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ZM, ZW.

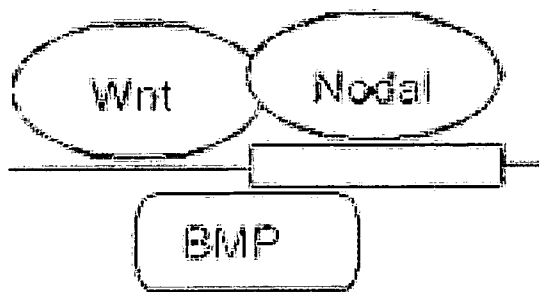
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27 November 2008

(54) Title: USES OF CERBERUS, COCO AND DERIVATIVES THEREOF



(57) Abstract: The disclosure relates to Cer-  
berus/Coco polypeptides or variants thereof for use  
in treating a variety of disorders associated with  
myostatin, nodal and GDF-11.

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INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2007/025180

A. CLASSIFICATION OF SUBJECT MATTER  
INV. A61K38/18 C07K14/475 A61P21/00

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)  
A61K C07K A61P

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, WPI Data, EMBASE, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2005/115439 A (ACCELERON PHARMA INC [US]; KNOPF JOHN [US]; SEEHRA JASBIR [US]) 8 December 2005 (2005-12-08) examples 1-3 claims 1-52 page 4, lines 17-20 page 4, line 30 - page 5, line 6 page 14, line 26 - page 18, line 30 -----	1-16, 27-68
X	WO 99/01553 A (GENETICS INST [US]; UNIV CALIFORNIA [US]) 14 January 1999 (1999-01-14)	1-16, 27, 31, 35, 38-47, 51, 58-68
Y	the whole document  claims 1-25 ----- -/--	1-16, 27-68

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.
- \*G\* document member of the same patent family

Date of the actual completion of the international search

16 July 2008

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INTERNATIONAL SEARCH REPORT

International application No  
PCT/US2007/025180

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 610 510 B1 (VALENZUELA DAVID M [US] ET AL) 26 August 2003 (2003-08-26)	1-16, 27, 38-47, 58-68
Y	the whole document	1-16, 27-68
	column 9, line 28 - column 10, line 23	
Y	AVSIAN-KRETCHMER ORNA ET AL: "Comparative genomic analysis of the eight-membered ring cystine knot-containing bone morphogenetic protein antagonists." MOLECULAR ENDOCRINOLOGY (BALTIMORE, MD.) JAN 2004, vol. 18, no. 1, January 2004 (2004-01), pages 1-12, XP002488397 ISSN: 0888-8809 the whole document	1-16, 27-68
Y	YANAGITA M: "BMP antagonists: Their roles in development and involvement in pathophysiology" CYTOKINE AND GROWTH FACTOR REVIEWS, OXFORD, GB, vol. 16, no. 3, 1 June 2005 (2005-06-01), pages 309-317, XP004964511 ISSN: 1359-6101 the whole document page 313, paragraphs 5.2, 5.3	1-16, 27-68

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US2007/025180

## 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 allsearchable 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:

1. claims: 1-16, 27-67 (part), 68

Myostatin antagonist protein comprising an amino acid sequence that is at least 80% identical to the sequence of aminoacids 162-241 of human Cerberus (SEQ ID NO:2) and wherein said protein is substantially serum stable for a period of at least 24 hours, pharmaceutical preparations and uses thereof.

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2. claims: 17-26, 27-67 (part), 69

Myostatin antagonist protein comprising an amino acid sequence that is at least 80% identical to the sequence of aminoacids 101-185 of human Coco (SEQ ID NO:5) and wherein said protein is substantially serum stable for a period of at least 24 hours, pharmaceutical preparations and uses thereof.

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2007/025180
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2005115439 A	08-12-2005	AU 2005247508 A1	08-12-2005
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