



(43) International Publication Date
6 December 2012 (06.12.2012)

(10) International Publication Number
WO 2012/166463 A3

(51) International Patent Classification:

C07D 263/28 (2006.01) *A61P 9/00* (2006.01)
C07D 413/04 (2006.01) *A61P 25/00* (2006.01)
A61K 31/421 (2006.01)

(21) International Application Number:

PCT/US2012/039105

(22) International Filing Date:

23 May 2012 (23.05.2012)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/490,789 27 May 2011 (27.05.2011) US

(71) Applicant (for all designated States except US): **NEO-SOME LIFE SCIENCES, LLC** [US/US]; 15 Wiggins Ave., Bedford, MA 01730 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **DESAI, Laxman, S.** [US/US]; 268 Kent Street, Brookline, MA 02446 (US). **CHITTABOINA, Srinivas** [IN/US]; 14 Westgate Drive, Apt. 101, Woburn, MA 01801 (US).

(74) Agents: **LADISLAW, Janine, S.** et al.; Foley Hoag LLP, Seaport World Trade Center West, 155 Seaport Blvd., Boston, MA 02210-2600 (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).

Published:

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

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

28 March 2013

(54) Title: AMINOXAZOLE INHIBITORS OF CYCLIN DEPENDENT KINASES

(57) Abstract: Oxazoie derivatives are described. The inventive compounds are useful as kinase inhibitors, and may be used in the treatment of cancer, such as prostate cancer, lung cancer, breast cancer, colon cancer, leukemia, CNS cancer, melanoma, ovarian cancer, and renal cancer.



WO 2012/166463 A3

A. CLASSIFICATION OF SUBJECT MATTER*C07D 263/28(2006.01)i, C07D 413/04(2006.01)i, A61K 31/421(2006.01)i, A61P 9/00(2006.01)i, A61P 25/00(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)

C07D 263/28; A61K 31/496; C07D 231/56; A61K 31/4439; A61K 31/416; A61K 31/421; A61P 9/00; A61P 25/00

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), NCBI (PubMed, MeSH), Google

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 7189712 B2 (MATTHEW LWW BROWN et al.) 13 March 2007 See examples 55, 74, 79, 103-108 and 116-117, 199; claims 1-3; abstract.	1-22, 69-70
X	US 2010-0113471 A1 (ALAIN MOUSSY et al.) 06 May 2010 See formula I; examples 1-67; claims 3-9 and 23-28; abstract.	1-22, 69-70
X	WO 2009-147188 A1 (GLAXO GROUP LIMITED) 10 December 2009 See p. 1; examples 20 and 64; claims 1, 9 and 16-18; abstract.	35-42, 52-59
X	DASHYANT DHANAK et al., `Discovery of potent and selective phenylalanine derived CCR3 receptor antagonists. Part 2`, Bioorganic & Medicinal Chemistry Letters, 2001, Vol. 11, No. 11, pp. 1445-1450, ISSN 0960-894X See p. 1445; compounds 11-15; abstract.	35-42, 52-59
A	WO 98-46582 A1 (SMITHKLINE BEECHAM CORPORATION) 22 October 1998 See the whole document.	1-22, 35-42, 52-59, 69-70



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

04 DECEMBER 2012 (04.12.2012)

Date of mailing of the international search report

06 DECEMBER 2012 (06.12.2012)

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

SUNG Sun Young

Telephone No. 82-42-481-8405



INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2012/039105**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.: 71-76
because they relate to subject matter not required to be searched by this Authority, namely:
The claims 71-76 pertain to methods for treatment of the human body 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.: 72, 76
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:
Claims 72 and 76 are unsearchable because they are worded in reference to multiple dependent claims.
3. ☒ Claims Nos.: 23-34, 43-51, 60-68, 71, 73-75
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.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2012/039105

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 7189712 B2	13.03.2007	AU 2003-287178 A1	04.05.2004
		EP 1551813 A2	13.07.2005
		EP 1551813 A4	11.07.2007
		JP 2006-503081 A	26.01.2006
		US 2005-0288515 A1	29.12.2005
		WO 2004-032882 A2	22.04.2004
		WO 2004-032882 A3	08.07.2004
US 2010-0113471 A1	06.05.2010	AT 465731 T	15.05.2010
		AU 2004-283162 A1	06.05.2005
		AU 2004-283162 B2	15.12.2011
		CA 2542909 A1	06.05.2005
		CN 1950347 A	18.04.2007
		DE 602004026905 D1	10.06.2010
		DK 1684750 T3	09.08.2010
		EP 1684750 A2	02.08.2006
		EP 1684750 B1	28.04.2010
		ES 2344790 T3	07.09.2010
		HK 1091134 A1	17.09.2010
		IL 175028 A	28.02.2011
		JP 04-971797 B2	13.04.2012
		JP 2007-509130 A	12.04.2007
		KR 10-1164754 B1	12.07.2012
		KR 20060118500 A	23.11.2006
		NO 20062308 A	22.05.2006
		NZ 546645 A	26.02.2010
		PT 1684750 E	15.07.2010
		US 2007-142390 A1	21.06.2007
		US 2007-144743 A1	28.06.2007
		US 7718676 B2	18.05.2010
		US 7740074 B2	22.06.2010
		US 8110591 B2	07.02.2012
		WO 2005-040139 A2	06.05.2005
		ZA 200604041 A	25.04.2007
WO 2009-147188 A1	10.12.2009	EP 2300437 A1	30.03.2011
		JP 2011-522002 A	28.07.2011
		US 2011-178063 A1	21.07.2011
WO 98-46582 A1	22.10.1998	AR 012374 A1	18.10.2000
		AU 7252398 A	11.11.1998
		CA 2285601 A1	22.10.1998
		CO 4950541 A1	01.09.2000
		EP 0975612 A1	02.02.2000
		JP 2002-515902 A	28.05.2002
		WO 98-46582 A1	22.10.1998