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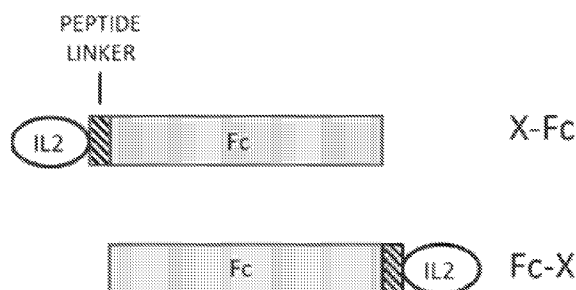
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(54) Title: MOLECULES THAT SELECTIVELY ACTIVATE REGULATORY T CELLS FOR THE TREATMENT OF AUTOIMMUNE DISEASES

FIGURE 2



(57) Abstract: This invention provides for a fusion protein between an IL2 $\alpha\beta\gamma$ Selective Agonist protein (IL2 Selective Agonist) and a IgG Fc protein. The IL2 Selective Agonist moiety provides a therapeutic activity by selectively activating the IL2 $\alpha\beta\gamma$ form of the receptor, thus selectively stimulating Tregs. The Fc moiety provides a prolonged circulating half-life compared to the circulating half-life of IL-2 or an IL2SA protein.



INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2015/041177

A. CLASSIFICATION OF SUBJECT MATTER		
IPC(8) - C07K 14/55 (2015.01) CPC - C07K 14/55 (2015.10) 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) IPC(8) - A61K 38/20, 39/39, 39/395; C07K 14/55, 16/28, 19/00; C12N 15/62 (2015.01) CPC - A61K 2039/505; C07K 14/55, 16/2866, 2317/31, 2317/52, 2317/60, 2317/73, 2317/74, 2317/515, 2319/00 (2015.10)		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched CPC - A61K 2039/505; C07K 14/55, 16/2866, 2317/31, 2317/52, 2317/60, 2317/73, 2317/74, 2317/515, 2319/00 (2015.10) (keyword delimited) USPC - 424/85.2, 136.1; 435/328, 375; 530/387.3; 536/23.5		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) PatBase, Google Patents, PubMed. Search terms used: (interleukin "2") OR (IL2) OR (IL "2") (immunoglobulin G crystallizable fragment) OR (IgG1 W3 Fc) fusion% or chimera% or chimeric or bispecific% activat* W5 (Treg OR (T reg) OR (regulatory W3 T cell%)) N88R OR Asn88Arg C125S OR Cys125Ser		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2012/107417 A1 (ROCHE GLYCART AG et al) 16 August 2012 (16.08.2012) entire document	1-6, 9, 12, 19
Y		13-18
Y	WO 2011/109789 A2 (THE JOHNS HOPKINS UNIVERSITY) 09 September 2011 (09.09.2011) entire document	13-18
A	US 2006/0160187 A1 (DENIS-MIZE et al) 20 July 2006 (20.07.2006) entire document	1-19
A	CN 102174111 A (JIANGSU FUTAI BIOTECHNOLOGY CO LTD) 07 September 2011 (07.09.2011) entire document; see machine translation	1-19
A	CN 103193887 A (GENGSUN INST OF BIOMEDICINE CO LTD et al) 10 July 2013 (10.07.2013) entire document; see machine translation	1-19
A	KING et al. "Phase I Clinical Trial of the Immunocytokine EMD 273063 in Melanoma Patients," Journal of Clinical Oncology, 15 November 2004 (15.11.2004), Vol. 22, Pgs. 4463-4473. entire document	1-19
P, X	WO 2014/145907 A1 (XENCOR, INC et al) 18 September 2014 (18.09.2014) entire document	1-19
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/> 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 26 October 2015		Date of mailing of the international search report 29 JAN 2016
Name and mailing address of the ISA/ Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-8300		Authorized officer Blaine Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

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International application No.

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

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

- a. forming part of the international application as filed:
 in the form of an Annex C/ST.25 text file.
 on paper or in the form of an image file.
- b. furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
- c. furnished subsequent to the international filing date for the purposes of international search only:
 in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).

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

3. Additional comments:

SEQ ID NOs:1-14 were searched.