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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
16 November 2017 (16.11.2017)

WIPO | PCT

(10) International Publication Number
WO 2017/197160 A1

(51) International Patent Classification:
A61K 31/501 (2006.01) *A61P 25/28* (2006.01)
A61P 43/00 (2006.01)

(21) International Application Number:
PCT/US2017/032228

(22) International Filing Date:
11 May 2017 (11.05.2017)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

62/335,599	12 May 2016 (12.05.2016)	US
62/335,611	12 May 2016 (12.05.2016)	US
62/413,976	27 October 2016 (27.10.2016)	US
62/414,599	28 October 2016 (28.10.2016)	US
62/414,606	28 October 2016 (28.10.2016)	US

(71) Applicant: **EISAI R&D MANAGEMENT CO., LTD.** [JP/JP]; 6-10 Koishikawa, 4-chome, Bunkyo-ku, Tokyo, 112-8088 (JP).

(72) Inventors; and

(71) Applicants: **BEUCKMANN, Carsten, T.** [DE/JP]; 5-1-3 Tokodai, Tsukuba, Ibaraki, 300-2635 (JP). **MOLINE, Margaret** [US/US]; 18 Eastdale Road, White Plains, NY 10605 (US). **SATLIN, Andrew** [US/US]; 350 Long Hill Drive, Short Hills, NJ 07078 (US).

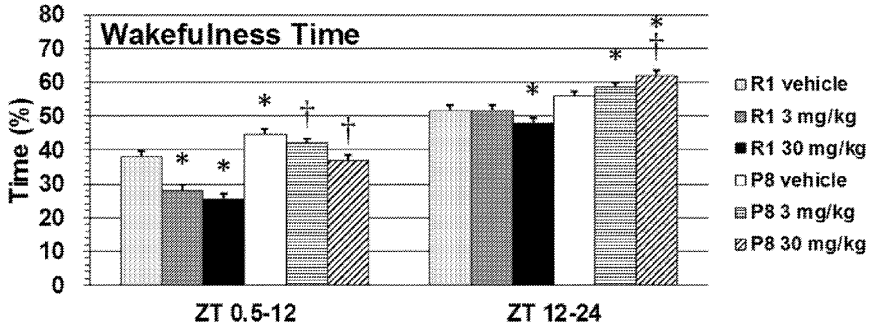
(74) Agent: **MACALPINE, Jill, K.**; Finnegan, Henderson, Farabow, Garrett & Dunner, LLP, 901 New York Avenue, NW, Washington, DC 20001 (US).

(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, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, 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, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, 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,

(54) Title: METHODS OF TREATING CIRCADIAN RHYTHM SLEEP DISORDERS

FIG. 1A



Data represent least square means and standard errors
*: significant difference compared to R1 vehicle cohort (P<0.05, linear mixed model with Kenward-Roger)
†: significant difference compared to P8 vehicle cohort (P<0.05, linear mixed model with Kenward-Roger)

(57) Abstract: Methods of treating irregular sleep-wake rhythm disorder in subjects and compositions for use in the same are disclosed.

[Continued on next page]

WO 2017/197160 A1

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, KM, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*