



(51) International Patent Classification:  
**C07D 265/30** (2006.01)

(21) International Application Number:  
PCT/US2008/084678

(22) International Filing Date:  
25 November 2008 (25.11.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/990,248 26 November 2007 (26.11.2007) US  
12/277,097 24 November 2008 (24.11.2008) 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, BR, BW, BY, BZ, CA, CH, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, 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, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, 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))
- 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:  
11 September 2009

(54) Title: MORPHOLINES AS SELECTIVE INHIBITORS OF CYTOCHROME P450 2A13

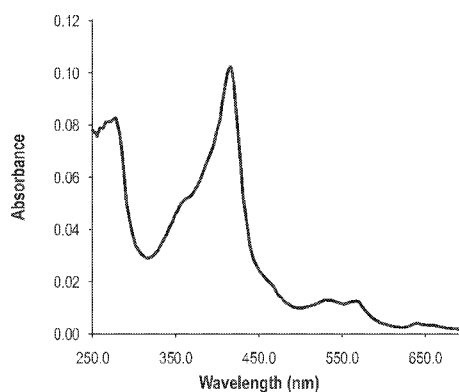


FIG. 1A

(57) Abstract: A method of inhibiting formation of cancerous metabolites, of inhibiting cytochrome P450 2A13 from forming carcinogen metabolites, and/or inhibiting formation of cancerous lung cells in a subject can include: providing a morpholine compound that selectively interacts with cytochrome P450 2A13 over cytochrome P450 2A6; administering a therapeutically effective amount of the morpholine compound or derivative to the subject. The morpholine compound or derivative can be substantially more selective for interacting with the cytochrome P450 2A13 over the cytochrome P450 2A6. The morpholine compound or derivative can also be substantially non-interactive with other physiological components. The morpholine compound or derivative can include a structure that selectively interacts with cytochrome P450 2A13 over cytochrome P450 2A6, such as Compounds 1-34 of Formulas A-D.



## INTERNATIONAL SEARCH REPORT

International application No.  
**PCT/US2008/084678****A. CLASSIFICATION OF SUBJECT MATTER*****C07D 265/30(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)

IPC8: C07D, A61K 31, A61K 33, A61K 9

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), FPD, PAJ, PUBMED

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2006/071960 A2 (KINEX PHARMACEUTICALS, LLC) 06 July 2006 See table 1, table 2, paragraphs [000349]-[000352] and claims.	16, 21
X	WO 2006/015123 A1 (SGX PHARMACEUTICALS, INC.) 09 February 2006 See table 6, table 10, table 27 and claims.	16, 21
X	Paul A. Brough. et al. 4,5-Diarylisoaxazole Hsp90 Chaperone Inhibitors: Potential Therapeutic Agents for the Treatment of Cancer. Journal of Medicinal Chemistry. Online available on 20 November 2007, Vol. 51, No. 2, pages 196-218 See table 5.	16, 21
A	WO 2005/077912 A1 (MITSUBISHI PHARMA CORPORATION) 25 August 2005 See whole document.	16, 21



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

"&amp;" document member of the same patent family

Date of the actual completion of the international search

16 JULY 2009 (16.07.2009)

Date of mailing of the international search report

**17 JULY 2009 (17.07.2009)**

Name and mailing address of the ISA/KR

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**INTERNATIONAL SEARCH REPORT**

International application No.

**PCT/US2008/084678****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.: 1-15  
because they relate to subject matter not required to be searched by this Authority, namely:  
Claims 1-15 pertain to methods 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.: 17-20, 22-25  
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 17-20 and 22-25 do not meet the requirements under Article 6 of the PCT in that the matter for which protection is sought is not clearly defined. The subject matter of claims 17-20 and 22-25 describes the morpholine compound as in claim 15, and the composition as in claim 20, respectively, but the subject matter of claims 15 and 20 is about a method of inhibiting
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.

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2008/084678**

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		EP 1714961 A1	25.10.2006

# INTERNATIONAL SEARCH REPORT

International application No.

**PCT/US2008/084678**

Continuation of Box No. II-2:

cytochrome P450 2A13 and a morpholine compound, respectively.