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(74) Agent: CAMACHO, Jennifer, A.; Testa, Hurwitz & Thibault, LLP, High Street Tower, 125 High Street, Boston, MA 02110 (US).

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(71) Applicant: CONSENSUS PHARMACEUTICALS, INC. [US/US]; 200 Boston Avenue, Medford, MA 02155 (US).

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(72) Inventors: NESTOR, John, J., Jr.; 19 Sweeney Ridge Road, Bedford, MA 01730 (US). WILSON, Carol, J.; 24 Fellsway, Apt. #3, Somerville, MA 02145 (US). SEE, Raymond, H.; 2 Hawthorne Place, Apt. #9, Boston, MA 02114 (US). TAN HEHIR, Christina, A.; 11 Fordham Street, Arlington, MA 02474 (US).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: BINDING COMPOUNDS FOR CC CHEMOKINE RECEPTOR 5 AND METHODS FOR IDENTIFYING THEM

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Position: 419
Amino acid:

Sequence 1

R I K Q

Position: 437
Amino acid:

Sequence 2

P P I R G Q - R

(57) Abstract: Compositions of binding compounds for CC chemokine receptor 5 and methods for identifying binding compounds for CC chemokine 5 receptor are provided. Also provided are therapeutic agents comprising such compounds.

INTERNATIONAL SEARCH REPORT

International Application No
 P US 01/09155

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K7/04 C07K7/64 C07K14/705 A61K38/00 A61P31/18
 G01N33/566 G01N33/68

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)

IPC 7 C07K A61K A61P G01N

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, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	TARASOVA ET AL: "Inhibition of G-protein-coupled receptor function by disruption of transmembrane domain interactions" JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 274, no. 49, 3 December 1999 (1999-12-03), pages 34911-34915, XP002168073 ISSN: 0021-9258 * See page 34913 (Table III: peptide CCR5 antagonist = LFF....GDD) * --- -/--	1-10, 27-29

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

- "A" document defining the general state of the art which is considered to be of particular relevance
- "E" earlier document 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

- "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.
- "&" document member of the same patent family

Date of the actual completion of the international search
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Name and mailing address of the ISA
 European Patent Office, P.B. 5818 Patentlaan 2
 NL - 2280 HV Rijswijk
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
 Fax: (+31-70) 340-3016

Authorized officer
 Korsner, S-E

INTERNATIONAL SEARCH REPORT

International Application No

R 'US 01/09155

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>BLANPAIN: "CCR5 binds multiple CC-Chemokines: MCP-3 acts as a natural antagonist" BLOOD, vol. 94, 1999, pages 1899-1905, XP002196556 * See the Abstract (MCP-3 = a 76 amino acid polypeptide = QPV...LKL; see i.a. FEBS Letters 395 (1996) pages 277-282) *</p> <p style="text-align: center;">---</p>	1-10, 27-29
Y	<p>SUNDBERG: "High-throughput and ultra-high-throughput screening: solutions- and cell-based approaches" CURRENT OPINIONS IN BIOTECHNOLOGY, vol. 11, February 2000 (2000-02), pages 47-53, XP002196557 * See page 48 (left column 2: CCR5 antagonists) *</p> <p style="text-align: center;">---</p>	1-4,7-10
Y	<p>YANOFSKY ET AL: "High affinity type I interleukin 1 receptor antagonists discovered by screening recombinant peptide libraries" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA, vol. 93, July 1996 (1996-07), pages 7381-7386, XP000985913 ISSN: 0027-8424 * See page 7381, left column, last paragraph) *</p> <p style="text-align: center;">---</p>	1-4,7-10
P,Y	<p>DATABASE INTERNET [Online] http://www.current-drugs.com/NEWS/ACS220R7 .htm, August 2000 (2000-08) KIBBLE; PAGES 1-5: "American Chemical Society 220th National Meeting (Part VII); 20-24 August 2000, Washington DC, USA" XP002196692 * See page 4 (Demonstration by Nestor); this is before the fourth priority date *</p> <p style="text-align: center;">-----</p>	1-4,7-10

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 01/09155

Box I Observations where certain claims were found unsearchable (Continuation of item 1 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.: **11-14, 17, 19, 26,**
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 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:

see additional 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.:
SEE PCT/ISA/210

Remark on Protest

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

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-10, 27-29

Invention 1:

Method of identifying a binding compound, in particular the embodiment of solubilizing the receptor in the absence of sodium chloride.

2. Claims: 15, 31-33

Invention 2:

Computer-aided methods for identifying relative binding affinity.

3. Claims: 16, 21-25

Invention 3:

Method for determining an amino acid sequence motif for an interaction site, in particular by using preselected sequences.

4. Claim : 30

Invention 4:

A CC chemokine receptor 5 transfer vector.

5. Claims: 18, 20, 24-25

Inventions 5-"51":

The peptides in the order they occur in Claims 18, 20, 24-25.

See, however, the non-unity reasoning for the actual number of inventions.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 11-14,17,19,26,

Present Claims 11-14, 17, 19, 26 relate to compounds (and their uses) as defined by reference to a desirable characteristic, namely that they have been identified by certain methods.

Since these compounds are undefined, no meaningful search can be carried out for said claims.

Moreover, the claim dependency of Claims 12-14 appears to be incorrect (->9 instead of ->11).

NOTE: the above is for information only; the present search has been restricted to Claims 1-10, 27-29 for reasons of non-unity.

The applicant's attention is drawn to the fact that claims, or parts of 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.