

FINAL RESUME ON THE RESEARCH UNIT
LBAI - B Lymphocytes, Autoimmunity and
Immunotherapies

UNDER THE SUPERVISION OF THE
FOLLOWING INSTITUTIONS AND
RESEARCH BODIES:

Université de Bretagne Occidentale - UBO
Institut national de la santé et de la recherche
médicale - INSERM

EVALUATION CAMPAIGN 2020-2022
GROUP B



In the name of Hcéres¹:

Mr Thierry Coulhon, President

In the name of the experts committee²:

Mr Frans Kroese, Chairman of the committee

Under the decree No.2014-1365 dated 14 November 2014,

¹ The president of Hcéres "countersigns the evaluation reports set up by the experts committees and signed by their chairman." (Article 8, paragraph 5);

² The evaluation reports "are signed by the chairman of the experts committee". (Article 11, paragraph 2).

Tables in this report were filled with certified data submitted by the supervising body on behalf of the unit.

UNIT PRESENTATION

Unit name:	B Lymphocytes, Autoimmunity and Immunotherapies
Unit acronym:	LBAI
Current label and N:	UMR-S-1227
ID RNSR:	201722606C
Application type:	Renewal
Head of the unit (2020-2021):	Mr Jacques-Olivier Pers
Project leader (2021-2025):	Mr Divi Cornec
Number of teams:	Mono-équipe

EXPERTS COMMITTEE MEMBERS

Chair:	Mr Frans Kroese, University of Groningen, University Medical Center Groningen, The Netherlands
Experts :	Ms Rita Carsetti, Bambino Gesù Children's Hospital, IRCCS, Rome, Italy Mr Nicolas Fazilleau, Infinity, CNRS/Inserm/Université Paul Sabatier, Toulouse (representative of Inserm CSS) Mr François Huetz, Institut Pasteur, Paris Mr Pascal Richette, CHU Lariboisière, Paris, France (representative of CNU) Mr Niclas Setterblad, Sorbonne Paris Cité (supporting personnel)

HCÉRES REPRESENTATIVE

Ms Sophie Ezine

REPRESENTATIVES OF SUPERVISING INSTITUTIONS AND BODIES

Mr Christian Brosseau, Université UBO

Mr Frédéric Delaleu, INSERM

INTRODUCTION

HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

The "Immunology and Pathology" group was created in 1983 by Mr Pierre Youinou. This research unit was promoted "Équipe d'Accueil" (EA) from 1992 to 2016. The EA 2216 has been directed by Mr Jacques-Olivier Pers since October 2011. It has received the INSERM's recognition (French Institute of Health and Medical Research) for the 2014-2016. In 2017, the unit received the INSERM's full recognition and became "Unité Mixte de recherche" (UMR 1227) under the name B lymphocytes and Autoimmunity (LBAI). It is located within the University Hospital, in Brest (Brittany, France). LBAI is organized in two axes, studying the main determinants of the functional orientation of B lymphocytes (Axis 1) and the optimization of the indications for immunotherapy in autoimmunity (Axis 2).

RESEARCH ECOSYSTEM

The LBAI unit has strong connections with both the Centre Hospitalier Régional et Universitaire, (CHRU) Brest and the University of Brest (UBO). The link between LBAI and the CHRU Brest is illustrated by the creation of CERAINO (National Reference Center for Rare Autoimmune Diseases), led by a member of the LBAI unit, and through the interaction with both the Clinical and Biological Research centers of the hospital. UBO provided financial support, and financed ten PhD students. In addition, the connection with UBO allows the laboratory to use university's platforms, when needed. Apart from the university connections, LBAI has developed links with the local communities, notably the "Région Bretagne", the "Department council" and the "Brest métropole", which were funders for the imaging mass cytometer. Lastly, LBAI is a member of the LabEx Immunotherapy, Graft, Oncology (IGO).

HCÉRES NOMENCLATURE AND THEMATICS OF THE UNIT

SVE3_4 Immunologie

MANAGEMENT TEAM

The current director of the LBAI unit is Mr Jacques Olivier Pers (PU-PH, odontology). The project leader for the next contract will be Mr Divi Cornec (PU-PH, rheumatology).

UNIT WORKFORCE

LBAI		
	Active staff	Number 06/01/2020
		Number 01/01/2022
Full professors and similar positions		8
Assistant professors and similar positions		3
Full time research directors (Directeurs de recherche) and similar positions		0
Full time research associates (Chargés de recherche) and similar positions		2
Other scientists ("Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.")		0
High school teachers		0
Supporting personnel (ITAs, BIATSSs and others, notably of EPICs)		8
	Permanent staff	21
Non-permanent professors and associate professors, including emeritus		4
Non-permanent full time scientists, including emeritus, post-docs (except PhD students)		1

PhD Students	10	
Non-permanent supporting personnel	9	
Non-permanent staff	24	
Total	45	21

GLOBAL ASSESSMENT OF THE UNIT

The close collaboration between clinicians and researchers of the LBAI unit contributes significantly to the field of translational immunology, in particular on the role of B cells in systemic autoimmune diseases. Major scientific achievements were on the characterization of regulatory B-cells in humans and the role of defects in DNA methylation in patients with Sjogren's syndrome. The LBAI is organized in two axes, studying the main determinants of the functional orientation of B lymphocytes (Axis 1) and the optimization of the indications for immunotherapy in autoimmunity (Axis 2).

The scientific output of the unit is good with a high number of publications (332 scientific articles) but the basic-translational research publications would gain to target more often high-profile journals. Members of the unit have many international collaborations and are important partners and work-package leaders in major European grants and consortia (IMI project PRECISESADs, H2020 project HarmonicSS, the IMI2 projects NECESSITY and 3TR, a FOREUM grant, COST project IONCHAN-IMMUNREPON). However, a role as coordinator in these types of grants has not yet been realized. Their strong -omics based- research tools (transcriptomics, proteomics, flow-cytometry, etc.) and bioinformatics platforms are of high-quality and well organized, and together with the newly acquired imaging mass cytometer, these are essential ingredients for their future development and unique position in France consolidated by the porting of the National Reference Center for Rare Autoimmune Diseases. These platforms may attract also scientists to the unit, and assist in their efforts to acquire a prominent position in the field of fundamental B-cell biology at the international level, that could be further fostered by high profile publications and coordination of European consortia.

The training through research activity of LBAI is good but could be improved in particular by shortening the duration of PhD, publishing PhD work within the PhD course in high profile journals and dedicating more time to PhD supervision.

Important for their translational research projects is their strong interaction with the pharmaceutical industry, both small and major companies, to support both researchers and clinicians of the unit with clinical trials with newly developed biologicals. In addition, the unit has created a start-up company with the licensing of five patents of LBAI. The various cohorts of patients from a large catchment area (Britany) are critically important for the research of the unit. The clinical trials and patient cohorts guarantee availability of biomaterials and biobanks for research purposes and underpin their close relationship with the clinic.

During the next five-years the unit will continue and extent with their research that focuses on human B cells in autoimmune diseases by 1/ understanding the mechanisms governing the functional orientation of B lymphocytes, with the aim to identify new therapeutic targets to treat systemic autoimmune diseases and 2/ the development of new tools for the optimization of the indications for immunotherapy in autoimmunity. Although promising, the unit project has to be more scientifically oriented, rather than technology driven, the integration of basic and clinical research projects might be further developed and the rather broad diversity of the pathologies might be reduced. An essential prerequisite for unit's future development is its reinforcement with technicians, with one or several (senior) full time-scientists/researchers with permanent position, and to assist the new director of the unit. If they succeed, the unit has the possibility to become excellent.

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