Title: METHOD FOR IDENTIFYING MODULATORS OF "MEC"-INDUCED FUNCTIONS OF CCR3 AND/OR CCR10

Abstract: The invention relates to the interaction of MEC with CCR3 and/or CCR10 and to agents (e.g., ligands, antibodies, antagonists, agonists, inhibitors, promoters) which alter said interaction. In one aspect, the invention relates to methods for detecting or identifying an agent (i.e., molecule or compound) which can modulate (inhibit, promote) the binding of MEC to CCR3 and/or CCR10. In another aspect, the invention relates to a method of treating a subject having an inflammatory condition, comprising administering to the subject an effective amount of an agent which modulates the binding of MEC to CCR3 and/or CCR10.
**INTERNATIONAL SEARCH REPORT**

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : Please See Extra Sheet.
US CL : Please See Extra Sheet.
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)

**U.S. :**
- 624/1.49, 93.71, 150.1, 159.1, 143.1, 155.1, 178.1; 514/2; 550/387.1, 387.9, 388.7, 388.22, 399

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)

MEDLINE, CAPLUS, EMBASE, BIOSIS, USPATFULL

**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>
</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 document 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

- "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

- "Z" : document member of the same patent family

Date of the actual completion of the international search

**27 DECEMBER 2001**

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

**21 FEB 2002**

Name and mailing address of the ISA/US Commissioner of Patents and Trademarks

Box PCT
Washington, D.C. 20231

Facsimile No. (703) 505-6230

Authorized officer

OLGA N. CHERNYSHCHEV

Telephone No. (703)-508-0196

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

**International application No.**  
PCT/US01/25354

---

### 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(8)(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 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:

Please See Extra Sheet.

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.:
   1-7

---

**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)*
INTERNATIONAL SEARCH REPORT

A. CLASSIFICATION OF SUBJECT MATTER:
IPC (?):
A61R 58/00, 59/40, 59/42, 59/585, 51/00; A61M 56/14; A01K 63/00; C07K 16/00; C12P 21/08

A. CLASSIFICATION OF SUBJECT MATTER:
US CL.:
424/149, 987.1, 150.1, 159.1, 143.1, 158.1, 178.1; 514/2; 550/387.1, 387.9, 388.7, 388.22, 599

BOX II. OBSERVATIONS WHERE UNITY OF INVENTION WAS LACKING
This ISA found multiple inventions as follows:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Group I, claim(s) 1-7, drawn to a method of identifying an agent which inhibits the binding of a mammalian MEC to a mammalian CCR3.
Group II, claim(s) 8-11, drawn to a method of identifying an agent which inhibits the binding of MAC to CCR5 involving a cell.
Group III, claim(s) 12-17, drawn to a method of identifying an agent which inhibits the binding of MEC to CCR10.
Group IV, claims 18-21, drawn to a method of identifying an agent which inhibits the binding of MEC to CCR10 involving a cell.
Group V, claims 22-28, drawn to a method of identifying an agent which promotes the binding of MEC to CCR3.
Group VI, claims 29-32, drawn to a method of identifying an agent which promotes the binding of MEC to CCR3 involving a cell.
Group VII, claims 33-38, drawn to a method of identifying an agent which promotes the binding of MEC to CCR10.
Group VIII, claims 39-42, drawn to a method of identifying an agent which promotes the binding of MEC to CCR10 involving a cell.
Group IX, claims 43-51, 73-79 and 82-83, drawn to a method of treating a subject by administering an amount of agent which inhibits the binding of MEC to CCR3.
Group X, claims 52-61, 80-81 and 84-85, drawn to a method of treating a subject by administering an amount of agent which inhibits the binding of MEC to CCR10.
Group XI, claims 62, drawn to an agent which inhibits the binding of MEC to CCR3.
Group XII, claim 63, drawn to an agent which inhibits the binding of MEC to CCR3 identified in the method involving a cell.
Group XIII, claim 64, drawn to an agent which inhibits the binding of MEC to CCR10.
Group XIV, claim 65, drawn to an agent which inhibits the binding of MEC to CCR10 identified by the method involving a cell.
Group XV, claim 66, drawn to an agent which promotes the binding of MEC to CCR3.
Group XVI, claim 67, drawn to an agent which promotes the binding of MEC to CCR3 identified by the method involving a cell.
Group XVII, claim 68, drawn to an agent which promotes the binding of MEC to CCR10.
Group XIX, claim 69, drawn to an agent which promotes the binding of MEC to CCR10 identified by the method involving a cell.
Group XX, claim 70, drawn to an immunoglobulin which binds CCR10 and inhibits binding of MEC to CCR10.
Group XXI, claim 71, drawn to an immunoglobulin which binds MEC and inhibits binding of MEC to CCR3 and/or CCR10.
Group XXII, claims 72-73, drawn to a method of modulating the activity of cells expressing CCR3 and/or CCR10.
Group XXIII, claims 74-75, drawn to a method of modulating the activity of an IgA antibody-secreting cell.
Group XXIV, claims 76-77, drawn to a method of modulating the activity of an IgA antibody-secreting cell by administering an amount of an agent that promotes or inhibits the binding of MEC to CCR3 and/or CCR10.

The inventions listed as Groups I-XXIII do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the special technical feature of Group I is a method of identifying an agent which inhibits the binding of a mammalian MEC to a mammalian C-C chemokine receptor (CCR3) comprising combining an agent to be tested and a composition of CCR3 or MEC-binding variant thereof and MEC. Pursuant to 57 CFR § 1.475 (d), the ISA/US considers that any feature which is the subsequently recited products and methods share with the main invention does not constitute a
special technical feature within the meaning of PCT Rule 13.2 and that each of such products and methods accordingly defines a separate invention. Groups II-X and XXI-XXIII are directed to methods that have different method steps and achieve different goals. Groups XI-XX are directed to different products which have different structure, are not required to be used with each other, and can be used separately from the methods of Groups II-X and XXI-XXIII.