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LBM - Laboratoire de biogenèse membranaire

Rapport Hcéres

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HCERES

High Council for the Evaluation of Research
and Higher Education

Research units

HCERES report on research unit:

Laboratory of Membrane Biogenesis

LBM

Under the supervision of the following
institutions and research bodies:

Université de Bordeaux

Centre National de la Recherche Scientifique - CNRS

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

Frédéric BEAUDOIN, 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:	Laboratory of Membrane Biogenesis
Unit acronym:	LBM
Label requested:	UMR
Present no.:	UMR 5200
Name of Director (2014-2015):	Mr Jean-Jacques BESSOULE
Name of Project Leader (2016-2020):	Mr Jean-Jacques BESSOULE

Expert committee members

Chair:	Mr Frédéric BEAUDOIN, Rothamsted Research Harpenden, Hertfordshire, United-Kingdom
Experts:	Mr Edgar CAHOON, University of Nebraska, Lincoln, USA
	Mr Eric MARECHAL, CNRS/iRTSV-LPCV, CEA, Grenoble (representative of section 23 of CNRS)
	Mr Yves POIRIER, University of Lausanne, Switzerland

Scientific delegate representing the HCERES:

Mr Pierre COUBLE

Representatives of the unit's supervising institutions and bodies:

Mr Pierre DOS SANTOS, Université de Bordeaux

Mr Thierry GAUDE, CNRS

Mr Yannick LUNG, Université de Bordeaux

Mr Roger MARTHAN (representative of Doctoral School n° 154 "Sciences Biologiques et Médicales")

1 • Introduction

History and geographical location of the unit

The Laboratory of Membrane Biogenesis (LBM) has been associated with Bordeaux University and CNRS (UMR 5200) since 1994. Initially located near the Bordeaux 2 campus (Université 5 Segalen), the LBM moved to the INRA “green campus” in Villenave d’Ornon in June 2012 (in the course of this reporting period) and is now more logically integrated in a campus dedicated to plant biology and agronomy.

Management team

The LBM is led by Mr Jean-Jacque BESSOULE since the retirement of the previous director, Mr René LESSIRE, at the end of 2013. Mr Jean-Jacque BESSOULE acted previously as a deputy director of the LBM, from the beginning of this reporting period in 2009, facilitating the transition to his present position as the research unit’s director.

HCERES nomenclature

Principal: SVE1_LS1 Molecular Biology, Structural Biology, Biochemistry

Secondary: SVE2_LS3 Cell Biology, Developmental Biology of Plants

Unit workforce

Unit workforce	Number as at 30/06/2014	Number as at 01/01/2016
N1: Permanent professors and similar positions	7	7
N2: Permanent researchers from Institutions and similar positions	10	10
N3: Other permanent staff (without research duties)	7	6
N4: Other professors (Emeritus Professor, on-contract Professor, etc.)		
N5: Other researchers (Emeritus Research Director, Postdoctoral students, visitors, etc.)	1	1
N6: Other contractual staff (without research duties)	1	
TOTAL N1 to N6	26	24

Unit workforce	Number as at 30/06/2014	Number as at 01/01/2016
Doctoral students	5	
Theses defended	8	
Postdoctoral students having spent at least 12 months in the unit	5	
Number of Research Supervisor Qualifications (HDR) taken	2	
Qualified research supervisors (with an HDR) or similar positions	12	12

2 • Overall assessment of the unit

Global assessment of the unit

Scientific research conducted in the LBM is entirely dedicated to the metabolism, structure and physiological role of cellular and extracellular lipids in plants and fungi. This specialisation and focus give great strength and originality to this laboratory, both nationally and internationally, and is illustrated by a number of innovations and discoveries made in the LBM and by an impressive increase of the number of publications compared to the previous reporting period, many of them in high impact journals. Several LBM research projects are world class and their leaders have achieved international leadership in their field. This resulted in the enhancement of the LBM international academic reputation and appeal and contributed to attracting new talented young scientists and to securing invitation for LBM members to give keynote lectures at important international meetings. LBM members are heavily involved in the training of both undergraduates and PhD students and it is clear that LBM provides a warm and friendly environment for everyone regardless of age, status or experience. The LBM is also actively involved in a number of local and national projects with potential economic and environmental benefit via its state-of-the-art lipidomic platform and the LEB Aquitaine technology transfer unit.

Strengths and opportunities in relation to the context

Specialisation and focus on plant and “yeast” lipid research.

Move to a campus dedicated to plant science and agronomy.

Significant proportion of young highly motivated scientists with complementary skills.

Growing reputation and leadership in several fields of plant lipid research.

Training of a large number of undergraduate students, ability to attract strong PhD student candidates.

The evolving lipidomic platform is a strong asset for supporting world class research provided that logistic aspects, access and availability can be improved.

Numerous opportunities for developing closer collaboration between groups within the teams but also with other laboratories on campus.

Weaknesses and threats related to the context

The location of the ESI-MS/MS instrument on a remote campus create logistic but also technical difficulties, hindering the true potential of the lipidomic platform to support LBM research activities.

Collaborative work and service activities provided by the lipidomic platform and the LEB transfer unit should not be detrimental to main high impact research activities. Each of them is managed by single very busy research engineers.

Increasing number of research scientists but decreasing number of technical and support staff.

Decreasing funding resulting in increasing reliance on grant and contractual funding which already represent a large proportion of the LBM budget.

Diversity of research topics and model systems presents a risk of distraction from the main research projects and might limit synergism within team 1.

Recommendations

In the context of decreasing resources and uncertain future external funding it might become even more important to focus teams efforts on a limited number of model systems projects and subjects. This would help maintaining critical mass and synergism to ensure continuous leadership of flagship projects.

More support is needed for recruiting technical staff and for further development of the lipidomic platform. This would allow a more efficient management and the concomitant running of fundamental and applied projects.

Seek funding from alternative sources (Marie-Curie, EMBO, etc.) to recruit more post-doctoral scientists to improve financial stability and increase scientific output.

Several fundamental projects have generated sufficient knowledge to initiate translational research and transition to more applied projects with biotechnological and/or agronomic applications. This should generate opportunities to attract funding from public and private sectors both nationally and internationally. The LEB Aquitaine technology transfer unit could play a role in this.