CRTI - Centre de recherche en transplantation et immunologie

Rapport Hcéres

HCERES

High Council for the Evaluation of Research and Higher Education

Research units

HCERES report on research unit:

Centre de Recherche en Transplantation et Immunologie

CRTI

Under the supervision of the following institutions and research bodies:

Université de Nantes

Institut National de la Sante et de la Recherche Médicale - INSERM

Evaluation Campaign 2015-2016 (Group B)

HCERES

High Council for the Evaluation of Research and Higher Education

Research units

In the name of HCERES,[1]

Michel Cosnard, president

In the name of the experts committee,[2]

Herman Waldmann, chairman of the committee

Under the decree No.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:	Centre de Recherche en Transplantation et Immunologie
Unit acronym:	CRTI
Label requested:	UMR Inserm – U Nantes
Current number:	CR 1064 / UMR_S 1064
Name of Director (2015-2016):	Mr Ignacio ANEGON
Name of Project Leader (2017-2021):	Mr Régis JOSIEN

Expert committee members

Chair: Mr Herman WALDMANN, Sir William School of Pathology, UK

Experts:

Mr Michel BRAUN, Université Libre de Bruxelles, Belgium

Ms Sophie CAILLAT-ZUCMAN, Hôpital Saint-Louis, Paris (representative of INSERM)

Ms Guislaine CARCELAIN, Université de Paris 6 (representative of CNU)

Mr Jan D LÜNEMAN, University of Zurich, Switzerland

Mr Axel SCHAMBACH, Hannover Medical School, Germany

Mr Joost VAN MEERWIJK, Université de Toulouse 3

Scientific delegate representing the HCERES:

Ms Sophie EZINE

Representatives of supervising institutions and bodies:

Mr Frédéric BENHAMOU, Université de Nantes

Ms Marianne DESMEDT, Inserm

Mr Martin HOLSTEIN, Région Pays de la Loire

Ms Stéphanie POMMIER, Inserm

Ms Anne ROYER-MOES, Faculté de Médecine de Nantes

Mr Sébastien YOUINOU, Université de Nantes

Head of Doctoral School:

Ms Corinne MIRAL, Doctoral School n° 52, BS "Biologie-Santé"

1 • Introduction

History and geographical location of the unit

The Center for Research in Transplantation and Immunology (CRTI) was created in 2012 as a joint INSERM and Nantes University research unit (UMR 1064), as a logical continuation to the previous UMR 643 INSERM unit. CRTI teams are part of the Labex IGO and the Labex Transplantex.

CRTI is located in a unique site at Nantes University Hospital of Hôtel-Dieu (CHU de Nantes), and is part of the Institute of Transplantation Urology and Nephrology (ITUN), bringing together clinical and research departments.

Management team

The CRTI is managed by a director, Mr Ignacio ANEGON, and a deputy-director, Mr Régis JOSIEN. For the new five-year contract, Mr Régis JOSIEN will be the director, assisted by Ms Sophie BROUARD as deputy director, and a board of team leaders for the strategic decision (steering committee).

HCERES nomenclature

SVE1_LS3

SVE1_LS6

Scientific domains

The major scientific domains covered by the CRTI are the mechanisms of allograft tolerance and dysfunction, the new therapeutic strategies in transplantation and the evolution of graft function and survival.

Unit workforce

Unit workforce	Number on 30/06/2015	Number on 01/01/2017
N1: Permanent professors and similar positions	15	17
N2: Permanent researchers from Institutions and similar positions	12	13
N3: Other permanent staff (technicians and administrative personnel)	33	33
N4: Other professors (Emeritus Professor, on-contract Professor, etc.)	1	
N5: Other researchers from Institutions (Emeritus Research Director, Postdoctoral students, visitors, etc.)	24	
N6: Other contractual staff (technicians and administrative personnel)	41	
N7: PhD students	26	
TOTAL N1 to N7	**152**	
Qualified research supervisors (HDR) or similar positions	24	

Unit record	From 01/01/2010 to 30/06/2015
PhD theses defended	41
Postdoctoral scientists having spent at least 12 months in the unit	21
Number of Research Supervisor Qualifications (HDR) obtained during the period	7

2 • Overall assessment of the unit

Global assessment of the unit

CRTI is an effective and well-integrated unit, with a broad range of research activities in the areas of transplantation immunology and cutting edge fundamental immunology. It has successfully taken a number of projects through to varying degrees of commercialisation and early clinical trials. On this basis it has acquired a world-leading reputation in a number of areas, namely: the discovery of biomarkers which promise better management of transplant recipients, the development of novel genetic technologies to study elements of the immune system, and the development of therapeutic antibodies which block immune activation and graft rejection.

CRTI research aims to understand, predict and prevent allograft rejection, with a view to minimizing drug immunosuppression. Currently used immunosuppressive drugs have numerous side effects and fail to prevent chronic rejection, with consequent human suffering and elevated health-care costs. CRTI research is therefore of great medical importance. An attractive route to minimizing immunosuppression is to be able to harness the body's natural mechanisms of immunological tolerance by using short-term treatments to reprogram the immune system. CRTI research has identified a number of such tolerance mechanisms that might be harnessed in patients, either through blocking diverse signalling pathways with drugs and antibodies, or by using cell therapy to amplify tolerogenic events.

Inevitably such research aimed at controlling inflammation may itself have broad applicability in control of autoimmune diseases and other forms of immunopathology. CRTI is therefore extending its research efforts to apply such general principles to diverse immune diseases. Exploitation of tolerance processes carries with it the possibility of smuggling into the host potential immunogenic therapeutic agents and cell replacements. This area is also being developed at CRTI, particularly in the areas of gene therapy, and hepatic cell replacement. The unit has gathered an excellent national and international visibility. The quality of science is very good to excellent, with a considerable number of publications during the evaluation period. The CRTI research programme is competitive on the international stage with a healthy balance of straightforward and also somewhat more risky research projects. As such it provides excellent training for scientists working in transplantation and related fields.

Strengths and opportunities in the context

CRTI has made significant advances in monitoring and control of transplant rejection. It has developed outstanding platforms and state-of-the-art technologies to enable cutting edge basic and clinical research. It has established many collaborations with high level national and international centres for immunology. Consequently the unit provides an excellent training centre for young researchers, and a focus for the evolution of local industrial activity in immunology and genetics.

Weaknesses and threats in the context

Given the scope of research topics, there is always the risk that the breadth of research activities may diminish the depth that can be achieved. Despite its successes the unit would do well to attract more international postdoctoral scientists and graduate students.

Recommendations

The unit needs to define a strategy to improve the impact factors of its generally high level publications.

Given the scope of its research, there is wisdom in ensuring continuous assessment of the competitiveness of research projects it undertakes.

With substantive new infrastructure developments emerging with the new biomedical campus being created in Nantes, it will be vital to maintain the very strong links between the clinic and the basic science laboratories.

As one of the largest center in France in the area of transplantation and immunology, further bridges and outreach should be constructed to other key European centers in this area. Also, as mentioned in the SWOT analyses provided by the center leadership, further attention could be drawn to the recruitment of international students and post-docs.