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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
2 August 2007 (02.08.2007)

PCT

(10) International Publication Number
WO 2007/087462 A3

(51) International Patent Classification:
*C07H 21/04* (2006.01) *A61K 48/00* (2006.01)
*C12N 15/63* (2006.01) *A61K 31/70* (2006.01)

(21) International Application Number:
PCT/US2007/002682

(22) International Filing Date: 30 January 2007 (30.01.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
11/342,719 30 January 2006 (30.01.2006) US

(71) Applicant *(for all designated States except US)*: **HENRY FORD HEALTH SYSTEM** [US/US]; 1 Ford Place, Detroit, MI 48202 (US).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **FREYTAG, Svend, O.** [US/US]; 2916 Greenbrooke Lane, West Bloomfield, MI 48324 (US). **KIM, Jae, Ho** [US/US]; 4220 Strathdale Lane, West Bloomfield, MI 48323 (US). **BARTON, Ken** [US/US]; 36307 Park Place Drive, Sterling Heights, MI 48310 (US). **PAIELLI, Dell** [US/US]; 2422 Second, Wyandotte, MI 48192 (US).

(74) Agent: **KAMP, James, F.**; Rader, Fishman & Grauer PLLC, 39533 Woodward Avenue, Suite 140, Bloomfield Hills, MI 48304 (US).

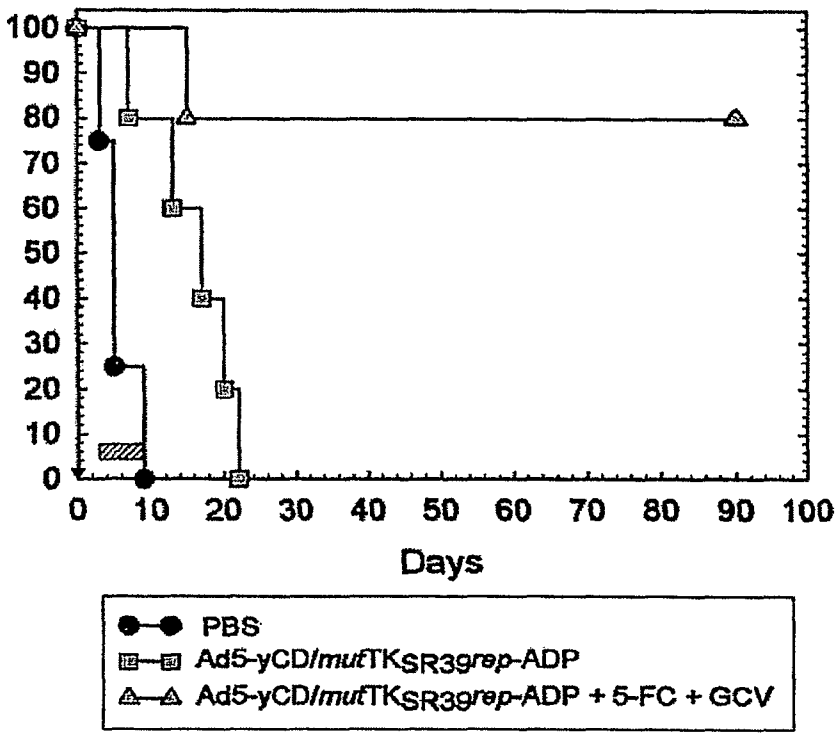
(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, 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*
— *with information concerning one or more priority claims considered void*

*[Continued on next page]*

(54) **Title:** METHODS AND COMPOSITIONS FOR CANCER THERAPY USING A NOVEL ADENOVIRUS




(57) **Abstract:** The invention comprises a novel virus that can kill mammalian cancer cells efficiently. The virus produces a novel protein that converts two non-toxic prodrugs into potent chemotherapeutic agents. These chemotherapeutic agents are produced locally and help the virus kill the cancer cells as well as sensitize them to radiation. In preclinical studies, the virus has proven effective at killing a variety of mammalian cancer cells either alone or when combined with prodrug therapy and/or radiation therapy. The invention may provide a safe and effective treatment for human cancer.

WO 2007/087462 A3

**(88) Date of publication of the international search report:**
27 December 2007

**(15) Information about Correction:**
**Previous Correction:**
see PCT Gazette No. 37/2007 of 13 September 2007

*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.*