Retrovirology

Poster presentation

Region-specific Distribution of HIV-1 LTR C/EBP Site II Configurations in Demented and Non-demented Patients

Michael Nonnemacher*‡[1], Suzanne Gartner[2] and Brian Wigdahl[1]

Address: [1]Department of Microbiology and Immunology and Institute for Molecular Medicine and Infectious Disease, Drexel University College of Medicine, Philadelphia, PA, USA and [2]Department of Neurology, Johns Hopkins University College of Medici, Baltimore, MD, USA

* 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):P71 doi:10.1186/1742-4690-2-S1-P71

We have previously demonstrated that the C/EBP site II consensus B (conB) variant was highly conserved in brain-derived HIV-1 LTRs and that LTRs containing C/EBP site II 4C and 6G variants were only found in brain tissue of patients with HIV-1-associated dementia (HIVD). Therefore, the regional distribution of LTRs containing the conB, 4C, or 6G variant of patients with and without HIVD was examined. A statistically significant difference was found in the regional distribution of LTRs containing the C/EBP site II conB, 4C, or 6G variant in brain regions derived from patients with and without HIVD. LTRs containing a low affinity C/EBP site II 4C were shown to accumulate in the cerebellum, a site of little viral gene expression, and in conjunction with a conB site I exhibited the lowest basal LTR activity of any of the LTRs examined. LTRs containing a high affinity C/EBP site II 6G variant accumulated in the mid-frontal gyrus, a site of highly productive replication which correlates with the C/EBP site II 6G variant with a conB site I exhibiting the highest basal LTR activity. In conclusion, distinct LTR populations with specific C/EBP site II configurations were found in different regions of the brain.