Retrovirology

Poster presentation

Increased CXCR4-dependent HIV-1 Fusion in Activated T Cells: Role of CD4/CXCR4 Association

Marina Zaitseva*‡, Tatiana Romantseva, Jody Manischewitz, Jiun Wang and Hana Golding

Address: Division of Viral Products, CBER and Division of Monoclonal Antibodies, CDER, FDA, Bethesda, Maryland 20892

Email: Marina Zaitseva* - zaitseva@cber.fda.gov

* Corresponding author ‡Presenting author

from 2005 International Meeting of The Institute of Human Virology
Baltimore, USA, 29 August – 2 September 2005

Published: 8 December 2005

Retrovirology 2005, **2**(Suppl 1):P143 doi:10.1186/1742-4690-2-S1-P143

Activation of peripheral T cells resulted in enhanced fusion with X4 HIV-1 env-expressing cells without increases in the surface CD4 or CXCR4. Biochemical methods and biological assays were used to correlate the increased fusion of activated T cells with changes in CXCR4 isoforms and CD4-CXCR4 association. CXCR4 species with molecular weight of 47, 50, 62, and 98 kDa were identified in resting T cells by western blot. Stimulation with PHA/IL2 induced a reduction in the 47 kDa, and an increase in the amounts of 50 and ubiquitinated 62–64 kDa CXCR4, and in the co-precipitation of the 62 kDa CXCR4 with CD4. Striping of CD4 from the cell surface prior to cell lysis only partially reduced co-precipitation of CD4 with the 62 kDa CXCR4, revealing a pool of intracellular CD4-CXCR4 complexes. Brefeldin A and monensin reduced co-precipitation of CXCR4 with CD4, suggesting that late endosomes play a role in intracellular association of CXCR4 with CD4. Our data demonstrated a correlation between the enhanced susceptibility of activated T cells to HIV-1 fusion and an increase in CXCR4-CD4 complexes that may shuttle between late endosomes and the cell surface.