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(54) Title: HUMAN IMMUNODEFICIENCY VIRUS ENTRY INHIBITOR ASSAY

(57) Abstract: The present invention is a method for evaluating the ability of a compound to prevent the Human Immunodeficiency Virus ("HIV") from entering into a T cell. The method involves fusing a first cell line that mimics HIV viral particles by expressing a gpl20-gp41 complex on the cell surface and that contains a Tat protein in the cytoplasm with a second cell line that mimics T cells by expressing CD4 and its co-receptors on the cell surface and that contains a Tat-inducible reporter gene expression cassette in the nucleus. The cell lines are fused alone or in the presence of a potential HIV entry inhibitor and the amount of β-galactosidase produced by the fused cells is determined. Compounds that reduce the amount of β-galactosidase produced by the fused cells have interfered with the interaction of the gpl20-gp41 complex and CD4 and its co-receptors and are therefore deemed be HIV entry inhibitors.