(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
    International Bureau

(43) International Publication Date

(51) International Patent Classification:
    A61K 31/715,
    C07H 1/00

(21) International Application Number:
    PCT/US2004/033634

(22) International Filing Date:
    12 October 2004 (12.10.2004)

(25) Filing Language:
    English

(26) Publication Language:
    English

(30) Priority Data:
    60/511,050 14 October 2003 (14.10.2003)  US

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(81) Designated States (unless otherwise indicated, for every kind of national protection available):
    AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPPO (BW, GH, GM, KE, 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, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(88) Date of publication of the international search report:
    16 June 2005

(54) Title: USE OF MANNAN FROM SACCHAROMYCES CEREVISIAE FOR THE TREATMENT OF ASTHMA

(57) Abstract: The present invention provides methods of using mannon receptor blocker to treat airway disease such as asthma. The present invention also provides methods for reducing smooth muscle mass in an individual having an airway disease.
### INTERNATIONAL SEARCH REPORT

**A. CLASSIFICATION OF SUBJECT MATTER**

<table>
<thead>
<tr>
<th>IPC(7)</th>
<th>US CL</th>
<th>According to International Patent Classification (IPC) or to both national classification and IPC</th>
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<tr>
<td>A61K 31/715; C07H 1/00</td>
<td>514/54; 536/123.1</td>
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**B. FIELDS SEARCHED**

- **Minimum documentation searched (classification system followed by classification symbols)**
  - U.S.: 514/54; 536/123.1

- **Documentary searched other than minimum documentation to the extent that such documents are included in the fields searched**
  - None

- **Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)**
  - EAST search terms: mammal, disease, asthma, yeast, saccharomyces, chronic obstructive pulmonary disease

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

<table>
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<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>US 5,786,342 A (CARPENTER ET AL.) 28 July 1998, see abstract, col. 53, lines 1-21 and claims 1-3 at col. 38</td>
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</tbody>
</table>

| Relevant to claim No. | 1-28 |

**Further documents are listed in the continuation of Box C.**

**See patent family annex.**

<table>
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<th>Special categories of cited documents</th>
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<td><em>A</em> document defining the general state of the art which is not considered to be of particular relevance</td>
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<tr>
<td><em>E</em> earlier application or patent published on or after the international filing date</td>
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<tr>
<td><em>L</em> 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)</td>
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<td><em>O</em> document referring to an oral disclosure, use, exhibition or other means</td>
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<tr>
<td><em>P</em> document published prior to the international filing date but later than the priority date claimed</td>
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**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**

**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**

10 February 2005 (10.02.2005)

**Date of mailing of the international search report**

19 APR 2005

**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

**Authorized officer**

L. E. Crane

**Telephone No.** 571-272-1600

**Form PCT/ISA/210 (second sheet) (July 1998)**
### INTERNATIONAL SEARCH REPORT

**Box I** Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. □ Claim Nos.:
   because they relate to subject matter not required to be searched by this Authority, namely:

2. □ Claim 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. □ Claim Nos.:
   because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

**Box II** Observations where unity of invention is lacking (Continuation of Item 2 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 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.

Form PCT/ISA/210 (continuation of first sheet(1)) (July 1998)