

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
5 February 2004 (05.02.2004)

PCT

(10) International Publication Number  
**WO 2004/011632 A3**

(51) International Patent Classification<sup>7</sup>: **C12N 5/08**,  
A61K 38/19, 38/20, A51K 35/30, A61P 25/00

(21) International Application Number:  
PCT/CA2003/001151

(22) International Filing Date: 30 July 2003 (30.07.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/399,192 30 July 2002 (30.07.2002) US

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(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,  
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,  
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,  
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,  
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,  
SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,  
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declarations under Rule 4.17:**

- as to applicant's entitlement to apply for and be granted  
a patent (Rule 4.17(ii)) for the following designations AE,  
AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,  
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES,  
FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH,  
PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN,  
TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO  
patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG,  
ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU,  
TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE,  
DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT,  
RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)
- as to the applicant's entitlement to claim the priority of the  
earlier application (Rule 4.17(iii)) for all designations

**Published:**

- with international search report
- before the expiration of the time limit for amending the  
claims and to be republished in the event of receipt of  
amendments

(88) Date of publication of the international search report:

15 April 2004

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

(54) Title: OLIGODENDROCYTE PRODUCTION FROM MULTIPOTENT NEURAL STEM CELLS

(57) Abstract: This invention relates to methods of producing oligodendrocytes from multipotent neural stem cells by using at least one oligodendrocyte promoting factor, particularly granulocyte-macrophage colony stimulating factor, granulocyte colony stimulating factor, interleukin 3 or interleukin 5. The neural stem cells may optionally be expanded prior to being subjected to the oligodendrocyte promoting factor.



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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/CA 03/01151

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N5/08 A61K38/19 A61K38/20 A51K35/30 A61P25/00

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 C12N

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, BIOSIS, WPI Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 94 10292 A (NEUROSPHERES) 11 May 1994 (1994-05-11) page 23 -page 25	1, 19, 21
X	MEHLER M F ET AL: "Cytokines regulate the cellular phenotype of developing neural lineage species." INTERNATIONAL JOURNAL OF DEVELOPMENTAL NEUROSCIENCE : THE OFFICIAL JOURNAL OF THE INTERNATIONAL SOCIETY FOR DEVELOPMENTAL NEUROSCIENCE. 1995 JUN-JUL, vol. 13, no. 3-4, June 1995 (1995-06), pages 213-240, XP002267006 ISSN: 0736-5748 the whole document -/--	1-3

☒ 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

"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

15 January 2004

Date of mailing of the international search report

19/02/2004

Name and mailing address of the ISA

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## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/CA 03/01151

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>MCQUALTER J L ET AL: "Granulocyte macrophage colony-stimulating factor: a new putative therapeutic target in multiple sclerosis." THE JOURNAL OF EXPERIMENTAL MEDICINE. 1 OCT 2001, vol. 194, no. 7, 1 October 2001 (2001-10-01), pages 873-881, XP002267007 ISSN: 0022-1007 the whole document</p>	31
A	<p>WO 96 15226 A (NEUROSPHERES HOLDING) 23 May 1996 (1996-05-23) the whole document</p>	1-40
A	<p>GAGE F H: "Mammalian neural stem cells" SCIENCE, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE,, US, vol. 287, no. 5457, 25 February 2000 (2000-02-25), pages 1433-1438, XP002220467 ISSN: 0036-8075 the whole document</p>	1-40
A	<p>KOHAMA I ET AL: "Transplantation of cryopreserved adult human Schwann cells enhances axonal conduction in demyelinated spinal cord." THE JOURNAL OF NEUROSCIENCE : THE OFFICIAL JOURNAL OF THE SOCIETY FOR NEUROSCIENCE. 1 FEB 2001, vol. 21, no. 3, 1 February 2001 (2001-02-01), pages 944-950, XP002267008 ISSN: 1529-2401 the whole document</p>	1-40
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## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/CA 03/01151

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	<p>DATABASE BIOSIS 'Online! BIOSCIENCES INFORMATION SERVICE, PHILADELPHIA, PA, US; 2002 DUBOIS T M ET AL: "GRANULOCYTE MACROPHAGE - COLONY STIMULATING FACTOR ( GM - CSF ) IS A FATE DETERMINATION AND DIFFERENTIATION FACTOR FOR NEURAL STEM CELL - GENERATED OLIGODENDROCYTE PRECURSORS ( OLPS )." Database accession no. PREV200300293880 XP002267009 abstract &amp; SOCIETY FOR NEUROSCIENCE ABSTRACT VIEWER AND ITINERARY PLANNER, vol. 2002, 2002, pages Abstract No. 329.12 URL-http://sf, 32ND ANNUAL MEETING OF THE SOCIETY FOR NEUROSCIENCE; ORLANDO, FLORIDA, USA; NOVEMBER 02-07, 2002 -----</p>	1-40

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/CA 03/01151

## 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:  
  
Although claims 21-40 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
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:

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.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CA 03/01151

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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