

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
27 February 2003 (27.02.2003)

PCT

(10) International Publication Number
WO 2003/015809 A3

(51) International Patent Classification⁷: A61K 38/10,
A61P 31/04

CA 91016 (US). MCNICOL, Patricia, J. [CA/CA]; 409 -
3333 West 4th Avenue, Vancouver, British Columbia V6R
1N6 (CA). FRASER, Janet, R. [GB/CA]; 7660 Heather
Street, Vancouver, British Columbia V6P 3R1 (CA).

(21) International Application Number:
PCT/US2002/026525

(22) International Filing Date: 21 August 2002 (21.08.2002)

(74) Agents: PEPE, Jeffrey, C. et al.; Seed Intellectual Prop-
erty Law Group PLLC, Suite 6300, 701 Fifth Avenue, Seat-
tle, WA 98104-7092 (US).

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/314,232 21 August 2001 (21.08.2001) US
10/225,087 20 August 2002 (20.08.2002) US

(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, SD, SE, SG,
SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VC, VN, YU, ZA, ZM, ZW.

(71) Applicant (for all designated States except US): MI-
CROLOGIX BIOTECH INC. [CA/CA]; 3650 Wesbrook
Mall, Vancouver, British Columbia V6S 2L2 (CA).

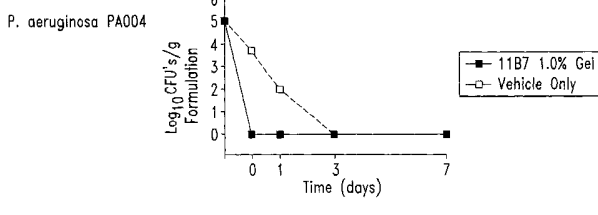
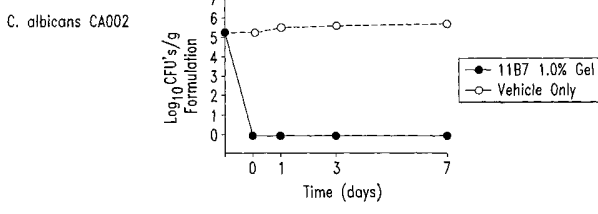
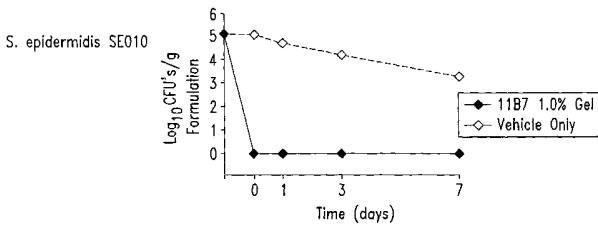
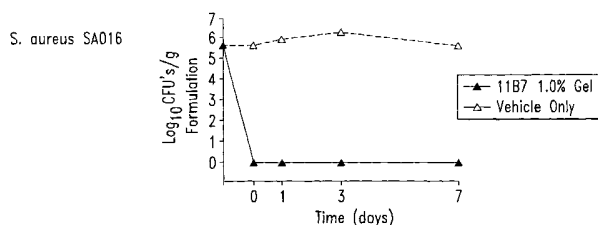
(72) Inventors; and

(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),

(75) Inventors/Applicants (for US only): KRIEGER, Timo-
thy, J. [US/US]; 121C South Madison Avenue, Monrovia,

[Continued on next page]

(54) Title: ANTIMICROBIAL CATIONIC PEPTIDES AND FORMULATIONS THEREOF



(57) Abstract: Compositions and methods for making and using therapeutic formulations of antimicrobial cationic peptides are provided. The antimicrobial cationic peptide formulations may be used, for example, in the treatment of microorganism-caused infections, which infections may be systemic, such as a septicemia, or may be localized, such as in acne or an implanted or indwelling medical device.

WO 2003/015809 A3



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).

(88) Date of publication of the international search report:
18 March 2004

Published:

— *with international search report*

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.

INTERNATIONAL SEARCH REPORT

Inte: Application No
PCT/US 02/26525

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 A61K38/10 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		
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, EMBASE, BIOSIS, 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 6 180 604 B1 (KRIEGER TIMOTHY J ET AL) 30 January 2001 (2001-01-30) column 3, line 45 -column 4, line 57 column 22, line 1 -column 23, line 23; table 2 column 7, line 35 - line 39 --- -/--	1-49, 55-100, 106-139, 145-164, 175-192
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C.		
<input checked="" type="checkbox"/> 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 <p style="text-align: center; font-weight: bold;">14 March 2003</p>	Date of mailing of the international search report <p style="text-align: center; font-weight: bold;">21/03/2003</p>	
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; font-weight: bold;">Escolar Blasco, P</p>	

INTERNATIONAL SEARCH REPORT

Intern	Application No
PCT/US	02/26525

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>HANCOCK R E W: "CATIONIC ANTIMICROBIAL PEPTIDES: TOWARDS CLINICAL APPLICATIONS" EXPERT OPINION ON INVESTIGATIONAL DRUGS, ASHLEY PUBLICATIONS LTD., LONDON, GB, vol. 9/8, August 2000 (2000-08), pages 1723-1729, XP001028272 ISSN: 1354-3784 page 1726, right-hand column, paragraph 2 -page 1727, left-hand column, paragraph 3 ---</p>	<p>1-46, 55-97, 106-136, 145-161, 175-192</p>
X	<p>HANCOCK R E: "Peptide antibiotics" LANCET THE, LANCET LIMITED. LONDON, GB, vol. 349, no. 9049, 8 February 1997 (1997-02-08), pages 418-422, XP004246070 ISSN: 0140-6736 page 421, left-hand column, paragraph 2 -page 422, left-hand column, paragraph 2; table 2 ---</p>	<p>1-46, 55-97, 106-136, 145-161, 175-192</p>
X	<p>WO 99 65506 A (KRIEGER TIMOTHY J ;ERFLE DOUGLAS (CA); TAYLOR ROBERT (CA); FRASER) 23 December 1999 (1999-12-23) page 2, line 16 - line 29 page 14, line 11 -page 16, line 23; table 1 -----</p>	<p>1-50, 55-101, 106-140, 145-165</p>

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 02/26525

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:

Although claims 175-192 are directed to a method of treatment of the human body, the search has been carried out and based on the alleged effects of the 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

Inte	pplication No
PCT/US	02/26525

Patent document cited in search report	Publication date	Patent family member(s)	Publication date	
US 6180604	B1	30-01-2001	AU 6604798 A	29-09-1998
			WO 9840401 A2	17-09-1998
			EP 0966481 A2	29-12-1999
			JP 2002544759 T	24-12-2002
			US 2002035061 A1	21-03-2002
			AT 218579 T	15-06-2002
			AU 4327997 A	06-03-1998
			DE 69713112 D1	11-07-2002
			DE 69713112 T2	30-01-2003
			EP 1174439 A2	23-01-2002
			EP 0925308 A2	30-06-1999
			ES 2178000 T3	16-12-2002
			JP 2001500477 T	16-01-2001
			WO 9807745 A2	26-02-1998
WO 9965506	A	23-12-1999	AU 2605099 A	15-09-1999
			AU 4253799 A	05-01-2000
			WO 9943357 A1	02-09-1999
			WO 9965506 A2	23-12-1999