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A61K 38/18 (2006.01) C07K 14/485 (2006.01)  
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(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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Declarations under Rule 4.17:

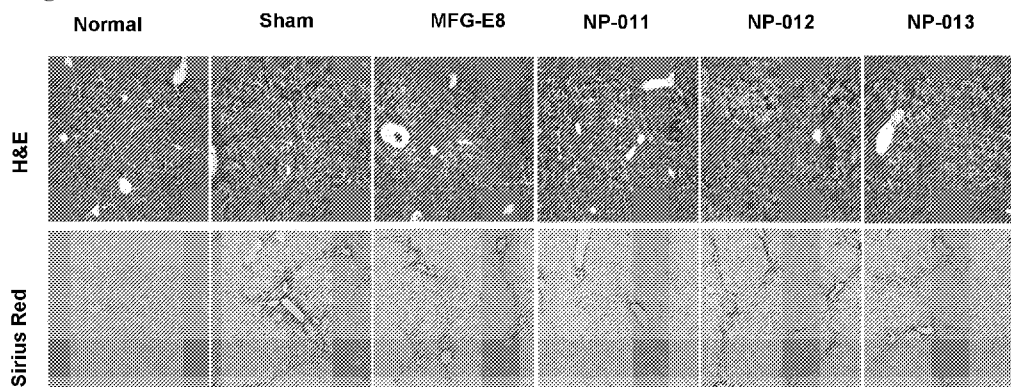
— of inventorship (Rule 4.17(iv))

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))

(54) Title: COMPOSITIONS AND METHODS FOR TREATING OR PREVENTING FIBROSIS

Fig. 1B



(57) Abstract: The present application relates to compositions and methods comprising a polypeptide derived from MFG-E8 for treating and preventing fibrosis and other diseases, wherein the polypeptide includes an epidermal growth factor (EGF)-like domain, a CI domain, and optionally a signal peptide, wherein the polypeptide: (a) lacks a functional C2 domain; and/or (b) lacks a medin polypeptide or a fragment thereof.



**(88) Date of publication of the international search report:**  
16 July 2020 (16.07.2020)

**A. CLASSIFICATION OF SUBJECT MATTER**

**A61K 38/17(2006.01)i, A61K 38/18(2006.01)i, A61K 9/00(2006.01)i, A61P 11/00(2006.01)i, C07K 14/47(2006.01)i, C07K 14/485(2006.01)i, A61P 25/28(2006.01)i, A61P 9/10(2006.01)i**

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 38/17; A61K 35/28; A61K 38/18; A61K 39/395; A61K 48/00; A61K 9/00; A61P 11/00; C07K 14/47; C07K 14/485; A61P 25/28; A61P 9/10

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean utility models and applications for utility models  
Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) & Keywords: MFG-E8, EGF-like domain, C1 domain, C2 domain, lack, signal peptide, heterologous sequence, half-life

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	VENEGAS, VICTOR et al., 'Two alternative mechanisms that regulate the presentation of apoptotic cell engulfment signal in <i>Caenorhabditis elegans</i> ', Molecular Biology of the Cell, 2007, vol. 18, pp. 3180-3192 See pages 3181-3182; figure 1A.	1-4
A	US 2006-0233806 A1 (NAGATA, SHIGEKAZU) 19 October 2006 See the whole document.	1-4
A	HUANG, WEI et al., 'Milk fat globule-EGF factor 8 suppresses the aberrant immune response of systemic lupus erythematosus-derived neutrophils and associated tissue damage', Cell Death and Differentiation, 2017, vol. 24, pp 263-275 See the whole document.	1-4
A	WO 2017-018698 A1 (KOREA UNIVERSITY RESEARCH AND BUSINESS FOUNDATION) 02 February 2017 See the whole document.	1-4
A	ATABAI, KAMRAN et al., 'Mfge8 diminishes the severity of tissue fibrosis in mice by binding and targeting collagen for uptake by macrophages', The Journal of Clinical Investigation, 2009, vol. 119, no. 12, pp. 3713-3722 See the whole document.	1-4

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

"D" document cited by the applicant in the international application

"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

15 June 2020 (15.06.2020)

Date of mailing of the international search report

**15 June 2020 (15.06.2020)**

Name and mailing address of the ISA/KR

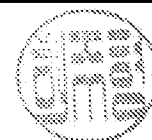
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**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)**

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.: 18-32  
because they relate to subject matter not required to be searched by this Authority, namely:  
Claims 18-32 pertain to a method for treatment of the human body by therapy (PCT Article 17(2)(a)(i) and Rule 39.1(iv)).
2.  Claims Nos.: 9,11-12,19-23,25-26  
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:  
Claims 9, 11-12, 19-23, 25-26 are regarded to be unclear because they refer to claims which do not comply with PCT Rule 6.4(a).
3.  Claims Nos.: 5-8,10,13-18,24,27-33  
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:

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 any 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.:

**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.

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/IB2019/001136**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006-0233806 A1	19/10/2006	EP 1459756 A1	22/09/2004
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		US 8603455 B2	10/12/2013
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