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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
7 June 2007 (07.06.2007)

PCT

(10) International Publication Number
WO 2007/064802 A1

(51) International Patent Classification:
A61K 39/00 (2006.01) *A61K 39/15* (2006.01)

(21) International Application Number:
PCT/US2006/045859

(22) International Filing Date:
1 December 2006 (01.12.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/741,833 2 December 2005 (02.12.2005) US
60/802,864 22 May 2006 (22.05.2006) US

(71) Applicant *(for all designated States except US)*: **THE MOUNT SINAI MEDICAL CENTER OF NEW YORK UNIVERSITY** [US/US]; One Gustave L. Levy Place, New York, NY 10029-6574 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **PALESE, Peter** [US/US]; 414 Highwood Avenue, Leonia, NJ 07605 (US). **GARCIA-SASTRE, Adolfo** [US/US]; 16 East 96th Street, Apt. 3G, New York, NY 10128 (US).

(74) Agents: **CORUZZI, Laura, A.** et al.; Jones Day, 222 East 41st Street, New York, NY 10017-6702 (US).

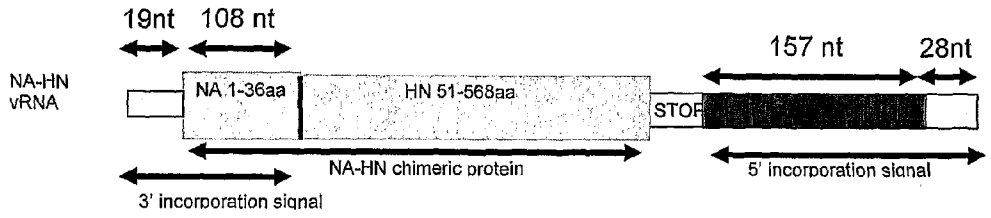
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, 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, 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, LT, LU, LV, 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*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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: CHIMERIC VIRUSES PRESENTING NON-NATIVE SURFACE PROTEINS AND USES THEREOF



(57) Abstract: The present invention provides chimeric negative-stand RNA viruses that allow a subject, *e.g.*, an avian, to be immunized against two infectious agents by using a single chimeric virus of the invention. In particular, the present invention provides chimeric influenza viruses engineered to express and incorporate into their virions a fusion protein comprising an ectodomain of a protein of an infectious agent and the transmembrane and cytoplasmic domain of an influenza virus protein. Such chimeric viruses induce an immune response against influenza virus and the infectious agent. The present invention also provides chimeric Newcastle Disease viruses (NDV) engineered to express and incorporate into their virions a fusion protein comprising the ectodomain of a protein of an infectious agent and the transmembrane and cytoplasmic domain of an NDV protein. Such chimeric viruses induce an immune response against NDV and the infectious agent.

WO 2007/064802 A1