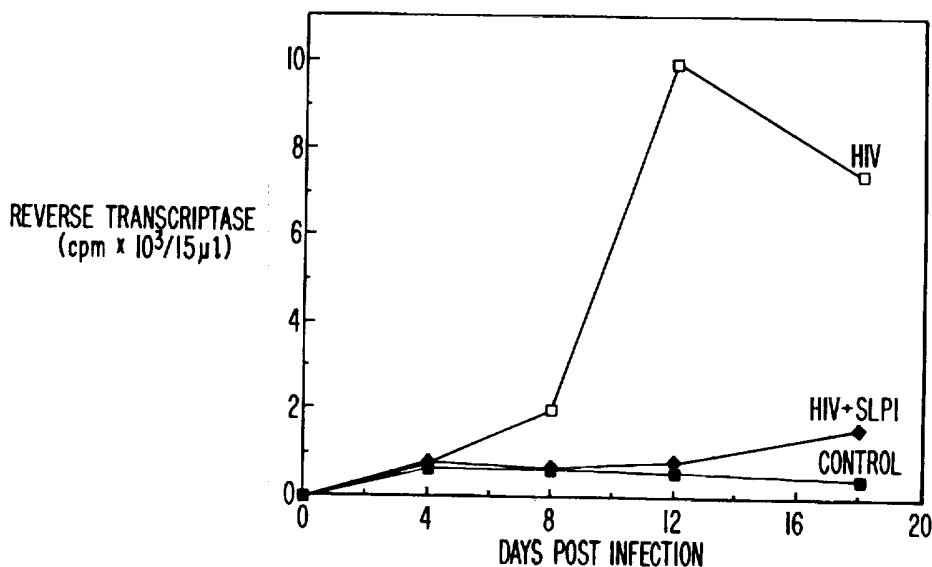




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification⁵ : C12N 15/15, A61K 37/64, C07K 13/00	A3	(11) International Publication Number: WO 94/06454 (43) International Publication Date: 31 March 1994 (31.03.94)
(21) International Application Number: PCT/US93/08486 (22) International Filing Date: 9 September 1993 (09.09.93) (30) Priority data: 07/943,369 9 September 1992 (09.09.92) US (60) Parent Application or Grant (63) Related by Continuation US 07/943,369 (CIP) Filed on 9 September 1992 (09.09.92) (71) Applicants (for all designated States except US): SYNERGEN, INC. [US/US]; 1885 33rd Street, Boulder, CO 80301 (US). THE UNITED STATES OF AMERICA [US/US]; Dept. of Health & Human Services, Office of Technology Transfer, Box OTT, Bethesda, MD 20892 (US).		(72) Inventors; and (75) Inventors/Applicants (for US only): EISENBERG, Stephen [US/US]; 5664 Pennsylvania Place, Boulder, CO 80303 (US). WAHL, Sharon, M. [US/US]; 17121 Longdraft Road, Gaithersburg, MD 20878 (US). THOMPSON, Robert, C. [GB/US]; 1820 Lehigh Street, Boulder, CO 80303 (US). (74) Agents: KOIVUNIEMI, Paul, K. et al.; Synergen, Inc., 1885 33rd Street, Boulder, CO 80301 (US). (81) Designated States: AT, AU, BB, BG, BR, BY, CA, CH, CZ, DE, DK, ES, FI, GB, HU, JP, KP, KR, KZ, LK, LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SK, UA, US, VN, European patent (AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 18 August 1994 (18.08.94)

(54) Title: INHIBITION OF RETROVIRUS INFECTION



(57) Abstract

Methods and pharmaceutical compositions are provided to prevent retroviral infections of host cells. More particularly, the invention relates to prevention of HIV infection of human cells by serine leukocyte protease inhibitor (SLPI).

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INTERNATIONAL SEARCH REPORT

Int. Application No

PCT/US 93/08486

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 5 C12N15/15 A61K37/64 C07K13/00

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 5 C07K C12N 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.
X	NUCLEIC ACIDS RESEARCH. vol. 14, no. 20, 1986, ARLINGTON, VIRGINIA US pages 7883 - 7896 G. STETLER ET AL. 'Isolation and sequence of a human gene encoding a potent inhibitor of leukocyte proteases' see the whole document especially figures 4 and 6 ---	20,21, 26,27, 29,30
X	EP,A,0 346 500 (TEIJIN LIMITED) 20 December 1989 see the whole document ---	20,21, 26,27, 29,30
X	WO,A,91 02540 (CETUS CORPORATION) 7 March 1991	11,12
Y	see the whole document ---	1-10
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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- "&" document member of the same patent family

Date of the actual completion of the international search

5 July 1994

Date of mailing of the international search report

14. 07. 94

Name and mailing address of the ISA

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 Fax (+31-70) 340-3016

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Van der Schaal, C

INTERNATIONAL SEARCH REPORT

Int: onal Application No

PCT/US 93/08486

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	TRENDS IN PHARMACEUTICAL SCIENCES vol. 10, no. 8 , 1989 pages 305 - 307 M. JOHNSTON ET AL 'HIV proteinase as a target for drug action' see the whole document ---	11,12
X	FEBS LETTERS. vol. 247, no. 1 , April 1989 , AMSTERDAM NL pages 113 - 117 A. RICHARDS ET AL 'Effective blocking of HIV-1 proteinase activity by characteristic inhibitors of aspartic proteinases' see the whole document ---	11,12
Y	see the whole document ---	1-10
X	EP,A,0 384 559 (TAISHO PHARMACEUTICAL CO) 29 August 1990 see the whole document ---	11,12
Y	see the whole document ---	1-10
X	PATENT ABSTRACTS OF JAPAN vol. 14, no. 390 (C-751)(4333) 23 August 1990 & JP,A,02 145 527 (NIPPON CHEM RES K.K.) 5 June 1990 see abstract ---	11,12
Y	see the whole document ---	1-10
X	WO,A,91 08769 (TRANSGENE S.A.) 27 June 1991 see the whole document ---	11,12
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P,X	JOURNAL OF BIOLOGICAL CHEMISTRY. vol. 268, no. 20 , 15 July 1993 , BALTIMORE US pages 14583 - 14585 W. LU ET AL 'Arg15-lys17-arg18 turkey ovomucoid third domain inhibits human furin' see the whole document ---	11,12
Y	see the whole document ---	1-10
P,X	FEBS LETTERS. vol. 317, no. 1,2 , February 1993 , AMSTERDAM NL pages 167 - 172 L-E AVRIL ET AL 'Interaction between a membrane-associated serine proteinase of U-937 monocytes and peptides from the V3 loop of the human immunodeficiency virus type 1 (HIV-1) gp120 envelope glycoprotein' see the whole document especially table II ---	11,12
Y	see the whole document especially table II ---	1-10
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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 93/08486

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	NATURE. vol. 360 , 26 November 1992 , LONDON GB pages 358 - 361 S. HALLENBERGER ET AL 'Inhibition of furin-mediated cleavage activation of HIV-1 glycoprotein'	11,12
Y	see the whole document ---	1-10
P,X	WO,A,92 21373 (LOGOTHETOU-RELLA) 10 December 1992	11,12
Y	see the whole document -----	1-10

INTERNATIONAL SEARCH REPORT

I national application No.

PCT/US 93/08486

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. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
Remark : Although claims 1-19 are directed to a method of treatment of the human/animal body (Rule 39.1(iv)PCT) 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:

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.:

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

International Application No

PCT/US 93/08486

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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