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Transfusion Medicine

**Analysis of PTAP duplications in the *gag* p6 region of subtype C HIV-1**

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**Background:** The PTAP motif in the HIV-1 *gag* p6 protein plays a role in HIV-1 assembly and budding of HIV-1 virions from infected cells. Duplication of this conserved motif may influence antiretroviral drug susceptibility and the response of patients to antiretroviral drug therapy. Subtype C HIV-1 is the most common HIV-1 subtype worldwide. In this report, we analyzed the amino acid sequence of the *gag* p6 region from subtype C HIV-1 and other diverse HIV-1 strains.

**Methods :** We characterized PTAP duplications in subtype C HIV-1 by analyzing *gag* p6 sequences from 47 subtype C strains, including 19 sequences generated by the authors, and 28 sequences from the Los Alamos National Laboratory data base (LANL). The rate of PTAP duplications in the subtype C strains was also compared to the rate of PTAP duplications in 113 non-subtype C strains, including other subtypes and circulating recombinant forms (CRFs).

**Results:** PTAP duplications were found in 9 (19%) of 47 subtype C sequences, compared to only 2 (1.8%) of 113 sequences from other strains ( $p < 0.0001$ , Chi square). The position, size and sequence of the insertions varied among the different subtype C isolates.

**Conclusions:** PTAP duplications are more common in subtype C than other HIV-1 strains. Further studies are needed to determine whether these duplications influence viral replication capacity, antiretroviral drug susceptibility, or other phenotypic properties of subtype C isolates.