

Oral presentation

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The Fitness Cost to Human Immunodeficiency Virus Type 1 of Escaping From a Small Molecule CCR5 Inhibitor

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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):S9 doi:10.1186/1742-4690-2-S1-S9

Replicative fitness of an HIV-1 isolate generally tracks to the region of the genome that is under the most selective pressure. During HIV-1 infection, significant selection pressure is applied by the immune system causing sequence changes in the *env* gene. The clinical use of entry inhibitors will add to this pressure. Drug selection pressure can often force the virus to compromise its fitness in favor of acquiring resistance. This loss of fitness may lead to lower viral loads in vivo despite high levels of drug resistance. If the virus has already undergone compromises to survive in the face of the immune response, the additional changes in *env* may cause a significant reduction in replicative capacity. This presentation will focus on in vitro evaluation of the replicative fitness of HIV-1 isolates resistant to entry inhibitors and possible implications of such findings.