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- (81) **Designated States** (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM,

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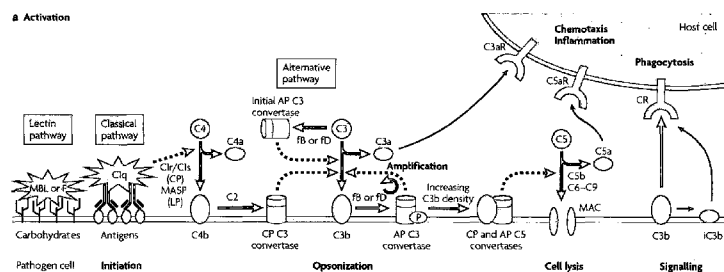
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Published:

- 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:**
25 February 2016

(54) **Title:** POLYPEPTIDES AND USES THEREOF

**Figure 1**

(57) **Abstract:** The invention relates to polypeptides, and in particular to polypeptides that are capable of inhibiting the activity or activation of the complement system. It also relates to nucleic acids that encode the polypeptides and to uses of the polypeptides. The complement system helps or "complements" the ability of antibodies and phagocytic cells to clear pathogens from an organism. It forms part of the innate immune system. Down-regulation of complement activation has been demonstrated to be effective in treating several disease indications in animal models and in ex vivo studies. The present invention provides novel polypeptides that can be used for the treatment of diseases or disorders that relate to inappropriate activation of one or more of the complement pathways.

INTERNATIONAL SEARCH REPORT

International application No

PCT/GB2015/051654

A. CLASSIFICATION OF SUBJECT MATTER

INV. C07K14/435 A61K38/17
ADD.

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 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 practicable, 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.
Y	ROVERSI ET AL: "The Structure of OMCI, a Novel Lipocalin Inhibitor of the Complement System", JOURNAL OF MOLECULAR BIOLOGY, ACADEMIC PRESS, UNITED KINGDOM, vol. 369, no. 3, 11 May 2007 (2007-05-11), pages 784-793, XP022077570, ISSN: 0022-2836, DOI: 10.1016/J.JMB.2007.03.064 the whole document ----- -/--	1-29



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 application or patent 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

22 September 2015

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18/12/2015

Name and mailing address of the ISA/

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INTERNATIONAL SEARCH REPORT

International application No

PCT/GB2015/051654

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	A. BARRATT-DUE ET AL: "Ornithodoros moubata Complement Inhibitor Is an Equally Effective C5 Inhibitor in Pigs and Humans", THE JOURNAL OF IMMUNOLOGY, vol. 187, no. 9, 1 November 2011 (2011-11-01), pages 4913-4919, XP055201794, ISSN: 0022-1767, DOI: 10.4049/jimmunol.1101000 the whole document	1-29
X	----- DATABASE UniProt [Online] 30 November 2010 (2010-11-30), "SubName: Full=Hypothetical acid tail secreted protein {ECO:0000313 EMBL:ADN23522.1}"; XP002744815, retrieved from EBI accession no. UNIPROT:E2J6T4 Database accession no. E2J6T4 the whole document	1,2, 4-13,29
X	----- WO 2007/067681 A2 (UNIV LOUISVILLE RES FOUND [US]; SHIRWAN HAVAL [US]; ELPEK KUTLU G [US]) 14 June 2007 (2007-06-14) sequence 2 -----	1-3, 12-18,29

INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB2015/051654

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.:

1, 2(completely); 3-29(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: 1, 2(completely); 3-29(partially)

one of the polypeptides with SEQ ID NOs:1-15 or variants thereof, the corresponding nucleic acids, host cells, and uses thereof

2. claims: 3-29(partially)

one of the polypeptides with SEQ ID NOs:16-19 or variants thereof, the corresponding nucleic acids, host cells, and uses thereof.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/GB2015/051654

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2007067681	A2	14-06-2007	
		AU 2006321888 A1	14-06-2007
		AU 2006321889 A1	14-06-2007
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