STROMALAB - Cellules stromales, homéostasie, plasticité et réparation tissulaire

Rapport Hcéres

HCERES

High Council for the Evaluation of Research and Higher Education

Research units

HCERES report on research unit:

Cellules Stromales, Homeostasie, Plasticité et Regénération Tissulaire

STROMALab

Under the supervision of the following institutions and research bodies:

Université Toulouse 3 - Paul Sabatier - UPS

Centre National de la Recherche Scientifique - CNRS

Institut National de la Santé et de la Recherche Médicale - INSERM

Établissement Français du Sang

Evaluation campaign 2014-2015 (Vague 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]

John DE VOS, chairman of the committee

Under the decree N°.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:	Cellules Stromales, Homeostasie, Plasticité et Régénération Tissulaire
Unit acronym:	STROMALab
Label requested:	UMR/UMR_S/EFS
Present no.:	UMR 5273 – UMR_S1031
Name of Director (2014-2015):	Mr Louis CASTEILLA
Name of Project Leader (2016-2020):	Mr Louis CASTEILLA

Expert committee members

Chair:	Mr John DE VOS, University of Montpellier, Inserm
Experts:	Ms Dominique BONNET, London Research Institute, London, UK
	Ms Valérie CORONAS, University of Poitiers (representative of the CoNRS CNRS)
	Ms Els VERHOEYEN, Centre Méditéranéen de Médecine Moléculaire, Nice (representative of the CSS Inserm)

Scientific delegate representing the HCERES:

Mr Jean GIRARD

Representatives of the unit's supervising institutions and bodies:

Mr Pierre CELSIS, University Paul Sabatier

Ms Isabelle HENRY, Inserm

Ms Armelle LETURQUE, CNRS

Mr Pierre TIBERGHIEN, EFS

Mr Philippe VALET (représentative of the Doctoral School ED 151 "Biologie Santé Biotechnologie")

1 • Introduction

History and geographical location of the unit

The STROMALab was created in 2011 in Toulouse by the gathering of two teams: team 1 (CNRS) working on adipose stromal/stem cells from Toulouse and team 2, associated with the National French Blood Bank (EFS), which was previously located at Tours and performed research on mesenchymal stem cells. At the start of this contract, the two teams teamed-up in Toulouse to build an integrative unit with the objective to develop basic, translational and clinical science on adipose stem cells (ASC) and mesenchymal stem cells (MSC) for tissue homeostasis and repair. Team 2 was initially located in the University of Tours and joined in 2012 the Faculty of Medicine Rangueil where team 1 was already located.

STROMALab is a joint laboratory (Unité Mixte de Recherche under the supervision of several institutions: the Paul Sabatier (UPS)-Toulouse 3 University, CNRS (UMR 5273), EFS and Inserm (U 1031).

STROMALab is currently located at the Rangueil Hospital of Toulouse. In 2016, STROMALab will be housed in a new building located at the site of "Toulouse Oncopole" that will gather the research teams with new GMP compliant EFS laboratories in charge of producing ASC/MSC-derived advanced therapy medicinal products (ATMP).

This new location will be close to the Cancer Campus Research Building, on the "Oncopole" campus. It will improve the work conditions of STROMALab by increasing space, but also by facilitating the access to the animal housing and analysis platform CREFRE, and also other platforms such as the ITAV imaging platform.

Management team

STROMALab is headed by a director that is assisted by a co-director. It consists of two research teams assisted by common facilities. All members of the unit seem satisfied by the unit management, the organisation of the lab, the lab meetings and the lab's life. Nevertheless it would be useful to more formally set up a laboratory council with elected members of the unit.

HCERES nomenclature

SVE1 Biologie, santé

Unit workforce

Unit workforce	Number as at 30/06/2014	Number as at 01/01/2016
N1: Permanent professors and similar positions	3	4
N2: Permanent researchers from Institutions and similar positions	10.8	13.8
N3: Other permanent staff (without research duties)	6.4	6.4
N4: Other professors (Emeritus Professor, on-contract Professor, etc.)		
N5: Other researchers (Emeritus Research Director, Postdoctoral students, visitors, etc.)	5	5
N6: Other contractual staff (without research duties)	10	10
TOTAL N1 to N6	**35.2**	**39.2**

Unit workforce	Number as at 30/06/2014	Number as at 01/01/2016
Doctoral students	6	
Theses defended	3	
Postdoctoral students having spent at least 12 months in the unit	9	
Number of Research Supervisor Qualifications (HDR) taken	2	
Qualified research supervisors (with an HDR) or similar positions	5	7

2 • Overall assessment of the unit

Global assessment of the unit

During this contract, STROMALab has consolidated its international notoriety on mesenchymal/adipose stem cells and has acquired a leading position in translational programs at the European level and beyond. Specifically, they have made major breakthroughs on MSC/ASC research: for example, they characterized the hematopoietic function of the white adipose tissue and the role of ASC as a support for this activity, they have been able to reverse aging effects by acting on metabolism and they have improved our understanding of MSC phenotypical and functional heterogeneity. In the perspective to develop translational research, the research unit has strong interactions with a cell processing facility, with small and bigger industries and is part of the "Infrastructure Nationale de Biologie Santé" platform ECELL France. STROMALab succeeded in fruitful translation of basic science results to bedside, which is exemplified by their involvement in several clinical trials. Owing to its development of GMP cell products, the research unit is involved in numerous networks for the use of MSC in regenerative medicine.

Strengths and opportunities in relation to the context

STROMALab is formed by two internationally recognized research teams that clearly benefited from their fusion as reflected by their scientific output. It has an excellent capacity to obtain external funding both from National and European agencies and attracts external researchers. It is integrated in numerous national and international networks and is strongly supported at the regional level. In addition to basic science, the research unit puts a strong accent on translational research, which represents one of its major original forces.

In 2016, the research unit will join the new research site "Oncopole", which will provide the research unit with new buildings and should help them to attract new teams, as well as provide new opportunities to develop research project related to cancer. Given their leader position in the field and the GMP production facilities, the research unit has the opportunity to strengthen translational research and to develop collaborations with industries.

Weaknesses and threats related to the context

Although the track record is very good with papers published in excellent journals of the domain, publishing in high impact general journals could further improve visibility of their work. This may be attained in the future, in particular by the use of a newly developed transgenic mouse to track MSC and their derivatives in the mouse tissues, an original technological challenge that will allow to tackle fundamental issues in the field of MSC.

Relative to the number of HDR researchers, the number of PhD students working in STROMALab was relatively low.

Recommendations

STROMALab is a highly performing research unit, which combines excellent basic and translational research. It should keep its leader position in the future. With the relocation of the unit and the increase in laboratory space, the recruitment of external leaders working on tissue development, new imaging techniques and/or translational research/cellular therapy would strengthen the output of the most important lines of research of the laboratory.

The active recruitment of PhD students is recommended and could be accompanied for instance by the "CIFFRE" program in link with the industry as well as international post-doctoral fellows.