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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
18 August 2005 (18.08.2005)

PCT

(10) International Publication Number
WO 2005/074903 A3

(51) International Patent Classification[7]: A61K 38/06, A61P 43/00

(21) International Application Number:
PCT/US2004/043660

(22) International Filing Date:
27 December 2004 (27.12.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
10/750,005 30 December 2003 (30.12.2003) US

(71) Applicant and
(72) Inventor: **NAGASAWA, Herbert, T.** [US/US]; 22 Gingerwood, Irvine, CA 92603 (US).

(72) Inventor; and
(75) Inventor/Applicant *(for US only)*: **COHEN, Jonathan, F.** [US/US]; 3581 Willow Beach Tr., Southwest, Prior Lake, MN 55372 (US).

(74) Agent: **TIMIAN, Susan, J.**; Jaeckle Fleischmann & Mugel, LLP, 190 Linden Oaks, Rochester, NY 14625-2812 (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, 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, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, 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, 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*

(88) Date of publication of the international search report:
23 February 2006

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.

WO 2005/074903 A3

(54) Title: SULFHYDRYL PROTECTED GLUTATHIONE PRODRUG

(57) Abstract: The present invention relates to compositions and methods for reducing oxidative stress in a cell, increasing glutathione levels in a cell, increasing L-cysteine levels in a cell and reducing hepatocytotoxicity by contacting a cell with a sulfhydryl protected glutathione prodrug or a sulfhydryl protected cystein prodrug.