

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
5 June 2003 (05.06.2003)

PCT

(10) International Publication Number
WO 03/045414 A3

(51) International Patent Classification⁷: **A61K 35/80**,
31/716, A61P 31/04, 31/10, 31/12, 37/04, 35/00

(21) International Application Number: PCT/EP02/13512

(22) International Filing Date:
29 November 2002 (29.11.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
09/999,202 30 November 2001 (30.11.2001) US

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(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(88) Date of publication of the international search report:
16 October 2003

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: USE OF LAMINARIN IN THE TREATMENT OF CANCER AS WELL AS BACTERIAL, VIRAL AND FUNGAL INFECTIONS

(57) Abstract: Therapeutical method comprising administration to a patient of an effective amount of especially soluble laminarin for the treatment of tumors and more generally of cancers of the group comprising breast cancer, lung cancer, oesophagus cancer, stomach cancer, intestine and colon cancers, and for the treatment of viral, bacterial and fungal diseases as well as diseases related to immunostimulant deficiencies of human beings and warm-blood animals.



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INTERNATIONAL SEARCH REPORT

International Application No
PCT/EP 02/13512

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K35/80 A61K31/716 A61P31/04 A61P31/10 A61P31/12
A61P37/04 A61P35/00

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 A61K A61P

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, PAJ, EMBASE, MEDLINE, BIOSIS, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 95 24907 A (WHALLEY KEVIN ;HADASIT MED RES SERVICE (IL); MIAO HUA QUAN (IL); V) 21 September 1995 (1995-09-21) claim 7	1-8
X	--- PAPER D H: "Natural products as angiogenesis inhibitors" PLANTA MEDICA, THIEME, STUTTGART, DE, vol. 64, no. 8, December 1998 (1998-12), pages 686-695, XP002176352 ISSN: 0032-0943 page 692, left-hand column, line 6-22 --- -/--	1-8

☒ 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
"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

7 March 2003

Date of mailing of the international search report

06.06.03

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 02/13512

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:
see FURTHER INFORMATION sheet PCT/ISA/210
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:
see FURTHER INFORMATION sheet PCT/ISA/210
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. ☐ 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.:
1-8 (partly)

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

Continuation of Box I.1

Although claims 1-8 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.

Continuation of Box I.1

Rule 39.1(iv) PCT - Method for treatment of the human or animal body by therapy

Continuation of Box I.2

The wording "especially soluble laminarin" is considered unclear, since the skilled person has no way of knowing which laminarines falls under this definition. This makes it impossible to perform a specific and complete search on the subject-matter of the present claims. The search has been performed based on laminarines in general.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. Claims: 1-8 (partly)

The use of especially soluble laminarin for the treatment of tumors and cancers

2. Claims: 1-8 (partly)

The use of especially soluble laminarin for the treatment of viral diseases

3. Claims: 1-8 (partly)

The use of especially soluble laminarin for the treatment of bacterial diseases

4. Claims: 1-8 (partly)

The use of especially soluble laminarin for the treatment of fungal diseases

5. Claims: 1-8 (partly)

The use of especially soluble laminarin for the treatment of disease related to immunostimulant deficiencies

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 02/13512

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	MIAO H-Q ET AL: "LAMINARIN SULFATE MIMICS THE EFFECT OF HEPARIN ON SMOOTH MUSCLE CELL PROLIFERATION AND BASIC FIBROBLAST GROWTH FACTOR-RECEPTOR BINDING AND MITOGENIC ACTIVITY" JOURNAL OF CELLULAR PHYSIOLOGY, NEW YORK, NY, US, vol. 164, no. 3, September 1995 (1995-09), pages 482-490, XP001053341 ISSN: 0021-9541 abstract ---	1-8
P,X	DATABASE WPI Section Ch, Week 200237 Derwent Publications Ltd., London, GB; Class B04, AN 2002-333572 XP002233856 & JP 2002 012552 A (HIMENO K), 15 January 2002 (2002-01-15) abstract ---	1-8
P,A	WO 02 36132 A (ALBAN SUSANNE ;FRANZ GERHARD (DE); GOEMAR LAB SA (FR); YVIN JEAN C) 10 May 2002 (2002-05-10) claims -----	1-8

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 02/13512

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 9524907	A	21-09-1995	AU 1856795 A WO 9524907 A2	03-10-1995 21-09-1995
JP 2002012552	A	15-01-2002	NONE	
WO 0236132	A	10-05-2002	FR 2816213 A1 AU 2373102 A WO 0236132 A1	10-05-2002 15-05-2002 10-05-2002