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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.

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(54) Title: ANTIMICROBIAL PEPTIDES

(57) Abstract: A method is described for treating a microbial infection with a peptide whose amino acid sequence has a formula selected from the group consisting of: (a) B_{n1}-Z; (b) B_{n1}-Z-B_{n2}; and (c) Z-B_{n1} wherein B is a basic amino acid residue; n1 and n2 are 1 to 6; and Z is a sequence of about 11 to about 24 amino acid residues, the sequence having an average hydrophobicity value of at least 0.3, and preferably at least 0.4. These peptides show antimicrobial activity against microorganisms including both Gram-positive and Gram-negative bacteria.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/CA 02/00936

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K38/16 A61K38/10 C07K7/08 C07K14/00 A61P31/04

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 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)
BIOSIS, EMBASE, SEQUENCE SEARCH, WPI Data, PAJ, EPO-Internal

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 18826 A (UNIV CALIFORNIA ;INTRABIOTICS PHARMACEUTICALS I (US)) 29 May 1997 (1997-05-29) claim 23 ---	1-7,13, 15-22, 26-33, 39,41-47
X	US 6 043 220 A (RADEL PEGGY A ET AL) 28 March 2000 (2000-03-28) SEQ ID N°2,3,5,6,8 claim 20 ---	1-7,13, 15-22, 26-33, 39,41-47
X	WO 98 07745 A (KRIEGER TIMOTHY J ;ERFLE DOUGLAS (CA); TAYLOR ROBERT (CA); FRASER) 26 February 1998 (1998-02-26)	1-7, 15-22, 26-33, 39,41-47
Y	claims 1-14,30 --- -/--	1-48

[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
6 February 2003	13/02/2003

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	Didelon, F

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

INTERNATIONAL SEARCH REPORT

International Application No
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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	LIU LI-PING ET AL: "Threshold hydrophobicity dictates helical conformations of peptides in membrane environments." BIOPOLYMERS, vol. 39, no. 3, 1996, pages 465-470, XP009004885 ISSN: 0006-3525 the whole document	1-48
A	WO 99 65506 A (KRIEGER TIMOTHY J ;ERFLE DOUGLAS (CA); TAYLOR ROBERT (CA); FRASER) 23 December 1999 (1999-12-23) page 14, line 15	1-48
A	HANCOCK R E W ET AL: "Cationic peptides: a new source of antibiotics" TRENDS IN BIOTECHNOLOGY, ELSEVIER PUBLICATIONS, CAMBRIDGE, GB, vol. 16, no. 2, 1 February 1998 (1998-02-01), pages 82-88, XP004107047 ISSN: 0167-7799 the whole document	1-48
T	STARK MARGARETA ET AL: "Cationic hydrophobic peptides with antimicrobial activity." ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, vol. 46, no. 11, November 2002 (2002-11), pages 3585-3590, XP009004888 November, 2002 ISSN: 0066-4804 the whole document	1-48

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Present claims 1-7, 22, 26-33 relate to an extremely large number of possible compounds to be used. Support within the meaning of Article 6 PCT and disclosure within the meaning of Article 5 PCT is to be found, however, for only a very small proportion of the compounds claimed. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claims which appear to be supported and disclosed, namely those parts relating to the compounds cited in claims 8-14, 48 and in the examples.

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.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA 02/00936

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 26-47 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. [X] 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:

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

'ormation on patent family members

International Application No
PCT/CA 02/00936

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