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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
19 December 2013 (19.12.2013)

WIPO | PCT

(10) International Publication Number
WO 2013/188465 A3

(51) International Patent Classification:
A61K 31/506 (2006.01) *A61K 31/695* (2006.01)

(21) International Application Number:
PCT/US2013/045268

(22) International Filing Date:
11 June 2013 (11.06.2013)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/659,379 13 June 2012 (13.06.2012) US

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(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, 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, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, 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, 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, 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))*

— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

(88) Date of publication of the international search report:
30 January 2014

(54) Title: TREATING DRUG ADDICTION AND PREVENTING DRUG RELAPSE

(57) Abstract: The present invention relates to pharmaceutical compositions comprising (a) a pharmaceutically effective amount of an mGluR5 positive allosteric modulator, derivative, prodrug or a pharmaceutically acceptable salt thereof; (b) a pharmaceutically effective amount of an agent selected from an NMDA partial agonist or a GlyT1 inhibitor, derivative, prodrug or a pharmaceutically acceptable salt thereof; and (c) a pharmaceutically acceptable carrier. The present invention also relates to methods for treating drug addiction and preventing a drug relapse in a patient. The methods comprise (a) administering to the patient a pharmaceutically effective amount of an mGluR5 positive allosteric modulator, derivative, prodrug or a pharmaceutically acceptable salt thereof, or a pharmaceutical composition thereof; (b) administering to the patient a pharmaceutically effective amount of an agent selected from an NMDA partial agonist or a GlyT1 inhibitor, derivative, prodrug or a pharmaceutically acceptable salt thereof, or a pharmaceutical composition thereof.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/US13/45268

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - A61K 31/506, 31/695 (2013.01)
USPC - 514/150, 161
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - A61K 31/506, 31/695; A61P 25/06, 25/18, 25/20; C07F 7/08 (2013.01)
USPC - 514/150, 161, 175, 249, 252.1, 252.11, 255.02, 277, 336, 342, 369, 398

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
MicroPatent (US-G, US-A, EP-A, EP-B, WO, JP-bib, DE-C,B, DE-A, DE-T, DE-U, GB-A, FR-A); Google Scholar; IP.com; PubMed; mGluR5, positive allosteric modulator, mGluR5, PAM, GlyT1, glycine tranferase 1 inhibitor, NMDA, NMDA partial agonist, drug addiction, drug relapse

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2012/0028956 A1 (CONN, PJ et al.) February 2, 2012; paragraphs [0008], [0228], [0292], [0301], [0307], [0309], [0313]-[0315]	1, 3, 6-7, 9/6-9/7, 13/6-13/7, 16/6-16/7, 18-19, 21/18-21/19
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Y		2, 4, 5, 8/6-8/7, 10/6-10/7, 11/6-11/7, 12/6-12/7, 15/6-15/7, 17/6-17/7, 20/18-20/19, 22/18-22/19
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A		14/6-14/7
Y	GASS, JT et al. "Positive allosteric modulation of mGluR5 receptors facilitates extinction of a cocaine contextual memory" Biological Psychiatry, Vol. 65, No. 8, April 15, 2009; NIH Public Access Author Manuscript; page 2, paragraph 1; page 4, paragraph 1	2, 5, 8/6-8/7, 15/6-15/7, 20/18-20/19
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A		14/6-14/7
Y	GASTAMBIDE, F et al. "Selective Remediation of Reversal Learning Deficits in the Neurodevelopmental MAM Model of Schizophrenia by a Novel mGlu5 Positive Allosteric Modulator" Neuropsychopharmacology, Vol. 37, November 30, 2011; [Retrived on November 9, 2013] Retrieved from Internet <URL: http://www.nature.com/npp/journal/v37/n4/abs/npp>; abstract	4
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A		14/6-14/7
Y	CLEVA, RM et al. "Positive Allosteric Modulators of Type 5 Metabotropic Glutamate Receptors (mGluR5) and Their Therapeutic Potential for the Treatment of CNS Disorders" Molecules, Vol. 16, pages 2097-2106, March 2, 2011; page 2100, paragraph 3	10/6-10/7, 11/6-11/7, 12/6-12/7, 22/18-22/19

☒ Further documents are listed in the continuation of Box C. ☐

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"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
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"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
13 November 2013 (13.11.2013)	26 NOV 2013
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Shane Thomas PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US13/45268

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2012/0046232 A1 (KALIVAS, P et al.) February 23, 2012; paragraph [0019], [0034], [0184]-[0185]	17/6-17/7