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## Unité des aspergillus

Rapport Hcéres

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agence d'évaluation de la recherche  
et de l'enseignement supérieur

Section des Unités de recherche

AERES report on the research unit

Aspergillus Unit

From the

Pasteur Institute

May 2010



agence d'évaluation de la recherche  
et de l'enseignement supérieur

Section des Unités de recherche

# AERES report on the research unit

Aspergillus Unit

From the

Pasteur Institute

Le Président  
de l'AERES

Jean-François Dhainaut

Section des unités  
de recherche

Le Directeur

Pierre Glorieux

May 2010



# Research Unit

Name of the research unit: Aspergillus Unit

Requested label: Pasteur Unit

N° in the case of renewal:

Name of the director: Jean-Paul LATGE

# Members of the review committee

## Committee chairman

M. Neil GOW, University of Aberdeen, UK

## Other committee members

M. David ROOS, University of Pennsylvania, Philadelphia, USA

M. Graham BROWN, University of Melbourne, Parkville, Australia

Ms. Alistair CRAIG, Liverpool School of Tropical Medicine, UK

M. Mike FERGUSON, University of Dundee, UK

Ms. Deborah SMITH, University of York, UK

M. José RIBEIRO, NIH, Bethesda, USA

M. Mats. WAHLGREN, Karolinska Institutet, Stockholm, Sweden

M. Michel NUSSENZWEIG, The Rockefeller University, NY, USA

M. David SIBLEY, Washington University, St. Louis, USA

M. Jérôme ESTAQUIER, IMRB, Paris, France

# Observers

## AERES scientific advisor

M. Nicolas GLAICHENHAUS

## University, School and Research Organization representatives

M. Alain ISRAEL, Institut Pasteur



# Report

## 1 • Introduction

- Date and execution of the visit :

This unit was evaluated as part of the Department of Parasitology and Mycology on October 7, 2009.

- History and geographical localization of the research unit, and brief presentation of its field and scientific activities :

This unit belongs to the Department of Parasitology and Mycology of the Pasteur Institute.

- Management team :

The head of this unit is M. Jean Paul Latgé.

- Staff members

N1: Number of researchers with teaching duties (Form 2.1 of the application file)	0
N2: Number of full time researchers from research organizations (Form 2.3 of the application file)	5
N3: Number of other researchers (Form 2.2 and 2.4 of the application file)	6
N4: Number engineers, technicians and administrative staff with a tenured position (Form 2.5 of the application file)	5
N5: Number engineers, technicians and administrative staff without a tenured position (Form 2.6 of the application file)	0
N6: Number of Ph.D. students (Form 2.7 of the application file)	1
N7: Number of staff members with a HDR or a similar grade	4



## 2 • Overall appreciation on the research unit

- **Strengths and opportunities**

High quality science, highly productive (79 papers and 8 book chapters since 2005, including publications in Nature, Cell, PNAS, etc) ;

Focused, complementary programs on the biosynthesis and immunological reactivity of the cell wall of airborne fungal pathogens ;

World-leading cell wall biochemistry platform, generating novel assays for important biosynthetic activities.

- **Weaknesses and threats**

The mycology at IP is dispersed across three departments, limiting synergy ;

Little input from clinical mycology ;

No succession plan in place for the team leader, due to retire in 2-7 years.

- **Recommendations to the head of the research unit**

Retain current focus on biochemistry and immunology of the fungal cell wall ;

Amalgamate three mycology units within a single department, as a manifestation of continued commitment to medical mycology at the Pasteur Institute ;

Develop succession plan in anticipation of the team leader's eventual retirement.

- **Production results**

A1: Number of lab members among permanent researchers with or without teaching duties who are active in research (recorded in N1 and N2)	5
A2: Number of lab members among permanent researchers with or without teaching duties who are active in research (recorded in N3, N4 and N5)	11
A3: Ratio of members who are active in research among staff members $[A1/(N1+N2)]$	100%
A4: Number of HDR granted during the past 4 years	0
A5: Number of PhD granted during the past 4 years	1



### 3 • Specific comments

- Appreciation on the results

During the past 5 years, this team has made important achievements including: (1) the structural characterization of the components of the cell wall of hyphae and conidia of *A. fumigatus* and their impact on the innate and adaptative immune response of the host with the identification of putative vaccine candidates; (2) the analysis of the synthases and transglycosidases involved in the polysaccharide assembly of the fungal cell wall with identification of new essential genes that are putative antifungal targets; (3) the molecular and functional analysis of key biological events in the biological cycle of *A. fumigatus* and especially pathways essential for the growth of the fungus *in vivo*; (4) the chemical analysis of several antigens and development of diagnostic methods.

This work has resulted in a large number of first or last author publications among which papers in *Nature* (2009), *JBC* (2009a, 2009b), *J Immunol* (2006) ; *Cellular Microbiology* (2009, 2007), *Carbohydrate research* (2009)...

Team members are also co-authors on several publications resulting from collaborative studies.

Lab members have also published several reviews in *Current opinion in microbiology* (2005), *Molecular microbiology* (2005 and 2007) ; *Eukaryotic cell* (2005) and *Med Myco.* (2009) ;

- Appreciation on the impact, the attractiveness of the research unit and of the quality of its links with international, national and local partners

The head of this team is a recognized leader in his field. He is regularly invited to prestigious conferences and has organized several meetings himself.

This unit is very attractive and very well funded.

The team members have long-lasting collaborations with several labs in Europe.

- Appreciation on the project

Projects are well focused and well designed.

Note de l'unité	Qualité scientifique et production	Rayonnement et attractivité, intégration dans l'environnement	Stratégie, gouvernance et vie du laboratoire	Appréciation du projet
A+	A+	A+	A	A+



# INSTITUT PASTEUR

## *Unité des Aspergillus*

### **Comments on the overall appreciations of the research unit**

- Weaknesses and threats

The mycology at IP is dispersed across three departments, limiting synergy ;

*I fully agree with this comment but I do not consider that the dispersion of the 3 mycology units in 3 different departments is a weakness of the Aspergillus unit. The grouping of the three mycology units in a single department is a decision that has to be taken by the Direction of the Institute*

No succession plan in place for the team leader, due to retire in 2-7 years.

*The team leader (JP Latgé) will retire in 4-9 years (and not 2-7 years). The succession of the team leader has been discussed several times with the members of the unit and the results of these discussions were mentioned to the AERES member who came to visit the Aspergillus unit.*

- Recommendations to the head of the research unit

Retain current focus on biochemistry and immunology of the fungal cell wall ;

Amalgamate three mycology units within a single department, as a manifestation of continued commitment to medical mycology at the Pasteur Institute ;

*I fully support this initiative that will increase the visibility of the Medical Mycology inside and outside the Institut Pasteur.*

Develop succession plan in anticipation of the team leader's eventual retirement.

*JP Latgé*

*Head of the Aspergillus Unit*

**JP Latgé**  
**Head of the Aspergillus Unit**

**ALAIN ISRAËL**  
**DIRECTEUR DE L'ÉVALUATION SCIENTIFIQUE**  
**INSTITUT PASTEUR**