Title: NOVEL ABIEITANE DITERPENOID COMPOUND, AND COMPOSITION COMPRISING EXTRACT OF TORREYA NUCIFERA, OR ABIEITANE DITERPENOID COMPOUNDS OR TERPENOID COMPOUNDS ISOLATED FROM THEM FOR PREVENTION AND TREATMENT OF CARDIOVASCULAR DISEASE

Abstract: The present invention relates to a composition for the prevention and the treatment of cardiovascular disease containing extracts of T. nucifera or abietane diterpenoid compound or terpenoid compound isolated from the same as an effective ingredient. T. nucifera extracts or abietane diterpenoid compound or terpenoid compound isolated from the same of the present invention not only shows excellent anti-oxidative activity to LDL but also effectively inhibits ACAT activity. Further, T. nucifera extracts of the present invention reduce blood LDL cholesterol and total cholesterol. Therefore, the composition of the present invention can be effectively used for the prevention and the treatment of cardiovascular diseases including hyperlipidemia and atherosclerosis caused by the LDL oxidation and the synthesis and accumulation of cholesterol ester.
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER

IPC7 C07C 39/17

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)

IPC7 C07C 39/17

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)

e-KIPASS, STN

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>A</td>
<td>Tetraheiron, Vol.58(7), 2002, pp.1262-1270, Jin-Wei Yang et al. &quot;Biosynthesis of abietane diterpenoids in cultured cells of Torreya nucifera var. radicans&quot; see the abstract and introduction</td>
<td>1 - 8</td>
</tr>
<tr>
<td>A</td>
<td>Phytochemistry, Vol.59(4), 2002, pp.385-389, Yutaka Orihara et al. &quot;Abietane diterpenoids from suspension cultured cells of Torreya nucifera var. radicans&quot; see the abstract and the figures</td>
<td>1 - 8</td>
</tr>
<tr>
<td>A</td>
<td>CN 1395921 A(Yi Yanghua et al.) 12 FEB. 2003 see abstract</td>
<td>1 - 2</td>
</tr>
<tr>
<td>A</td>
<td>JP 46031218 A(Murayama Shin et al.) 10 SEP. 1971 see the abstract</td>
<td>2 - 4</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 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 novel or 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
20 JUNE 2005 (20.06.2005)

Date of mailing of the international search report
21 JUNE 2005 (21.06.2005)

Name and mailing address of the ISA/KR
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Form PCT/ISA/210 (second sheet) (January 2004)
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. □ Claims Nos.:
   because they relate to subject matter not required to be searched by this Authority, namely:

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:

The present application contains 2 different inventions not being linked by a single invention concept; A composition containing Torreyu nurisifera extracts and an abietane diterpenoid compound.
   i) Claim 1 relates to an abietane diterpenoid compound
   ii) Claims 2-5 relate to a composition for the prevention and the treatment fo cardiovascular disease containing T. nurisifera extracts as an effective ingredient. Claim 2, as an independent claim, does not refer to the abietane diterpenoid compound directly and is considered not to represent any special technical feature compared with claim 1.

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.: 

Remark on Protest

□ The additional search fees were accompanied by the applicant's protest.
□ No protest accompanied the payment of additional search fees.