

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
1 February 2007 (01.02.2007)

PCT

(10) International Publication Number
WO 2007/014254 A3

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

(21) International Application Number:
PCT/US2006/028997

(22) International Filing Date: 26 July 2006 (26.07.2006)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/702,277 26 July 2005 (26.07.2005) US

(71) Applicant (for all designated States except US): **REGENERX BIOPHARMACEUTICALS, INC.** [US/US]; 3 Bethesda Metro Center, Suite 630, Bethesda, MD 20814 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SPURNEY, Christopher, F.** [US/US]; Children's National Medical Center, 111 Michigan Avenue, NW, Washington, DC 20010 (US). **GOLDSTEIN, Allan, L.** [US/US]; 800 25th Street, NW, Apt. 1005, Washington, DC 20037 (US).

(74) Agents: **REPPER, George, R.** et al.; Rothwell, Figg, Ernst & Manbeck, 1425 K Street, NW, Suite 800, Washington, DC 20005 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, 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, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— of inventorship (Rule 4.17(iv))

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

(88) Date of publication of the international search report:
12 July 2007

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: METHOD OF TREATING OR PREVENTING TISSUE DETERIORATION, INJURY OR DAMAGE DUE TO HYPERTROPHIC MUSCLE DISEASE

(57) Abstract: A method of treatment for treating, preventing, inhibiting or reducing tissue deterioration, injury or damage due to a hypertrophic muscle disease, or for restoring tissue adversely affected by said disease, in a subject, includes administering to a subject in need of such treatment an effective amount of a composition including a peptide agent including amino acid sequence LKKTET or LKKTNT, a conservative variant thereof, or a peptide agent that stimulates production of an LKKTET or LKKTNT peptide, or a conservative variant thereof, in the tissue.



WO 2007/014254 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 06/28997

A. CLASSIFICATION OF SUBJECT MATTER IPC(8)- A61K 38/00 (2007.01) USPC- 514/17 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(8) A61K 38/00 (2007.01) USPC 517/17 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched PGPB,USPT,USOC,EPAB,JPAB; keywords: Thymosin beta 4 and muscle and disease and peptide and (treatment or therapy or drug or administered) and (LKKTMET or KLKKTET or LKKTETQ or LKKTNT) Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) Pubmed: Keywords: angiogenesis thymosin		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X -- Y	US 20040258680 A1 (GOLDSTEIN et al.), 23 December 2004 (23.12.2004), entire patent	1-12 --- 13-14
Y	PHILP, D. et al. The actin binding site on thymosin beta4 promotes angiogenesis. FASEB J. 18 September 2003, (18.09.2003) Vol. 17, No. 14, pages 2103-2105, para 10.	13-14
☐ Further documents are listed in the continuation of Box C. ☐		
* 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 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 9 March 2007 (09.03.2007)		Date of mailing of the international search report 17 MAY 2007
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201		Authorized officer: Lee W. Young PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774