

(43) International Publication Date  
2 July 2009 (02.07.2009)(10) International Publication Number  
**WO 2009/080432 A3**

## (51) International Patent Classification:

A61K 45/06 (2006.01) A61P 31/06 (2006.01)  
A61K 31/4409 (2006.01)

## (21) International Application Number:

PCT/EP2008/066124

## (22) International Filing Date:

25 November 2008 (25.11.2008)

## (25) Filing Language:

English

## (26) Publication Language:

English

## (30) Priority Data:

07024912.3 21 December 2007 (21.12.2007) EP

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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).

## Declarations under Rule 4.17:

— as to non-prejudicial disclosures or exceptions to lack of novelty (Rule 4.17(v))

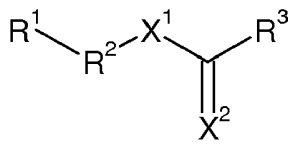
## Published:

— 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))  
— with sequence listing part of description (Rule 5.2(a))

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

18 February 2010

(54) Title: COMPOSITION FOR TREATMENT OF TUBERCULOSIS



(57) Abstract: The invention relates to a pharmaceutical composition comprising a compound preventing EthR from binding to the *ethA* promoter, for example a compound of formula 1 wherein R<sup>1</sup> is optionally substituted phenyl or optionally substituted pyridyl; R<sup>2</sup> is (CH<sub>2</sub>)<sub>n</sub> wherein n is 1, 2, 3 or 4; R<sup>3</sup> is CH<sub>3</sub>(CH<sub>2</sub>)<sub>m</sub> wherein m is 0, 1, 2 or 3; X<sup>1</sup> is O, S, NH, N(CH<sub>3</sub>) or CH<sub>2</sub>; and X<sup>2</sup> is O, S or NH; in particular 2-phenylethyl butyrate, and a thioamide or thiourea of formula 2 wherein R<sup>4</sup> is optionally substituted phenyl, optionally substituted pyridyl, optionally substituted indolyl, -NR<sup>7</sup>R<sup>8</sup>; or -NH-N=CH-R<sup>9</sup>; and substituents R<sup>5</sup> to R<sup>9</sup> have the meanings indicated in the description, in particular ethionamide. The pharmaceutical composition is useful, e.g., in the treatment of multidrug-resistant tuberculosis.

## INTERNATIONAL SEARCH REPORT

International application No  
PCT/EP2008/066124

## A. CLASSIFICATION OF SUBJECT MATTER

INV. A61K45/06 A61K31/4409 A61P31/06

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)

A61K

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, BIOSIS, EMBASE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4 005 207 A (FREERKSEN ENNO) 25 January 1977 (1977-01-25) *cf. abstract, col. 1, lines 5-19, claims* -----	1-18
Y	WO 01/56974 A (GENZYME CORP [US]; STAVESKI MARK M [US]; SNEDDON SCOTT F [US]; YEE CHR) 9 August 2001 (2001-08-09) *cf. abstract, claims 1-36* -----	1-18
Y	WO 2005/047538 A (CENTRE NAT RECH SCIENT [FR]; INST NAT SANTE RECH MED [FR]; PASTEUR INS) 26 May 2005 (2005-05-26) *cf. abstract, page 4, line 10 bridging with page 5, line 19, claims 1-9* -----	1-18



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

9 December 2009

Date of mailing of the international search report

15/12/2009

Name and mailing address of the ISA/

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# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP2008/066124

## 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:
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 all searchable 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.:

see additional sheet(s)

### 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

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

## 1. claims: 1-18

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of tuberculosis and "related diseases", selected from atypical mycobacteriosis, hot tub lung and chronic lung disease and method of screening for compounds "preventing EthR from binding to the ethA promoter".

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## 2. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of leprosy.

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## 3. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of buruli-ulcer disease.

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## 4. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of Johne's and Crohn's disease.

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## 5. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of lady Windermere's syndrome.

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## 6. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of post-traumatic wound infections.

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## 7. claim: 16

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of post-tympanostomy.

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## 8. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of tube otorrhea.

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## 9. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of disseminated cutaneous diseases.

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## 10. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of Acinetobacter baumannii caused infections.

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## 11. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of pharyngitis.

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## 12. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of impetigo.

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## 13. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of erysipelas.

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## 14. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of cellulitis.

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## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

15. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of necrotizing fascitis.

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16. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of scarlet fever.

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17. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of toxic shock septicaemia.

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18. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of peritonitis.

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19. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of ophthalmitis.

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20. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of diarrhoea.

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21. claim: 16

Composition comprising "a compound preventing EthR from binding to the ethA promoter" and a thioamide or thiourea and the use thereof for the treatment of splenic fever.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2008/066124

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 4005207	A	25-01-1977	BE 818585 A1	02-12-1974
			CA 1036939 A1	22-08-1978
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			US 6372752 B1	16-04-2002
WO 2005047538	A	26-05-2005	FR 2861745 A1	06-05-2005