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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
10 July 2014 (10.07.2014)

WIPO | PCT

(10) International Publication Number
WO 2014/107744 A1

(51) **International Patent Classification**:
A61K 38/00 (2006.01)

(21) **International Application Number**:
PCT/US2014/010543

(22) **International Filing Date**:
7 January 2014 (07.01.2014)

(25) **Filing Language**: English

(26) **Publication Language**: English

(30) **Priority Data**:
61/749,737 7 January 2013 (07.01.2013) US

(71) **Applicant**: **BETH ISRAEL DEACONESS MEDICAL CENTER, INC.** [US/US]; 330 Brookline Avenue, BR-2, Boston, MA 02215 (US).

(72) **Inventors**: **BAROUCH, Dan, H.**; 115 Willard Street, Newton, MA 02461 (US). **NKOLOLA, Joseph**; 22 Oakland Street, Watertown, MA 02472 (US).

(74) **Agent**: **BIEKER-BRADY, Kristina**; Clark & Elbing LLP, 101 Federal Street, 15th Floor, Boston, MA 02110 (US).

(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, BN, 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, IR, IS, JP, KE, KG, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, 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, 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, KM, 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))*

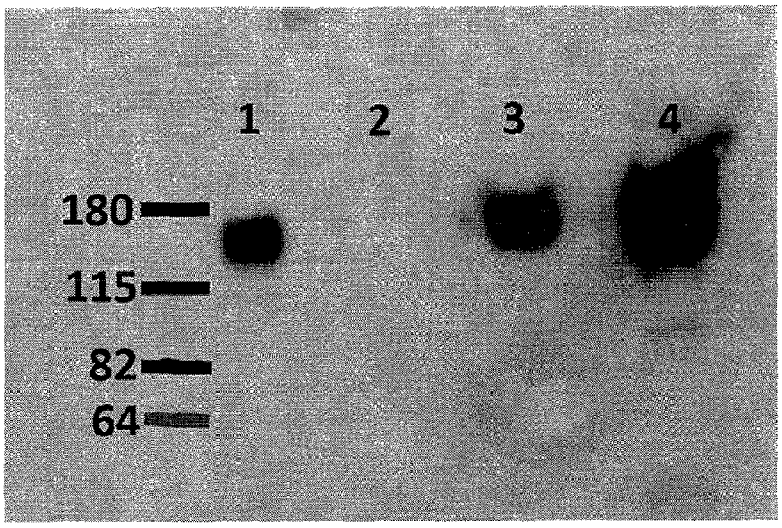
Published:

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

[Continued on next page]

(54) **Title**: STABILIZED HUMAN IMMUNODEFICIENCY VIRUS (HIV) ENVELOPE (ENV) TRIMER VACCINES AND METHODS OF USING THE SAME

Figure 2



(57) **Abstract**: The invention features stabilized human immunodeficiency virus (HIV) envelope (Env) trimers. The invention also features vaccines, nucleic acids, and vectors to deliver and/or facilitate production of the stabilized HIV Env trimers. In addition, the invention features methods of making and using the stabilized HIV Env trimers of the invention as vaccines.

WO 2014/107744 A1

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