

P16-37. HIV controllers with weak CD8+ T cell responses maintain a tight control of infection despite carrying infectious viruses

Asier Saez-Cirion, Martine Sinet, So Youn Shin, Alejandra Urrutia, Pierre Versmisse, Faroudy Boufassa, Christine Rouzioux, Olivier Lambotte, Alain Venet, Gianfranco Pancino

► **To cite this version:**

Asier Saez-Cirion, Martine Sinet, So Youn Shin, Alejandra Urrutia, Pierre Versmisse, et al.. P16-37. HIV controllers with weak CD8+ T cell responses maintain a tight control of infection despite carrying infectious viruses. AIDS Vaccine 2009, Oct 2009, Paris, France. Biomed Central, 6 (Suppl 3), pp.P266, 2009, Retrovirology. <10.1186/1742-4690-6-S3-P266>. <inserm-00663575>

HAL Id: inserm-00663575

<http://www.hal.inserm.fr/inserm-00663575>

Submitted on 27 Jan 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

PI6-37. HIV controllers with weak CD8+ T cell responses maintain a tight control of infection despite carrying infectious viruses

A Saez-Cirion*¹, M Sinet², S Shin¹, A Urrutia², P Versmisse¹, F Boufassa³, C Rouzioux⁴, O Lambotte², A Venet² and G Pancino¹

Address: ¹Régulation des Infections Rétrovirales, Institut Pasteur, Paris, France, ²Inserm U802, Le Kremlin-Bicêtre, France, ³Inserm U822, Le Kremlin-Bicêtre, France and ⁴AP-HP, CHU Necker-Enfants Malades, Laboratoire de Virologie, Paris, France

* Corresponding author

from AIDS Vaccine 2009
Paris, France. 19–22 October 2009

Published: 22 October 2009

Retrovirology 2009, 6(Suppl 3):P266 doi:10.1186/1742-4690-6-S3-P266

This abstract is available from: <http://www.retrovirology.com/content/6/S3/P266>

© 2009 Saez-Cirion et al; licensee BioMed Central Ltd.

Background

HIV controllers (HIC) are rare HIV-1-infected individuals who durably maintain undetectable viremia in the absence of therapy. Viral control in HIC is usually associated to strong functional HIV-specific CD8+ T cell responses. Accordingly, we have shown that CD8+ T cells from most HIC have a strong capacity *ex vivo* to suppress HIV-1 infection. We have further characterized the HIV-suppressive capacity of CD8+ T cells and the mechanisms of HIV control in 19 HICs.

Methods

HIV-specific CD8+ T cells were quantified by IFN γ ELISPOT and characterized (activation, maturation and proliferation) by flow cytometry. Their capacity to suppress HIV infection was evaluated by p24 ELISA of supernatants of co-cultures with autologous CD4+ T cells. Replication of infecting viruses was assessed upon PHA+IL2 stimulation of CD4+ T cells. Infectious capacity and tropism of HIC viruses were evaluated in allogenic CD4+ T cells and CCR5+ or CXCR4+ cells lines.

Results

The capacity of CD8+ T cells from 14/19 HIC to suppress HIV infection was strong and associated to the frequency of Gag-specific CD8+ T cell responses (strong responder, SR, HIC). However 5/19 HIC have low numbers of HIV-specific CD8+ T cells with very low activation levels (weak responder, WR, HIC). WR HIC seems to control viremia

more tightly than SR HIC, who may require some viral replication to boost the HIV-specific response. Moreover, WR HIC maintains their levels of CD4+ T cells while some lost is often observed in SR HIC. Infecting viruses from WR HIC are readily detected upon activation of CD4+ T cells. Viruses from at least 3 WR HIC are infectious and X4 or dualtropic.

Conclusion

Although our results underline the importance of Gag-specific CD8+ T cell responses in HIV control, the identification of WR suggest the existence of additional mechanisms of control of infection in HIC.