Title: CARTHAMUS TINCTORIS PLANT EXTRACTS FOR TREATING OSTEOPOROSIS AND THE EXTRACTION PROCESS THEREOF

Abstract: The invention relates to compositions and methods for preventing, treating, or managing osteoporosis or conditions which are characterized by increased bone resorption, comprising administration of a prophylactically and therapeutically effective amount of Carthamus tinctoris plant or extracts thereof to a mammal in need of such therapy. Preferably the mammal is human and the compositions comprise of single extract or a combination of extracts thereof. The present invention further relates to extracts which are isolated from different parts of Carthamus tinctoris plant, the preparation of such extracts, the medicaments containing said extracts, and the use of these extracts and constituents for the preparation of a medicament. The present invention also relates to the process for preparing the extracts from various parts of Carthamus tinctoris plant.
**INTERNATIONAL SEARCH REPORT**

**A. CLASSIFICATION OF SUBJECT MATTER**
INV. A61K36/286 A81P19/10

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 A81P

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 practical, search terms used)
EPO-Internal, WPI Data, PAJ, EMBASE, BIOSIS, MEDLINE

**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>EP 1 325 681 A (NESTLE SA [CH]) 9 July 2003 (2003-07-09) claims 1, 4, 5, 16</td>
<td>1, 3, 4, 6, 8, 10, 11, 13-16</td>
</tr>
<tr>
<td>X</td>
<td>WO 2004/052299 A (SHAKLEE CORP [US]; ZHANG PETER X [US]; YATCILLA MICHAEL T [US]) 24 June 2004 (2004-06-24) page 21, line 18; claim 4</td>
<td>1, 3, 4, 6, 8, 10, 11, 13-16</td>
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<td>X</td>
<td>KIM H J ET AL: &quot;Bone-protecting effect of safflower seeds in ovarietomized rats&quot; July 2002 (2002-07), CALCIFIED TISSUE INTERNATIONAL, VOL. 71, NR. 1, PAGE(S) 88-94, XP00997700 ISO: 0171-967X the whole document</td>
<td>1, 3, 4, 6, 8, 10, 11, 13-16</td>
</tr>
</tbody>
</table>

| X        | Further documents are listed in the continuation of Box C. |

| X        | See patent family annex. |

**Date of the actual completion of the international search**
7 April 2008

**Date of mailing of the international search report**
14/04/2008

**Name and mailing address of the ISA/Authorized officer**
European Patent Office, P.B. 5816 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016
Thalmair-De Meyere

Form PCT/ISA/210 (second sheet) (April 2008)
<table>
<thead>
<tr>
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<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
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</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>JANG HYE-OCK ET AL. &quot;Effect of extracts from safflower seeds on osteoblastic differentiation and intracellular free calcium concentration in MCM-E1 cells&quot; KOREAN JOURNAL OF PHYSIOLOGY AND PHARMACOLOGY, KOREAN PHYCOLOGICAL SOCIETY, SEOUL, KR, vol. 9, no. 1, February 2005 (2005-02), pages 55-62, XP009097696 ISSN: 1226-4512 page 62, left-hand column, paragraph 1</td>
<td>1,3,4,6, 8,10,11, 13-16</td>
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<tr>
<td>X</td>
<td>DATABASE WPI Week 200156 Derwent Publications Ltd., London, GB; AN 2001-510620 XP002475227 &amp; KR 2001 016 042 A (KIM D W) 5 March 2001 (2001-03-05) abstract</td>
<td>1,3,4,6, 8,10,11, 13-16</td>
</tr>
<tr>
<td>X</td>
<td>DATABASE WPI Week 200369 Derwent Publications Ltd., London, GB; AN 2003-728180 XP002475229 &amp; KR 2003 038 870 A (KYONG BUK AGRIC TECHNOLOGY ADMINISTRATIO 17 May 2003 (2003-05-17) abstract</td>
<td>1,3,4,6, 8,10,11, 13-16</td>
</tr>
</tbody>
</table>
Continuation of Box II.1

Although claims 1 and 3 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Continuation of Box II.2

Claims Nos.: 2, 5, 7, 9, 12

The subject-matter of claims 2, 5, 9, 12 is not regarded as being clear (Article 6 PCT) with respect to the designation of the Carthamus tinctoris extract as being one of AGT027_Se_DrRf(65)04(80)_20_07_05 etc.. The meaning must be clear from the wording of the claim alone. This is not the case here.

Furthermore, concerning claim 7, it is pointed out to the Applicant that "at least an extract of the invention" is unclear.

Therefore, no search could be carried out with respect to claims 2, 5, 7, 9, 12.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.2), should the problems which led to the Article 17(2)PCT declaration be overcome.
INTERNATIONAL SEARCH REPORT

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. [x] Claims Nos.:  
   because they relate to subject matter not required to be searched by this Authority, namely:  
   Although claims 1 and 3 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

2. [x] Claims Nos.: 2, 5, 7, 9, 12  
   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:  
   see FURTHER INFORMATION sheet PCT/ISA/210.

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. [ ] 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 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.