CORE FACILITIES

CLINICAL IMMUNOMONITORING

Paméla Thébault
Core Facility Manager

The clinical immunomonitoring core facility's mission is to monitor and analyze the immune responses of patients in order to optimize personalized treatments. The facility makes it possible to better understand immune mechanisms, improve disease management and anticipate therapeutic effects.

The core facility therefore provides a wide range of services to answer the various immunology questions in preclinical and clinical studies.

SERVICES

CONSULTATION AND SUPPORT FOR TEST DESIGN, REAGENT SELECTION AND DATA ANALYSIS

BIOLOGICAL SPECIMEN STORAGE

- Standardized processing and isolation of peripheral blood lymphocytes, serum or plasma from tubes or bags, from healthy donors or patients recruited in clinical trials

PHENOTYPIC AND FUNCTIONAL IMMUNOMONITORING

- Multicolour flow cytometric analysis (up to 27 colours)
- Intracellular cytokine staining to evaluate the immunophenotype and the activation status of different cell populations at the periphery or in tissues
- Use of phenotypic and immune activation markers to assess immune responses

MULTIPLEX CYTOKINE ANALYSIS

FUNCTIONAL ANALYSIS OF T CELLS BY ELISPOT

MULTIPLEX IMMUNOFLUORESCENCE TISSUE STAINING

SINGLE CELL RNA SEQUENCING

HIGHLIGHTS

Since its beginning in 2019, our core facility has:

completed more than **30 projects**

received **9 mentions** in scientific publications

participated in **5** phase 1 and 2 **studies** funded by pharmaceutical companies

Our core facility also carried out pro bono analyses to try to quickly find a treatment for three patients who developed serious side effects following immunotherapy.

RESEARCH IN ACTION

The core facility participated in a phase 2 trial for patients with stage 3 or 4 unresectable melanoma. CRCHUM researcher Dr. Rahima Jamal's team showed that a pre-existing systemic inflammatory condition is strongly associated with poor patient outcomes, revealing potentially predictive circulating biomarkers. In another phase 1 multicentre clinical trial with 20 patients with advanced melanoma, the core facility collaborated with Dr. Bertrand Routy's team to show that fecal microbiota transplantation from healthy donors was safe and non-toxic as a first-line treatment. This research was published in the journal *Nature Medicine*.

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Core Facilities
EXPERTISE DEDICATION INFRASTRUCTURE
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