



Research evaluation

FINAL RESUME ON THE RESEARCH UNIT
BRM - Bacterial RNAs & Medicine

UNDER THE SUPERVISION OF THE
FOLLOWING INSTITUTIONS AND RESEARCH
BODIES:

Université de Rennes 1

Institut national de la santé et de la recherche
médicale - INSERM

EVALUATION CAMPAIGN 2020-2021
GROUP B

Report published on June, 15 2021

High Council for evaluation of research and higher education



In the name of Hcéres¹:

Mr Thierry Coulhon, President

In the name of the experts committee²:

Mr Wolfgang Hess, 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 document were filled with certified data submitted by the supervising body on behalf of the unit.

UNIT PRESENTATION

Unit name:

Bacterial RNAs & Medicine

Unit acronym:

BRM

Current label and N°:

U1230

ID RNSR:

200817513F

Application type:

Renewal

Head of the unit (2020-2021):

Mr Brice Felden

Project leader (2021-2025):

Mr Vincent Cattoir

Number of teams and/or themes:

One team

EXPERTS COMMITTEE MEMBERS

Chair:

Mr Wolfgang Hess, University of Freiburg, Germany

Experts:

Mr Bruno Sargueil, CNRS, Paris

Mr Emmanuel Segéral, INSERM, Paris (supporting personnel)

Mr Jean-Claude Sirard, INSERM, Lille (representative of CSS INSERM)

Ms Anne-Judith Waligora-Dupriet, Université de Paris (representative of CNU)

HCÉRES REPRESENTATIVE

Mr Théophile Ohlmann

REPRESENTATIVES OF SUPERVISING INSTITUTIONS AND BODIES

Non applicable as the visit was canceled

INTRODUCTION

HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

The BRM unit was created in 2000, received an INSERM label in 2004 and was renewed in 2015. The unit is located at the faculty of Pharmacy in the Villejean campus of the University of Rennes 1.

RESEARCH ECOSYSTEM

The BRM unit is one of the nine units that constitute the pole 'Biologie-Santé' of the University of Rennes with tight connections with the other eight units of this pole. BRM also contributes and benefits from local facilities notably the federative research structure BIOSIT to which BRM belongs since its creation.

HCÉRES NOMENCLATURE AND THEMATICS OF THE UNIT

SVE2_1 Biologie moléculaire et structurale, biochimie

SVE2_2 Génétique, génomique, bioinformatique, biologie systémique

SVE3_1 Microbiologie

MANAGEMENT TEAM

Mr Brice Felden was the director of the unit (2016-2021) and Mr Vincent Cattoir will be the director for the next contract (2022-2028).

UNIT WORKFORCE

Active staff	Number 06/01/2020	Number 01/01/2022
Full professors and similar positions	5	5
Assistant professors and similar positions	4	4
Full time research directors (Directeurs de recherche) and similar positions	0	0
Full time research associates (Chargés de recherche) and similar positions	0	0
Other scientists ("Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.")	0	0
High school teachers	0	0
Supporting personnel (ITAs, BIATSSs and others, notably of EPICs)	4	6
Permanent staff	13	15
Non-permanent professors and associate professors, including emeritus	0	
Non-permanent full time scientists, including emeritus, post-docs (except PhD students)	0	
PhD Students	8	
Non-permanent supporting personnel	2	
Non-permanent staff	10	
Total	23	15

GLOBAL ASSESSMENT OF THE UNIT

The 'Bacterial RNAs and Medicine' (BRM) unit studies small RNA (sRNA) driven gene expression regulations in several human multi-drug resistant bacterial pathogens including *Staphylococcus aureus*, *Enterococcus faecium* and *Pseudomonas aeruginosa* with the aim to develop novel diagnostic tools and therapeutics. The unit represents a mix of clinicians, infectiologists and microbiologists all having teaching duties, technicians, and PhD students.

Although the unit is relatively small, the output of the unit in terms of publications is excellent (134 articles in total, 38 as leading authors in excellent to outstanding journals such as *Nucleic Acids Research*, *Emerging Infectious Diseases*, *PLOS Biology*, *Nature Microbiology*, twelve reviews, 48 clinical, fourteen books and chapter books). Additionally, BRM has built a unique database for sRNA.

The expertise of the unit is nationally unique and internationally visible. Indeed, BRM pioneered the field of sRNAs on Gram-positive pathogens and is recognized by the clinical and basic research communities for its cutting-edge approaches on sRNAs in the regulation of bacterial virulence and antibiotic resistance in pathogens (*S. aureus*, *E. faecium*) that are of major interest for public health. The international visibility of the unit is also illustrated by the participation of BRM members as associate editors in journals such as *Current Opinion Microbiology* or *Antimicrobial Agents and Chemotherapy*.

BRM funding capacity is mainly from national sources (ANR as a partner, FRM, Brittany Region, PPR « Antibiorésistance »). BRM receives also an industrial support from Olgram company, a start-up which creation was BRM-driven.

The unit also has a strong activity with the private sector regarding consulting activity for companies including AstraZeneca, MSD, Pfizer, Sanofi, Hoffman La Roche or BioMérieux. In addition to the fundamental research performed at BRM, the unit is also strongly involved in clinical research on infections and treatment and has six patents, out of which one has been licensed.

The contribution of BRM in training through research is excellent as illustrated by the number of PhD students trained (13 PhD students including eight defended), the hosting of three post-doctoral fellows, although the tutoring seems to be restricted to a few HDR.

The environment is excellent since the unit has dedicated equipment for BSL2 pathogen studies, and has access to a clinical bacteriology department through the National Reference Centre "Antibiorésistance" and the technology unit (UMS and federative research structure BIOSIT) for animal experiments, OMICS platforms and microscopy.

The future director of the unit has proposed a new organizational chart involving young scientists and different thematic axes that can be expected to continue to work well independently and also in synergy. The research on small RNAs in bacterial physiology and virulence will be continued and relies on strong background and expertise. The screening of new factors including sRNAs involved in virulence and antibiotic resistance/persistence will be developed. The development of novel anti-infectives to fight multidrug-resistant bacteria will constitute another thematic field.

The scientific achievements and future strategy of the unit are considered productive, successful and excellent.

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