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(54) Title: MEDICAL DEVICES AND COATINGS WITH NON-LEACHING ANTIMICROBIAL PEPTIDES

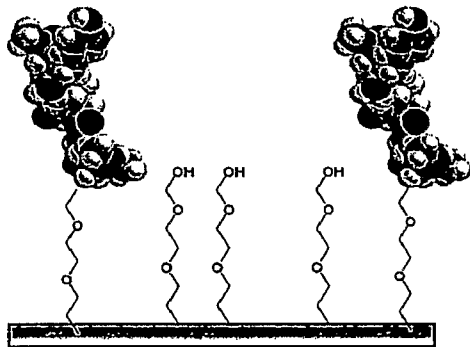


Figure 2

(57) Abstract: Antimicrobial peptides enable an alternate approach to developing antimicrobial coatings due to their targeting of the membranes of the bacteria. High specific activity is achieved by orienting the peptides so that the antimicrobial ends of the peptides maximally contact the bacteria. In one embodiment, one end of the peptide is covalently attached directly to the substrate. In another embodiment, the peptides are immobilized on the substrate using a coupling agent or tether. Non-covalent methods include coating the peptide onto the substrate or physiochemically immobilizing the peptides on the substrate using highly specific interactions, such as the biotin/avidin or streptavidin system. The compositions are substantially non-leaching, antifouling, and non-hemolytic. The immobilized peptides retain sufficient flexibility and mobility to interact with and be endocytosed by the bacteria, viruses, and/or fungi upon exposure. Immobilizing the peptides to the substrate reduces concerns regarding toxicity of the peptides and the development of antimicrobial resistance, while presenting substantially all of the peptide

at the site of action at the surface of the substrate.

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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/004394

A. CLASSIFICATION OF SUBJECT MATTER
INV. A61L27/54 A61L29/16

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)
A01N

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2004/126409 A1 (WILLCOX MARK [AU] ET AL) 1 July 2004 (2004-07-01) claims 1,4,28-30	1-4,6-11
X	WO 03/000433 A (ACCELR8 TECHNOLOGY CORP [US]) 3 January 2003 (2003-01-03) page 22, line 31 - page 23, line 5; claims 1-10	1-49
A	US 5 258 041 A (GUIRE PATRICK [US] ET AL) 2 November 1993 (1993-11-02) claims 1-15	1-49
A	US 6 316 015 B1 (RONDELEZ FRANCIS [FR] ET AL) 13 November 2001 (2001-11-13) claims 1-6	1-49
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Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents :

<p>*A* document defining the general state of the art which is not considered to be of particular relevance</p> <p>*E* earlier document but published on or after the international filing date</p> <p>*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)</p> <p>*O* document referring to an oral disclosure, use, exhibition or other means</p> <p>*P* document published prior to the international filing date but later than the priority date claimed</p>	<p>*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</p> <p>*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</p> <p>*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.</p> <p>*&* document member of the same patent family</p>
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Date of the actual completion of the international search <p style="text-align: center;">14 July 2008</p>	Date of mailing of the international search report <p style="text-align: center;">23/07/2008</p>
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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 <p style="text-align: center;">Schneider, Aurore</p>
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INTERNATIONAL SEARCH REPORT

International application No
PCT/US2007/004394

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FR 2 619 990 A (GLAVERBEL [BE]) 10 March 1989 (1989-03-10) claims 1-12 -----	1,46

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2007/004394

Box No. 1 Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:

a. type of material

a sequence listing

table(s) related to the sequence listing

b. format of material

on paper

in electronic form

c. time of filing/furnishing

contained in the international application as filed

filed together with the international application in electronic form

furnished subsequently to this Authority for the purpose of search

2. In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

3. Additional comments:

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2007/004394

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