

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
11 November 2010 (11.11.2010)

(10) International Publication Number  
**WO 2010/129343 A3**

(51) International Patent Classification:

A61K 36/342 (2006.01) A61K 36/29 (2006.01)  
A61K 36/484 (2006.01) A61P 3/04 (2006.01)  
A61K 36/59 (2006.01) A61P 3/00 (2006.01)

(21) International Application Number:

PCT/US2010/032785

(22) International Filing Date:

28 April 2010 (28.04.2010)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/173,553 28 April 2009 (28.04.2009) US  
61/309,341 1 March 2010 (01.03.2010) US

(71) Applicant (for all designated States except US): **BIONOVO, INC.** [US/US]; 5858 Horton Street, Suite 400, Emeryville, California 94608 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **COHEN, Isaac** [US/US]; 361 LaSalle Avenue, Piedmont, California 94610 (US).

(74) Agents: **WILSON SONSINI GOODRICH & ROSATI** et al.; 650 Page Mill Road, Palo Alto, California 94304 (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, 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, PE, PG, PH, PL, PT, RO, RS, RU, 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, 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, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

Published:

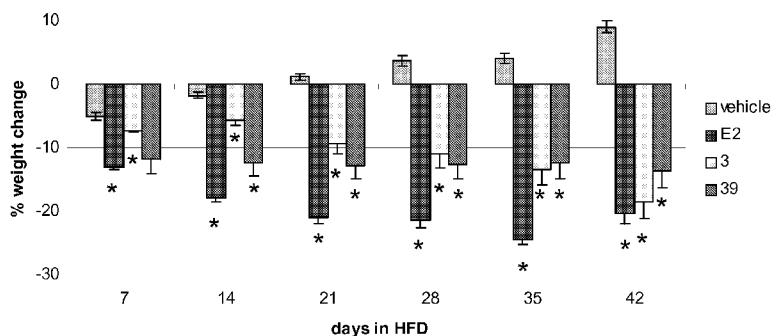
- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report:

26 May 2011

(54) Title: METHOD OF REDUCING FAT ACCUMULATION AND INDUCING WEIGHT LOSS

FIGURE 1



(57) Abstract: Administration of estrogenic extracts having ERA-agonistic activity results in reduced fat accumulation, induced weight loss, or both.

WO 2010/129343 A3

**A. CLASSIFICATION OF SUBJECT MATTER**

*A61K 36/342(2006.01)i, A61K 36/484(2006.01)i, A61K 36/59(2006.01)i, A61K 36/29(2006.01)i, A61P 3/04(2006.01)i, A61P 3/00(2006.01)i*

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)

A61K 36/342; A61P 3/04

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)

eKOMPASS(KIPO internal), PUBMED, GOOGLE Scholar

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2003-0170292 A1 (YONG, EU LEONG et al.) 11 September 2003 See entire document	12-15, 19, 21
A	JP 2005-325107 A (TAISHO PHARMACEUT CO LTD) 24 November 2005 See entire document	12-15, 19, 21
A	US 2002-0197334 A1 (LEE, SEUNG YOUNG) 26 December 2002 See entire document	12-15, 19, 21
A	US 5916555 A1 (LEE, JUNG SIK et al.) 29 June 1999 See entire document	12-15, 19, 21

Further documents are listed in the continuation of Box C.

See patent family 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 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 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

25 MARCH 2011 (25.03.2011)

Date of mailing of the international search report

**28 MARCH 2011 (28.03.2011)**

Name and mailing address of the ISA/KR



Korean Intellectual Property Office  
Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

LEE, Dong Wook

Telephone No. 82-42-481-8163



**Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 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.: 1-11, 22-54  
because they relate to subject matter not required to be searched by this Authority, namely:  
Claims 1-11, 22-54 pertain to a method for treatment of the human by therapy, and thus relate to a subject matter which this International Searching Authority is not required, under Article 17(2)(a)(i) of the PCT and Rule 39.1(iv) of the Regulations under the PCT, to search.
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 No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)**

This International Searching Authority found multiple inventions in this international application, as follows:

1. Claims 12-15(partly), 19(partly) and 21(partly) relate to a composition for reducing fat accumulation or inducing weight loss, comprising an extract of Radix Anamarrhena.
2. Claims 12-19(partly) and 21(partly) relate to a composition for reducing fat accumulation or inducing weight loss, comprising an extract of Radix Glycyrrhiza.
3. Claims 12-17(partly), 19(partly) and 21(partly) relate to a composition for reducing fat accumulation or inducing weight loss, comprising an extract of Radix Pueraria.
4. Claims 12-15(partly), 18(partly), 19(partly), 20 and 21(partly) relate to a composition for reducing fat accumulation or inducing weight loss, comprising an extract of Herba Epimedii.

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.:  
12-15(partly), 19(partly) and 21(partly)

**Remark on Protest**

- The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.

**INTERNATIONAL SEARCH REPORT**

Information on patent family members

International application No.

**PCT/US2010/032785**

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2003-0170292 A1	11.09.2003	US 6750248 B2	15.06.2004
JP 2005-325107 A	24.11.2005	None	
US 2002-0197334 A1	26.12.2002	JP 03947012 B2	18.07.2007
		JP 2002-226389 A	14.08.2002
		KR 10-0395619 B1	21.08.2003
		US 6692777 B2	17.02.2004
US 5916555 A1	29.06.1999	AU 1997-47938 B2	16.12.1999
		CA 2270195 C	23.07.2002
		CN 1079027 C	13.02.2002
		CN 1235551 A	17.11.1999
		EP 0941103 A1	15.09.1999
		EP 0941103 B1	23.01.2002
		JP 2001-506589 A	22.05.2001
		KR 10-0195886 B1	15.06.1999
		WO 98-19688 A1	14.05.1998