GIMAP - Physiopathologie et biothérapies des infections muqueuses

Rapport Hcéres

HCERES

High Council for the Evaluation of Research and Higher Education

Research units

HCERES report on research unit:

Pathophysiology and biotherapies of mucosal infections

GIMAP

Under the supervision of the following institutions and research bodies:

Université Jean Monnet Saint-Étienne - UJM

Evaluation Campaign 2014-2015 (Group A)

HCERES

High Council for the Evaluation of Research and Higher Education

Research units

In the name of HCERES,[1]

Didier HOUSSIN, president

In the name of the experts committee,[2]

Fabienne ANJUERE-CASILE, chairwoman of the committee

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

[1] The president of HCERES "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 expert committee". (Article 11, paragraph 2)

Evaluation report

This report is the result of the evaluation by the experts committee, the composition of which is specified below.

The assessments contained herein are the expression of an independent and collegial deliberation of the committee.

Unit name:	Pathophysiology and biotherapies of mucosal infections
Unit acronym:	GIMAP
Label requested:	EA
Present no.:	EA 3064
Name of Director (2014-2015):	Mr Bruno POZZETTO
Name of Project Leader (2016-2020):	Mr Thomas BOURLET

Expert committee members

Chair:	Ms Fabienne ANJUERE-CASILE, Nice Sophia Antipolis University
Experts:	Mr Mario CLERICI, Milan University, Italy
	Mr Stephan HARBARTH, Geneva University Hospitals, Switzerland
	Mr Jean-Daniel TISSOT, University of Lausanne, Switzerland
	Mr Philippe VAN DE PERRE, Montpellier University (representative of CNU)

Scientific delegate representing the HCERES:

Mr Kamel BENLAGHA

Representatives of the unit's supervising institutions and bodies:

Mr Christophe DESRAYAUD (director of the Doctorale School SIS n°488)

Mr Youcef OUERDANE, University of Saint-Étienne

Mr Pierre TIBERGHIEN, EFS

1 • Introduction

History and geographical location of the unit

GIMAP was created in 1991 as a group of Jean Monnet University (UJM) located in the Faculty of Medicine Jacques Lisfranc of Saint Étienne (France) to develop a research on mucosal immunology related to genital infection by HIV.

The unit is a major actor of UJM that federates a coherent and original research at cross-roads between mucosal immunology, inflammation and infection led by seventeen UJM professors and one EFS director of research.

Since 2010, the research of this mono-thematic unit has been organized in two major scientific projects:

– Project 1 that aims to understand the mechanisms of infection by HIV at mucosal surfaces and to develop therapeutic approaches to block mucosal transmission of HIV;

– Project 2 dedidacted to several aspects of mucosal and endothelial inflammation and comprising several basic and translational projects including studies about i) the contribution of platelets in acute and chronic inflammation due to infection or transfusion, ii) the signalling pathways involved in the differentiation of B lymphocytes of IgA isotype in response to infectious stimuli, iii) the role and pronostic value of IgA immunoglobulins in IgA nephropathy, iv) gut and respiratory tract chronic inflammation induced by bacterial pathogens.

Within the continuity of the research developed during the past five years, a restructuration of research activities is proposed for the period 2016-2020, this aims at reinforcing transversal interactions between main projects. The research program will be organized in three workpackages : 1) Study of the molecular interactions between different mucosal pathogens and mucosal surfaces; 2) Mucosal vaccination and therapeutic strategies against infections; 3) Mucosal and endothelial inflammation.

The unit is part of the federative research structure IFRESIS composed of the research units of the Faculty of Medicine, of Ecole Nationale Supérieure des Mines, of St Étienne CHU and of Loire Cancerology Institute - Lucien Neuwirth.

Management team

The current director of the GIMAP is Mr Bruno POZZETTO. The proposed director for the next period (2016-2020) is Mr Thomas BOURLET, if validated by the unit council. The unit council is composed of all the permanent members of the unit. The research unit is headed by the director assisted by an executive board composed of the full professors (PU-PH) of the unit.

HCERES nomenclature

SVE1_LS6 Immunologie, microbiologie, virologie, parasitologie

Unit workforce

Unit workforce	Number as at 30/06/2014	Number as at 01/01/2016
N1: Permanent professors and similar positions	17 [8,5]	16 [8]
N2: Permanent researchers from Institutions and similar positions	2	2
N3: Other permanent staff (without research duties)	9 [8,5]	9 [8,5]
N4: Other professors (Emeritus Professor, on-contract Professor, etc.)	1	1
N5: Other researchers (Emeritus Research Director, Postdoctoral students, visitors, etc.)	1	1
N6: Other contractual staff (without research duties)		
TOTAL N1 to N6	**30**	**29**

Unit workforce	Number as at 30/06/2014	Number as at 01/01/2016
Doctoral students	18	
Theses defended	17	
Postdoctoral students having spent at least 12 months in the unit	2	
Number of Research Supervisor Qualifications (HDR) taken	4	
Qualified research supervisors (with an HDR) or similar positions	15	15

2 • Overall assessment of the unit

Global assessment of the unit

The GIMAP unit is a major actor of UJM that federates a coherent and original research at cross-roads between mucosal immunology, inflammation and infection led by seventeen UJM professors and one EFS director of Research.

The research is organized in two main axes:

Axis 1, headed by Mr Bruno POZZETTO, is focused on the analysis of mucosal immunity and, in particular, on the study of the interactions between HIV and the female genital mucosae. It includes both a basic science arm in which viral variants and reservoirs are analyzed and the mucosal immune response to HIV infection is dissected, as well as a preclinical arm dealing with microbicides and vaccinal approaches. Researchers within this axis have developed a number of national and international collaborations, have obtained some important results (in particular the very

promising monoclonal neutralizing antibody –H7- against HIV-1 envelope), and have published several original papers in scientific journals of an overall higher than average quality during the last five years.

The second axis, directed by Mr Olivier GARRAUD, is related to basic and translational research on mucosal and endothelial inflammation and comprises different topics. They include a few interesting and original projects (e.g. molecular interaction between thrombocytes and pathogens). Several projects are clinically highly relevant (e.g. links and interactions between blood transfusion and inflammation). Researchers have obtained results of major importance particularly in transfusion medicine, and have published original papers of good scientific quality in specialized peer-reviewed journals.

Strengths and opportunities in relation to the context

- Interesting and promising field of research in a highly competitive context.
- Relatively few complex research units focus on mucosal immunity.
- Good quality of publications (233 original publications between January 2009 and December 2014 among which 51 with an impact factor >5).
- Excellent training program with 17 PhD theses defended during the last 4 years.
- Strong combination of basic and translational research for both axes.
- Very good level of local recruitment (students, researchers).

Weaknesses and threats related to the context

- International collaborations should be extended.
- Financial support stems from local or national agencies. Competition for international grants is recommended.
- International visibility could be improved.
- Publications are of good, but not outstanding quality.
- Research of axis 1 is limited to HIV infection. The research could be widened to include other infectious agents.
- Research of axis 2 is a mix of different groups and research perspectives. Link with clinical research (clinical trials initiated at this site) could be improved. Although inter-disciplinarity and trans-disciplinarity are the keys of the success of axis 2, this benefit is associated with a risk of dispersion and heterogeneity.

Recommendations

The unit coordination of the various projects is effective and coherent and provides a global efficiency in spite of the diversity of the topics covered by members of the unit. The recommendation is to continue the effort engaged to increase the coherence between projects, to recruit several full-time experienced researchers, including post-doctoral fellows, to reinforce tasking forces on main projects and to join efforts to compete for EU-funded grants and other international grants. The reorganization of the research in workpachages for the next period could be taken as an opportunity to concentrate tasking forces on most promising basic and translational projects (host-pathogen interactions at mucosal surface, mucosal vaccination and immunotherapy, platelets and inflammation) and to initiate controlled clinical trials at this site.