

EVALUATION REPORT OF THE UNIT
Unité organisation nucléaire et oncogénèse

UNDER THE SUPERVISION OF THE
FOLLOWING ESTABLISHMENTS AND
ORGANISMS:

Institut Pasteur Paris,
Institut national de la santé et de la recherche
médicale, Inserm

EVALUATION CAMPAIGN 2023-2024
GROUP D

Rapport publié le 11/09/2024



In the name of the expert committee¹ :

Nathalie Arhel, Chairwoman of the committee

For the Hcéres² :

Stéphane Le Bouler, acting president

Pursuant to Articles R. 114-15 and R. 114-10 of the French Research Code, evaluation reports drawn up by expert committees are signed by the chairmen of these committees and countersigned by the Chairman of Hcéres.

To make the document easier to read, the names used in this report to designate functions, professions or responsibilities (expert, researcher, teacher-researcher, professor, lecturer, engineer, technician, director, doctoral student, etc.) are used in a generic sense and have a neutral value.

This report is the result of the unit's evaluation by the expert committee, the composition of which is specified below. The appreciations it contains are the expression of the independent and collegial deliberation of this committee. The numbers in this report are the certified exact data extracted from the deposited files by the supervising body on behalf of the unit.

MEMBERS OF THE EXPERT COMMITTEE

Chairperson: Ms Nathalie Arhel CNRS - Centre national de la recherche scientifique

Experts: Ms Nathalie Arhel CNRS - Centre national de la recherche scientifique

HCÉRES REPRESENTATIVE

REPRESENTATIVE(S) OF SUPERVISING INSTITUTIONS AND BODIES

CHARACTERISATION OF THE UNIT

- Name: Unité organisation nucléaire et oncogénèse
- Acronym: ONO
- Label and number: U 993
- Composition of the executive team:

SCIENTIFIC PANELS OF THE UNIT

SVE Sciences du vivant et environnement
SVE4 Immunité, infection et immunothérapie

THEMES OF THE UNIT

The unit Nuclear Organisation and Oncogenesis Unit/INSERM U993 directed by Prof. Anne Dejean focuses on the molecular and cellular mechanisms underlying the development of human cancer. Over the years, the unit has contributed in remarkable ways to this field by discovering a mutation in HBV-associated liver cancer and identifying the PML-RAR α oncogenic fusion protein responsible for acute promyelocytic leukemia (APL), which led to the characterisation of retinoic acid and arsenic as a treatment for APL. The themes of the unit are nuclear receptors, SUMO modification, chromatin biology, gene expression, cancer, leukemia, liver carcinogenesis.

HISTORIC AND GEOGRAPHICAL LOCATION OF THE UNIT

The unit 'Nuclear Organization and Oncogenesis' is located at the Pasteur Institute in Paris and was launched in January 2003.

RESEARCH ENVIRONMENT OF THE UNIT

The unit is in the department of Cell Biology and Infection of the Pasteur Institute. The department develops an integrated approach to study the basic mechanisms underlying cell physiology in health and disease. The environment is excellent, and offers access to outstanding technological platforms as well as unique opportunities for fruitful collaborations.

UNIT WORKFORCE: in physical persons at 31/12/2022

Unit workforce	14
Permanent staff scientists	3
Post-doctoral researchers	3
Research engineers	3
PhD students and other students	5

DISTRIBUTION OF THE UNIT'S PERMANENTS BY EMPLOYER: in physical persons at 31/12/2022. Non-tutorship employers are grouped under the heading 'others'.

Permanent staff	6
Permanent staff employed by Pasteur	4
Permanent staff employed by Inserm	2

GLOBAL ASSESSMENT

The Nuclear Organisation and Oncogenesis Unit directed by Prof. Anne Dejean should be commended for an impressive track record and contribution to our understanding of human cancer. The team has made landmark discoveries and continues to propose innovative projects to address important topics of human health.

DETAILED EVALUATION OF THE UNIT

A – CONSIDERATION OF THE RECOMMENDATIONS IN THE PREVIOUS REPORT

The auto-evaluation report does not mention the recommendations from the previous report or how these were addressed.

B – EVALUATION AREAS

Considering the references defined in the unit's evaluation guidelines, the committee ensures that a distinction is made on the outstanding elements for strengths or weaknesses. Each point is documented by observable facts including the elements from the portfolio. The committee assesses if the unit's results are consistent with its activity profile.

EVALUATION AREA 1: PROFILE, RESOURCES AND ORGANISATION OF THE UNIT

Assessment on the scientific objectives of the unit

The unit aims to investigate the importance of the post-translational modification by SUMO in chromatin biology and gene expression in pathogenesis (cancer, inflammation) as well as in cell senescence and plasticity.

Assessment on the unit's resources

The unit has many important sources of funding, including from La Ligue contre le Cancer, Fondation pour la Recherche Médicale, A N R. Anne Dejean is also PI on two consecutive ERC Advanced grants: 'Integrating the activities of SUMO in gene expression, inflammation and cancer' (ERC-2011-AdG SUMOSTRESS) and 'Deconstructing the role of SUMO on chromatin in cell identity and tissue repair' (ERC-2018-AdG SUMiDENTITY).

Assessment on the functioning of the unit

The unit comprises four staff research scientists (Dejean, Pineau, Seeler, Cossec) who work together and co-author the unit's publications. In particular, P Pineau publishes as lead author on the liver cancer projects, and JC Cossec carries the embryogenesis projects. All projects have clearly delineated complementarity.

1/ The unit has set itself relevant scientific objectives.

Strengths and possibilities linked to the context

Each aim is accomplished with experiments that bring original and interesting mechanistic insight, and which are published in peer-reviewed journals on a regular basis: eLife 2017, Cell Stem Cell 2018, Oncogene 2020, Cell Rep 2020, Oncotarget 2021, Cell Rep 2023, just to name a few.

Weaknesses and risks linked to the context

None.

2/ The unit has resources that are suited to its activity profile and research environment and mobilises them.

Strengths and possibilities linked to the context

The unit has impressive resources and mobilises them to pursue cutting edge research on clinically relevant topics.

Weaknesses and risks linked to the context

None.

3/ The unit's practices comply with the rules and directives laid down by its supervisory bodies in terms of human resources management, safety, environment, ethical protocols and protection of data and scientific heritage.

Strengths and possibilities linked to the context

Weaknesses and risks linked to the context

EVALUATION AREA 2: ATTRACTIVENESS

Assessment on the attractiveness of the unit

The unit has attracted many international post-docs and PhD students. Attractiveness lies in its impressive success in competitive calls for projects, in the ambitious projects that are explored and the unit's capacity to publish high impact papers.

1/ The unit has an attractive scientific reputation and is part of the European research area.

2/ The unit is attractive because for the quality of its staff support policy.

3/ The unit is attractive through its success in competitive calls for projects.

4/ The unit is attractive for the quality of its major equipment and technical skills.

Strengths and possibilities linked to the context for the four references above

Weaknesses and risks linked to the context for the four references above

EVALUATION AREA 3: SCIENTIFIC PRODUCTION

Assessment on the scientific production of the unit

The scientific contribution is outstanding both in terms of impact and originality. The unit continues to make interesting discoveries.

- 1/ The scientific production of the unit meets quality criteria.*
- 2/ The unit's scientific production is proportionate to its research potential and properly shared out between its personnel.*
- 3/ The scientific production of the unit complies with the principles of research integrity, ethics and open science. It complies with the directives applicable in this field.*

Strengths and possibilities linked to the context for the three references above

Weaknesses and risks linked to the context for the three references above

EVALUATION AREA 4: CONTRIBUTION OF RESEARCH ACTIVITIES TO SOCIETY

Assessment on the inclusion of the unit's research in society

The unit has deposited two patents during the evaluation period and this is the only information available in the self-assessment report.

- 1/ The unit stands out for the quality and the amount of its interactions with the non-academic world.*
- 2/ The unit develops products for the cultural, economic and social world.*
- 3/ The unit shares its knowledge with the general public and takes part in debates in society.*

Strengths and possibilities linked to the context for the three references above

Weaknesses and risks linked to the context for the three references above

ANALYSIS OF THE UNIT'S TRAJECTORY

The unit will close on 31st December 2025. The unit will not be renewed, according to Pasteur Institute policy. All post-docs, students and temporary staff members will have finished their contracts by this date. The permanent staff members will seek new laboratories to pursue their work. As a result, no interviews and no recommendations will be made to the unit.

RECOMMENDATIONS TO THE UNIT

Recommendations regarding the Evaluation Area 1: Profile, Resources and Organisation of the Unit

Recommendations regarding the Evaluation Area 2: Attractiveness

Recommendations regarding Evaluation Area 3: Scientific Production

Recommendations regarding Evaluation Area 4: Contribution of Research Activities to Society

CONDUCT OF THE INTERVIEWS

Date(s)

Start:

End:

Interview conducted: on-site or online

INTERVIEW SCHEDULE

interview schedule

PARTICULAR POINT TO BE MENTIONED

GENERAL OBSERVATIONS OF THE SUPERVISORS

The institution responsible for submitting the application, which is also responsible for coordinating the response for all the research unit's supervisory authorities, has not submitted any general comment

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Evaluation of Universities and Schools
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