



Immune insighT

*Save the balance.*



*Save the balance*



**Immune insightT**  
*Save the balance.*

## About *Immune insightT*...

**Immune insightT** is a Contract Research Organization (CRO) which emerged from academic research. We are specialized in ex-vivo and in-vivo preclinical assessment of new active molecules on the immune system in the fields of Cancer, Autoimmune and Inflammatory diseases, Transplantation but also in pre-industrial testing of Agrofood and Cosmetic ongoing products.

**Immune insightT** offers its methodological expertise and technical rigor in the service of good realization and anticipation of your projects.

**To prevent a failure related to all immune cells and especially to regulatory T cells** (Tregs) is an essential step to screen the best candidates for "lead optimization" phases before their clinical development. Anticipating and preventing failure in clinical phases will save 3 to 4 years on competition and also save substantial R&D resources for the company.

**Immune insightT** designs and achieves effective and custom made methods in order to support the development of active molecules and ensure their efficiency as well as their safety on the immune system and particularly on human Tregs and anticipate any possible related failure.

**Immune insightT** provides, in addition of Treg complete analysis, a full range of services including phenotypic, metabolic, functional, recruitment and conversion analysis of several other human immune cells (**monocytes, NK, macrophages, B and T cells, Neutrophils...**). Moreover our company carries out assessments of active molecules in original humanized immunodeficient mice. According to customer, our services are accompanied by a full research report.

**Immune insightT** offers a consultant expertise in the field of immunology, tumor immunity, cellular immunotherapy and therapeutic antibodies.



## Expertise on human Treg

### Treg Phenotype Modifications

- Cellular and intra-cellular markers Analysis
- Markers gene expression analysis using quantitative real-time analysis



Cellular InsightT

### Treg Metabolic Modifications

- Cell viability analysis
- Cell proliferation analysis

### Treg Functional Modifications

- Gene expression analysis of Treg immunosuppressive activity markers
- Cytokine secretoma analysis
- Treg suppressive function analysis using MLR assay



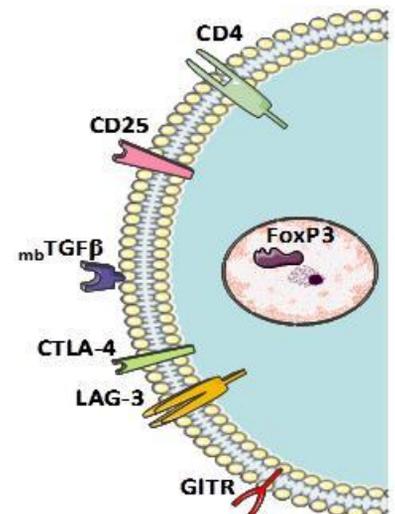
Molecular InsightT

### Treg Recruitment

- Analysis of Treg recruitment using chemotaxis assay
- Transcriptome analysis
- Blocking of Treg recruitment using monoclonal antibodies

### Conversion into Treg

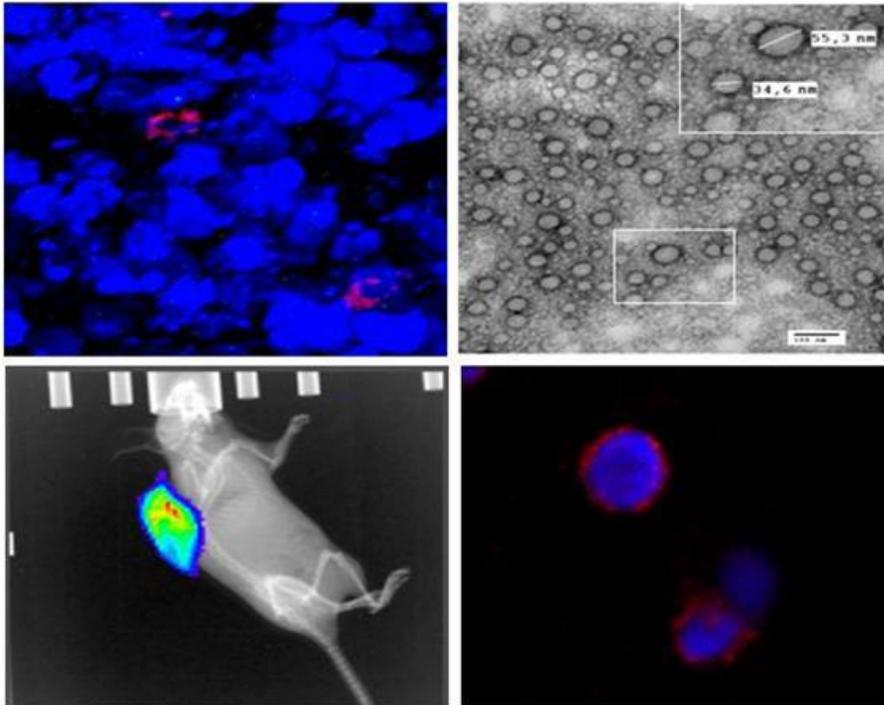
- Analysis of naive T lymphocytes conversion into Treg
- Analysis of Treg conversion





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## Expertise on Animal Model



Animals InsightT



Imagery InsightT

### **In-vivo Investigation : Murine Models**

- Evaluation of therapeutic molecules efficiency in humanized SCID mice models
- Follow tumor growth by IVIS Lumina Imaging
- Monitor immune cells recruitment including Treg

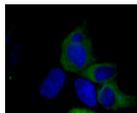
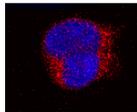


## Expertise on other Human cells

Phenotypic, Metabolic and Functional analysis  
Cell Recruitment and Conversion analysis

### • Human PBMC isolation

- CD4+ ,CD8+ T
- B cells
- Monocytes
- Macrophages (M1-M2)
- Dendritic cells
- NK, Neutrophils cells ....



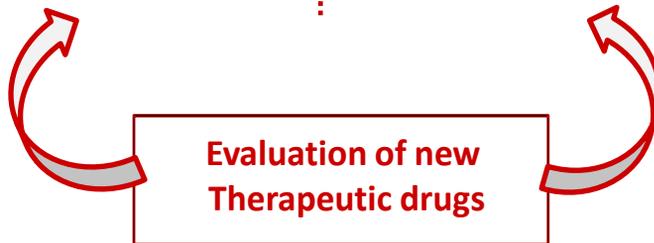
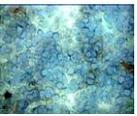
### • Human Tumoral primary cells

- Hepatocellular Carcinoma
- Nasopharyngeal Carcinoma



### • Human Tumoral Cell lines

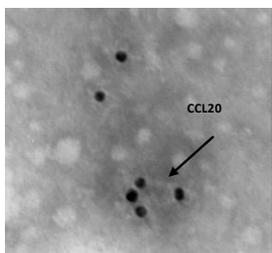
- Breast, liver, pulmonary, pancreatic, ovarian.....



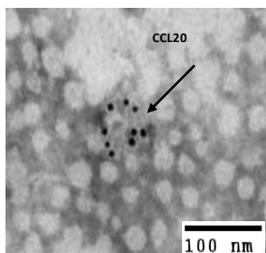
## Expertise on Exosomes Purification

Tumoral and non-Tumoral Exosomes

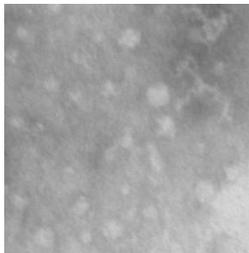
Tumoral Exosomes



Tumoral Exosomes  
Serum



Non tumoral Exosomes  
Serum



- **Production** from tissues, plasma and various biological fluids.
- **Characterization:** Phenotypic and functional characterization
- **In vitro and in-vivo assays**



## Technology Facilities

- ❖ **Gene expression quantification**
  - Real-Time Quantitative PCR in 96 well plates (Light cycler 480 Roche and Stratagene Mx3005P)
  
- ❖ **Viability and proliferation measurement systems**
  - Berthold Technology Luminometry (DLReady /Centro LB960)
  - FLUOstar OPIMA, fluorescence and luminescence reader (BMG LABTECH)
  - Radioactivity counter (1450 Trilux, Wallac, Finland)
  
- ❖ **Immunodetection**
  - ELISA reader (Multiskan Ex, Thermo-Labsystems)
  - Electron microscopy coupled to immunogold staining
  
- ❖ **Imaging platform**
  - Electron microscopy, confocal, ApoTome, small animals imaging (IVIS LUMINA XR reader, Life Sciences)
  
- ❖ **Flow cytometry and cell sorting**
  - Analyzer, 13 parameters, 4 lasers (LSR II, Becton Dickinson)
  - Cell sorting, 9 parameters, 3 lasers (FACS Aria II, Becton Dickinson)
  - Cell sorting using magnetic beads (Miltenyi Biotech method)
  
- ❖ **Cell culture, L2 and L3 Labs**
  
- ❖ **Institut Pasteur de Lille's animal facility access**
  - L2 and L3 animal Platform



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## Consultant Expertise



**Dr Nadira Delhem, PhD:** Consultant Immunologist



**Dr Olivier Moralès, PhD:** Consultant Immunologist

**Immune insightT** offers an expertise in the field of immunology, tumeur immunity, cellular immuno-therapy and therapeutic antibodies, based on over 15 years of experience in academic laboratory. Our scientific expertise includes aspects of both innate and adaptive immunity with a high specificity on immunoregulatory mechanisms. We also have an extensive experience in clinical research, participating for many years in translational project with clinicians.

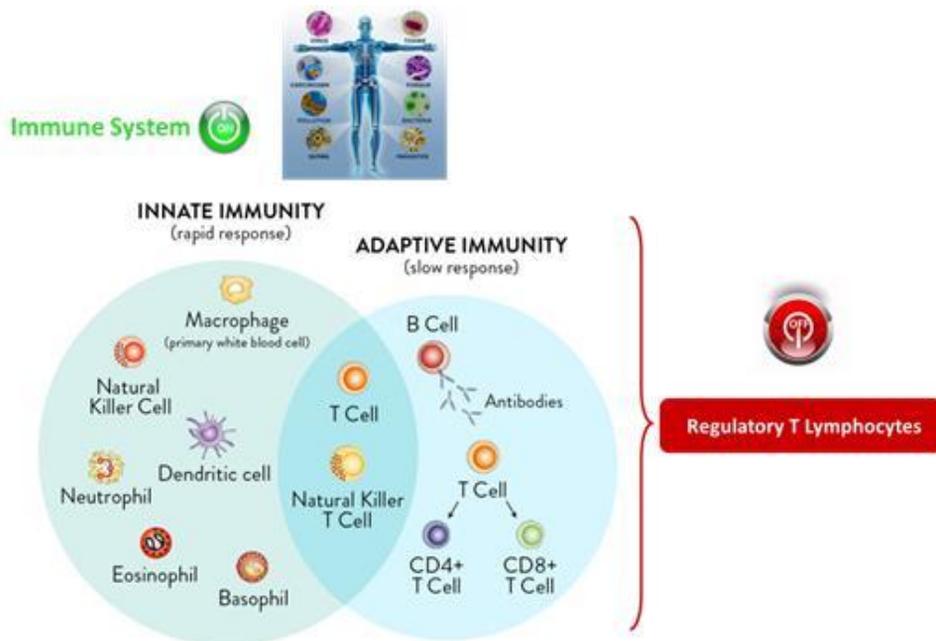
**Immune insightT** consultants provide

- Expertise of your projects based on constantly updated bibliographic data.
- Expertise of your scientific protocols feasibility and optimization of your strategies
- Analysis of your preliminary results and interpretation of your data .
- Design of your scientific strategies in support of your specific clinical projects

**The greater our understanding of basic mechanisms of immune cell function the more scientific opportunities arise to affect immune function for the treatment of autoimmune and oncologic indications.**



## Fundamental and Experimental Workshops on Immunology



**Immune insightT** organizes thematic course on the fundamentals of immunology and methodological tools for evaluating the immune response, immunoregulation and immunosurveillance. This theoretical training lasts three days at 3 teaching modules.

**Module 1:** Basics of fundamental immunology

**Module 2:** Tools in the service of immunomonitoring

**Module 3:** Contribution of animal models in immunology.

**Immune insightT** organizes practical workshops in immunology. The workshops are organized directly on site on a period of five days.



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