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(54) Title: 60A PROTEIN-INDUCED MORPHOGENESIS

(57) Abstract

Disclosed are methods of utilizing a morphogenically active fragment of 60A protein to induce tissue morphogenesis, including methods for increasing a progenitor cell population in a mammal, methods for stimulating progenitor cells to differentiate and maintain their differentiated phenotype *in vivo* or *in vitro*, method for inducing tissue-specific growth *in vivo* and methods for the replacement of diseased or damaged tissue *in vivo*.

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INTERNATIONAL SEARCH REPORT

Int. ional Application No
PCT/US 93/08741

A. CLASSIFICATION OF SUBJECT MATTER
IPC 5 A61K37/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classificaton symbols)
IPC 5 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 practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	WO,A,93 04692 (CREATIVE BIOMOLECULES, INC) 18 March 1993 see claims ---	1-47
P,X	WO,A,93 05751 (CREATIVE BIOMOLECULES, INC.) 1 April 1993 cited in the application see claims ---	1-47
E	WO,A,94 03200 (CREATIVE BIOMOLECULES, INC.) 17 February 1994 see claims --- -/--	1-47

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

* Special categories of cited documents :

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"E" earlier document but published on or after the international filing date

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"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	Date of mailing of the international search report
19 July 1994	25.07.94

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+ 31-70) 340-2040, Tx. 31 651 epo nl, Fax (+ 31-70) 340-3016	Orviz Diaz, P

Form PCT/ISA/210 (second sheet) (July 1992)

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X, Y	PROC. NATL. ACAD. SCI. USA vol. 90, no. 13 , July 1993 pages 6004 - 6008 T.K. SAMPATH 'Drosophila transforming growth factor beta superfamily proteins induce endochondral bone formation in mammals.' see the whole document	1-47
X,Y	PROC. NATL. ACAD. SCI. USA vol. 88, no. 20 , 1991 pages 9214 - 9218 K.A.WHARTON 'Drosophila 60A gene, another transforming growth factor beta family member, is closely related to human bone morphogenetic proteins.' see the whole document	1-47

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INTERNATIONAL SEARCH REPORT

Int. .ational application No.
PCT/US 93/ 08741

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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. [X] Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
REMARK: Although some claims are directed to a method of treatment of the human or animal body the search has been carried out and based on the alleged effects of the compositions.

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 II Observations where unity of invention is lacking (Continuation of item 2 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 searches 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.

[ ] No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

Ir. ational Application No
PCT/US 93/08741

Patent document cited in search report	Publication date	Patent family member(s)		Publication date
WO-A-9304692	18-03-93	AU-A-	2564592	05-04-93
		AU-A-	3176293	27-04-93
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INTERNATIONAL SEARCH REPORT

information on patent family members

Inter al Application No
PCT/US 93/08741

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		WO-A- 9406420	31-03-94
		WO-A- 9410203	11-05-94