

Latency, tropism and genetic variation of Simian Foamy Virus in blood and saliva from infected Humans

Réjane Rua, Edouard Betsem, Thomas Montange, Florence Buseyne, Antoine Gessain

▶ **To cite this version:**

Réjane Rua, Edouard Betsem, Thomas Montange, Florence Buseyne, Antoine Gessain. Latency, tropism and genetic variation of Simian Foamy Virus in blood and saliva from infected Humans. Retrovirology, 2014, 11 (Suppl 1), pp.O71. 10.1186/1742-4690-11-S1-O71 . pasteur-00924974

HAL Id: pasteur-00924974

https://pasteur.hal.science/pasteur-00924974

Submitted on 7 Jan 2014

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.

RETROVIROLOGY

ORAL PRESENTATION Open Access

Latency, tropism and genetic variation of Simian Foamy Virus in blood and saliva from infected Humans

Réjane Rua[1,2,3*], Edouard Betsem[1,2,4], Thomas Montange[1,2], Florence Buseyne[1,2], Antoine Gessain[1,2*]

From 16th International Conference on Human Retroviruses: HTLV and Related Viruses
Montreal, Canada. 26-30 June 2013

Simian foamy viruses (SFV) are widespread retroviruses among non-human primates (NHP). SFV actively replicate in the oral cavity of NHP and can be transmitted to humans through NHP bites, in whom they establish a persistent infection. We aimed to study three major properties of these zoonotic retroviruses: replicative status, tropism and variability. In 14 hunters from Cameroon previously shown to be infected with a gorilla SFV strain, viral DNA could be detected by quantitative polymerase chain reaction in most samples of peripheral blood mononuclear cells (PBMCs) and saliva. The SFV DNA levels were 7.1± 6.0 SFV DNA copies/10^5 cells in PBMCs and 2.4±4.3 SFV DNA copies/10^5 cells in saliva. In contrast, no SFV RNA was detected by qRT-PCR in either PBMCs or saliva. PBMCs populations (T4, T8, B, NK lymphocytes and monocytes) were sorted with magnetic beads before quantification of SFV DNA. Our preliminary results showed the presence of SFV DNA in all PBMCs populations at different levels. We finally assessed the viral diversity *in vivo*. Although intra-individual SFV genetic variation was low (<0,5%) we detected some viral diversity in 3 out of 9 individuals. In one subject, genetic variation might be associated with coinfection with 2 SFV strains, while in the two other subjects, variations seemed to derive from APOBEC3 editing with a high rate of G-to-A substitutions. Our study demonstrates that SFV infection is mostly latent in PBMCs and in saliva. Such a scenario may explain the putative lack of secondary human-to-human transmissions of SFV.

Authors' details
[1]Unit of Epidemiology and Physiopathology of Oncogenic Viruses, Department of Virology, Institut Pasteur, France. [2]Centre National de la Recherche Scientifique (CNRS), UMR 3569, Paris, France. [3]Université Paris Diderot, Cellule Pasteur, Paris, France. [4]Faculty of Medicine and Biomedical Sciences, University of Yaounde I, Yaounde, Cameroon.

Published: 7 January 2014

doi:10.1186/1742-4690-11-S1-O71
Cite this article as: Rua *et al.*: Latency, tropism and genetic variation of Simian Foamy Virus in blood and saliva from infected Humans. *Retrovirology* 2014 **11**(Suppl 1):O71.

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

BioMed Central

* Correspondence: rejane.rua@pasteur.fr
[1]Unit of Epidemiology and Physiopathology of Oncogenic Viruses, Department of Virology, Institut Pasteur, France
Full list of author information is available at the end of the article

BioMed Central

© 2014 Rua et al; licensee BioMed Central Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (http://creativecommons.org/licenses/by/2.0), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The Creative Commons Public Domain Dedication waiver (http://creativecommons.org/publicdomain/zero/1.0/) applies to the data made available in this article, unless otherwise stated.