Retrovirology

Poster presentation

P20-18. Diversity of Gag and Nef immunodominant regions in Brazilian HIV-1 B and F1 subtypes

FH Côrtes*, G Bello and MG Morgado

Address: Laboratory of Aids and Molecular Immunology, Fiocruz, Rio de Janeiro, Brazil
* Corresponding author

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

Published: 22 October 2009

Retrovirology 2009, **6**(Suppl 3):P388 doi:10.1186/1742-4690-6-S3-P388

This abstract is available from: http://www.retrovirology.com/content/6/S3/P388

Background

HIV-1 diversity is considered a major hurdle for the successful design of a vaccine as well as for the development of reagents to assess vaccine efficacy. The aim of the present study is to evaluate the variability of Gag and Nef immunodominant regions previously described in HIV positive Brazilian individuals infected with B and F1 subtypes.

Methods

A total of 51 Gag (30 B; 21 F1) and 86 Nef (50 B; 36 F1) sequences were analyzed. Amino acid distances were calculated for the targeted immunodominant and non-immunodominant regions using JTT matrix model as implemented in MEGA program.

Results

No simple association was observed between the frequency of immune recognition (immune selective pressure) and the amino acid diversity in Gag and Nef proteins HIV positive Brazilian individuals infected with B and F1 subtypes. The mean amino acid diversity of Nef immunodominant regions (first region: 12,1% on B and 10,9% on F1; second region: 10,1% on B and 11,1% on F1) was lower than the diversity of non-immunodominant region (13,2% on B and 12,1% on F1). Gag immunodominant regions (first region: 8,2% on B and 12,3% on F1; second region: 12,7% on B and 18,3% on F1) displayed both lower and higher diversity when compared with non-immunodominant regions (first region: 14,1% on B and 7% on F1; second region: 14% on B and 19% on F1).

Conclusion

These results reveals that a higher immune selective pressure is not always associated with higher levels of amino acid diversity in immunodominant Gag and Nef regions, suggesting that these regions could be subject to higher purifying selection pressure than other non-immunodominant regions.