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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
5 April 2012 (05.04.2012)

PCT

(10) International Publication Number
WO 2012/041842 A1

(51) International Patent Classification:
A61K 39/21 (2006.01)

(21) International Application Number:
PCT/EP2011/066754

(22) International Filing Date:
27 September 2011 (27.09.2011)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/386,931 27 September 2010 (27.09.2010) US

(71) Applicant *(for all designated States except US)*: **GLAXOSMITHKLINE BIOLOGICALS S.A.** [BE/BE]; rue de l'Institut 89, B-1330 Rixensart (BE).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **BOURGUIGNON, Patricia** [BE/BE]; GlaxoSmithKline Biologicals sa, rue de l'Institut 89, B-1330 Rixensart (BE). **KOUTSOUKOS, Marguerite Christine** [BE/BE]; GlaxoSmithKline Biologicals s.a., rue de l'Institut 89, B-1330 Rixensart (BE). **VOSS, Gerald Hermann** [DE/BE]; GlaxoSmithKline Biologicals s.a., rue de l'Institut 89, B-1330 Rixensart (BE).

(74) Agents: **WEST, Heloise** et al.; GlaxoSmithKline, Global Patents CN925.1, 980 Great West Road, Brentford, Middlesex TW8 9GS (GB).

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

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

— *of inventorship (Rule 4.17(iv))*

Published:

— *with international search report (Art. 21(3))*

— *with sequence listing part of description (Rule 5.2(a))*

(54) Title: VACCINE

(57) Abstract: The present invention provides methods and compositions for the treatment of HIV-1 infected subjects. The invention relates in particular to enhancing the immune response of an infected subject and to stabilising or reducing the viral load of an infected subject.

WO 2012/041842 A1