infectious HIV type 1 molecular clone from an African patient with a subtype D/C Recombinant Virus.

Shi, B; Philpott, SM; Weiser, B; Kuiken, C; Brunner, C; Fang, G; Fowke, KR; Plummer, FA; Rowland-Jones, S; Bwayo, JJ; Anzala, AO; Kimani, J; Kaul, R; Burger, H

Abstract:

The majority of HIV-1 infections worldwide occur in Africa, where subtype B viruses are rare and intersubtype recombinants are common. Pathogenesis and vaccine studies need to focus on viruses derived from African patients, and infectious HIV-1 molecular clones can be useful tools. To clone non-B subtypes and recombinant viruses from patients, we cultivated HIV-1 from the plasma of a Kenyan long-term survivor. Viral DNA was cloned into a plasmid, which was transfected into COS cells; progeny virus was propagated in PBMCs. Sequence analyses revealed that both the patient's plasma HIV-1 RNA and the cloned DNA genomes were recombinants between subtypes D and C; subtype C sequences comprised the nef and LTR regions. The cloned virus used the CCR5 coreceptor and did not form syncytia in vitro. This infectious HIV-1 subtype D/C recombinant molecular clone obtained from a Kenyan long-term survivor promises to be useful to study pathogenesis and vaccine design