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(54) Title: POLYCYCLIC HETEROARYL SUBSTITUTED TRIAZOLES USEFUL AS AXI INHIBITORS

(57) Abstract: Polycyclic heteroaryl substituted triazoles and pharmaceutical compositions containing the compounds are disclosed as being useful in inhibiting the activity of the receptor protein tyrosine kinase Axl. Methods of using the compounds in treating diseases or conditions associated with Axl activity are also disclosed.



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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/089177

A. CLASSIFICATION OF SUBJECT MATTER				
INV.	C07D403/04	C07D403/14	C07D471/18	C07D491/14
	A61P19/00	A61P35/00	C07D401/14	C07D405/14
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				C07D417/04
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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 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 , WPI Data, CHEM ABS Data				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category*	Citation of document, with indication, where appropriate, of the relevant passages			Relevant to claim No.
Y, P	WO 2007/030680 A (RIGEL PHARMACEUTICALS INC [US]; SINGH RAJINDER [US]; SYLVAIN CATHERINE) 15 March 2007 (2007-03-15) page 1, paragraph 2 claim 1			1, 58, 59
Y	WO 2006/020767 A (AMPHORA DISCOVERY CORP [US]; DICKSON JOHN K JR [US]; HODGE CARL NICHOL) 23 February 2006 (2006-02-23) page 25, paragraph 125 claim 1			1, 58, 59
Y	WO 2004/046120 A (VERTEX PHARMA [US]; PIERCE ALBERT C [US]; ARNOST MICHAEL [US]; DAVIES) 3 June 2004 (2004-06-03) page 17, paragraph 56 claim 1			1, 58, 59
-/-				
☒ 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. "Z" document member of the same patent family				
Date of the actual completion of the international search 24 September 2008			Date of mailing of the International search report 06/10/2008	
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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2007/089177

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	FRISTAD, WILLIAM E. ET AL: "Silanes in organic synthesis. 9. Enesilylation as a method for 1,2-carbonyl migration within ketones and for conversion to 1,2-transposed allylic alcohols" JOURNAL OF ORGANIC CHEMISTRY , 45(15), 3028-37 CODEN: JOCEAH; ISSN: 0022-3263, 1980, XP002481514 table I -----	69
X	MATAKA, SHUNTARO ET AL: "[3.3]orthocyclophanes with facing benzene and naphthalene rings" JOURNAL OF ORGANIC CHEMISTRY , 52(13), 2653-6 CODEN: JOCEAH; ISSN: 0022-3263, 1987, XP002497049 page 2654, left column, eq. (2) and (3). -----	69
E	FR 2 908 131 A1 (UNIVERSITE DE HAUTE ALSACE, FR.; UNIVERSITE LOUIS PASTEUR; CENTRE NATI) 9 May 2008 (2008-05-09) Preparations 1-3 -----	69

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2007/089177

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.:
because they relate to subject matter not required to be searched by this Authority, namely:
see FURTHER INFORMATION sheet PCT/ISA/210
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:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.
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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.1

Although claims 59-68 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Continuation of Box II.1

Claims Nos. : -

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-68

Triazole derivatives of formula I as defined in claim 1.

2. claims: 69-92

process for preparing cycloheptanone derivatives of
formula (i) as defined in claim 69.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/089177

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
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