



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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| <p>(51) International Patent Classification ⁶ : C12N 15/19, 15/62, C07K 14/52, 16/24, C12P 21/02</p> | <p>A3</p> | <p>(11) International Publication Number: WO 98/23750</p> <p>(43) International Publication Date: 4 June 1998 (04.06.98)</p> |
| <p>(21) International Application Number: PCT/US97/21092</p> <p>(22) International Filing Date: 26 November 1997 (26.11.97)</p> <p>(30) Priority Data: 60/031,805 27 November 1996 (27.11.96) US 08/761,071 5 December 1996 (05.12.96) US</p> <p>(71) Applicant: SCHERING CORPORATION [US/US]; 2000 Galloping Hill Road, Kenilworth, NJ 07033 (US).</p> <p>(72) Inventors: VICARI, Alain; 4, rue Chanoine Jacob, F-54000 Nancy (FR). MORALES, Janine; 1415 Cole Street, San Francisco, CA 94117 (US). HEDRICK, Joseph, A.; 1260-D Vicente Drive, Sunnyvale, CA 94086 (US). ZLOTNIK, Albert; 507 Alger Drive, Palo Alto, CA 94306 (US).</p> <p>(74) Agents: McLAUGHLIN, Jaye, P. et al.; Schering-Plough Corporation, Patent Dept. K-6-1 1990, 2000 Galloping Hill Road, Kenilworth, NJ 07033 (US).</p> | <p>(81) Designated States: AL, AM, AU, AZ, BA, BB, BG, BR, BY, CA, CN, CZ, EE, GE, HU, ID, IL, IS, JP, KG, KR, KZ, LC, LK, LR, LT, LV, MD, MG, MK, MN, MX, NO, NZ, PL, RO, RU, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UZ, VN, YU, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).</p> <p>Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> <p>(88) Date of publication of the international search report: 13 August 1998 (13.08.98)</p> | |
| <p>(54) Title: MAMMALIAN CHEMOKINES</p> <p>(57) Abstract</p> <p>Novel CC chemokines from human, reagents related thereto including purified proteins, specific antibodies and nucleic acids encoding these chemokines are provided. Also provided are methods of making and using said reagents and diagnostic kits.</p> | | |

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 97/21092

A. CLASSIFICATION OF SUBJECT MATTER
IPC 6 C12N15/19 C12N15/62 C07K14/52 C07K16/24 C12P21/02

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 6 C07K

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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category ° | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| X | DATABASE EMBL Accession Nbr W10954, 29 April 1996 MARRA M. ET AL.: "ma74h06.r1 Soares mouse p3NMF19.5 Mus musculus cDNA clone 316475 5'." XP002067240 * 99.5% identity in 405 BP overlap with seq ID no. 7 * | 6 |
| A | --- | 2 |
| A | DATABASE EMBL Accession Nbr HS459102, 6 May 1995 HILLIER L. ET AL.: "yh89d12.r1 Homo sapiens cDNA clone 136919 5'." XP002061970 * 96% identity in 400 BP overlap * --- -/-- | 1,6 |

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 not considered to be of particular relevance
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- *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.
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Date of the actual completion of the international search

8 June 1998

Date of mailing of the international search report

23.06.98

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INTERNATIONAL SEARCH REPORT

Intern Application No
PCT/US 97/21092

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>DATABASE EMBL Accession Nbr U32323, 6 June 1995 VAN LEUVEN F. ET AL.: "Human interleukin-11 receptor alpha chain gene, complete cds." XP002067241 * 100% identity in 159 BP overlap with seq ID no. 5 *</p> | 2,6 |
| A | <p>--- SCHALL T J ET AL: "CHEMOKINES, LEUKOCYTE TRAFFICKING, AND INFLAMMATION" CURRENT OPINION IN IMMUNOLOGY, vol. 6, no. 6, December 1994, pages 865-873, XP002048194 cited in the application see the whole document -----</p> | 1-9 |

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 97/21092

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.:
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.:

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, partly 3-9

The chemokine DVic-1, having the amino acid sequence set forth in SEQ ID NO. 2 as well as a fusion protein comprising said sequence, the nucleic acid (and corresponding expression vector and host cell containing said vector) encoding the chemokine and binding compounds specific for DVic-1.

2. Claims: 2, partly 3-9

The chemokine DGWCC, having the amino acid sequence set forth in SEQ ID NO. 6 or 8, as well as a fusion protein comprising either said sequence, the nucleic acid (and corresponding expression vector and host cell containing said vector) encoding the chemokine, and binding compounds specific for DGWCC.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

The sequence of the murine DGWCC chemokine is represented in SEQ ID no. 8.

SEQ ID no. 10, represents the known chemokine MIP-3a, and is, in the light of the description obviously erroneously claimed.

Claim 2 has thus been interpreted as pertaining to SEQ ID no. 6 and SEQ ID no. 8 and not SEQ ID no. 10.