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Declarations under Rule 4.17:

— as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

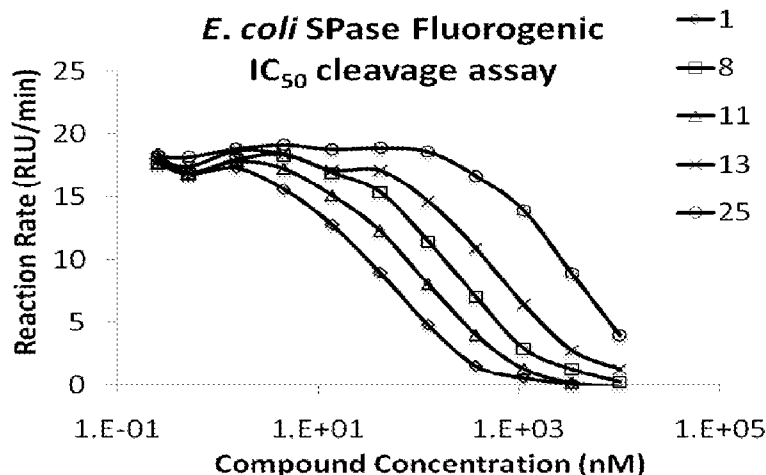
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[Continued on next page]

(54) Title: BROAD SPECTRUM ANTIBIOTICS

FIG. 1C



(57) Abstract: Provided herein are antibacterial compounds, wherein the compounds in some embodiments have broad spectrum bioactivity. The compounds provided herein can in other embodiments overcome the resistance conferred by single amino acid mutations at defined positions of bacterial Signal Peptidases (SPases) and in other embodiments provide for a broader spectrum of antibiotic bioactivity compared to the natural product. Pharmaceutical compositions and methods for treatment using the compounds described herein are also provided.



— *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:

7 March 2013

A. CLASSIFICATION OF SUBJECT MATTER*C07C 271/10(2006.01)i, C07D 207/10(2006.01)i, A61K 31/16(2006.01)i, A61P 31/00(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)

C07C 271/10; A61K 31/395; A61P 31/04; C07K 5/12; C07D 471/04

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: arylomycin,antibacterial,antimicrobial, stereoisomer of arylomycin

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SMITH P.A. et al. "Broad Spectrum Antibiotic Activity of the Arylomycin Natural Products Is Masked by Natural Target Mutations." CHEMISTRY & BIOLOGY. 24 November 2010, Vol.17, pages 1223-1231 See abstract; figure 1.	1-18,25
X	BUTLER M.S. et al. "Natural Products-The Future Scaffold for Novel Antibiotics." BIOCHEMICAL PHARMACOLOGY. 2006, Vol. 71, pages 919 - 929 See abstract; compound 22 in figure 3.	1-18
PX	WO 2012-036907 A2 (ROMESBERG, FLOYD E. et al.) 22 March 2012 See abstract; table 3; page 155, compound 21; claims 1, 3, 4, 18, 19.	1-18,25
A	US 2008-0275018 A1 (ENDERMANN, RAINER et al.) 06 November 2008 See abstract; paragraphs [1122], [1123]; claims 1, 14, 15.	1-18,25
A	US 2007-0099885 A1 (ENDERMANN, RAINER et al.) 03 May 2007 See abstract; claims 1, 16, 19, 20, 21.	1-18,25



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

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2012/039727**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.: 29 - 43
because they relate to subject matter not required to be searched by this Authority, namely:
Claims 29 to 43 pertain to methods for treatment of the human body by therapy, as well as diagnostic methods, 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.: 30, 31, 34, 35, 39, 40, 42, 43
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:

The claims listed above are unclear since they are referring to multiple dependent claims below.
3. ☒ Claims Nos.: 19-24, 26-29, 32, 33, 36-38, 41
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/US2012/039727

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