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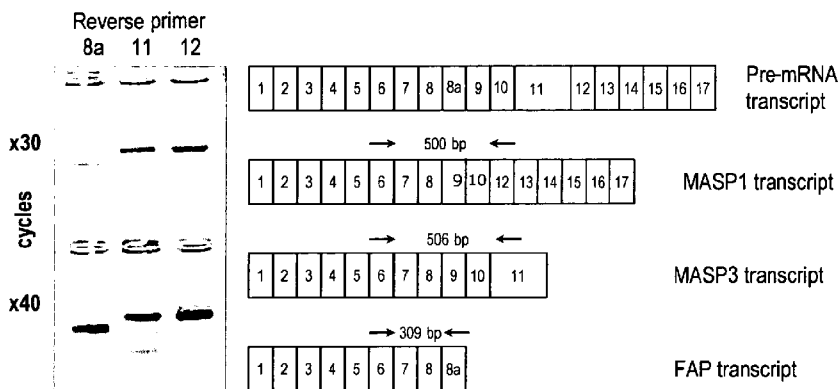
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(88) Date of publication of the international search report:  
31 March 2011

(54) Title: MASP ISOFORMS AS INHIBITORS OF COMPLEMENT ACTIVATION

Figure 1



(57) Abstract: The present invention relates to novel ficolin-associated polypeptides, and polypeptides derived from these ficolin-associated polypeptides for the use in the treatment of conditions associated with inflammation, apoptosis, autoimmunity, coagulation, thrombotic or coagulopathic related diseases, as well as the use as biomarkers. The present invention further relates to antibodies recognising such novel ficolin-associated polypeptides, and polypeptides derived thereof, nucleic acid molecules encoding such polypeptides, vectors and host cells used in the production of the polypeptides.

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# INTERNATIONAL SEARCH REPORT

International application No PCT/EP2010/060279
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**A. CLASSIFICATION OF SUBJECT MATTER**  
 INV. C07K14/47

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)  
 C07K C12N

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, Sequence Search, BIOSIS, EMBASE, 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	US 2007/093443 A1 (MADISON EDWIN L [US] ET AL) 26 April 2007 (2007-04-26)	1-8, 10-15, 18-64
X	claims 1-131; table 3; sequences 329,330 -& DATABASE Geneseq [Online] 26 July 2007 (2007-07-26), "Complement-activating component of Ra-reactive factor precursor V3." XP002600328 retrieved from EBI accession no. GSP:AFY31046 Database accession no. AFY31046 the whole document <div style="text-align: right;">-/--</div>	1-8, 10-15, 18-64

Further documents are listed in the continuation of Box C.       See patent family annex.

\* Special categories of cited documents :

<p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p>	<p>"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</p> <p>"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</p> <p>"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.</p> <p>"&amp;" document member of the same patent family</p>
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Date of the actual completion of the international search  29 September 2010	Date of mailing of the international search report  07/02/2011
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer  Gurdjian, Didier
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## INTERNATIONAL SEARCH REPORT

International application No  
PCT/EP2010/060279

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	-& DATABASE Geneseq [Online] 26 July 2007 (2007-07-26), "Complement-activating component of Ra-reactive factor precursor V3 cDNA." XP002600311 retrieved from EBI accession no. GSN:AFY31045 Database accession no. AFY31045 the whole document	1-8, 10-15, 18-64
A	-& DATABASE Geneseq [Online] 26 July 2007 (2007-07-26), "Mannan-binding lectin serine protease 2 precursor protein V1." XP002600312 retrieved from EBI accession no. GSP:AFY31048 Database accession no. AFY31048 the whole document	1-8, 10-15, 18-64
X	----- DATABASE UniProt [Online] 7 July 2009 (2009-07-07), "SubName: Full=cDNA FLJ55004, highly similar to Complement-activating component of Ra-reactive factor (EC 3.4.21.-);" XP002600313 retrieved from EBI accession no. UNIPROT:B4DU17 Database accession no. B4DU17	1-8, 10-13, 15,18-64
Y	compound	21,22, 31-64
A	----- DATABASE UniProt [Online] 7 July 2009 (2009-07-07), "Mannan-binding lectin serine protease 2" XP002600314 retrieved from EBI accession no. UNIPROT:000187 Database accession no. 000187 the whole document	1-8, 10-13, 15,18-30
A	----- DATABASE Geneseq [Online] 4 October 2007 (2007-10-04), "Human MBL-associated serine protease-2 CUBI-EGF-CUBII domain, SEQ ID 10." XP002600315 retrieved from EBI accession no. GSP:AGE19338 Database accession no. AGE19338 the whole document	1-8, 10-13, 15,18-30
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## INTERNATIONAL SEARCH REPORT

International application No  
PCT/EP2010/060279

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	BEINROHR LÁSZLÓ ET AL: "C1, MBL-MASPs and C1-inhibitor: novel approaches for targeting complement-mediated inflammation." TRENDS IN MOLECULAR MEDICINE DEC 2008 LNKD- PUBMED:18977695, vol. 14, no. 12, December 2008 (2008-12), pages 511-521, XP002600316 ISSN: 1471-4914	21,22, 31-64
A	abstract  page 514, right-hand column, paragraph 1; figure 1b	1-8, 10-13,15
A	----- FUJITA TEIZO ET AL: "The lectin-complement pathway--its role in innate immunity and evolution." IMMUNOLOGICAL REVIEWS APR 2004 LNKD- PUBMED:15199963, vol. 198, April 2004 (2004-04), pages 185-202, XP002600317 ISSN: 0105-2896	1-8, 10-15, 18-64
A	----- FUJITA TEIZO: "Evolution of the lectin-complement pathway and its role in innate immunity" NATURE REVIEWS. IMMUNOLOGY, NATURE PUBLISHING GROUP, GB LNKD- DOI:10.1038/NRI800, vol. 2, no. 5, 1 May 2002 (2002-05-01), pages 346-353, XP002270463 ISSN: 1474-1733	1-8, 10-15, 18-64
A	----- US 2005/032157 A1 (GAL PETER [HU] ET AL) 10 February 2005 (2005-02-10)  abstract; figures 2,9	1-8, 10-13, 15,18-30
T	----- SKJOEDT MIKKEL-OLE ET AL: "A novel mannose-binding lectin/ficolin-associated protein is highly expressed in heart and skeletal muscle tissues and inhibits complement activation." THE JOURNAL OF BIOLOGICAL CHEMISTRY 12 MAR 2010 LNKD- PUBMED:20053996, vol. 285, no. 11, 12 March 2010 (2010-03-12), pages 8234-8243, XP002600318 ISSN: 1083-351X the whole document -----	1-8, 10-15, 18-64

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP2010/060279

## Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:

a. (means)

on paper

in electronic form

b. (time)

in the international application as filed

together with the international application in electronic form

subsequently to this Authority for the purpose of search

2.  In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

3. Additional comments:

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP2010/060279

## 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.:  
7, 8, 11, 14, 15, 23(completely); 1-6, 10, 12, 13, 18-22, 24-64(partially)

### 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: 7, 8, 11, 14, 15, 23(completely); 1-6, 10, 12, 13, 18-22, 24-64(partially)

An isolated ficolin-associated polypeptide , wherein said polypeptide comprises the amino acid sequence 20-297 of SEQ NO: 3 or the amino acid sequence 20-380 of SEQ NO: 1 , corresponding antibody , vector ,host cell ,method for producing the polypeptide , pharmaceutical composition ,nucleic acid probe , method of detecting or method for diagnosing a disorder .

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2. claims: 9(completely); 1-6, 12, 13, 18-22, 24-64(partially)

An isolated ficolin-associated polypeptide , wherein said polypeptide comprises the amino acid sequence 16-296 of SEQ NO:9 , corresponding antibody , vector ,host cell ,method for producing the polypeptide , pharmaceutical composition ,nucleic acid probe , method of detecting or method for diagnosing a disorder .

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3. claims: 16, 17(completely); 1-6, 12, 13, 18-22, 24-64(partially)

An isolated ficolin-associated polypeptide , wherein said polypeptide comprises the amino acid sequence of SEQ NO: 4 , corresponding antibody , vector ,host cell ,method for producing the polypeptide , pharmaceutical composition ,nucleic acid probe , method of detecting or method for diagnosing a disorder , as long as not provided in invention

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No  
PCT/EP2010/060279

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2007093443	A1	26-04-2007	NONE
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US 2005032157	A1	10-02-2005	US 2009042248 A1
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