(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
16 June 2005 (16.06.2005)

PCT

(10) International Publication Number
WO 2005/054272 A3

(51) International Patent Classification[7]: C12Q 1/70, G01N 33/53, 33/536, 33/574

(21) International Application Number:
PCT/US2004/039445

(22) International Filing Date:
24 November 2004 (24.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/525,342 26 November 2003 (26.11.2003) US

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(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*

(88) Date of publication of the international search report:
10 November 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 2005/054272 A3

(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.