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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))*

(88) Date of publication of the international search report:
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(54) Title: HYPERGLYCOSYLATED HUMAN COAGULATION FACTOR IX

(57) Abstract: The invention relates to hyperglycosylated human coagulation factor IX polypeptides, to processes for preparing said polypeptides, to pharmaceutical compositions comprising said polypeptides and to the use of the compounds for the treatment of diseases alleviated by human coagulation factor IX, in particular, but not exclusively hemophilia.

INTERNATIONAL SEARCH REPORT

International application No
PCT/EP2009/054707

A. CLASSIFICATION OF SUBJECT MATTER
INV. C12N9/64 A61K38/36

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)
C12N 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, BIOSIS, 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	MIMURO J ET AL: "Specific detection of human coagulation factor IX in cynomolgus macaques" JOURNAL OF THROMBOSIS AND HAEMOSTASIS, BLACKWELL PUBLISHING, OXFORD, GB, vol. 2, no. 2, 1 February 2004 (2004-02-01), pages 275-280, XP009125189 ISSN: 1538-7933 [retrieved on 2004-01-07] see the whole document; esp. para. bridging left and right col. on p. 276	1-10, 12-15
Y	WO 2007/111496 A (UNIV UTRECHT HOLDING BV [NL]; HAAGSMAN HENDRIK PETER [NL]; VAN EIJK MA) 4 October 2007 (2007-10-04) see the whole document; esp. claims	1-10, 12-15

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[X] Further documents are listed in the continuation of Box C.

[X] 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	Date of mailing of the international search report
17 November 2009	08/03/2010

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Grosskopf, Ruediger

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Form PCT/ISA/210 (second sheet) (April 2005)

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2005/095668 A1 (ANDERSEN KIM V [DK] ET AL ANDERSEN KIM VILBOUR [DK] ET AL) 5 May 2005 (2005-05-05) see the whole document; esp. claims and abstract	1-10, 12-15
Y	US 2002/004483 A1 (NISSEN TORBEN LAUESGAARD [DK] ET AL) 10 January 2002 (2002-01-10) see para. [0012] and claims	1-10, 12-15
Y	WO 2005/024006 A (NOVO NORDISK AS [CH]; OESTERGAARD HENRIK [DK]; BJOERN SOEREN E [DK]; P) 17 March 2005 (2005-03-17) see claims	1-10, 12-15
E	WO 2009/051717 A (UNIV NORTH CAROLINA [US]; INSPIRATION BIOPHARMACEUTICALS [US]; STAFFOR) 23 April 2009 (2009-04-23) see the whole document	1-10, 12-15

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2009/054707

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 ANNEX

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:

Invention 1: Claims 1-7, 9, 10, 12-15 (all part)

Claims relating to a factor IX polypeptide having the mutation Y1N

Inventions 2 to 200: Claims 1-15 (all part)

Claims relating to a factor IX polypeptide having a mutation at any of the other positions listed in Claim 5

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/EP2009/054707

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2007111496 A	04-10-2007	NONE	
US 2005095668 A1	05-05-2005	NONE	
US 2002004483 A1	10-01-2002	US 2004241806 A1	02-12-2004
WO 2005024006 A	17-03-2005	EP 1664291 A2 JP 2007504809 T	07-06-2006 08-03-2007
WO 2009051717 A	23-04-2009	NONE	