Research evaluation

FINAL RESUME ON THE RESEARCH UNIT:

Laboratory of Tissue Biology and Therapeutic Engineering (LBTI)

UNDER THE SUPERVISION OF THE FOLLOWING INSTITUTIONS AND RESEARCH BODIES:

Centre National de la Recherche Scientifique – CNRS

Université Claude Bernard Lyon 1 - UCBL

EVALUATION CAMPAIGN 2019-2020
GROUP A

Report published on June, 08 2020

In the name of Hcéres[1]:

Nelly Dupin, Acting President

In the name of the experts committee[2]:

Catherine Chaussain, 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 data submitted by the supervising body on behalf the unit.

UNIT PRESENTATION

Unit name:	Laboratory of Tissue Biology and Therapeutic Engineering
Unit acronym:	LBTI
Current label and N°:	UMR 5305
ID RNSR:	201320569F
Application type:	Identical renewal
Head of the unit (2019-2020):	Mr Bernard Verrier
Project leader (2021-2025):	Ms Dominique SIGAUDO-ROUSSEL
Number of teams and/or themes:	7

EXPERTS COMMITTEE MEMBERS

Chair:	Ms Catherine CHAUSSAIN, Université Paris Descartes
Experts:	Ms Tounsia AIT-SLIMANE Ep Hocini, Sorbonne Université (representative of CNU)
	Mr Christophe EGLES, Université de technologie de Compiègne
	Ms Jelena GAVRILOVIC, University of East Anglia, United Kingdom
	Mr Jean-Yves JOUZEAU, Université de Lorraine et CHRU de Nancy (representative of CoNRS)
	Mr Yogeshvar KALIA, Université de Genève, Suisse
	Mr Gilles LEMAITRE, Université Evry-Val-d'Essonne (representative of PAR)
	Ms Nathalie THERET, Inserm, université Rennes 1

HCÉRES REPRESENTATIVE

Mr Jean-Edouard GAIRIN

REPRESENTATIVES OF SUPERVISING BODIES

Ms Dominique MOUCHIROUD, Université Lyon 1

Ms Florence NOBLE, INSB CNRS1

INTRODUCTION

HISTORY AND GEOGRAPHICAL LOCATION OF THE UNIT

The unit UMR 5305 "Laboratory of Tissue Biology and Therapeutic Engineering" (LBTI) (CNRS/University Lyon1) is one of the two joined units CNRS - University Claude Bernard Lyon 1 (UCBL) housed at the Institute of Biology and Chemistry of Proteins Lyon (IBCP). The other unit is the UMR 5086 "Structural and Molecular Basis of Infectious Systems" (UMR BMSSI) that became MMSB. Starting originally as the FRE 3310: "Dysfunction of tissue homeostasis ant therapeutic engineering" in 2009, the LBTI was created in January 2013 with the CNRS and UCBL as managing bodies, and renewed in 2016 following its positive evaluation by Hcéres.

LBTI is located in the largest University campus of the Région Rhône Alpes in biology, next to Ecole Normale Supérieure de Lyon and BSL4 facilities, at the heart of the biodistrict Lyon Gerland. It offers a unique opportunity to interact with both the academic environment and private companies, coordinated through the Biopôle Lyon Gerland and BioAster. Academic facilities of the campus have been centralized through UMS344 (SFR BioSciences, which gathers more than 80 teams and 10 platforms). As a member of this UMS, LBTI teams have access to all facilities. In addition, IBCP itself has been created as an UMS in 2016 (UMS 3760), which constitutes an important tool for both UMRs to mutualize their efforts and equipment. Of note, LBTI was partner of the PIA "immuStaph Bioaster", aiming to design staph Aureus vaccine involving more than 5 partners and led both by Inserm and Sanofi Pasteur.

Management team

LBTI is currently headed by Bernard VERRIER assisted by Dominique SIGAUDO-ROUSSEL as Deputy director. Dominique SIGAUDO-ROUSSEL will be the head of the unit for the next contract.

HCÉRES NOMENCLATURE

SVE5 Physiologie, Physiopathologie, Cardiologie, Pharmacologie, Endocrinologie, Cancer, Technologies Médicales

THEMATICS

The main goal of LBTI is to study a biological tissue in its functional integrity and to develop new therapeutic engineering concepts. The activity of the team is organized around 3 major research themes, i) to decipher the basic mechanisms of tissue and matrix organization, either skin, mucosal tissue or cartilage and the dental pulp, and identify potential therapeutic targets, ii) to understand the responsiveness of these tissues to physiological or mechanical stress and model these actions, iii) to develop novel therapeutic approaches to repair tissues and deliver therapeutic agents in the tissue environment.

UNIT WORKFORCE

Laboratory of Tissue Biology and Therapeutic Engineering		
Active staff	**Number 06/30/2019**	**Number 01/01/2021**
Full professors and similar positions	13	13
Assistant professors and similar positions	19	20
Full time research directors (Directeurs de recherche) and similar positions	7	7
Full time research associates (Chargés de recherche) and similar positions	6	6
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)	16	15

Permanent staff	**61**	**61**
Non-permanent professors and associate professors, including emeritus	2	
Non-permanent full time scientists, including emeritus, post-docs (except PhD students)	5	
PhD Students	25	
Non-permanent supporting personnel	7	
Non-permanent staff	**39**	
Total	**100**	**61**

GLOBAL ASSESSMENT OF THE UNIT

During the evaluated period, LBTI has maintained a regular and sustained research activity, dedicated to the study of the extracellular matrix organization of various tissues (skin, mucosal tissue or cartilage and the dental pulp), from the deciphering of biological mechanisms allowing the identification of new therapeutic targets to the delivery of therapeutic agents in the tissue environment. Significant contributions highlighted this activity. In particular, one may note, the new data obtained on the mechanism of collagen assembly, which strengthen the position of LBTI among the world leaders in the field of collagen fibrillogenesis, the new insight made into keratinocytes behavior in its environment that can directly affect skin integrity or the dermal vascular function, the demonstration that skin function can be affected by deep organ or peripheral dysfunction, and the development of innovative active gels and smart implants for cartilage and dental pulp regeneration.

The scientific outputs and activities of LBTI are reflected by an abundant production of high quality. The national and international scientific reputation is well-established and highly visible through the participation of several members of LBTI in international and national scientific societies and their invitations to international conferences. LBTI has shown an excellent capacity to raise important amounts of external resources mainly at the national level but rather less at the European and international levels. These latter ones must be improved. The outstanding interaction with the industrial is, with no doubt, one of the major strengths of LBTI. Its interaction with the non-academic world, social or medical, is excellent. The contribution of LBTI to research training is very active as attested by the numerous master and PhD students currently present in the Unit and the number of defended thesis. Involvement of the Unit's members in national and international teaching programs is also significant, even though international opening must be encouraged. The life and organisation of the unit are unanimously well appreciated by all the members of the unit. In terms of governance, the leadership of the next director is widely acknowledged by the members of the Unit and the transition between the present and the future directors is working well.

The five-year scientific strategy is robust, with very good to excellent projects. Indeed, LBTI will capitalize on the efforts made and success obtained during the current contract in the three transversal themes, for which the expertise of LBTI is acknowledged, nationally and internationally in the academic community and in the industrial and medical worlds. To preserve its positive and upward dynamic, LBTI must nevertheless adopt a strong strategy to attract young talented PIs to compensate the retirement of several team leaders in the near future.

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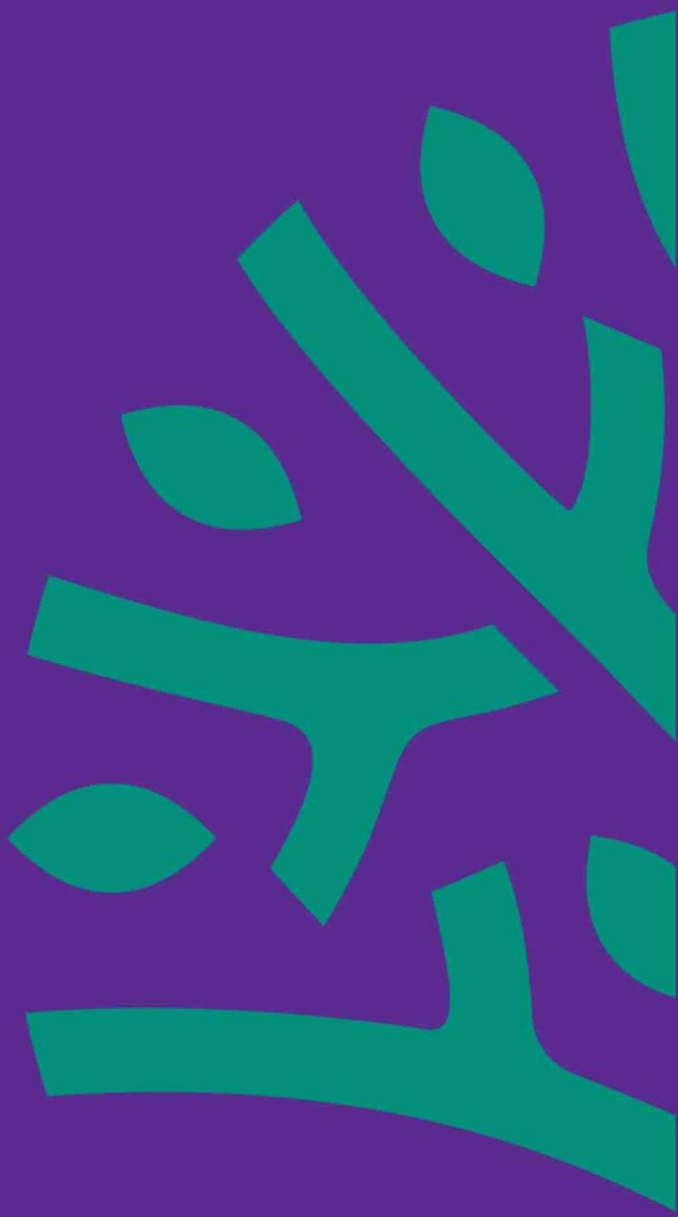

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