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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: MUC7D1 PEPTIDES AS ANTIFUNGAL AND ANTIBACTERIAL AGENTS

(57) Abstract: The present invention discloses peptides obtained from the MUCD1 domain of the saliva mucin glycoprotein MUC7. The peptides are between 8 and 20 amino acids in length and have a net positive charge. The peptides are obtained from the C-terminus of the MUC7D1 protein. These peptides are useful as antifungal and antibacterial agents. A method of using these peptides as antifungal and antibacterial agents is also disclosed.



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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/27090

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61K 38/00

US CL : 514/12

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)

U.S. : 514/12, 11, 14; 435/7.1, 69.1, 29, 183; 424/550; 530/350

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 practicable, search terms used)
Please See Continuation Sheet**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	REDDY et al. Structural features of the low-molecular-mass human salivary mucin. Biochem. J. 1992, Vol. 287, pages 639-643. See entire document (MUC7D1 sequence and intrinsically "at least 4 positively charged amino acids"); page 639, lines 5-6, column 1 (bacteria inhibition; i.e. methods of use for), see also attached database.	1-7, 9-17, 19-20
Y	SATYANARAYANA et al. Divergent solid-phase synthesis and candidacidal activity of MUC7 D1, a 51-residue histidine-rich N-terminal domain of human salivary mucin (MUC 7). J. Peptide Res. 2000, Vol. 56, pages 275-282. See Table 1 and page 282, reference 47 (MUC7D1 fragments); Abstract and page 281 (antifungal; peptide charge, i.e. positive), and ACS Registry attached.	1-7, 9-17, 19-20

☐ 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 application or patent 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

26 May 2003 (26.05.2003)

Date of mailing of the international search report

11 JUN 2003

Name and mailing address of the ISA/US

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INTERNATIONAL SEARCH REPORT

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Continuation of Item 4 of the first sheet:

PCT Rule 4.3 requires that the title be "precise". As the class of "Antifungal and Antibacterial Agents" is so broad, it is unclear what type of such agents Applicant's invention is drawn to based on the title. The following title, based on language from the abstract, is suggested:

"MUC7D1 Peptides as Antifungal and Antibacterial Agents"

Continuation of B. FIELDS SEARCHED Item 3:

Internal peptide sequence database (8 SEQ ID NO:'s 2, 4-9, 13); EAST (Internal-Patent/Pub's; Terms, Inventor); PALM (Internal-Inventor); Medline (Terms); PLUS (Internal; Inventor).

INTERNATIONAL SEARCH REPORT

International application No.

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Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claim Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claim Nos.: 8 and 18
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. ☐ Claim 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.