Retrovirology



Poster presentation

Open Access

PII-07. Characterization of a new TZM-bl cell line that expresses human $Fc\alpha R(CD89)$

LG Perez*, MR Costa and DC Montefiori

Address: Surgery, Duke University, Durham, NC, USA

* Corresponding author

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

Published: 22 October 2009

Retrovirology 2009, 6(Suppl 3):P152 doi:10.1186/1742-4690-6-S3-P152

This abstract is available from: http://www.retrovirology.com/content/6/S3/P152

© 2009 Perez et al; licensee BioMed Central Ltd.

Background

IgA plays a protective role at mucosal surfaces by facilitating the binding of IgA-coated targets to Fc receptors (Fc α R) on effector cells. Human monocytes, macrophages, neutrophils and some dendritic cells express cell surface Fc α R that mediates effector functions such as phagocytosis, Ab-dependent cell cytotoxicity and inflammatory mediator release. Moreover, we recently demonstrated that certain IgG Fc receptors expressed on TZM-bl cells augment the neutralizing activity of gp41 MPER-specific Abs.

Methods

To gain insight in the role of CD89 in HIV infectivity and neutralization, the cDNAs for the human FcαRI and the FcRγ chain were transduced into TZM-bl cells.

Results

Stable surface expression of Fc α RI and the FcR γ chain on this new TZM-bl cell line was confirmed by flow cytometry. In addition, the Fc α R expressed on this cell line was able to bind secretory IgA from human colostrum. The cell line was fully susceptible to HIV-1 infection as the levels of CD4, CCR5, and CXCR4 remained comparable to the parental cell line. In contrast to what we have observed with Fc γ Rs expression on TZM-bl cells, Fc α R expression had no effect on the neutralizing activity of an IgA version of 2F5 when assayed against four different HIV-1 variants.

Conclusion

Our preliminary results suggest that $Fc\alpha R$ has no effect on the neutralizing activity of gp41 MPER-specific IgA. Thus,

the phenomenon observed with FcyRs and MPER antibodies seems to be immunoglobulin class and Fc receptor specific. Additional work is in progress to characterize other HIV-1-specific IgAs.