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

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
30 August 2001 (30.08.2001)

PCT

(10) International Publication Number
WO 01/062959 A3

(51) International Patent Classification[7]: C12Q 1/68, G01N 33/68

(21) International Application Number: PCT/CA01/00245

(22) International Filing Date: 26 February 2001 (26.02.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/185,063 25 February 2000 (25.02.2000) US
60/225,745 17 August 2000 (17.08.2000) 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, CR, CU, CZ, DE, DK, DM, DZ, 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, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

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

Published:
— *with international search report*

(88) Date of publication of the international search report:
3 January 2003

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.

WO 01/062959 A3

(54) Title: ENDOMETRIOSIS-RELATED MARKERS AND USES THEREOF

(57) Abstract: The present invention relates to markers of endometriosis which are differentially expressed in the endometrial cells of females with endometriosis compared to endometriosis-free females. The invention also relates to methods for determining likelihood of endometriosis in female subjects, to methods for grading endometriosis in females suffering from endometriosis and to methods for treating this disease. The invention is also concerned with polynucleotides, probes, primers and kits useful for reducing into practice the above-mentioned methods which are more rapid, non invasive, much less complicated and much less costly than laparoscopy.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/CA 01/00245

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12Q1/68 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 C12Q G01N C07K 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, SEQUENCE SEARCH, BIOSIS

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	Biosis:AN=PREV199598004176: Huang J-C et al: "Quantitative analysis of epidermal growth factor receptor gene expression in endometriosis. XP002176156 see abstract ---	1-49
A	BERGQVIST A ET AL: "A COMPARISON OF CATHEPSIN D LEVELS IN ENDOMETRIOTIC TISSUE AND IN UTERINE ENDOMETRIUM" FERTILITY AND STERILITY, ELSEVIER SCIENCE INC, NEW YORK, NY, US, vol. 65, no. 6, June 1996 (1996-06), pages 1130-1134, XP000978984 ISSN: 0015-0282 the whole document --- -/--	1-49

[X] Further documents are listed in the continuation of box C.

[X] 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	Date of mailing of the international search report
19 June 2002	19. 09. 2002

Name and mailing address of the ISA	Authorized officer
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	OSBORNE, H

INTERNATIONAL SEARCH REPORT

International Application No
PCT/CA 01/00245

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	Biosis: AN=PREV199598288484; Misao R et al:"Levels of sex hormone-binding globulin (SHBG) and corticosteriod-binding globulin (CBG) messanger ribonucleic acid (mRNAs) in ovarian endometriosis. XP002176157 see abstract	1-49
A	Biosis:AN= PREV199799745062: Kitawaki J et al:"Expression of aromatase cytochrome P450 protein and messanger ribonucleic acid in human endometriotic and adenomyotic tissues but not in normal endometrium. XP002176158 see abstract	1-49
A	WO 99 63116 A (SCHNEIDER PATRICK A ;REPROGEN INC (US); FRENCH CYNTHIA K (US); YAM) 9 December 1999 (1999-12-09) the whole document	1-49
A	WO 99 63115 A (SCHNEIDER PATRICK ;REPROGEN INC (US); FRENCH CYNTHIA K (US); YAMAM) 9 December 1999 (1999-12-09) the whole document	1-49
A	DE 198 24 230 A (STARZINSKI POWITZ ANNA) 2 December 1999 (1999-12-02) the whole document	1-49
A	WO 95 13821 A (UNIV PENNSYLVANIA) 26 May 1995 (1995-05-26) page 23 -page 27; claim 1	1-49

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA 01/00245

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:

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.:

1-49, all partially

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: 1-49, all partially

   Methods for the diagnosis/monitoring endometriosis by analysis of marker genes, probes and primers therefore, wherein the marker gene is given by SEQ ID NO 1, its arbitrary name DD1.

2. Claims: 1-49 all partially

   Methods for the diagnosis/monitoring endometriosis by analysis of marker genes, probes and primers therefore, wherein the marker gene is given by SEQ ID NO 2, its arbitrary name DD2.

3. Claims: 1-49 all partially

   Methods for the diagnosis/monitoring endometriosis by analysis of marker genes, probes and primers therefore, wherein the marker gene is given by SEQ ID NO 3, its arbitrary name DD3.

4. Claims: 1-49 all partially

   Idem for the 38 distinct genes listed in table 1.

INTERNATIONAL SEARCH REPORT

International Application No
PCT/CA 01/00245

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