

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
13 October 2005 (13.10.2005)

PCT

(10) International Publication Number
WO 2005/094804 A1

- (51) International Patent Classification⁷: **A61K 31/11**, 35/78
- (21) International Application Number:
PCT/US2005/009673
- (22) International Filing Date: 24 March 2005 (24.03.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/556,249 25 March 2004 (25.03.2004) US
- (71) Applicant (for all designated States except US): **THE REGENTS OF THE UNIVERSITY OF MICHIGAN** [US/US]; 3003 South State Street, Ann Arbor, MI 48109-1280 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **WANG, Shaomeng** [US/US]; 9343 Yorkshire Drive, Saline, MI 48176 (US). **YANG, Dajon** [US/US]; 13602 Gum Spring Drive, Rockville, MD 20850 (US).
- (74) Agents: **GOETZ, Robert, A.** et al.; Medlen & Carroll, LLP, 101 Howard Street, Suite 350, San Francisco, CA 94105 (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
- 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: GOSSYPOL CO-CRYSTALS AND THE USE THEREOF

(57) Abstract: This invention relates to compositions comprising co-crystals of (-)- gossypol with a C₁₋₈ carboxylic acid or C₁₋₈ sulfonic acid which are useful as inhibitors of Bcl-2 family proteins. The invention also relates to the use of cocrystals of (-)-gossypol with a C₁₋₈ carboxylic acid or C₁₋₈ sulfonic acid for inducing apoptosis in cells and for sensitizing cells to the induction of apoptotic cell death.

WO 2005/094804 A1