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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
3 April 2008 (03.04.2008)

PCT

(10) International Publication Number
WO 2008/039566 A2

(51) International Patent Classification:
A61K 31/56 (2006.01)

(21) International Application Number:
PCT/US2007/067235

(22) International Filing Date: 23 April 2007 (23.04.2007)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/793,792	22 April 2006 (22.04.2006)	US
60/843,112	8 September 2006 (08.09.2006)	US
60/825,569	13 September 2006 (13.09.2006)	US
60/825,564	13 September 2006 (13.09.2006)	US
60/829,848	17 October 2006 (17.10.2006)	US
60/866,395	17 November 2006 (17.11.2006)	US
60/866,700	21 November 2006 (21.11.2006)	US
60/868,042	30 November 2006 (30.11.2006)	US
60/885,003	15 January 2007 (15.01.2007)	US
60/888,058	2 February 2007 (02.02.2007)	US

(71) Applicant *(for all designated States except US)*: **HOLLIS-EDEN PHARMACEUTICALS, INC.** [US/US]; 4435 Eastgate Mall, #400, San Diego, CA 92121 (US).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: **FRINCKE, James, M.** [US/US]; P.O. Box 927420, San Diego, CA 92192 (US). **READING, Christopher, L.**; 5822 Cozzens Street, San Diego, CA 92122 (US).

(74) Agent: **MUENCHAU, Daryl**; Hollis-Eden Pharmaceuticals, INC., 4435 Eastgast Mall, #400, San Diego, CA 92121 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BH, 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, LY, MA, MD, ME, 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, MT, 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:
— *without international search report and to be republished upon receipt of that report*

WO 2008/039566 A2

(54) Title: DRUGS AND USES

(57) Abstract: The invention relates to methods to treat specified clinical disorders such as hyperglycemia, type 2 diabetes, arthritis and multiple sclerosis. The invention also provides methods to identify and characterize drugs, which are characterized in part by eliciting a variable biologic or therapeutic effect on a biomolecule at one time and relative normalization of the biomolecule at another time point. Compounds include 17α-ethynylandrost-5-ene-3β,7β, 17β-triol or androst-5-ene-3β,4β, 16α, 17β-tetrol, which can be used as reference standards to facilitate assessing and characterizing such candidate drugs.