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(74) Agents: STEFFEY, Charles, E. et al.; Schwegman, Lundberg, Woessner & Kluth, PA, P.O. Box 2938, Minneapolis, Minnesota 55402 (US).

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(71) Applicant (for all designated States except US): GOVERNMENT OF THE UNITED STATES OF AMERICA AS REPRESENTED BY THE SECRETARY OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES [US/US]; National Institute of Health, Office of Technology Transfer, 6011 Executive Blvd., Suite 325, Rockville, Maryland 20852-3804 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): ZOON, Kathryn [US/US]; 9709 Culver Street, Kensington, Maryland 20895 (US). HU, Renqiu [US/US]; 5021 Alta Vista Road, Bethesda, Maryland 20814 (US). BEKISZ, Joseph [US/US]; 4858 Battery Lane, Apt. 201, Bethesda, Maryland 20814 (US).

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: INTERFERON-ALPHA CONSTRUCTS FOR USE IN THE TREATMENT OF SARS

Sample	IC50	TC50	Units	SI	Start Conc (mg/ml)	Start Conc (μg/ml)	Stock Units	Plate	Dilution Box Conc	ul of stock drug to add to COL 1	IC50 Sign	Relative IC50 TC50 Sign	Relative TC50
Compound ID													
43 INF-alpha-n	1404.0 >	26000.0 U/ml >	18.5	1.3E+06	26000	U/ml	43	1E+05	12.0	=	5.40E-02	>	1.00E+00
44 INF-alpha-o	3680.0 >	80000.0 U/ml >	21.7	4.0E+06	80000	U/ml	44	3E+05	12.0	=	4.60E-02	>	1.00E+00
45 CM-1	240.0 >	320.0 U/ml >	1.3	16000	320	U/ml	45	1280	12.0	=	7.50E-01	>	1.00E+00
46 CM-2	100.0 >	4000.0 U/ml >	40.0	200000	4000	U/ml	46	16000	12.0	=	2.50E-02	>	1.00E+00
47 CM-3	296.0 >	1000.0 U/ml >	3.4	50000	1000	U/ml	47	4000	12.0	=	2.96E-01	>	1.00E+00
48 CM-4	162.0 >	2000.0 U/ml >	12.3	100000	2000	U/ml	48	8000	12.0	=	8.10E-02	>	1.00E+00
50 HY-1	184.0 >	800.0 U/ml >	4.3	40000	800	U/ml	50	3200	12.0	=	2.30E-01	>	1.00E+00
51 HY-2	83.5 >	500.0 U/ml >	6.0	25000	500	U/ml	51	2000	12.0	=	1.67E-01	>	1.00E+00
52 HY-4	448.0 =	740.0 U/ml =	1.7	100000	2000	U/ml	52	8000	12.0	=	2.24E-01	=	3.70E-01
53 HY-5	15.8 >	70.0 U/ml >	4.4	3500	70	U/ml	53	280	12.0	=	2.25E-01	>	1.00E+00
54 SDM-1	56.0 >	4000.0 U/ml >	71.4	200000	4000	U/ml	54	16000	12.0	=	1.40E-02	>	1.00E+00
55 SDM-2	8.0 >	4000.0 U/ml >	500.0	200000	4000	U/ml	55	16000	12.0	=	2.00E-03	>	1.00E+00
56 SDM-3	80.0 >	2000.0 U/ml >	25.0	100000	2000	U/ml	56	8000	12.0	=	4.00E-02	>	1.00E+00
57 SDM-4	55.0 >	1000.0 U/ml >	18.2	50000	1000	U/ml	57	4000	12.0	=	5.50E-02	>	1.00E+00

(57) Abstract: The invention relates to the production and use of novel interferon-alpha polypeptides for treating or preventing a SARS-associated coronaviral infection.

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2005/014800

A. CLASSIFICATION OF SUBJECT MATTER
INV. C07K14/56 A61K38/21 A61P31/14

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)
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, Sequence Search

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SCHMEISSER HANA ET AL: "Amino acid substitutions in loop BC and helix C affect antigenic properties of helix D in hybrid IFN-alpha21a/alpha2c molecules." JOURNAL OF INTERFERON & CYTOKINE RESEARCH : THE OFFICIAL JOURNAL OF THE INTERNATIONAL SOCIETY FOR INTERFERON AND CYTOKINE RESEARCH. APR 2002, vol. 22, no. 4, April 2002 (2002-04), pages 463-472, XP002383987 ISSN: 1079-9907	1-9
Y	the whole document ----- -/--	10-21



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 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

6 June 2006

Date of mailing of the international search report

19.10.2006

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

Smalt, Rolf

INTERNATIONAL SEARCH REPORT

International application No

PCT/US2005/014800

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	DATABASE WPI Section Ch, Week 200437 Derwent Publications Ltd., London, GB; Class B04, AN 2004-391111 XP002384022 -& CN 1 478 545 A (INST MICROBIOLOGY CHINESE ACAD SCI) 3 March 2004 (2004-03-03) the whole document -----	10-21
A	WO 00/06596 A (THE UNITED STATES OF AMERICA, REPRESENTED BY THE SECRETARY DEPARTMENT) 10 February 2000 (2000-02-10) the whole document -----	
A	WO 2004/022593 A (NAUTILUS BIOTECH; GANTIER, RENE; GUYON, THIERRY; VEGA, MANUEL; DRITTAN) 18 March 2004 (2004-03-18) * See SEQ.ID.62 * -----	
A	WO 2004/022747 A (NAUTILUS BIOTECH; GANTIER, RENE; GUYON, THIERRY; CRUZ RAMOS, HUGO; VEG) 18 March 2004 (2004-03-18) * See SEQ.ID.62 * -----	
P,A	WO 2005/034853 A (HUIYANGTECH , INC; WEI, GUANGWEN) 21 April 2005 (2005-04-21) the whole document -----	
P,A	WO 2004/108151 A (GENOME INSTITUTE OF SINGAPORE; TAN, EMILY LI CHUAN; STANTON, LAWRENCE) 16 December 2004 (2004-12-16) -----	

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2005/014800

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

Although claims 15-21 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 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:

see additional 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, all partially

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ 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:

Invention 1: claims 1-21, all partially

Interferon-alpha protein according to SEQ.ID.'s 11-14,
nucleic acid encoding it (e.g. SEQ.ID.'s 17-20),
pharmaceutcial compositions thereof, kits comprising it, and
their uses.

1.1. claims: 1-21, all partially

SEQ.IS.'s 11 & 17 ("CM-1").

1.2. claims: 1-21, all partially

SEQ.ID.'s 12 & 18 ("CM-2").

1.3. claims: 1-21, all partially

SEQ.ID.'s 13 & 19 ("CM-3").

1.4. claims: 1-21, all partially

SEQ.ID.'s 14 & 20 ("CM-4").

Inventions 2-11: claims 4-7,9-12,14-18,21 partially and 8,13 and 20
partially and as far as applicable

Pharmaceutical compositions and kits of interferon alpha
variants according to SEQ.ID.1-10, respectively, and their
uses.

For the sake of conciseness, the subject-matter of the first
invention was defined explicitly, and the further inventions
by analogy thereto.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2005/014800

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
CN 1478545	A	03-03-2004	NONE	
WO 0006596	A	10-02-2000	AU 4845699 A AU 4972299 A WO 0006735 A1	21-02-2000 21-02-2000 10-02-2000
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