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(54) Title: ALBUMIN FUSION PROTEINS

(57) Abstract: The present invention encompasses albumin fusion proteins. Nucleic acid molecules encoding the albumin fusion proteins of the invention are also encompassed by the invention, as are vectors containing these nucleic acids, host cells transformed with these nucleic acids vectors, and methods of making the albumin fusion proteins of the invention and using these nucleic acids, vectors, and/or host cells. Additionally the present invention encompasses pharmaceutical compositions comprising albumin fusion proteins and methods of treating, preventing, or ameliorating diseases, disorders or conditions using albumin fusion proteins of the invention.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US02/31794

A. CLASSIFICATION OF SUBJECT MATTER
 IPC(7) : A01N 37/18; A61K 38/00
 US CL : 530/350, 362; 514/2
 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)
 U.S. : 530/350, 362; 514/2

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 practicable, search terms used)
 Please See Continuation Sheet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 6,210,901 B1 (SEIDEL et al.) 03 April 2001 (03.04.2001), column 2, lines 1-8).	1-12 ----- 13, 14, 17, 18, 20
X --- Y	US 6,121,231 A (PETIT et al.) 19 September 2000 (19.09.2000), column 16, lines 13-20 and 65-67; and column 17 lines 1-9.	1-14, 20 ----- 17-19
X, E	US 6,548,653 B1 (YOUNG et al.) 15 April 2003 (15.04.2003), column 1, lines 14-28; column 15, lines 9-22; claims 1- 20.	1-14, 17-20
X	US 5,216,131 A (LASKY et al.) 01 June 1993 (01.06.1993), column 7, lines 21-47; column 10, lines 57-60.	1-14 and 17-20
X,P	US 2001/0056075 A1 (GYURIS et al.) 27 December 2001 (27.12.2001), claim 1, 4, 15, 16, , 26; whole document.	1-12, 17-20

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	"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
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
"E" earlier application or patent published on or after the international filing date	"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
"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)	"&" document member of the same patent family
"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	

Date of the actual completion of the international search 03 September 2003 (03.09.2003)	Date of mailing of the international search report 15 OCT 2003
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703)305-3230	Authorized officer <i>Sheridan K. Shedden</i> Telephone No. (703) 308-0196

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/31794

Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claim Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. Claim 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. Claim 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:
Please See Continuation Sheet

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.: 1-21
- Remark on Protest**
- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1-21, drawn to an albumin fusion protein.

Group II, claim(s) 22-25, drawn to a method of treating a disease in a patient.

Group III, claim(s) 26, drawn to a method of extending a shelf-life of a therapeutic protein.

Group IV, claim(s) 27-29, drawn to a nucleic acid molecule comprising a polynucleotide encoding a albumin fusion protein, vector and host cell.

The inventions listed as Groups I-IV do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

PCT Rule 13.2 states that unity of invention referred to in Rule 13.1 shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features. Annex B, Part 1(b), indicates that "special technical features" means those technical features which as a whole define a contribution over the prior art. The inventions listed as Groups I-IV are directed to products and methods that share the common special technical feature of an albumin-therapeutic protein fusion protein. This common special technical feature is not a contribution over the prior art as it is taught by Seidel *et al.* (US Patent 6,210,901; see column 2, lines 1-9). Thus the invention of Groups I-IV lack unity of invention.

Continuation of B. FIELDS SEARCHED Item 3:

MEDLINE, SciSearch, BIOSIS, CAPLUS, EMBASE
Genebank/EMBL/DDBJ/GeneSeq, SwissProt/PIR/GeneSeq