vignais@inserm.fr

**Current fields of research**

**Mesenchymal stem cells & innovative therapies of RA**

Our INSERM unit is the core of the Research Institute of Regenerative Medicine and Biotherapies, which is dedicated to research on adult and embryonic stem cells, including both basic biological aspects and innovative applications of regenerative therapy. The first axis was dedicated to better understand how the deregulation of the immune system leads to rheumatoid arthritis (RA), with a specific focus on monocyte subsets and T cells leading to the identification of genes and miRNAs involved in either pathogenic or regulatory roles of these cells. We identified microRNAs specific for Th17 cells and classical monocytes, as well as genes associated with chronic inflammatory disorders with rheumatic tropism and studied their role in pathophysiological conditions. We also identified a novel subset of inducible regulatory T cells expressing high levels of IL-10. These cells are CD4+CD25-CD94b+Foxp3-, induced by immature DC vaccination, display strong immune-modulatory effects in mouse models of arthritis. Identification of their homologues in human promoted the transfer of a clinical program in RA in collaboration with Txcell biotech. The second axis was focusing on mesenchymal stem cells (MSC) with the objective of characterization of the molecular mechanisms responsible for their chondrogenic and immunosuppressive effects of MSC. We were able to identify new transcription factors and signaling pathways involved in chondrogenesis, dissect the mechanisms involved in the differentiation and interactions between MSC and chondrocytes and immune cells. The biodistribution and migration of MSC after administration in vivo in murine models identified sites of in vivo location of mesenchymal cells. This led to a clinical program, the ADIPOA phase 1 trial, supported by FP7.
Translational research in autoimmune diseases
Our main program in this area is related to the Cytokines of the TNF member’s superfamily and their implication in auto-immune diseases such as rheumatoid arthritis, systemic lupus and Sjögren syndrome. Currently we have 2 main topics in this area:

- The first topic is focused on the cytokine APRIL (A Proliferation-Inducing Ligand) which is a protein that has immunoregulatory capacities by stimulating regulatory B1 cells and, thus, dampening inflammation in various mouse models including collagen-induced arthritis. Following our finding that APRIL drives the development of immunoregulatory B cells in mice, we started to characterize human Breg cells in rheumatoid arthritis, systemic lupus and Sjögren syndrome.

- The second topic is about mesenchymal synovial fibroblasts and the mechanisms involved in the control of cell death (apoptosis)

Clinical research in inflammatory arthritis
Our group has a particular interest in rheumatoid arthritis and spondyloarthritis.

We coordinate the prospective multicentre national early arthritis cohort “ESPOIR”. The database that have been set up with this cohort have allowed the development of numerous scientific projects and currently the publication of more than 50 original articles. We are also member of the steering committee of the national early spondyloarthritis cohort “DESIR”.

In parallel, our group coordinates the French national registry “REGATE” that collects serious adverse events in RA patients treated with tocilizumab.

We are studying the co-morbidities associated with chronic inflammatory arthritis and the effect of DMARDs on cardiovascular risk factors. To improve the prevention of infectious diseases observed in rheumatoid arthritis, we are evaluating the impact of DMARD on immune response to vaccines. We coordonate the national program “VACIMRA” that evaluates the reponse to pneumoccal vaccine in RA patients.

We also participate in several national trials which evaluate therapeutic strategies in inflammatory arthritis and are coordinators of the national multicenter study “SPACING” which investigates the tapering of TNF blockers in patients with axial spondyloarthritis who have achieved clinical remission.

Selected publications


Current Funding
INSERM
EU Adipoa
French Society of Rheumatology
Arthritis Foundation
Pharmaceutical industry

Training of Fellows in Research
The department is certified to provide the training to become a rheumatologist. The center has developed an active program for clinical fellows to work on french patients cohorts and registries. The institution has also established fellowships dedicated to training in clinical epidemiology and translational research (masters and PhD students).

Websites
www.chu-montpellier.fr
www.med-univ-montp1.fr
www.lacohorteespoir.