



(51) International Patent Classification:

A61K 31/36 (2006.01) A61P 1/16 (2006.01)
A61K 31/435 (2006.01) A61P 13/12 (2006.01)
A61K 31/4155 (2006.01)

(21) International Application Number:

PCT/US2012/041725

(22) International Filing Date:

8 June 2012 (08.06.2012)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/495,910 10 June 2011 (10.06.2011) US
61/606,261 2 March 2012 (02.03.2012) US

(71) Applicant (for all designated States except US): **CALCI-MEDICA, INC.** [US/US]; 505 Coast Blvd. S., Suite 209, La Jolla, CA 92037 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **WHITTEN, Jeffrey P.** [US/US]; 9957 Jill Street, Santee, CA 92071 (US). **GREY, Jonathan** [US/US]; 14481 Yazoo Street, San Diego, CA 92129 (US). **CAO, Jianguo** [US/US]; 9898 Avenger Court, San Diego, CA 92126 (US). **WANG, Zhijun** [US/US]; 14140 Chicarita Creek Road, San Diego,

CA 92128 (US). **ROGERS, Evan** [US/US]; 2012 Galveston Street, San Diego, CA 92110 (US).

(74) Agent: **MALECHA, James**; Wilson Sonsini Goodrich & Rosati, 650 Page Mill Road, Palo Alto, CA 94304-1050 (US).

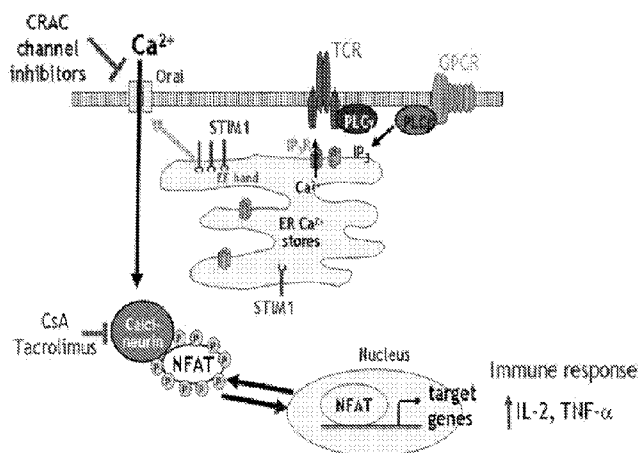
(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, 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, 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, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: COMPOUNDS THAT MODULATE INTRACELLULAR CALCIUM

FIG. 1



(57) Abstract: Described herein are compounds and pharmaceutical compositions containing such compounds, which modulate the activity of store-operated calcium (SOC) channels. Also described herein are methods of using such SOC channel modulators, alone and in combination with other compounds, for treating diseases or conditions that would benefit from inhibition of SOC channel activity.

WO 2012/170931 A3



Published:

(88) Date of publication of the international search report:

- *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))*

21 February 2013

A. CLASSIFICATION OF SUBJECT MATTER*A61K 31/36(2006.01)i, A61K 31/435(2006.01)i, A61K 31/4155(2006.01)i, A61P 1/16(2006.01)i, A61P 13/12(2006.01)i*

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)

A61K 31/36; C07D 213/64; C07D 213/70; C07D 403/02; A61K 31/5377

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)

eKOMPASS(KIPO internal)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2010-057833 A1 (BIOMARIN IGA, LTD.) 27 May 2010 See claims 1, 30, 31	1-31
A	US 2007-0197532 A1 (SHELDON CAO et al.) 23 August 2007 See claims 1, 111, 113	1-31

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

"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

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"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

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"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

31 DECEMBER 2012 (31.12.2012)

Date of mailing of the international search report

03 JANUARY 2013 (03.01.2013)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
189 Cheongsu-ro, Seo-gu, Daejeon Metropolitan
City, 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

LEE, Dong Wook

Telephone No. 82-42-481-8163



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2012/041725

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2010-057833 A1	27.05.2010	GB 0821307 D0	31.12.2008
US 2007-0197532 A1	23.08.2007	EP 1948614 A2	30.07.2008
		JP 2009-515997 A	16.04.2009
		US 2011-0070297 A1	24.03.2011
		WO 2007-061923 A2	31.05.2007
		WO 2007-061923 A3	01.11.2007

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claims Nos.: 32-34
because they relate to subject matter not required to be searched by this Authority, namely:
Claims 32-34 pertain to a method for treatment of the human by therapy, and thus relate to a subject matter which this International Searching Authority is not required, under Article 17(2)(a)(i) of the PCT and Rule 39.1(iv) of the Regulations under the PCT, to search.
2. Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.