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N2C - Nutrition, croissance et cancer

Rapport Hcéres

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HCERES

High Council for the Evaluation of Research
and Higher Education

Department of Research Evaluation

report on research unit:

Nutrition, Croissance et Cancer

N2C

under the supervision of
the following institutions
and research bodies:

Université François-Rabelais de Tours

Institut National de la Santé et de la Recherche

Médicale - INSERM

Evaluation Campaign 2016-2017 (Group C)

HCERES

High Council for the Evaluation of Research
and Higher Education

Department of Research Evaluation

In the name of HCERES,¹

Michel Cosnard, president

In the name of the experts committee,²

Ana Ramírez de Molina, chairwoman 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: Nutrition, Croissance et Cancer

Unit acronym: N2C

Label requested: UMR

Current number: UMR 1069

**Name of Director
(2012-2017):** Mr Stéphan CHEVALIER

**Name of Project Leader
(2018-2022):** Mr Christophe VANDIER

Expert committee members

Chair: Ms Ana RAMÍREZ DE MOLINA, IMDEA Food Institute, Madrid, Spain

Experts:

- Ms Hélène DUEZ, Lille (representative of the CSS INSERM)
- Mr Michel GUICHARDANT, INSA Lyon/INSERM (representative of supporting personnels)
- Ms Béatrice MORIO, INSERM, Lyon
- Mr Fabien VAN COPPENOLE, Claude Bernard University Lyon 1 (representative of the CNU)

Scientific delegate representing the HCERES:

Ms Anne CAIGNARD

Representatives of supervising institutions and bodies:

Mr Raymond BAZIN, AVIESAN

Ms Marie DEMATHIEU, INSERM

Mr Emmanuel LESIGNE, Université de Tours

Mr Philippe VENDRIX, Université de Tours

Head of Doctoral School:

Mr Thierry MOREAU, Doctoral school n° 549, "Santé-Sciences Biologiques-Chimie du Vivant"

1 • Introduction

History and geographical location of the unit

The “Nutrition, Croissance et Cancer” research laboratory (N2C) was set up at the Faculty of Medicine within the University Hospital of Tours (CHU Tours) in 1989. It became an UMR INSERM in 2002 (UMR 921, now UMR 1069) as a single research team, including members from the Faculties of Sciences, Pharmacy, Medicine, IUT and CHRU Tours. The unit is a founding member of the “Réseau National Cancer Alimentation Recherche” (NACRE) and of the GIP “Centre Régional de Nutrition Humaine Grand-Ouest” (CRNH) with leadership in the topic “Lipids in chronic pathologies”. It has also played a crucial role in structuring the “Cancéropôle Grand Ouest” (CGO) in its approaches in cancer and nutrition research by taking charge of the scientific direction from 2012-2016, and by setting up 3 research topics (out of 12): “Valorization of marine product in oncology”, “Ion channels and cancer” and “Lipids in Prostate cancer”.

Management team

The director for current contract is Mr Stéphan CHEVALIER and for the next contract the unit will be directed by Mr Christophe VANDIER.

HCERES nomenclature

Main domain: SVE5

Secondary domains: SVE6 et SVE2

Scientific domains

The unit “Nutrition, Croissance, et Cancer” was historically involved in Cancer and Nutrition topics, with a specific expertise in chemistry/biochemistry of lipids from adipose tissues, tumours and cell membranes.

The objective of this multidisciplinary team is to identify and use both natural and synthetic patentable lipids, with specific modes of action, to improve the efficacy of anticancer therapy and restrain tumour progression, and to prevent metastasis occurrence and/or cachexia. To that end, the unit aims at identifying lipids of interest for oncology and is involved both in fundamental and clinical research thanks to specific expertise (biochemistry, physiology, metabolism, surgery, anatomopathology, nutrition and oncology) and resources (Sciences, Pharmacy, Medicine, IUT and CHRU), organized in 3 domains (clinical oncology, clinical nutrition, experimental physiology and biochemistry).

Unit workforce

Unit workforce	Number on 30/06/2011	Number on 01/01/2018
N1: Permanent professors and similar positions	18	17
N2: Permanent researchers from Institutions and similar positions	2	3
N3: Other permanent staff (technicians and administrative personnel)	5	5
N4: Other researchers (Postdoctoral students, visitors, etc.)	7	
N5: Emeritus	6	
N6: Other contractual staff (technicians and administrative personnel)	4	
N7: PhD students	10	
TOTAL N1 to N7	52	
Qualified research supervisors (HDR) or similar positions	20	

Unit record	From 01/01/2011 to 30/06/2016
PhD theses defended	17
Postdoctoral scientists having spent at least 12 months in the unit	5
Number of Research Supervisor Qualifications (HDR) obtained during the period	5

2 • Assessment of the unit

Global assessment of the unit

The overall objective of the unit is to identify nutritional lipids of interest for oncology at the interface of cancer and nutrition. The performance of the unit is overall excellent. The research unit has great expertise in the link between nutrition and cancer. The team was the first to link diet-related lipid changes in the breast-associated adipose tissue in relation to breast cancer development and metastasis among other findings of clinical relevance. The scientific project is transverse in its expertise (biochemistry, physiology, metabolism, surgery, anatomopathology, nutrition and oncology) and resources (Sciences, Pharmacy, Medicine, IUT and CHRU), which contribute to the strength of the unit. To support its research activity and transfer to clinic, the unit has developed strategic platforms such as two biobanks and a technical facility (IC-SCAN: Ion Channel-ScreenCANCer). It has increased its budget along the past years, and is strongly involved in academic teaching and research training.

The global activity is well balanced between acquisition of knowledge, research management, academic teaching and research training. In addition, there is a very good equilibrium between fundamental research and clinical applications. Quantity and quality of the scientific production are very good. The unit also benefits from a good network of collaborations and partnerships with private companies. This offers an access to cutting-edge technologies and/or multidisciplinary knowledge and an excellent bridge between basic and clinical research, and the development of new strategies (drugs, diagnosis tools) to improve cancer treatment in which research of the unit as a strong potential application.