

**The dual (activating/suppressive) effect of extracellular  
TatHIV-1 is driven by the inflammatory  
microenvironment of infected lymphoid foci**

Hélène Le Buanec, Thomas Sené, Armand Bensussan, Robert Gallo, Daniel  
Zagury

► **To cite this version:**

Hélène Le Buanec, Thomas Sené, Armand Bensussan, Robert Gallo, Daniel Zagury. The dual (activating/suppressive) effect of extracellular TatHIV-1 is driven by the inflammatory microenvironment of infected lymphoid foci. *Retrovirology*, BioMed Central, 2012, 9 (Suppl 1), pp.P35. <inserm-00701409>

**HAL Id: inserm-00701409**

**<http://www.hal.inserm.fr/inserm-00701409>**

Submitted on 25 May 2012

**HAL** is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



POSTER PRESENTATION

Open Access

# The dual (activating/suppressive) effect of extracellular TatHIV-1 is driven by the inflammatory microenvironment of infected lymphoid foci

Hélène Le Buanec<sup>1,2,3</sup>, Thomas Sené<sup>1,2,3</sup>, Armand Bensussan<sup>1,2,3</sup>, Robert Gallo<sup>4</sup>, Daniel Zagury<sup>5\*</sup>

From 17th International Symposium on HIV and Emerging Infectious Diseases (ISHEID) Marseille, France. 23-25 May 2012

It has been shown that HIV-1 infects activated but not resting CD4+ T cells [1] and that CPE induced by viral replication together with the immunosuppressive effect triggered by extracellular Tat protein [2] account for the decrease of CD4+ T cell count in infected patients. In lymphoid foci, dependent on the level of viral infection, the stromal microenvironment surrounding immune cells could include, together with extracellular Tat [3] and circulating antiviral IFN- $\alpha$ , inflammatory innate factors such as ATP and derivatives released by CPE-derived dead cells.

We show that, according to its concentration and the presence of inflammatory factors (IFN- $\alpha$ , ATP and ATP-derivatives), Tat protein may exert either an activation with enhanced production of IL2 or an immune suppression of stimulated CD4+ T cells subpopulations.

The double-edged sword of Tat activity on CD4+ T cells could account for its immunopathogenic effects both at the early stage of infection (by allowing CD4+ T cells activation and viral replication) and at late stages (by inducing immunosuppression, source of opportunistic infections). Indications for targeting Tat protein by therapeutic vaccines in subgroups of HIV-1 infected patients will be discussed.

#### Author details

<sup>1</sup>INSERM U976, F-75475, Paris, France. <sup>2</sup>Université Paris Diderot, Sorbonne Paris Cité, Laboratory of Immunology, Dermatology & Oncology, UMR-S 976, F-75475, Paris, France. <sup>3</sup>Service de dermatologie, Hopital Saint Louis, F-75010,

\* Correspondence: dzagury@neovacs.com

<sup>5</sup>Neovacs SA, Paris, France

Full list of author information is available at the end of the article

Paris, France. <sup>4</sup>Institute of Human Virology, University of Maryland Baltimore, Maryland, USA. <sup>5</sup>Neovacs SA, Paris, France.

Published: 25 May 2012

#### References

1. Zagury D, *et al*: Long-term cultures of HTLV-III-infected T cells: a model of cytopathology of T-cell depletion in AIDS. *Science* 1986, **231**(4740):85.
2. Viscidi RP, *et al*: Inhibition of antigen-induced lymphocyte proliferation by Tat protein from HIV- Science. 1989, **246**(4937):1606.
3. Ensoli B, *et al*: Release, uptake, and effects of extracellular human immunodeficiency virus type 1 Tat protein on cell growth and viral transactivation. *J Virol* 1993, **67**(1):277.

doi:10.1186/1742-4690-9-S1-P35

Cite this article as: Le Buanec *et al*: The dual (activating/suppressive) effect of extracellular TatHIV-1 is driven by the inflammatory microenvironment of infected lymphoid foci. *Retrovirology* 2012 **9**(Suppl 1):P35.

Submit your next manuscript to BioMed Central and take full advantage of:

- Convenient online submission
- Thorough peer review
- No space constraints or color figure charges
- Immediate publication on acceptance
- Inclusion in PubMed, CAS, Scopus and Google Scholar
- Research which is freely available for redistribution

Submit your manuscript at  
www.biomedcentral.com/submit

