(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
29 January 2009 (29.01.2009)

PCT

(10) International Publication Number
WO 2009/015385 A1

(51) International Patent Classification:
A61K 38/00 (2006.01) *A61K 38/04* (2006.01)

(21) International Application Number:
PCT/US2008/071350

(22) International Filing Date: 28 July 2008 (28.07.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/952,059 26 July 2007 (26.07.2007) US

(71) Applicant *(for all designated States except US)*: **REVANCE THERAPEUTICS, INC.** [US/US]; 2400 Bayshore Parkway, Suite 100, Mountain View, CA 94043 (US).

(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: **STONE, Hongran Fan** [US/US]; c/o REVANCE THERAPEUTICS, INC., 2400 Bayshore Parkway, Suite 100, Mountain View, CA 94043 (US).

(74) Agents: **HAYMAN, Mark** et al.; COOLEY GODWARD KRONISH LLP, 777 6th Street, N.W., Suite 1100, Washington, DC 20001 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:
— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*
— *with sequence listing part of description published separately in electronic form and available upon request from the International Bureau*

WO 2009/015385 A1

(54) **Title:** ANTIMICROBIAL PEPTIDE, COMPOSITIONS , AND METHODS OF USE

(57) **Abstract:** The present invention provides antimicrobial peptides that exhibit a broad range of antimicrobial activity to gram positive and gram negative bacteria, as well as fungi, mold, and virus. The antimicrobial peptide of the invention is a cationic peptide, and may contain an HIV-TAT or reverse HIV-TAT sequence, or derivative thereof. The present invention further provides antimicrobial compositions containing the cationic peptide. Such compositions are especially useful for topical application to the skin, hair, nail, vagina, urethra, ear, oral cavity, nasal passage, respiratory system, opthalmic region, and various mucosal regions. The compositions of the present invention improve the condition and/or appearance of the treated region, and are suited for long-term and/or routine use to, for example, prevent or prevent the recurrence of microbial infection. The present invention further provides kits for use in improving the condition or appearance of skin, nail, or treated area. These kits may facilitate ease of use, long-term storage, and/or efficacy of the compositions.