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Combination of CCR5 and CXCR4 inhibitors in therapy of human immunodeficiency virus type 1 infection: in vitro studies of mixed virus infections.

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We studied the combined anti-human immunodeficiency virus type 1 (HIV-1) effects of a derivative of stroma-derived factor 1beta (SDF-1beta), Met-SDF-1beta, and a modified form of RANTES, aminooxypentane (AOP)-RANTES. The antiviral agents were tested singly or in combination at 95 and 99% virus inhibitory concentrations. Clinical R5 and X4 HIV-1 isolates were used. AOP-RANTES inhibited R5 but not X4 viruses, whereas Met-SDF-1beta had the opposite effect. Combinations of these compounds inhibited mixed infections with R5 and X4 viruses (95 to 99%), whereas single drugs were less inhibitory (32 to 61%). Combinations of R5 and X4 inhibitors are promising and deserve further evaluation.

JOURNAL ARTICLE Amino Acid Sequence Anti-HIV Agents/*PHARMACOLOGY/THERAPEUTIC USE Cell Line Cytokines/CHEMISTRY/*PHARMACOLOGY/THERAPEUTIC USE Genome, Viral Human HIV Infections/*DRUG THERAPY/VIROLOGY *HIV-1/GENETICS Molecular Sequence Data Receptors, CCR5/*ANTAGONISTS & INHIB Receptors, CXCR4/*ANTAGONISTS & INHIB RANTES/ANALOGS & DERIVATIVES/*PHARMACOLOGY/THERAPEUTIC USE Support, Non-U.S. Gov't Support, U.S. Gov't, P.H.S.