Génétique des virus et pathogénèse des maladies virales

Rapport Hcéres

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

Department for the evaluation of research units

AERES report on unit:

Genetic and ecology of virus

Under the supervision of the following institutions and research bodies:

Université Paris7- Denis Diderot

Institut national de la Santé et de la recherche médicale

January 2013

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

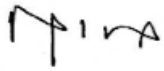
Research Units Department

President of AERES

Didier Houssin

Research Units Department

Department Head



Pierre Glaudes

The president of AERES "signs[...], the evaluation reports, [...]countersigned for each evaluation department by the relevant head of department (Article 9, paragraph 3, of french decree n°2006-1334 dated 3 november 2006, revised).

Grading

Once the visits for the 2012-2013 evaluation campaign had been completed, the chairpersons of the expert committees, who met per disciplinary group, proceeded to attribute a score to the research units in their group (and, when necessary, for these units' in-house teams).
This score (A+, A, B, C) concerned each of the six criteria defined by the AERES.
NN (not-scored) attached to a criteria indicate that this one was not applicable to the particular case of this research unit or this team.

Criterion 1 - C1 : Scientific outputs and quality ;
Criterion 2 - C2 : Academic reputation and appeal ;
Criterion 3 - C3 : Interactions with the social, economic and cultural environment ;
Criterion 4 - C4 : Organisation and life of the institution (or of the team) ;
Criterion 5 - C5 : Involvement in training through research ;
Criterion 6 - C6 : Strategy and five-year plan.

With respect to this score, the research unit concerned by this report (and, when necessary, its in-house teams) received the following grades:

- Grading table of the unit: Genetic and Ecology of virus

C1	C2	C3	C4	C5	C6
A	A	A+	A	A+	A

- Grading table of the team: Viral Evolution and pathogenesis

C1	C2	C3	C4	C5	C6
A	A	A+	A	A+	A

- Grading table of the team: Diversity and replication of virus

C1	C2	C3	C4	C5	C6
A	A	NN	A	A+	A

Evaluation report

Unit name:	Genetic and Ecology of virus
Unit acronym:	
Label requested:	INSERM
Present no.:	U941
Name of Director (2012-2013):	Mr François CLAVEL
Name of Project Leader (2014-2018):	Mr François CLAVEL

Expert committee members

Chair: Mr Eric DELAPORTE, University of Montpellier

Experts:

Ms Marie-Line ANDREOLA, Université Bordeaux Segalen

Mr Yves GAUDIN, CNRS Gif-sur-Yvette (INSERM representative)

Mr Jacques IZOPEt, University of Toulouse (CNU representative)

Mr Amalio TELENTI, CHUV Lausanne, Switzerland

Ms Sabine YERLY, University of Geneva, Switzerland

Scientific delegate representing the AERES:

Ms Sophie DE BENTZMANN

Representative(s) of the unit's supervising institutions and bodies:

Ms Corinne ALBERTI, Paris 7 University

Ms Stéphanie POMMIER, INSERM

1 • Introduction

History and geographical location of the unit

Initially located in the campus of Bichat-Claude Bernard Hospital, U 941 moved to the Institut Universitaire d'Hématologie (IUH), hospital Saint-Louis. Two important research groups were integrated: the Department of Infectious Diseases (Pr JM MOLINA) and the Laboratory of Microbiology (Pr Fr SIMON) and two basic research groups joined U941: the team of Fabrizio MAMMANO (DR INSERM) moved from Pasteur in 2010 and the team of Nathalie ARHEL (CR CNRS) in 2012 (contrat ATIP/Avenir).

Management team

A new organization is proposed with 2 teams instead of one: Team 1 "Evolution and viral pathogenesis" headed by Fabrizzio MAMMANO and Team 2 "Diversity and replication of virus", headed by François CLAVEL.

AERES nomenclature

SVE1_LS1, LS2, LS6,LS7

Unit workforce

Unit workforce	**Number as at 30/06/2012**	**Number as at 01/01/2014**	2014-2018 **Number of project producers**
N1: Permanent professors and similar positions	7	7	7
N2: Permanent researchers from Institutions and similar positions	5	5	5
N3: Other permanent staff (without research duties)	1	1	
N4: Other professors (Emeritus Professor, on-contract Professor, etc.)	1	1	1
N5: Other researchers from Institutions (Emeritus Research Director, Postdoctoral students, visitors, etc.)	4	4	4
N6: Other contractual staff (without research duties)			
TOTAL N1 to N6	**18**	**18**	**17**

Percentage of producers	***100%***

Unit workforce	Number as at 30/06/2012	Number as at 01/01/2014
Doctoral students	3	
Theses defended	6	
Postdoctoral students having spent at least 12 months in the unit*	2	
Number of Research Supervisor Qualifications (HDR) taken	2	
Qualified research supervisors (with an HDR) or similar positions	10	10

2 • Assessment of the unit

Strengths and opportunities

The unit in its new conformation has anticipated the relative loss of importance of drug resistance /fitness .

The integration of 2 clinical research teams of high quality and the arrival of two teams from Pasteur Institute represent a clear opportunity to develop new fields of research in particular on HIV reservoir.

The location in the IUH of St louis is also an opportunity to develop new collaborations and to benefit from high level research platforms.

Weaknesses and threats

Due to the challenges of the new location and of the integration of new teams, there is an heterogeneity in the numerous topics proposed, some of them having less interest in clinical or in basic research.

The present integration with clinical and microbiology laboratories is not fully profiled.

Funding for the mean/long term is not secured.

Recommendations

The unit should focus on the more relevant topics for the next 5 years and develop the opportunity of the integration of two clinical leading teams from St Louis Hospital.

3 • Detailed assessments

Assessment of scientific quality and outputs

The scientific output reflects the size of the group and the important recent transition. From 2007 to 2010, the unit has focused its research on HIV resistance to antiretroviral (ARV) drugs with an important contribution on the role of Gag mutations (PloS Pathogens). The group also studied the evolutionary pathways of integrase inhibitor resistance. With the arrival of the group from Pasteur in 2010, two important articles in J. Virol. were published on the mechanism of cell to cell transmission. Of public health importance, the cross neutralization between pandemic and seasonal A/H1N1 influenza viruses was described (PloS One). Additional findings are the description of novel aspects of the activity of human TRIM restriction factor that has been the subject of publications in J. Virol, Retrovirology and PloS One.

The clinical and microbiological teams have published a high number of articles in high profile journals (Lancet, Nature Med, CID, Lancet Infectious Disease).

Assessment of the unit's academic reputation and appeal

The previous work performed in the field of resistance is internationally recognised. The Atip /Avenir contract attributed to a young researcher who has recently joined the unit is promising. The head of the Unit is chair of scientific comittee 1 ANRS and member of the conseil d'administration of Paris 7 University.

One of the PIs is chair of AC5 ANRS (clinical trials) and frequently invited in international meetings, another one is chair from the comité scientifique Sidaction and member of different ANRS comittees.

Two members of the Unit are WHO experts.

Assessment of the unit's interaction with the social, economic and cultural environment

The team received grants from ANRS, Sidaction and private companies. Two clinical researchers are involved in many experts groups. The Ipergay project which is leaded by a PI of the unit is in line with new societal questions in the field of HIV prevention.

Assessment of the unit's organisation and life

Until now, there was only one team in the unit with little hierarchical structure. The members of the unit were satisfied. With the arrival of two new teams and the integration of two clinical groups of St Louis, the unit will be re-organized in two teams. The new organization will have to facilitate the collaborations between the different groups

Assessment of the unit's involvement in training through research

The unit was largely involved in training PhD and M2 with all the necessary aspects (supervision, publications, presentations in english).

Assessment of the five-year plan and strategy

The unit is undergoing a number of transitions. Nine projects have been presented. Some of them seem to be more pertinent than others. For team 1, the perspective of collaboration with the clinical and microbiological groups is very promising (HIV evolution under selective pressure of IFN in HCV/HIV co-infected patients and HIV reservoirs in treated patients). For team 2, the ATIP/Avenir project and the studies on anti-integrase resistance and human restriction factors of HIV are the more pertinent.

4 • Team-by-team analysis

Team 1 : Viral Evolution and pathogenesis

Name of team leader: Mr Fabrizio MAMMANO

Workforce

Team workforce	Number as at 30/06/2012	Number as at 01/01/2014	2014-2018 Number of project producers
N1: Permanent professors and similar positions	4	4	4
N2: Permanent EPST or EPIC researchers and similar positions	2	2	2
N3: Other permanent staff (without research duties)	1	1	
N4: Other professors (PREM, ECC, etc.)	1	1	1
N5: Other EPST or EPIC researchers (DREM, Postdoctoral students, visitors, etc.)	1	1	1
N6: Other contractual staff (without research duties)			
TOTAL N1 to N6	**9**	**9**	**8**

Team workforce	Number as at 30/06/2012	Number as at 01/01/2014
Doctoral students	2	
Theses defended	2	
Postdoctoral students having spent at least 12 months in the unit	1	
Number of Research Supervisor Qualifications (HDR) taken	1	
Qualified research supervisors (with an HDR) or similar positions	5	

• Detailed assessments

Assessment of scientific quality and outputs

From 2007 to 2010, the unit has focused its research on HIV resistance to antiretroviral (ARV) drugs. With the arrival of the Pasteur group in September 2010, the themes of the research team evolved. The study of the mechanisms of HIV cell to cell transmission, started at the Pasteur Institute, was pursued. They have shown that cell to cell transmission required the production of infectious particles (J. Virol. 2009), and more recently that IFN was less efficient for preventing cell to cell transmission as compared to cell free virions (J. Virol 2012). The PI was awarded an ANRS contract on this subject.

Overall, the team has published 41 articles, among which 27 with an author from the team in key position (either first or last author). The vast majority of the publications (about 30 of them) includes only authors from the clinical part of the team (coming from the Microbiology Laboratory or the Department of Infectious Diseases) among which articles with an author in key position in high profile journals: Lancet (2), Lancet Infectious diseases (1), CID (1).

Other articles were published in respected speciality journals (J Inf Dis (1), J Virol (2), AIDS (2)).

Assessment of the unit's academic reputation and appeal

The team has recently evolved with a better integration of researchers from the Laboratory of Microbiology and the Department of Infectious Diseases. The inclusion of these new leading investigators with important national and international involvements increases the reputation of the team and will promote many research projects. A Post-doctoral position granted by ANRS has been recruited.

Assessment of the unit's interaction with the social, economic and cultural environment

The team received grants from ANRS and two contracts with private companies. Clinical researchers from the team are involved in many expert groups and well recognized at both national and international levels. The “Ipergay” project is in line with new societal questions in the HIV field.

Assessment of the unit's organisation and life

The structure of the team has recently evolved with closer integration and collaboration with the infectious disease clinical researchers, which is good. However, multiple research themes are proposed and it was not absolutely clear whether clinical and more fundamental researchers will really collaborate.

Assessment of the unit's involvement in training through research

The team was largely involved in training with 4 PhD and 2 M2 students. The scientific production of the PhD students is of quality and was published in journals with good impact factors. The current proposal includes 2 PhD students (IFN, super-infection) and 2 M2 students (reservoirs, CMV tropism).

Assessment of the five-year plan and strategy

The projects of the team 1 for the next 5 years will focus on five topics:

1. **HIV evolution under selective pressure of IFN in HCV-HIV co-infected patients.** This ongoing project is of particular interest to understand the viral determinants targeted by IFN, and to functionally validate the association of viral determinants with changes in IFN susceptibility. The implication of known IFN-induced anti-HIV factors or new identified IFN stimulated genes will be studied. This project will benefit from the clinical group including HIV-HCV co-infected patients under IFN therapy, as well as methods to measure anti-HIV factors developed by different persons in the laboratory (link to team 2).

2. **Characterization of HIV superinfection resistance**. The team would like to investigate the kinetics of susceptibility to HIV superinfection and determine the contribution of CD4-dependent and independent mechanisms of HIV interference. Expression of integrated genome in latently infected cells after HIV superinfection will be studied. Conceptually, this project appeared to be less competitive, compared to the other projects on HIV of the team.

3. **HIV resistance to integrase inhibitor, Raltegravir.** The team will pursue their research on the evolutionary pathway of Raltegravir resistance according to genetic context (viral subtypes). In vitro resistance and replicative capacity will be studied for others rare resistance mutations and under the selective pressure of other integration inhibitors.

4. **HIV reservoirs in treated patients.** The size of HIV reservoirs and the extent of replication will be evaluated in HIV infected patients who undergo chemotherapy and autologous stem cell transplantation because of lymphoma. This original research will allow a better understanding of HIV reservoirs, the main obstacle today to eradication. The development in the laboratory of novel approaches to measure of replication competent virus, and the inclusion of lymphoid tissues in their analyses are particularly interesting. This project is very pertinent and will take the advantages from a unique clinical situation, and will propably seals the collaboration between clinic and laboratory research.

5. **Impact of cell-to-cell transmission on CMV tropism.** This project aims to characterize genotypically and functionally the tropism of primary CMV isolated from clinical samples and to explore the role of cell-to-cell transmission in the virus tropism. This study will benefit from methods developed by the laboratory and of access to CMV infected populations obtained in clinically relevant situations thanks to the National Reference Center for CMV. Nevertheless, this project appears to be more marginal.

Conclusion:

- Strengths and opportunities:

Both the better interactions with the clinicians and the Laboratory of Microbiology, and the new orientation of research themes in particular on HIV reservoir represent defined opportunities. They have correctly evaluated the relative loss of importance of the field of drug resistance/fitness, while maintaining some activity on the study of resistance to the last generation of integrase inhibitors.

- Weaknesses and threats:

The team projects include many topics, some of them have clearly less interest in clinical or in basic research. This could compromise the attractiveness of the unit, and success in fund raising. The size of the team and the numbers of ITA seem too low to allow state-of-the-art research in all the topics, and the project on reservoirs is not funded for the moment.

- Recommendations:

The team should focus on the more revelant topics for the next 5 years.

Team 2: Diversity and replication of virus

Manager's name: Mr François CLAVEL

Workforce

Team workforce	Number as at 30/06/2012	Number as at 01/01/2014	2014-2018 Number of project producers
N1: Permanent professors and similar positions	3	3	3
N2: Permanent EPST or EPIC researchers and similar positions	3	3	3
N3: Other permanent staff (without research duties)	1	1	
N4: Other professors (PREM, ECC, etc.)			
N5: Other EPST or EPIC researchers (DREM, Postdoctoral students, visitors, etc.)	2	2	2
N6: Other contractual staff (without research duties)			
TOTAL N1 to N6	**9**	**9**	**8**

Team workforce	Number as at 30/06/2012	Number as at 01/01/2014
Doctoral students	1	
Theses defended	4	
Postdoctoral students having spent at least 12 months in the unit	2	
Number of Research Supervisor Qualifications (HDR) taken	1	
Qualified research supervisors (with an HDR) or similar positions	5	

• Detailed assessments

Assessment of scientific quality and output

From 2007 to 2010, the team has focused its research on HIV resistance to antiretroviral (ARV) drugs (2 J Virol), with the detailed studies on the role of Gag and cleavage sites in protease inhibitors resistance (Plos Pathogens). The group also studied the evolutionary pathways of integrase inhibitor resistance (J Virol), using clinical samples from the Laboratory of Microbiology and samples from Thailand thanks to an international collaboration.

The scientific output reflects the size of the group and the important recent transitions (change of location and research themes, and recent arrival of a junior group). Thus, the most recent productivity is less favorable than in previous periods. They have correctly evaluated the relative loss of importance of the field of drug resistance/fitness, while maintaining some activity on the study of resistance to the last generation of integrase inhibitors. Importantly, the recruitment of a young researcher having an ATIP/Avenir grant brings complementary expertise and state of the art capacity for the study of cellular biology of HIV infection. This fits with the basic research agenda, and can also offer opportunities for competitive research in latency. The meticulous work of other researchers from the team adds contributions to the competitive field of restriction factors. They have provided novel insight on the interaction between innate and acquire immune recognition of the viral capsid (2 articles in J Virol). The new project on the expression of EBV glycoproteins by use of lentiviral vectors is too early to be assessed.

Assessment of the team academic reputation and appeal

The team is well known in the field because of previous work on resistance. The recruitment of an ATIP/Avenir young researcher is a welcome addition to renovate the presence of this group in the international forum.

Two Post-Doc positions (ANRS and Avenir) illustrate the attractivity of this team.

Assessment of the unit's interaction with the social, economic and cultural environment

There are public (ANRS, Sidaction) and industrial contracts (Merck, ViiV Healthcare). Several PI are members of National science commissions (Sidaction, ANRS/CSS1 etc).

Assessment of the team organization and life

The team has until now worked as single unit, with little hierarchical structure and with shared resources. The various professional groups declare their satisfaction with the leadership and work environment.

Assessment of the team involvement in training through research

The training of PhD students includes all the necessary aspects for careers: close supervision, frequent interactions and opportunities to present, international exposure, use of scientific English and excellent support to find postdoctoral positions in competitive groups abroad.

Assessment of the five-year plan and strategy

This team is undergoing a number of transitions, from the field of resistance to that of pathogenesis, from the setting in Bichat to the new environment at St Louis. In addition, the recruitment of the ATIP/Avenir young researcher is very recent (6 months). It is in this unstable period that an emphasis on development and strategy would have been particularly valuable. It is through discussion with the PIs that a number of opportunities become clearer: the emphasis on the steps of uncoating emerges based on (not yet done) request of funding from the European community in collaboration with a German group leader in the field and the development of a HIV-2 project (restriction factors). The latter would be an opportunity in the field given its interest as a distinct model of pathogenesis – unfortunately, a first request for funding has not been successful. A second issue that relates to long term strategy is the limited securing of funds for some of the most attractive and competitive projects.

Conclusion

The team includes four separate main topics. The topics by themselves are not necessarily interacting, although the excellent general knowledge on basic lentiviral biology is a common point.

- Strengths and opportunities:

The first project "transport" applies state-of-the-art expertise and technology and has in the recent past resulted in numerous top level publications. The second project on the Capsid-TRIM5a-HLA interaction is of interest for progress in the field and has resulted in various publications in J Virol. It can set the basis for a new expanded project on uncoating. A component of the project relates to HIV-2, a virus that could provide valuable information on HIV-1 pathogenesis, but that has not been fully exploited in research. The analysis of restriction factors against HIV-2 could be of particular interest and the groups has novel data on this topic. Novel environment and relationship with clinical services and the basic research environment of IUH could be fruitful if adequately exploited.

- Weaknesses and threats:

Some of the themes are losing interest in the clinical or basic research. This could compromise the attractiveness of the unit, or fund raising. The actual integration with Infectious diseases and Microbiology departments is not fully profiled. The association and collaboration with other groups at IUH is not clearly developed. The risks are the loss of notoriety of this team over the next period in detriment of the new groups.

The technical and administrative support is limited. Some of the novel equipment for new projects may not be available at the campus.

- Recommendations:

The new field of interest proposed, in particular the projects of the ATIP/Avenir team, the plans to converge around the topic of uncoating, and the efforts in HIV-2 virology are excellent choices to proceed – and they should be favored over other lesser projects. The future is unclear about i/the value of the EBV project that represents a strong local request, ii/ the availability of lentiviral technology, but that could prove to be non-competitive in the established field of herpes viruses.

5 • Conduct of the visit

Visit date:

Start:	Wenesday, 23, january, 9:00
End:	Wenesday, 23, january, 18:00
Visit site:	Hôpital Saint-Louis,
Institution:	IUH, Paris 7 University
Address:	Rue Claude Vellefaux, Paris

Conduct or programme of visit:

9h-9h15:	AERES representative: the role and procedures of AERES
9h15-10h:	Director of the Unit : Presentation of the past activities and project
10h-11h05:	Team 1 : Viral Evolution and Pathogenesis *Team leader Fabrizio Mammano*
11h00*:*	Coffee break
11h15-12h40:	Team 2 : Virus replication and diversity Team leader François Clavel
12h40-14h00:	L*unch*
14h -14h45:	Parallel meetings with personnel: Discussions with engineers, technicians, administrative Discussions with staff scientists Discussions with students and post-docs
14h45-15h30:	Discussion with the representatives of the managing bodies
15h30-16h00:	Discussion with the head of the Unit
16h00-18h00:	Private meeting of the visiting committee
18h00:	end of the visit

6 • Statistics by field: SVE on 10/06/2013

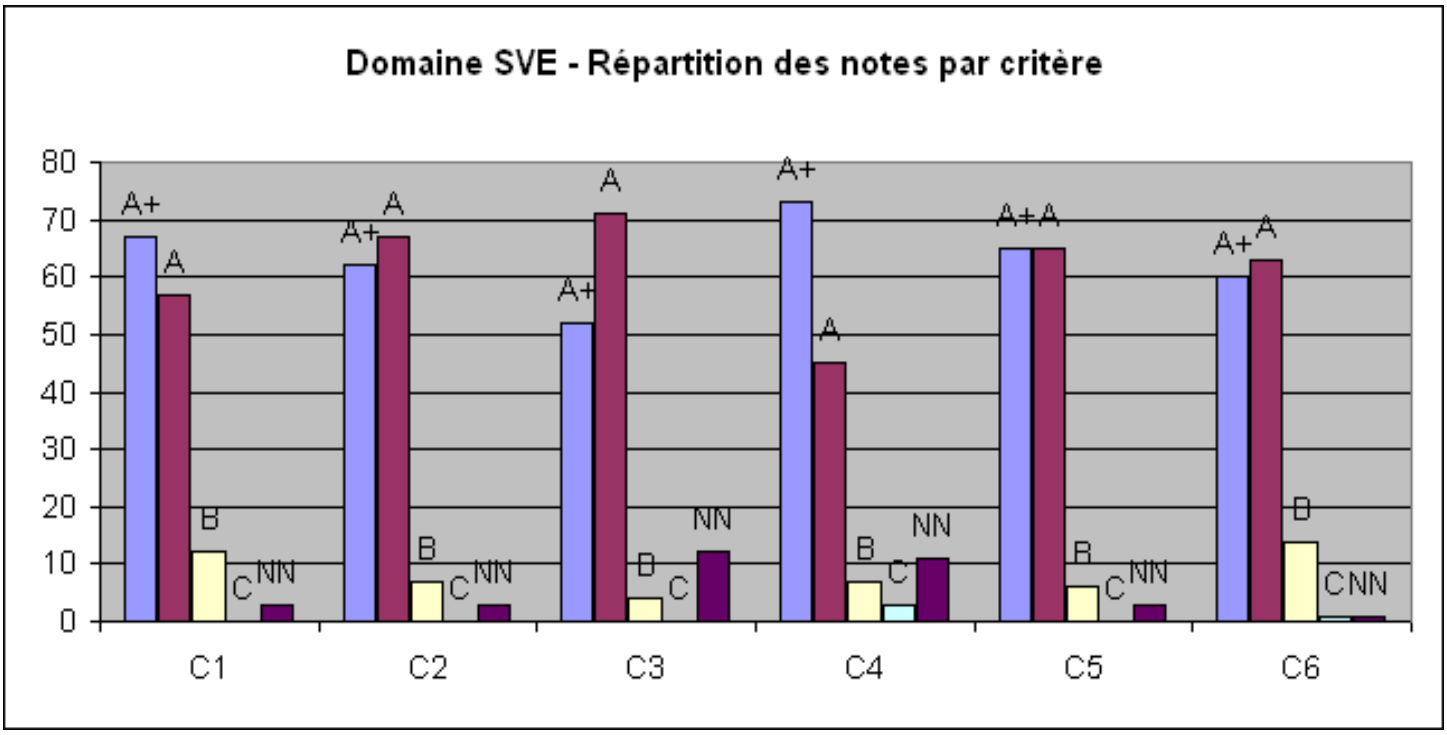
Grades

Critères	C1 Qualité scientifique et production	C2 Rayonnement et attractivité académiques	C3 Relations avec l'environnement social, économique et culturel	C4 Organisation et vie de l'entité	C5 Implication dans la formation par la recherche	C6 Stratégie et projet à cinq ans
A+	67	62	52	73	65	60
A	57	67	71	45	65	63
B	12	7	4	7	6	14
C	0	0	0	3	0	1
Non Noté	3	3	12	11	3	1

Percentages

Critères	C1 Qualité scientifique et production	C2 Rayonnement et attractivité académiques	C3 Relations avec l'environnement social, économique et culturel	C4 Organisation et vie de l'entité	C5 Implication dans la formation par la recherche	C6 Stratégie et projet à cinq ans
A+	48%	45%	37%	53%	47%	43%
A	41%	48%	51%	32%	47%	45%
B	9%	5%	3%	5%	4%	10%
C	0%	0%	0%	2%	0%	1%
Non Noté	2%	2%	9%	8%	2%	1%

Histogram



7 • Supervising bodies' general comments

Le Président

P/VB/LB/NC/YM – 2013 - 124
Paris, le 29 avril 2013

M. Pierre Glaudes
Directeur de la section des unités de l'AERES
20 rue Vivienne
75002 PARIS

S2PUR140006357 - Génétique des Virus et Pathogénèse des Maladies Virales - 0751723R

Monsieur le Directeur,

Je tiens en premier lieu à remercier les membres du comité de visite de l'AERES pour la production du rapport sur le laboratoire U941 « Genetic and ecology of virus ».

J'appuie ce que le comité souligne comme une force, à savoir l'importance de l'implication de cette unité récemment créée dans l'IUH St Louis qui devrait lui permettre de trouver des opportunités de développer de nouvelles collaborations, renforçant ainsi son projet.

L'université Paris Diderot contribuera, à la hauteur de ses moyens, et en association avec l'INSERM, à assurer, dans le contexte de l'IUH, le renforcement de cette unité.

Je vous prie d'agréer, Monsieur le Directeur, l'expression de toute ma considération.

Vincent Berger

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Unité Génétique et Ecologie des virus
Inserm U941

François CLAVEL, directeur

Réponse de l'Unité Génétique et Ecologie des Virus au rapport d'évaluation de l'AERES

Les personnels de l'unité mixte Paris Diderot/Inserm U941 "Génétique et Ecologie des Virus" remercient le comité AERES pour l'évaluation positive et rigoureuse exprimée dans son rapport en date de janvier 2013.

Après discussion, plusieurs points nous ont semblé devoir être soulignés dans cette lettre de réponse.

1. Le rapport insiste à plusieurs reprises sur l'inflexion thématique du laboratoire, qui a conduit à une décroissance notable du nombre des projets de recherche sur la résistance du VIH aux antirétroviraux. A la lecture du rapport, on a l'impression que cette réorientation est très récente et pourrait constituer un risque pour l'avenir. Il nous semble important de rappeler que notre virage thématique, qui constituait en effet un pari non dénué de risques, date de 2009, soit de la même époque que l'implantation de l'unité au sein de l'IUH. Depuis cette date, notre laboratoire a vu naître de nombreux nouveaux projets actuellement en cours : transport intracellulaire du VIH, facteurs de restriction du VIH-1, sensibilité du VIH à l'interféron, VIH-2, etc. Pour certains de ces thèmes, les investigateurs principaux ont une visibilité internationale notable.

2. Les évaluateurs ont très justement relevé l'imporance dans notre projet d'une interaction forte avec le Laboratoire de Microbiologie et le Service des Maladies Infectieuses de l'hôpital Saint Louis. Nous sommes bien conscients que notre association avec ces deux équipes hospitalières, dont la qualité de la recherche virologique et clinique est largement reconnue, va constituer une des principales forces de notre unité. Les principaux investigateurs de ces équipes sont des membres à part entière de notre unité de recherche. Nous avons entrepris une démarche active et très pragmatique de réflexion et de mise en place de projets communs, dont plusieurs sont en cours. Le succès de cette démarche demande néanmoins un effort constant, dont nous sommes convaincus qu'il sera fructueux.

3. Le comité a considéré que certains thèmes de recherche de notre unité sont excentrés – voire marginaux – par rapport à nos thèmes principaux. Il semble s'agir principalement des projets concernant les virus EBV et CMV. Nous sommes convaincus de l'importance à terme de la recherche sur ces virus : i) ils constituent l'un et l'autre une demande forte dans la stratégie de recherche de l'Hôpital Saint-Louis, qui est en première ligne pour les pathologies liées à ces virus; ii) la recherche sur la vaccination et les traitements antiviraux contre ces virus est très ouverte; iii) nous disposons d'outils novateurs, reposant sur notre expérience avec le VIH, et dont l'application à la recherche sur EBV et CMV pourrait s'évérer particulièrement payante.

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Unité Génétique et Ecologie des virus
Inserm U941

François CLAVEL, directeur

4. Le rapport du comité fait état du risque que pourrait constituer pour notre unité l'absence d'assurance d'un financement à moyen ou long terme. Nous tenons à rappeler ici que notre unité dispose de financements à la fois confortables et très divers : dotations récurrentes de l'Inserm et de Université Paris Diderot; contrats et bourses ANRS et Sidaction en cours; contrats industriels en cours (Merck, GSK, etc.); contrat ATIP/Avenir de Nathalie Arhel; financements des projets EBV par PHRC et Vaincre la Mucoviscidose; financement des Centres Nationaux de Référence VIH et CMV; demande ERC "consolidator" en cours. Nous souhaitons aussi insister sur l'importance du soutien par l'IUH de plusieurs équipements importants de notre unité, notamment en lien avec le laboratoire L3.

Nous tenons une nouvelle fois à exprimer notre reconnaissance au comité AERES pour son évaluation encourageante et pour le temps qu'il a consacré à ce travail.

Paris, le 24 avril 2013

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