BSC - Biotechnologie et signalisation cellulaire

Rapport Hcéres

HCERES

High Council for the Evaluation of Research and Higher Education

Department of Research Evaluation

report on research unit:

Biotechnology and cell signalling

BSC

under the supervision of the following institutions and research bodies:

Université de Strasbourg

Centre National de la Recherche Scientifique - CNRS

Evaluation Campaign 2016-2017 (Group C)

HCERES

High Council for the Evaluation of Research and Higher Education

Department of Research Evaluation

In the name of HCERES,[1]

Michel Cosnard, president

In the name of the experts committee,[2]

Martin Lohse, 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 sole result of evaluation by the expert committee, the composition of which is specified below.

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

Unit name:	Biotechnology and cell signalling
Unit acronym:	BSC
Label requested:	UMR
Current number:	7242
Name of Director (2016-2017):	Mr Jean-Luc GALZI
Name of Project Leader (2018-2022):	Mr Jean-Luc GALZI

Expert committee members

Chair: Mr Martin LOHSE , Max Delbrück Center, Berlin

Experts:

Ms Catherine ETCHEBEST, Université Paris Diderot Paris 7 (representative of the CNU)

Mr Stefano MARULLO, INSERM

Mrs Laurence MOLINA, SysDiag, CNRS (representative of supporting personnel)

Mrs Rebecca OAKEY, King's College, London, UK

Mr Martin SCHEFFNER, University of Konstanz, Germany

Mr Frédéric TARAN, CEA Saclay

Mr Gille TRUAN, CNRS Toulouse (representative of CoNRS)

Scientific delegate representing the HCERES:

Mrs Urszula HIBNER

Representatives of supervising institutions and bodies:

Mr Hugues DREYSSÉ, Université de Strasbourg

Mr Bruno MIROUX, CNRS

Mr Patrice SOULLIÉ, CNRS

Head of Doctoral School

Mrs Catherine SCHUSTER, ED n°414, « Vie et Santé »

1 • Introduction

History and geographical location of the unit

The research center at the School of Biotechnology started in 1995 with three independent laboratories (2 UPR and 1 UMR), which fused into a single research unit in 2004 and became UMR 7242 "Biotechnologie et Signalisation cellulaire", in 2011. The unit, located in the Campus of Illkirch, has a long tradition of cooperating with the two neighbour institutions, the School of Pharmacy and the IGBMC. In the early 2000s, the UMR 7242 developed a common strategic cooperation plan for scientific projects and outreach, teaching, and pooling of technical facilities in order to build up a research campus with national and international reputation in genomics and at the interface between chemistry and biology: the genopole "from genes to drugs".

With the support of the School of Pharmacy, the unit established a "Drug Discovery Center" comprising research, teaching, technology transfer and platform components to offer scientists supportive environment in their research from genes to drugs. This initiative was taken over by the LabEx MEDALIS, in which three teams of the unit are founding members and which is funded by the "Programme Investissement d'Avenir" of the French Ministry of Research.

The unit is located in the School of Biotechnology Building in Illkirch and shares its laboratories and offices with the chemical biology technological platform (PCBIS, UMS CNRS 3286) and with a start-up incubator (incubator SEMIA). The whole ensemble constitutes the IREBS (Institut de Recherche de l'École de Biotechnologie de Strasbourg), which pursues a joint chemical biology strategy.

The UMR 7242 is currently affiliated to the Université de Strasbourg and the CNRS (sections 16, 20, 25). For the period to come, taking strategy changes into account, the CNRS affiliation is planned to be redefined as follows: major section= 20; secondary sections= 16, 21 and 28.

Management team

The unit's director is Mr Jean Luc GALZI and the deputy director is Mr Bruno CHATTON.

HCERES nomenclature

SVE 2: Biologie Cellulaire, Imagerie, Biologie Moléculaire, Biochimie, Génomique, Biologie Systémique, Développement, Biologie Structurale

SVE 3: Microbiologie, Virologie, Immunologie

SVE 5: Physiologie, Physiopathologie, Cardiologie, Pharmacologie, Endocrinologie, Cancer, Technologies Médicales

Scientific domains

The unit's scientific program is carried out under the unifying umbrella of "chemical biology", i.e. with the aim of elucidating pathological mechanisms and discovering means of interfering with them. This entails two major strategies: to discover and validate gene functions and to identify proteins as (potential) drug targets. Specifically, the unit follows these topics in three areas: (a) genome integrity (teams 1, 3, 4, 5), (b) pain and inflammation (teams 6 and 8), and (c) microbial pathogens (teams 2 and 7).

Unit workforce

Unit workforce	Number on 30/06/2016	Number on 01/01/2018
N1: Permanent professors and similar positions	11	10
N2: Permanent researchers from Institutions and similar positions	15	18
N3: Other permanent staff (technicians and administrative personnel)	17,8	15,8
N4: Other researchers (Postdoctoral students, visitors, etc.)	13	
N5: Emeritus	0	
N6: Other contractual staff (technicians and administrative personnel)	3	
N7: PhD students	19	
TOTAL N1 to N7	**78,8**	
Qualified research supervisors (HDR) or similar positions	19	

Unit record	From 01/01/2011 to 30/06/2016
PhD theses defended	23
Postdoctoral scientists having spent at least 12 months in the unit	28
Number of Research Supervisor Qualifications (HDR) obtained during the period	6

2 • Assessment of the unit

Global assessment of the unit

The unit is an important player in functional genomics at the interface between chemistry and biology. Its key asset is the intention and ability to identify compounds that may serve as leads in interfering with pathological mechanisms. Thus, their research significantly contributes to the development of tools to study interactions from molecules up to animal models. The unit's teams are also active in the identification of new bioactive compounds aiming to decipher signaling pathways and to develop drug candidates.

The unit's field of expertise covers protein science with a focus on membrane proteins, chemical biology and screening of compound libraries, *in vitro* and *in vivo* pharmacology, molecular biology applied to functional genomics and biological engineering, production of tools such as antibodies and antibody fragments, and DNA and protein transfection reagents. In these fields, the unit strives to develop successful novel strategies for new therapeutic approaches, supported by various technology transfer activities, including cooperation with industrial and clinical partners.

The overall quality of the unit's publications is very good and, importantly, has increased in the last 5 years (2011-16) compared to the preceding 5-year period. The unit is remarkably active in applied research, with patents filed, some of which are licensed to companies, a large number of industrial cooperations and contracts, and a key role in the French chemical biology community.

Overall, there is an excellent balance between research and training of young scientists through successful integration of research and teaching. The well-established integration of research and teaching provides an excellent environment to allow university staff to engage in first-class research, and at the same time research teams benefit from access to talented students.

The departure of some leading senior scientists has and will continue to cause strains, which however have been efficiently dealt with by managing a major reorganisation, restructuring several teams.

The relatively broad range of research topics of the different teams might make continued interactions more difficult than in more focused units, and also impair overall international visibility. The unit has some teams of internationally leading calibre, while others are less prominent. However, the unit has so far managed to maintain a high level of internal collaborations and to achieve prominence in several fields.