

FINAL RESUME ON THE RESEARCH UNIT:  
Interactions between stem cells and their niches  
in physiology, tumors and tissue repair (SToRM)

UNDER THE SUPERVISION OF THE  
FOLLOWING INSTITUTIONS AND  
RESEARCH BODIES:

Université Paris-Sud

Institut national de la santé et de la recherche  
médicale – Inserm

Service de Santé des Armées

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**EVALUATION CAMPAIGN 2018-2019**  
GROUP E



In the name of Hcéres<sup>1</sup>:

Michel Cosnard, President

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

John de Vos, 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>	Interactions between stem cells and their niches in physiology, tumors and tissue repair
<b>Unit acronym:</b>	STORM
<b>Requested label:</b>	UMR
<b>Application type:</b>	Renewal
<b>Current number:</b>	U1197
<b>Head of the unit (2018-2019):</b>	Mr Georges UZAN
<b>Project leader (2020-2024):</b>	Mr Georges UZAN
<b>Number of teams and themes:</b>	2 teams and 3 themes

## EXPERTS COMMITTEE MEMBERS

<b>Chair:</b>	Mr John DE VOS, Université Montpellier
<b>Experts:</b>	Ms Ariane BERDAL, Sorbonne Paris Cité (representative of Inserm CSS) Ms Dominique BONNET, Francis Crick Institute, United Kingdom Ms Gertraud OREND, Inserm Strasbourg Mr Cyril Sarrauste de Menthière, CNRS, Montpellier (PAR) Mr Pierre-Lyess THARAUX, Inserm Clamart

## HCÉRES REPRESENTATIVE

Ms Urszula HIBNER

## REPRESENTATIVES OF SUPERVISING INSTITUTIONS AND BODIES

Mr Etienne AUGÉ, Université Paris Sud  
Mr Raymond BAZIN, Inserm  
Ms Laurence PARMENTIER, Inserm  
Mr Christophe RENARD, Ministère des Armées

## INTRODUCTION

### HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

Inserm Unit 1197 "Stem cell Tissue repair MicroenviRonMent (STORM)" was created in 2015, and resulted from the gathering of the Inserm U972, Inserm U1014, and the Tissue Repair Department of the Biomedical Research Institute (IRBA) from Service de Santé des Armées (SSA). It is located on three different sites: Paul Brousse Hospital (Villejuif), Hôpital d'Instruction des Armées (HIA) PERCY/CTSA (Clamart) and IRBA (Bretigny sur Orge). The research unit is organized as two teams, as the result of the joining of the research forces of Inserm U972 and Inserm U1014. In the next mandate the teams will fuse into one, which will be organized into three distinct, but interconnected themes.

### MANAGEMENT TEAM

The unit's head is Georges Uzan.

### HCÉRES NOMENCLATURE

SVE5\_1.

### SCIENTIFIC DOMAIN

The main scientific interest of this unit is interactions of stem cells with their niches. Within this topic team 1 is focused on interactions between stem cells and their niches, especially on human mesenchymal, endothelial and hematopoietic stem cells and their organization within hematopoietic stem cell niches in the foetus and the adult, while team 2 is working on stem cells, transplantation, and immunoregulation, more specifically in kidney injury and kidney transplant rejection.

One key aspect of this research unit is the involvement the French Army for the research in tissue repair and cell production.

### UNIT WORKFORCE

	Unit workforce	
	STEM CELLS-NICHES INTERACTIONS: PHYSIOLOGY, TUMORS AND TISSUE REPARATION	
Active staff	Number 30/06/2018	Number 01/01/2020
Full professors and similar positions	4	3
Assistant professors and similar positions	3	2
Full time research directors (Directeurs de recherche) and similar positions	5	3
Full time research associates (Chargés de recherche) and similar positions	15	12
Other scientists ("Conservateurs, cadres scientifiques des EPIC, fondations, industries, etc.")	2	0
High school teachers	0	0

Supporting personnel (ITAs, BIATSSs and others, notably of EPICs)	15	9
<b>Permanent staff</b>	<b>44</b>	<b>29</b>
Non-permanent professors and associate professors, including emeritus	2	
Non-permanent full time scientists, including emeritus, post-docs	13	
<i>PhD Students</i>	21	
Non-permanent supporting personnel	0	
<b>Non-permanent staff</b>	<b>36</b>	
<b>Total</b>	<b>80</b>	

## GLOBAL ASSESSMENT OF THE UNIT

The central aim of the unit is improving the health conditions of injured people, an aim particularly relevant in the context of the connection with the military. The unit is thus developing a very good, ambitious project, centred on translational research, and based on original models using hematopoietic stem cells, mesenchymal stromal cells, endothelial cells, muscle, skin and bone cells. Strong engagement of the good manufacturing practices (GMP) facilities based at the military hospital of Percy makes these regenerative medicine projects strong and original with an international recognition. Recently, emphasis has been put on the production of extracellular vesicles (EVs) secreted by mesenchymal stromal cells, both for research and clinical purposes, a move that may be rewarding in the coming years. Overall, the unit clearly benefited from the mutual interactions between Inserm research teams and the two French Army services, as reflected by their common high level scientific output.

The unit has an excellent involvement in interactions with the no-academic world, as illustrated by industrial contracts, involvement in clinical trials and one start-up creation, as well as very good involvement of the research unit in promoting training through research.

The scientific project is reorganized to favour interdisciplinary projects across the wide variety of research subjects of the unit, which involves different cell types, different animal models, different diseases. It will be divided into three research themes, focusing on more cognitive research (theme 1), identification of clinical targets (theme 2) and applications in tissue repair (theme 3). Nevertheless, as research is taking place at multiple geographical locations, it is strongly recommended that the unit increases the frequency of its scientific and organization meetings and sets up a common yearly scientific retreat. Furthermore, the high number of tasks with regard to the limited working force poses a significant threat of a dilution of the impact of research output and generally for the full success of the project.

Though all projects follow a central theme of stem cells and tissue regeneration, they appear as addition of independent tasks rather than a common undertaking with strong interactions between themes. In some cases, the projects are too ambitious considering the task force devoted to them and the International competition.

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