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(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, DH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TW).

(54) Title: COMPOSITIONS AND METHODS FOR TREATING OR AMELIORATING OBESITY OR FOR REDUCING DIABETIC HYPERCHOLESTEROLEMIA

(57) Abstract: Obesity is one of the major health concerns in the Twenty-First Century and is one of the leading causes of preventable death. It is a strong risk factor for Type 2 Diabetes. Disclosed herein are compositions and methods using Nitraria retusa extracts for enhancing energy metabolism, inhibiting fat accumulation, inhibiting preadipocyte differentiation, reducing diabetic hypercholesterolemia, and for treating or ameliorating obesity.
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, KM, ML, MR, NE, SN, TD, TG). Published: — with international search report (Art. 21(3))

(88) Date of publication of the international search report: 6 November 2014
# INTERNATIONAL SEARCH REPORT

**International application No.**
PCT/IB2013/003119

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl. A61K36/18 (2006.01)i, A23L1/30 (2006.01)i, A61P3/04 (2006.01)i, A61P3/06 (2006.01)i, A61P3/10 (2006.01)i, A61P43/00 (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)


Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Published examined utility model applications of Japan 1992-1996
Published unexamined utility model applications of Japan 1991-2014
Registered utility model specifications of Japan 1994-2014

Electronic database consulted during the international search (name of database and, where practicable, search terms used)

CAplus/MEDLINE/EMBASE/BIOSIS (STN), JSTplus / JMEDplus / JST/βU/(JDreamU)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category*</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>HADJ SALEM Jamila et al, Biological activities of flavonoids from Nitraria retusa (Forssk.) Asch. and their acylated derivatives, FoodChem., 2011, Vol. 124, No. 2, Page 486-494, Fig. 3, Table 2</td>
<td>1, 3-6</td>
</tr>
<tr>
<td>Y</td>
<td>Kong, Chang-Suk et al, Antiadipogenic activity of isorhamnetin 3-O-β-D-glucopyranoside from Salicornia herbacea, Immunopharmacology and Immunotoxicology, 2012.10, 34(6), pp. 907-911, Fig. 2-4</td>
<td>1-6</td>
</tr>
</tbody>
</table>

☑ 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 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
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  - “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: 25.07.2014
Date of mailing of the international search report: 05.08.2014

Name and mailing address of the ISA/JP

**Japan Patent Office**

3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan

Authorized officer

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Telephone No. +81-3-358 1-1101 Ext. 3452
<table>
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<td>Y</td>
<td>Kong, Chang-Suk et al, Evaluation on anti-adipogenic activity of flavonoid glucopyranosides from Salicornia herbacea, Process Biochemistry, 2012.03, Vol. 47, No.7, pp. 1073-1078, Fig. 3</td>
<td>1-6</td>
</tr>
<tr>
<td>Y</td>
<td>JP 2011-6347 A (UNIVERSITY OF TSUKUBA) 2011.01.13, claim 3, [0068] (no family)</td>
<td>1-6</td>
</tr>
</tbody>
</table>
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.: 7 - 27
   because they relate to subject matter not required to be searched by this Authority, namely:
   The subject matter of claim 7 to 27 relates to a method for treatment of the human or animal body by surgery or therapy.

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).

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 additional fees, this Authority did not invite payment of additional fees.
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 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.