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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
1 March 2012 (01.03.2012)

PCT

(10) International Publication Number
WO 2012/027326 A2

(51) International Patent Classification:
A61K 31/353 (2006.01) *A61P 25/32* (2006.01)
A61K 31/352 (2006.01) *A61P 25/00* (2006.01)
A61K 31/7048 (2006.01)

(21) International Application Number:
PCT/US2011/048749

(22) International Filing Date:
23 August 2011 (23.08.2011)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/376,528 24 August 2010 (24.08.2010) US

(71) Applicant *(for all designated States except US)*: **THE REGENTS OF THE UNIVERSITY OF CALIFORNIA** [US/US]; 1111 Franklin Street, 12th Floor, Oakland, California 94607-5200 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **LIANG, Jing** [US/US]; c/o David Geffen School of Medicine at UCLA, Dept. Molecular & Medical Pharmacology, 23-120CHS Charles Young Drive, Los Ageles, California 90095 (US). **OLSEN, Richard W.** [US/US]; c/o David Geffen School of Medicine at UCLA, Dept. Molecular & Medical Pharmacology, 23-120CHS Charles Young Drive, Los Ageles, California 90095 (US). **SPIGELMAN, Igor** [CA/US]; c/o UCLA School of Dentistry, Division of Oral Biology & Medicine, 10833 Le Conte Avenue, 63-078 CHS, Los Angeles, California 90095-1668 (US).

(74) Agent: **SUNDBY, Suzannah K**; Smith, Gambrell & Russell, LLP, 1130 Connecticut Ave., NW, #1130, Washington, District of Columbia 20036 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, 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, PE, PG, PH, PL, PT, QA, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, 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 (Rule 48.2(g))*

WO 2012/027326 A2

(54) **Title**: METHODS OF TREATING ALCOHOL INTOXICATION, ALCOHOL USE DISORDERS AND ALCOHOL ABUSE WHICH COMPRISE THE ADMINISTRATION OF DIHYDROMYRICETIN

(57) **Abstract**: Disclosed herein are methods for treating alcohol intoxication, alcohol use disorders and alcohol abuse which comprise the administration of dihydromyricetin. As disclosed herein, dihydromyricetin potentiates the activity of $GABA_AR$s having the alpha4-beta-delta subunit which is associated with the effects of ethanol, antagonizes the actions of ethanol on the $GABA_AR$s, acts on the benzodiazepine sites of $GABA_AR$s, and inhibits, reduces and/or reverses some or all of the $GABA_AR$ plasticity which is caused by exposure to ethanol.