

FINAL RESUME ON THE RESEARCH UNIT:  
Structure / Activity of Normal and Pathological  
Biomolecules (SABNP)

UNDER THE SUPERVISION OF THE  
FOLLOWING INSTITUTIONS AND  
RESEARCH BODIES:

Université d'Evry-Val-d'Essonne - UEVE  
Institut national de la santé et de la recherche  
médicale - Inserm

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**EVALUATION CAMPAIGN 2018-2019**  
GROUP E

Report published on February, 12 2019



In the name of Hcéres<sup>1</sup>:

Michel Cosnard, President

In the name of the experts committee<sup>2</sup>:

Frédéric Allain, Chairman of the committee

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

<sup>1</sup> The president of Hcéres "countersigns the evaluation reports set up by the experts committees and signed by their chairman." (Article 8, paragraph 5);

<sup>2</sup> The evaluation reports "are signed by the chairman of the experts committee". (Article 11, paragraph 2).

Tables in this document were filled with data provided by laboratories and supervising bodies in the unit's application and in the Excel files "Données du contrat en cours" and "Données du prochain contrat".

## UNIT PRESENTATION

<b>Unit name:</b>	Structure / Activity of Normal and Pathological Biomolecules
<b>Unit acronym:</b>	SABNP
<b>Requested label:</b>	UMR
<b>Application type:</b>	Renewal
<b>Current number:</b>	U 1204
<b>Head of the unit (2018-2019):</b>	Mr David PASTRÉ
<b>Project leader (2020-2024):</b>	Mr David PASTRÉ
<b>Number of teams:</b>	1

## EXPERTS COMMITTEE MEMBERS

**Chair:** Mr Frédéric ALLAIN, ETH Zurich, Switzerland

**Experts:** Mr Bruno CHARPENTIER, Université de Lorraine (representative of CNU)  
Ms Hélène DÉMÈNÉ, CBS Montpellier (representative of Inserm CSS)  
Mr Renaud VINCENTELLI, CNRS Marseille (supporting personnel)

## HCÉRES REPRESENTATIVE

Mr Yacine GRABA

## REPRESENTATIVES OF SUPERVISING INSTITUTIONS AND BODIES

Mr Patrick CURMI, Université d'Evry-Val-d'Essonne

Mr Emmanuel BERTHENAND, Inserm

## INTRODUCTION

### HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

The laboratory is an Inserm/UEVE (University of Evry-Val-d'Essone) research unit created in 2007 by Patrick Curmi. Since the election of Patrick Curmi as president of the University of Evry in 2015, the unit is directed by David Pastré, with a clear thematic refocusing on the structure and function of RNA binding proteins. The unit is located at the Evry University campus and occupies 1000 m<sup>2</sup> in the Maupertuis building. The unit benefits from a strong support of the Evry Genopole, and is part of the Paris-Saclay ComUE.

### MANAGEMENT TEAM

The unit is structured as a mono-team unit.

### HCÉRES NOMENCLATURE

SVE2\_1; SVE2\_2. SVE1\_3.

### SCIENTIFIC DOMAIN

The main topic is the structural study of protein-RNA complexes involved in post-transcriptional gene regulation. More specifically, three research themes were defined to investigate i) translation regulation by RNA binding proteins RBPs, in particular cold shock domain protein YB-1 but also Lin28 and HuR (Theme 1); ii) the proteins FUS, TDP43 and RBM45 which are found in cytoplasmic aggregates of patients with neurodegenerative diseases (ALS and FTLD) (Theme 2); iii) the assembly of splicing factors controlling 3' splice-site recognition (Theme 3) focusing on protein-protein interactions via the UHM-ULM interactions which involve the proteins U2AF65, CAPERa and SF3b155. Finally, the fourth theme is structural bioinformatics in connection with the other themes. Several unit members interact closely with the in-house spin-off company SynSight. The methods of investigation are primarily atomic force microscopy (AFM), Nuclear Magnetic Resonance (NMR) spectroscopy, structural modelling and fluorescence-based microscopy.

### UNIT WORKFORCE

	Unit workforce	
	Structure-Activity of Normal and Pathological Biomolecules	
Active staff	Number 30/06/2018	Number 01/01/2020
Full professors and similar positions	1	1
Assistant professors and similar positions	3	4
Full time research directors (Directeurs de recherche) and similar positions	1	1
Full time research associates (Chargés de recherche) and similar positions	3	3
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)	7	7
<b>Permanent staff</b>	<b>15</b>	<b>16</b>
Non-permanent professors and associate professors	1	
Non-permanent full time scientists, including emeritus, post-docs	1	
<i>PhD Students</i>	7	
Non-permanent supporting personnel	0	
<b>Non-permanent staff</b>	<b>9</b>	
<b>Total</b>	<b>24</b>	

## GLOBAL ASSESSMENT OF THE UNIT

2015 was a pivotal year in the evolution of the SABNP unit with the change in its governance. This generated the beginning of a more focused orientation of the research themes, according to recommendation by the previous evaluation. Despite these upheavals, the activity has been maintained with a regular and very good scientific production with publications in international scientific journals mostly in the first quartile. This transition period was also facilitated by the arrival of two researchers and an engineer with complementary skills. This conjunction was favourable to the progressive establishment of a strong main axis, centred on the timely and attractive field structure/function of RNA with the study of protein complexes associated with pathologies.

The stake for SABNP is now to gain international readability on its work on RNA. It has all the keys in terms of technological skills and strong support from the Inserm and the local environment (UEVE and Genopole). However, although a common theme is clearly defined and the projects are ambitious, the still large diversity of the projects proposed might be limited by not enough manpower. Based on its excellent interactions with the non-academic world, the unit should continue to develop its activities in biotechnologies with strong partnership with industrial companies including with the in-house spin-off SynSight.

The manpower of SABNP could be further strengthened by the recruitment of an additional PI with recognized scientific expertise in RNA biology. This would open up the possibility of more integrated studies in the cellular context and deep studies of molecular mechanisms on RNA and more possibilities in terms of publications in general journals of high impact.

In the absence of being able to recruit high-performance students from the UEVE Master's degree, SABNP has chosen a strategy based on M2 recruitment outside the University or based on international collaborations, particularly with Russia, as part of an International Research Network focused on stress granules and the formation of aggregates associated with neurodegenerative diseases. In these particular circumstances, doctoral training of SABNP evolves favourably to reach a very good level, with well-mastered thesis duration, solid funding and publications for each doctoral student.

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