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(54) Title: COMPOSITIONS AND METHODS FOR TREATING CANCER AND HYPERPROLIFERATIVE DISORDERS

(57) Abstract: Compositions and methods effective for eliciting an immune response for inhibiting abnormal or undesirable cell proliferation, particularly endothelial cell proliferation and angiogenesis related to neovascularization and tumor growth are provided. The compositions comprise a naturally occurring or synthetic protein, peptide, or protein fragment containing all or an active portion of a growth factor in a pharmaceutically acceptable carrier. The preferred growth factors comprise basic fibroblast growth factor and vascular endothelial growth factor. The methods involve administering to a human or animal the compositions described herein in a dosage sufficient to elicit an immune response. The methods are useful for treating diseases and processes mediated by undesired and uncontrolled cell proliferation, such as cancer, particularly where uncontrolled cell proliferation is influenced by the presence of growth factors. Administration of the composition to a human or animal having metastasized tumors is useful for preventing the growth or expansion of such tumors.

INTERNATIONAL SEARCH REPORT

Intern nal Application No
PCT/US 00/06320

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K39/00 A61P35/00 //C07K14/50,C07K14/52

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 7 A61K C07K

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)

EPO-Internal, BIOSIS, PAJ, WPI Data, MEDLINE, CHEM ABS Data, CANCERLIT, AIDSLINE, LIFESCIENCES, SCISEARCH

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 94 27635 A (ENTREMED INC) 8 December 1994 (1994-12-08) abstract page 1, line 13 - line 17 page 2, line 18 -page 3, line 7 page 5, line 5 - line 14 page 6, line 7 - line 22 page 8, line 30 -page 9, line 24; claims 1,2,4-14,16-25 --- -/--	1,4-11, 14-21, 23-27, 30-34, 37-41, 43,44,46

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

[X] Patent family members are listed in 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 document 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	Date of mailing of the international search report
1 November 2000	22. 11. 2000

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	Noë, V

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

INTERNATIONAL SEARCH REPORT

Interr ·nal Application No
PCT/US 00/06320

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication,where appropriate, of the relevant passages	Relevant to claim No.
X	PLUM S M ET AL: "Vaccination with peptide to the heparin binding domain of bFGF conjugated to liposomes inhibits bFGF induced neovascularization." March 1998 (1998-03) , PROCEEDINGS OF THE AMERICAN ASSOCIATION FOR CANCER RESEARCH ANNUAL, VOL. 39, PAGE(S) 8 , 89TH ANNUAL MEETING OF THE AMERICAN ASSOCIATION FOR CANCER RESEARCH;NEW ORLEANS, LOUISIANA, USA; MARCH 28-APRIL 1, 1998, MARCH, 1998 XP000929460 ISSN: 0197-016X abstract	1-10, 27-33, 41-43
X	JP 09 316000 A (TOAGOSEI CO LTD) 9 December 1997 (1997-12-09) paragraph '0015! paragraph '0017! paragraph '0025! - paragraph '0026! -& patent abstracts of japan vol. 1998, n° 04, 31 March 1998 (1998-03-31) XP002151611	1,11,16, 17,27, 34,39,40
A	EP 0 657 175 A (CENTRO IMMUNOLOGIA MOLECULAR) 14 June 1995 (1995-06-14) abstract	
X	TALARICO D ET AL: "PROTECTION OF MICE AGAINST TUMOR GROWTH BY IMMUNIZATION WITH AN ONCOGENE-ENCODED GROWTH FACTOR" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES, vol. 87, no. 11, 1990, pages 4222-4225, XP002143558 1990 ISSN: 0027-8424 the whole document	1,27
P,X	WO 99 45018 A (IMCLONE SYSTEMS INC ;FERRONE SOLDANO (US); HICKLIN DANIEL J (US);) 10 September 1999 (1999-09-10) page 1, line 11 - line 19 page 8, line 6 - line 9 page 12, line 1 - line 4 claims 1-6,9,10,23,29	1,4-7, 11, 14-17, 27, 30-34, 37-41, 43,44,46

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

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 00/06320

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:

Although claims 27-43 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

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:

see additional sheet

1. [X] 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.

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

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-10;21-33 (partially);41-43

   immunogenic composition comprising an immunogenic fragment of fibroblast growth factor and uses against cancer or hyperproliferative disorders.

2. Claims: 11-20;21-33(partially);34-40;44-46

   immunogenic composition comprising an immunogenic fragment of vascular endothelial growth factor and uses against cancer or hyperproliferative disorders.

INTERNATIONAL SEARCH REPORT

...ormation on patent family members

Interr...nal Application No
PCT/US 00/06320

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