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A61K 31/7105 (2006.01) A61P 11/00 (2006.01)

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[Continued on next page]

(54) Title: METHODS AND COMPOSITIONS FOR THE TREATMENT OF MARFAN SYNDROME AND ASSOCIATED DISORDERS

FIG. 1A

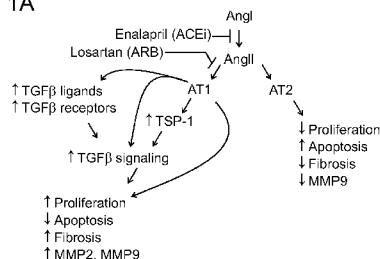
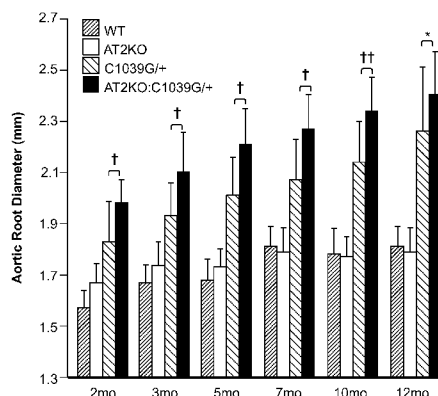


FIG. 1B



(57) Abstract: The instant invention provides methods and compositions for the treatment and prevention of Marfan syndrome and related diseases, disorders and conditions. The invention further provides pharmaceutical compositions and kits for the treatment and prevention of Marfan syndrome and related diseases, disorders and conditions.



SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

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see Notice of 29 November 2012

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/033613**A. CLASSIFICATION OF SUBJECT MATTER****A61K 48/00(2006.01)i, A61K 31/7105(2006.01)i, A61K 31/7088(2006.01)i, A61P 11/00(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 48/00; A61K 39/395; A61K 38/00

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), Google & PubMed

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	HOLM, T.M., 'Non-canonical TGF-beta signaling in the pathogenesis of Marfan syndrome', a doctoral dissertation, Johns Hopkins University, March 2009 See table 1; chapter 4; figures 16-21.	32-51
A	US 2010-0034806 A1 (DIETZ, H. C. et al.) 11 February 2010 See abstract; claims 1, 2, 3, 8, 11, 12, 19, 20, 21, 23, 46, 63.	32-51
A	PARVANI, J.G. et al., 'Noncanonical TGF-β signaling during mammary tumorigenesis', J. Mammary Gland. Biol. Neoplasia, Epub 31 March 2011, Vol. 16, No. 2, pp. 127-146 See abstract; figure 1.	32-51
PX	HOLM, T.M. et al., 'Noncanonical TGFβ signaling contributes to aortic aneurysm progression in Marfan syndrome mice', Science, 15 April 2011, Vol. 332, No. 6027, pp. 358-361 See the whole document.	32-51



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 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

19 OCTOBER 2012 (19.10.2012)

Date of mailing of the international search report

23 OCTOBER 2012 (23.10.2012)

Name and mailing address of the ISA/KR

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2012/033613**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.: 1-31, 52, 53
because they relate to subject matter not required to be searched by this Authority, namely:
Claims 1-31, 52, 53 pertain to methods of treatment of the human body by therapy, and thus relate to a subject matter which this International Searching Authority is not required to search under Article 17(2)(a)(i) of the PCT and Rule 39.1(iv) of the Regulations under the PCT.
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:

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 fee, this Authority did not invite payment of any additional fee.
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/US2012/033613

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2010-0034806 A1	11.02.2010	EP 1948675 A2	30.07.2008
		EP 1948675 A4	23.09.2009
		JP 2009-513663 A	02.04.2009
		WO 2007-050793 A2	03.05.2007
		WO 2007-050793 A3	24.01.2008