



- (51) **International Patent Classification:**
A61K 31/09 (2006.01) *A61K 31/12* (2006.01)
- (21) **International Application Number:**
PCT/US2013/039105
- (22) **International Filing Date:**
1 May 2013 (01.05.2013)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
61/640,903 1 May 2012 (01.05.2012) US
13/874,220 30 April 2013 (30.04.2013) US
- (71) **Applicant:** CHROMADDEX INC. [US/US]; 10005 Muirlands Blvd., Suite G, Irvine, CA 92618 (US).
- (72) **Inventor:** BARTOS, Jeremy; 3719 Bennington Court, Carlsbad, CA 92010 (US).
- (74) **Agents:** CARRERA, George, M. et al.; Amin Talati, LLC, 55 West Monroe Street, Suite 3400, Chicago, IL 60603 (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, BN, BR, BW, BY,

BZ, CA, CH, CL, 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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, 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, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

- (88) **Date of publication of the international search report:**
26 February 2015

(54) **Title:** PTEROSTILBENE AND CURCUMIN COMBINATION FOR TREATMENT OF OXIDATIVE STRESS AND INFLAMMATION

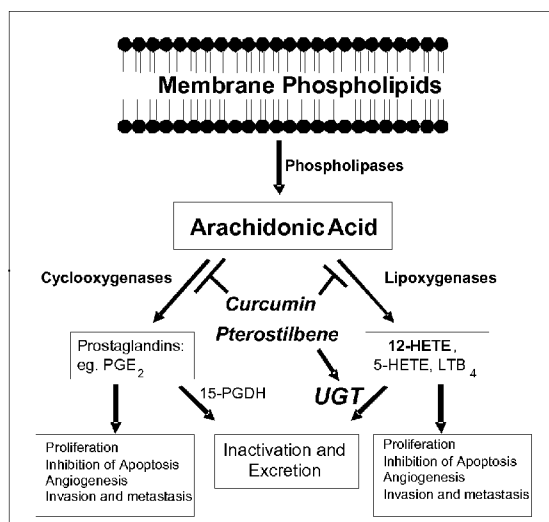


FIG. 1

(57) **Abstract:** A pharmaceutical composition is provided comprising a therapeutically effective amount of pterostilbene, a therapeutically effective amount of curcumin, and a pharmaceutically acceptable carrier. The embodiments of the pharmaceutical compositions can have lipid lowering properties, or alternatively can have properties that can treat oxidative stress, by decreasing inflammation or inflammatory processes contributing to digestive disorders or cancer. A method of treating an individual for an inflammatory disorder is provided, comprising administering to the individual in need of such treatment a pharmaceutical composition including a therapeutically effective amount of pterostilbene, a therapeutically effective amount of a curcumin, and a pharmaceutically acceptable carrier. The combination containing pterostilbene and curcumin is effective for treatment or prevention of oxidative stress, treatment of digestive disorders including inflammatory bowel disease, and/or to reduce or inhibit inflammation, in both animals and in humans.

INTERNATIONAL SEARCH REPORT

013/039105 08.12.2014

International application No.

PCT/US13/39105

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61K 31/09, 31/12 (2014.01)

CPC - A61K 31/09, 31/12

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)

IPC(8): A61F 6/18; A61K 31/01, 31/05, 31/09, 31/12, 31/122 (2014.01)

CPC: A61K 31/01, 31/05, 31/09, 31/12; USPC: 424/422, 430; 514/679

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)

MicroPatent (US-Granted, US-Applications, EP-A, EP-B, WO, JP, DE-G, DE-A, DE-T, DE-U, GB-A, FR-A); ProQuest; IP.com; Google; Google Scholar; pterostilbene, curcumin, composition, human, horse

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 2009/0274746 A1 (GUPTA, RC et al.) November 05, 2009; paragraphs [0013], [0014], [0078], [0081], [0087], [0092], [0093], [0133], [0142]; column 7, Table 1	1, 4, 6, 10, 11, 13, 14, 16 ----- 2, 3, 5, 7-9, 12, 15, 17-20
Y	US 2009/0163580 A1 (YATCILLA, MT et al.) June 25, 2009; paragraphs [0023], [0024], [0027]	2, 3, 5, 7, 8, 12, 15, 19
Y	WO 2012/024405 A2 (LIU, Z et al.) February 23, 2012; abstract; paragraphs [0027], [0095], [00130], [00113]	2, 5, 7, 8, 12, 15, 17-20
Y	US 2011/0307022 A1 (KUMANO, K et al.) December 15, 2011; paragraphs [0047], [0048], [0075], [0077]	20
Y — A	REMSBERG, C et al. Pharmacometrics Of Pterostilbene: Preclinical Pharmacokinetics And Metabolism, Anticancer, Antiinflammatory, Antioxidant And Analgesic Activity. Phytother. Res. 29 August 2007, Vol. 22; pages 169-179; page 169, column 1, paragraph 1; page 178; column 2, paragraph 1. DOI: 10.1002/ptr.2277.	9 ----- 1-8, 10-20



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

31 October 2014 (31.10.2014)

Date of mailing of the international search report

08 DEC 2014

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:

Shane Thomas

PCT Helpdesk: 571-272-4300

PCT OSP: 571-272-7774