

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
14 December 2006 (14.12.2006)

PCT

(10) International Publication Number  
**WO 2006/131303 A3**

(51) International Patent Classification:

C07D 207/38 (2006.01) C07D 401/04 (2006.01)  
A61K 31/4015 (2006.01) C07D 403/04 (2006.01)  
A61P 31/04 (2006.01) C07D 417/04 (2006.01)  
C07D 405/04 (2006.01) C07D 409/04 (2006.01)

(21) International Application Number:

PCT/EP2006/005369

(22) International Filing Date: 6 June 2006 (06.06.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

10 2005 026 232.5 7 June 2005 (07.06.2005) DE

(71) Applicant (for all designated States except AT, US): **NOVARTIS AG** [CH/CH]; Lichtstrasse 35, CH-4056 Basel (CH).

(71) Applicant (for AT only): **NOVARTIS PHARMA GMBH** [AT/AT]; Brunner Strasse 59, A-1230 Vienna (AT).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **THORMANN, Michael** [DE/DE]; Kopernikusweg 1, 82152 Martinsried (DE).

(74) Agent: **VON SPRECHER, Georg**; Novartis AG, Corporate Intellectual Property, CH-4002 Basel (CH).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, 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, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

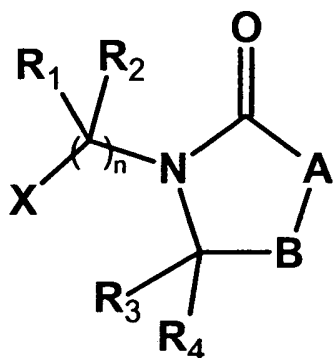
Published:

- 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:  
25 January 2007

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PEPTIDE DEFORMYLASE (PDF) INHIBITORS 4



(I)

(57) Abstract: The present invention relates to compounds of formula (I). These compounds are a novel type of peptide deformylase (PDF) inhibitors, and are therefore of great interest especially as new antibiotics.

WO 2006/131303 A3

# INTERNATIONAL SEARCH REPORT

International application No  
PCT/EP2006/005369

## A. CLASSIFICATION OF SUBJECT MATTER

INV. C07D207/38 A61K31/4015 A61P31/04 C07D405/04 C07D401/04  
C07D403/04 C07D417/04 C07D409/04

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

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

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	H. T. CLARKE, H. B. GILLESPIE, AND S. Z. WEISSHAUS: "The Action of Formaldehyde on Amines and Amino Acids" JOURNAL OF THE AMERICAN CHEMICAL SOCIETY, vol. 55, no. 11, 1933, pages 4571-4587, XP002402949 page 4575; compound A page 4576 pages 4581-83	1,3,6-10
A	WO 01/44179 A (VERSICOR INC [US]; JACOBS JEFFREY W [US]; JAIN RAKESH [US]; NI ZHI JIE) 21 June 2001 (2001-06-21) the whole document ----- -/-	1-15

☒ 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

13 October 2006

Date of mailing of the international search report

06/12/2006

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Grassi, Damian

## INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2006/005369

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 02/102790 A (VERSICOR INC [US]; NOVARTIS AG [CH]; PATEL DINESH V [US]; YUAN ZHENGYU) 27 December 2002 (2002-12-27) the whole document -----	1-15

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2006/005369

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0144179	A	21-06-2001	AU 2268301 A	25-06-2001
			AU 2268401 A	25-06-2001
			CA 2393825 A1	21-06-2001
			EP 1237862 A1	11-09-2002
			JP 2003534239 T	18-11-2003
			WO 0144178 A1	21-06-2001
WO 02102790	A	27-12-2002	AT 323081 T	15-04-2006
			BR 0210377 A	10-08-2004
			CA 2448526 A1	27-12-2002
			CN 1511152 A	07-07-2004
			CZ 20033388 A3	17-03-2004
			DE 60210612 T2	21-09-2006
			DK 1401828 T3	31-07-2006
			EP 1401828 A1	31-03-2004
			HU 0400208 A2	28-06-2004
			JP 2005502606 T	27-01-2005
			MX PA03011628 A	07-03-2005
			NZ 529489 A	28-10-2005
			PL 364476 A1	13-12-2004
			SK 15242003 A3	07-07-2004