



## Unité de biologie et génétique du paludisme

### 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  
Unit of Malaria Biology and Genetics  
From the  
Pasteur Institute

May 2010



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Section des Unités de recherche

# AERES report on the research unit

Unit of Malaria Biology and Genetics

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 : Unit of Malaria Biology and Genetics

Requested label : Pasteur Unit

N° in the case of renewal

Name of the director : M. Robert MENARD

## Members of the review committee

### Committee chairman

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

### Other committee members

Ms. Deborah SMITH, University of York, UK

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

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

M. Mike FERGUSON, University of Dundee, UK

M. Neil GOW, University of Aberdeen, 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, Pasteur Institute

# 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 in Paris

- Management team :

The head of this unit is M. Robert Menard.

- Staff members

	Past	Future
N1: Number of researchers with teaching duties (Form 2.1 of the application file)	0	0
N2: Number of full time researchers from research organizations (Form 2.3 of the application file)	4	4
N3: Number of other researchers (Form 2.2 and 2.4 of the application file)	0	3
N4: Number engineers, technicians and administrative staff with a tenured position (Form 2.5 of the application file)	2	2
N5: Number engineers, technicians and administrative staff without a tenured position (Form 2.6 of the application file)	0	0
N6: Number of Ph.D. students (Form 2.7 of the application file)	3	3
N7: Number of staff members with a HDR or a similar grade	3	3



## 2 • Overall appreciation on the research unit

- Strengths and opportunities

Highly innovative research, including strategies for mosquito-stage-specific knock-outs that enable laboratory investigation of Plasmodium liver forms - a critical stage not previously amenable to analysis. Future plans are equally exciting ;

Application of the above to characterize and visualize the function of various important genes, including novel liver-stage antigens discovered via integrated laboratory/informatics approaches ;

Discovery of parasite development in the skin, including the stimulation of CD8 responses and possible alternative routes for erythrocytic infection ;

Initiation of projects to elucidate parasite transcriptional regulation in hepatocytes, and regulation of hepatocyte biology ;

Stunning mentorship ability, manifested in the form of several individuals with potential as future group leaders ;

Strong record of external funding.

- Weaknesses and threats

Although the publication record of this group is strong, it is not as impressive as warranted by their exciting results ;

The outstanding within-lab environment is not always extended to encompass others working on relevant projects elsewhere in the department ;

Relationships with (and service obtained from) the CEPIA core has sometimes been strained, limiting the output of this research group.

- Recommendations to the head of the research unit

Bring publications in line with the exciting results obtained by this team ;

Engage more effectively with the department, working to ensure collegiality and integration with other malaria groups ;

Work with the CEPIA platform to define workable solutions for the production of transgenic parasites in mosquitoes (perhaps by seconding a staff member to the core).



- 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)	4
A2: Number of lab members among permanent researchers with or without teaching duties who are active in research (recorded in N3, N4 and N5)	4
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	
A5: Number of PhD granted during the past 4 years	

### 3 • Specific comments

- Appreciation on the results

This team has made major discoveries during the past 4 years. This works has resulted in many first or last author publications in high impact journals including Cell Host and Microbe (2009, 2008), Nature Protocols (2007a, 2007b), JEM (2009), Cellular Microbiology (2005, 2009), ...

The team members have also been invited to write comments in Cell (2008) and Nature (2005), and reviews in Trends in Parasitology (2008a, 2008b) and Traffic (2008).

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

Very attractive and very well funded team.

- Appreciation on the strategy, management and life of the research unit
- Appreciation on the project

Future plans are equally exciting.

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

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*Département de Parasitologie et  
Mycologie*

*Unité de Biologie et Génétique du  
Paludisme*

Paris, le 30 Avril 2010

A qui de droit :

Je remercie le comité AERES pour cette évaluation et n'ai pas de commentaire ou  
réponse à formuler.

Robert Ménard

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

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