



Scientists and Health Care Workers
Committed to HIV/AIDS

3rd International AIDS Society Conference on **HIV** Pathogenesis and Treatment

Rio de Janeiro - July 24 - 27, 2005

BIOLOGICAL PHENOTYPE OF HIV-1 BG RECOMBINANTS AND OTHER GENETIC FORMS FROM GALICIA, SPAIN

IAS Conf HIV Pathog Treat 2005 Jul 24-27;3rd: Abstract No. MoOa0405

Perez-Alvarez L.¹, Muñoz M.¹, Delgado E.¹, Casado G.¹, Sierra M.¹, Carmona R.¹, Thomson M.¹, Pérez S.², Miralles C.³, Vázquez de Parga E.¹, Ocampo A.³, Contreras G.¹, Medrano L.¹, Taboada J.A.⁴, Nájera R.¹

¹Viral Pathogenesis, Instituto Salud Carlos III, Majadahonda, Madrid, Spain, ²Hospital do Mexoeiro, Pontevedra, Galicia, Spain, ³Hospital Xeral Cies, Vigo, Pontevedra, Spain, ⁴Consellería de Sanidade e Servizos Sociais, Galicia, Spain

INTRODUCTION: Biological characterization and analysis of V3 loop as a determinant of viral phenotype and co-receptor use is well known in subtype B variants. In our laboratory we have obtained 40 primary isolates of non-B and recombinants HIV-1 variants. The aim of this study is to investigate the biological characteristics of different genetic forms, emphasizing the BG recombinants most frequently detected in this area, and to define the association of these properties with V3 loop sequence variability.

METHODS: 40 patients infected with different HIV-1 genetic forms were included. The most frequent were: BG recombinants (35%), including CRF14_BG (BV3) (22.5%) and BG (BV3) (12.5%), CRF02_AG (AV3) (20%), subtype G (7.5%) and subtype F (7.5%). Primary isolates (PI) were obtained by co-culture of peripheral blood mononuclear cells. Syncytium inducing (SI) phenotype was studied in MT2, and co-receptor use (CCR5 and CXCR4) in GHOST-CD4 and U87-CD4 cells. Phenotype prediction from V3 was based on basic amino acid (aa), net charge, and by the computer program <http://genomiac2.ucsd.edu:8080/wetcat/v3.html> (wetcat). CD4+ count and viral load level were studied.

RESULTS:

1) All BG recombinants, either CRF14_BG (BV3) or BG (BV3) strains were SI/X4, and were isolated from patients independently of the CD4+ cell count or the evolution time of the disease. Characteristic substitutions in V3 loop of these strains were observed:

13T,14M, 19V, 20W; and atypical changes in GPGR motif were detected in one BG (BV3). CRF02_AG (AV3), CRF05_DF (FV3), subtypes F, G and C were NSI/R5.

2) Prediction of co-receptor use based on the presence of basic aa at positions 11 or 25, V3 net charge and wetcat program were concordant with biological characterization of PI.

CONCLUSIONS: The biological phenotype of all BG recombinants was SI/X4, independently of the clinical stage of the disease, in contrast with subtype B. The biological phenotype of non-B subtypes and recombinants are linked to env V3 loop sequence variability.

050724
Basic | MoOa0405 | Mercedes Muñoz
14.2 155 14.2 HIV diversity

Copyright © 2005 - [International AIDS Society](#) (IAS). All information and content relating to the abstracts from the 3rd International AIDS Society Conference on HIV Pathogenesis and Treatment, such as text, graphics, logos, button icons, images, audio clips, and software is protected by copyright. Permission is hereby granted for the non-commercial use or reproduction of the information on this web site, provided that the use of such information is accompanied by an acknowledgement that IAS is the source of the information and the name of the author of the article.

AEGiS is made possible through unrestricted grants from [Boehringer Ingelheim](#), [Bridgestone/Firestone Charitable Trust](#), [Bristol-Myers Squibb Company](#), [Elton John AIDS Foundation](#), the [National Library of Medicine](#), and [donations](#) from users like you. **Always watch for outdated information. This article first appeared in 2005. This material is designed to support, not replace, the relationship that exists between you and your doctor.**

AEGiS presents published material, reprinted with permission and neither endorses nor opposes any material. All information contained on this website, including information relating to health conditions, products, and treatments, is for informational purposes only. It is often presented in summary or aggregate form. It is not meant to be a substitute for the advice provided by your own physician or other medical professionals. **Always discuss treatment options with a doctor who specializes in treating HIV.**

Copyright ©1980, 2005. AEGiS. All materials appearing on AEGiS are protected by copyright as a collective work or compilation under U.S. copyright and other laws and are the property of AEGiS, or the party credited as the provider of the content. Permission is hereby granted for the non-commercial use or reproduction of the information herein, provided that the use of such information is accompanied by an acknowledgement that IAS is the source of the information and the name of the author of the article.