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- (71) Applicant (for all designated States except US): GEN-VEC, INC. [US/US]; 65 West Watkins Mill Road, Gaithersburg, MD 20878 (US).
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(54) Title: REPLICATION DEFICIENT ADENOVIRAL TNF VECTOR

(57) Abstract: An adenoviral vector comprising (a) an adenoviral genome deficient in the E4 region of the adenoviral genome, (b) a nucleic acid sequence coding for TNF, and (c) a radiation inducible promoter operably linked to the nucleic acid sequence coding for TNF. This invention also provides an adenoviral vector comprising (a) an adenoviral genome deficient in the E4 region of the adenoviral genome, (b) a nucleic acid sequence coding for TNF, and (c) a spacer element of at least 15 base pairs in the E4 region of the adenoviral genome. A method of producing an adenoviral vector and a method of treating a tumor or cancer in a host comprising administering an anti-cancer or anti-tumor effective amount of the adenoviral vector of the present invention also is provided.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 01/20536

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 C12N15/861 C12N15/28 C07K14/525 C12N5/10 C12N7/01
 A61K48/00

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 C12N C07K 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)
 EPO-Internal, WPI Data, MEDLINE, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97 12623 A (ARCH DEV CORP ;DANA FARBER CANCER INST INC (US)) 10 April 1997 (1997-04-10)	1-9, 15, 18, 19, 36-39, 41
Y	page 3 -page 39	10-19, 26, 33, 40, 42
X	US 5 851 806 A (BRUDER JOSEPH T ET AL) 22 December 1998 (1998-12-22)	20-25, 27-32, 34-36
Y	example 2	10-19, 26, 33, 40, 42
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Further documents are listed in the continuation of box C.

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	*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
E earlier document but published on or after the international filing date	*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
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)	*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.
O document referring to an oral disclosure, use, exhibition or other means	* & * document member of the same patent family
P document published prior to the international filing date but later than the priority date claimed	

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Name and mailing address of the ISA 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	Authorized officer Schulz, R
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>WO 97 20051 A (GENVEC INC ; KOVESDI IMRE (US); BROUGH DOUGLAS E (US); WICKHAM THOM) 5 June 1997 (1997-06-05) page 7 -page 78; claims 3,8,9,13,33,34,40-44 -----</p>	17,33,42
A	<p>MAUCERI H J ET AL: "Radiation-inducible gene therapy" COMPTES RENDUS DES SEANCES DE L'ACADEMIE DES SCIENCES. SERIE III: SCIENCES DE LA VIE, ELSEVIER, AMSTERDAM, NL, vol. 322, no. 2-3, February 1999 (1999-02), pages 225-228, XP004270270 ISSN: 0764-4469 page 226, column 1, paragraph 3 -page 227, column 2, paragraph 2 -----</p>	1-42

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- 19 (complete), 36 - 38 (partial),
39 - 42 (complete)

Adenoviral vector comprising an adenoviral genome deficient in the E4 region of the adenoviral genome, a nucleic acid coding for TNF and a radiation inducible promoter operably linked to the nucleic acid coding for TNF;
a replication competent adenovirus-free stock of said adenoviral vector;
a host cell comprising said adenoviral vector;
use of said adenoviral vector for the manufacture of a medicament and
a method of producing said adenoviral vector.

2. Claims: 20 - 35 (complete), 36 - 38 (partial)

Adenoviral vector comprising an adenoviral genome deficient in the E4 region of the adenoviral genome, a nucleic acid coding for TNF and a spacer element of at least 15bp in the E4 region of the adenoviral genome;
a replication competent adenovirus-free stock of said adenoviral vector;
a host cell comprising said adenoviral vector and
use of said adenoviral vector for the manufacture of a medicament.

INTERNATIONAL SEARCH REPORT

Information on patent family members

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