

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
12 February 2009 (12.02.2009)

PCT

(10) International Publication Number  
**WO 2009/020631 A3**

(51) International Patent Classification:

C07C 327/56 (2006.01) A61K 31/16 (2006.01)  
C07C 391/00 (2006.01) A61P 35/00 (2006.01)

(21) International Application Number:

PCT/US2008/009474

(22) International Filing Date: 7 August 2008 (07.08.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/963,816 7 August 2007 (07.08.2007) US

(71) Applicant (for all designated States except US): SYNTA  
PHARMACEUTICALS CORP. [US/US]; 45 Hartwell  
Avenue, Lexington, MA 02421 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): SUN, Lijun  
[CN/US]; 148 Depot Road, Harvard, MA 01451 (US).  
JIANG, Jun [CN/US]; 211 Central Street, No. 202,  
Norwood, MA 02062 (US).

(74) Agents: DAVIS, Steven, G. et al.; Hamilton, Brook, Smith  
& Reynolds, P.c., 530 Virginia Road, P.o. Box 9133, Con-  
cord, MA 01742-9133 (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, 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
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

(88) Date of publication of the international search report:  
26 March 2009

(54) Title: COMPOUNDS FOR TREATING PROLIFERATIVE DISORDERS

(57) Abstract: Disclosed are compounds and methods of using compounds of the invention for treating a subject with a proliferative disorder, such as cancer, and methods for treating disorders responsive to Hsp70 induction and/or natural killer induction. Also, disclosed are pharmaceutical compositions comprising compounds of the invention and a pharmaceutically acceptable carrier.



WO 2009/020631 A3

## INTERNATIONAL SEARCH REPORT

International application No

PCT/US2008/009474

## A. CLASSIFICATION OF SUBJECT MATTER

INV. C07C327/56 C07C391/00 A61K31/16 A61P35/00

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)

C07C

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 practical, search terms used)

EPO-Internal, CHEM ABS Data, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages                                                            | Relevant to claim No. |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| X         | WO 2006/055747 A (SYNTA PHARMACEUTICALS CORP [US]; BARSOUM JAMES [US])<br>26 May 2006 (2006-05-26)<br>the whole document                      | 1-85                  |
| P, X      | WO 2008/024302 A (SYNTA PHARMACEUTICAL CORP [US]; SUN LIJUN [US]; KOYA KEIZO [US]; CHEN) 28 February 2008 (2008-02-28)<br>the whole document  | 1-85                  |
| P, X      | WO 2008/024303 A (SYNTA PHARMACEUTICALS CORP [US]; CHEN SHOUJUN [US]; KOYA KEIZO [US]; D) 28 February 2008 (2008-02-28)<br>the whole document | 1-85                  |



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 document 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 another 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

14 January 2009

Date of mailing of the international search report

26/01/2009

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040.  
Fax: (+31-70) 340-3016

Authorized officer

Bueno Torres, Pilar

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2008/009474

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s)                                            | Publication<br>date                                  |
|-------------------------------------------|---------------------|-----------------------------------------------------------------------|------------------------------------------------------|
| WO 2006055747 A                           | 26-05-2006          | AU 2005306471 A1<br>CA 2587598 A1<br>EP 1827410 A2<br>JP 2008520697 T | 26-05-2006<br>26-05-2006<br>05-09-2007<br>19-06-2008 |
| WO 2008024302 A                           | 28-02-2008          | NONE                                                                  |                                                      |
| WO 2008024303 A                           | 28-02-2008          | NONE                                                                  |                                                      |