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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
27 May 2004 (27.05.2004)

PCT

(10) International Publication Number
WO 2004/044176 A2

(51) International Patent Classification[7]: C12N

(21) International Application Number:
PCT/US2003/036237

(22) International Filing Date:
12 November 2003 (12.11.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/425,286 12 November 2002 (12.11.2002) US

(71) Applicants and
(72) Inventors: **DEISSEROTH, Albert, B.** [US/US]; 9610 Limar Way, San Diego, CA 92129 (US). **CHANG, Yucheng** [CN/US]; 5150 Balboa Arms Drive, #A3, San Diego, CA 92121 (US). **ZHANG, Lixin** [CN/US]; 470 Prospect Street, #65, New Haven, CT 06511 (US).

(74) Agents: **WARBURG, Richard, J.** et al.; Foley & Lardner, P.O. Box 80278, San Diego, CA 92138-0278 (US).

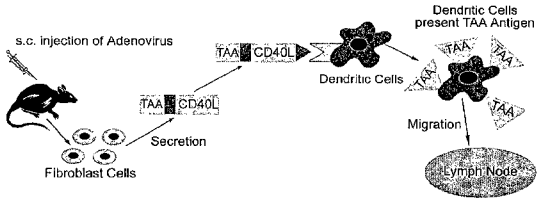
(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, 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 *(regional)*: ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *without international search report and to be republished upon receipt of that report*

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.

(54) Title: ADENOVIRAL VECTOR VACCINE



(57) Abstract: Provided are adenoviral vectors for generating an immune response to antigen. The vectors comprise a transcription unit encoding a secretable polypeptide, the polypeptide comprising a secretory signal sequence upstream of a tumor antigen upstream of CD40 ligand, which is missing all or substantially all of the transmembrane domain rendering CD40L secretable. Also provided are methods of generating an immune response against cells expressing a tumor antigen by administering an effective amount of the invention vector. Further provided are methods of generating an immune response against cancer expressing a tumor antigen in an individual by administering an effective amount of the invention vector. Still further provided are methods of generating immunity to infection by human papilloma virus (HPV) by administering an effective amount of the invention vector which enocodes the E6 or E7 protein of HPV. The immunity generated is long term.

WO 2004/044176 A2