



(11) **EP 2 090 582 A3**

(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
11.11.2009 Bulletin 2009/46

(43) Date of publication A2:
19.08.2009 Bulletin 2009/34

(21) Application number: **09155033.5**

(22) Date of filing: **03.01.2000**

(51) Int Cl.:
C07K 7/56 ^(2006.01) **C07K 7/06** ^(2006.01)
C07K 7/08 ^(2006.01) **C07K 7/14** ^(2006.01)
C07K 17/02 ^(2006.01)

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE**

(30) Priority: **04.01.1999 US 224785**

(62) Document number(s) of the earlier application(s) in
accordance with Art. 76 EPC:
06009040.4 / 1 705 183
00904186.4 / 1 147 128

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(54) **Binding molecules for human factor VIII and factor VIII-like proteins**

(57) Methods for detecting human factor VIII or factor VIII-like polypeptides in and isolating it from solutions such as blood or conditioned media are disclosed, together with reagents suitable for the purpose comprising binding moieties that recognize human factor VIII and/or

a factor VIII-like polypeptide and form a binding complex therewith. Preferred polypeptide binding moieties are particularly disclosed.

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**PARTIAL EUROPEAN SEARCH REPORT**

Application Number

which under Rule 63 of the European Patent Convention EP 09 15 5033 shall be considered, for the purposes of subsequent proceedings, as the European search report

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	WO 97/35197 A (DYAX CORP; MACLENNAN, JOHN, M; LADNER, ROBERT, C; RANSOHOFF, THOMAS, C) 25 September 1997 (1997-09-25) -----	1-15	INV. C07K7/56 C07K7/06 C07K7/08 C07K7/14 C07K17/02
A	EP 0 768 377 A (PROTEIN ENGINEERING CORPORATION) 16 April 1997 (1997-04-16) -----	1-15	
A	WO 92/17192 A1 (SCRIPPS RESEARCH INST [US]) 15 October 1992 (1992-10-15) -----	1-15	
A,P	WO 99/58680 A2 (SANQUIN BLOEDVOORZIENING [NL]; VOORBERG JOHANNES JACOBUS [NL]; DEN BRI) 18 November 1999 (1999-11-18) ----- -/--	1-15	
			TECHNICAL FIELDS SEARCHED (IPC)
			C07K
INCOMPLETE SEARCH			
<p>The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC to such an extent that a meaningful search into the state of the art cannot be carried out, or can only be carried out partially, for these claims.</p> <p>Claims searched completely :</p> <p>Claims searched incompletely :</p> <p>Claims not searched :</p> <p>Reason for the limitation of the search:</p> <p>see sheet C</p>			
Place of search Munich		Date of completion of the search 25 June 2009	Examiner Vogt, Titus
CATEGORY OF CITED DOCUMENTS		<p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</p>	
<p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p>			

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EPO FORM 1503 03.82 (P04E07)



PARTIAL EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
A	JORIEUX S ET AL: "FINE EPITOPE MAPPING OF MONOCLONAL ANTIBODIES TO THE NH2-TERMINAL PART OF VON WILLEBRAND FACTOR (VWF) BY USING RECOMBINANT AND SYNTHETIC PEPTIDES: INTEREST FOR THE LOCALIZATION OF THE VACTOR VIII BINDING DOMAIN" BRITISH JOURNAL OF HAEMATOLOGY, WILEY-BLACKWELL PUBLISHING LTD, GB, vol. 87, 1 January 1994 (1994-01-01), pages 113-118, XP002926791 ISSN: 0007-1048	1-15	
A	BAHOU W F ET AL: "A MONOCLONAL ANTIBODY TO VON WILLEBRAND FACTOR (VWF) INHIBITS FACTOR VIII BINDING LOCALIZATION OF ITS ANTIGENIC DETERMINANT TO A NONADECAPEPTIDE AT THE AMINO TERMINUS OF THE MATURE VWF POLYPEPTIDE" JOURNAL OF CLINICAL INVESTIGATION, AMERICAN SOCIETY FOR CLINICAL INVESTIGATION, US, vol. 84, 1 July 1989 (1989-07-01), pages 56-61, XP002926792 ISSN: 0021-9738	1-15	TECHNICAL FIELDS SEARCHED (IPC)
A	US 5 661 008 A (ALMSTEDT ANNELIE B [SE] ET AL) 26 August 1997 (1997-08-26)	1-15	
A	WARE J ET AL: "LOCALIZATION OF A FACTOR VIII-INHIBITING ANTIBODY EPITOPE TO A REGION BETWEEN RESIDUES 338 AND 362 OF FACTOR VIII HEAVY CHAIN" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA, NATIONAL ACADEMY OF SCIENCE, WASHINGTON, DC.; US, vol. 85, 1 May 1988 (1988-05-01), pages 3165-3169, XP002928101 ISSN: 0027-8424	1-15	
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PARTIAL EUROPEAN SEARCH REPORT

Application Number
EP 09 15 5033

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (IPC)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
E	WO 00/40602 A (DYAX CORP) 13 July 2000 (2000-07-13) * the whole document *	1-15	
A	----- LADNER R C: "Constrained peptides as binding entities" TRENDS IN BIOTECHNOLOGY, ELSEVIER, AMSTERDAM, NL, vol. 13, no. 10, October 1995 (1995-10), pages 426-430, XP004207217 ISSN: 0167-7799 -----	1-15	
			TECHNICAL FIELDS SEARCHED (IPC)

**INCOMPLETE SEARCH
SHEET C**

Application Number

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Claim(s) searched completely:
1-2, 5-15

Claim(s) searched incompletely:
3-4

Reason for the limitation of the search:

The present claims 3 and 4 encompass compounds defined only by their desired function, contrary to the requirement of clarity in Article 84 EPC, because the "result to be achieved" type of definition does not allow the scope of the claim to be ascertained. The fact that any compound could be screened does not overcome this objection, as the skilled person would not know beforehand whether it fell within the scope claimed, except for the compounds disclosed in the description. Undue experimentation would be required to screen compounds randomly. This non-compliance with the substantive provisions is such that a meaningful search of the whole claimed subject-matter of the claims could not be carried out (Rule 63 EPC).

The search of claims 3 and 4 was consequently restricted to compounds of SEQ ID NO: 3.



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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:

☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

claims 1-15 (partially)

☐ The present supplementary European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims (Rule 164 (1) EPC).



**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1-15(partially)

Polypeptides comprising SEQ ID NO: 3, and the use thereof.

2. claims: 1-15(partially)

Polypeptides of SEQ ID NO: 1, each defined by a peptide listed in claim 2 not falling within the scope of inventions 1 or 8.

3. claims: 1-15(partially)

Polypeptides of SEQ ID NO: 2, and the use thereof.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

25-06-2009

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9735197	A	25-09-1997	AT 278958 T	15-10-2004
			AU 713744 B2	09-12-1999
			AU 2535697 A	10-10-1997
			AU 715608 B2	03-02-2000
			AU 2658397 A	10-10-1997
			CA 2248243 A1	25-09-1997
			CN 1219240 A	09-06-1999
			DE 69731084 D1	11-11-2004
			DE 69731084 T2	23-02-2006
			EP 0907887 A1	14-04-1999
			EP 0904541 A1	31-03-1999
			ES 2229347 T3	16-04-2005
			JP 11507246 T	29-06-1999
			JP 2000510443 T	15-08-2000
			PT 904541 E	31-01-2005
			WO 9735196 A1	25-09-1997
			US 6084062 A	04-07-2000

EP 0768377	A	16-04-1997	NONE	

WO 9217192	A1	15-10-1992	AU 1757592 A	02-11-1992
			CA 2107100 A1	28-09-1992
			EP 0648268 A1	19-04-1995

WO 9958680	A2	18-11-1999	AT 405649 T	15-09-2008
			AU 760678 B2	22-05-2003
			AU 3853899 A	29-11-1999
			CA 2327587 A1	18-11-1999
			DK 1095143 T3	05-01-2009
			ES 2313783 T3	01-03-2009
			JP 2002514422 T	21-05-2002
			PT 1095143 E	28-11-2008
			US 7364735 B1	29-04-2008

US 5661008	A	26-08-1997	NONE	

WO 0040602	A	13-07-2000	AT 433992 T	15-07-2009
			AU 769745 B2	05-02-2004
			AU 2598200 A	24-07-2000
			AU 2004201830 A1	27-05-2004
			CA 2354599 A1	13-07-2000
			EP 1147128 A1	24-10-2001
			EP 2090582 A2	19-08-2009
			JP 2002536297 T	29-10-2002
			US 6197526 B1	06-03-2001
			US 2001014456 A1	16-08-2001


EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

专利名称(译)	结合人因子VIII和因子VIII样蛋白的分子		
公开(公告)号	EP2090582A3	公开(公告)日	2009-11-11
申请号	EP2009155033	申请日	2000-01-03
[标]申请(专利权)人(译)	戴埃克斯有限公司		
申请(专利权)人(译)	DYAX CORPORATION		
当前申请(专利权)人(译)	DYAX CORP.		
[标]发明人	YU JINAN POTTER DANIEL M KELLEY BRIAN D DEETZ JEFFREY S BOOTH JAMES E		
发明人	YU, JINAN POTTER, DANIEL M. KELLEY, BRIAN D. DEETZ, JEFFREY S. BOOTH, JAMES E.		
IPC分类号	C07K7/56 C07K7/06 C07K7/08 C07K7/14 C07K17/02 G01N33/53 B01J20/281 B01J20/285 C07K1/16 C07K14/00 C07K14/755 C12N7/00 C12Q1/70 F04B43/04 G01N30/88		
CPC分类号	C07K7/06 C07K7/08 C07K14/00 C07K14/001		
优先权	09/224785 1999-01-04 US		
其他公开文献	EP2090582B1 EP2090582A2		
外部链接	Espacenet		

摘要(译)

公开了检测人因子VIII或因子VIII样多肽并从溶液如血液或条件培养基中分离的方法，以及适用于包含识别人因子VIII和/或因子VIII样结合部分的目的的试剂。多肽并与其形成结合复合物。优选公开了优选的多肽结合部分。



European
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Office

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shall be considered, for the purposes of subsequent
proceedings, as the European search report

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Category	Citation of documents with indication, where appropriate, of relevant passages		
A	WO 97/35197 A (DYAX CORP.; MACLENNAN, JOHN, M.; LADNER, ROBERT C.; RANSOHOFF, THOMAS, C) 25 September 1997 (1997-09-25)	1-15	INV. C07K7/56 C07K7/06 C07K7/08 C07K7/14 C07K17/02
A	EP 0 768 377 A (PROTEIN ENGINEERING CORPORATION) 16 April 1997 (1997-04-16)	1-15	
A	WO 92/17192 A1 (SCRIPPS RESEARCH INST (US)) 15 October 1992 (1992-10-15)	1-15	
A,P	WO 99/58680 A2 (SANQUIN BLOEDVOORZIENING (NL); VOORBERG, JOHANNES JACOBUS (NL); DEN BRIJ) 15 November 1999 (1999-11-15)	1-15	
INCOMPLETE SEARCH			TECHNICAL FIELD(S) SEARCHED (IPC) C07K
The Search Division certifies that the present application, or one or more of its claims, does/ do not comply with the EPC in so far as its patent has a meaningful search into the state of the art cannot be carried out, or each only has carried out partially, for these claims. Claims searched completely: Claims not searched: Reason for the limitation of the search: see sheet C			
1	Place of search Munich	Date of completion of the search 25 June 2009	Searcher Vogt, Titus
CATEGORY OF CITED DOCUMENTS			
4	particularly relevant if relevant along with the cited document		
4D	document of the same category		
4D	non-written disclosure		
4D	intermediate document		
I: theory or principle underlying the invention E: earlier related document, but published on, or after, the filing date D: document cited in the application L: document cited for other reasons S: member of the same patent family, corresponding document			