

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

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
14 February 2002 (14.02.2002)

PCT

(10) International Publication Number
WO 02/012470 A3

(51) International Patent Classification⁷: **C12N 15/53**,
9/06, G01N 33/573, 33/566, A01K 67/027, C07K 16/40,
C12Q 1/68, C12N 5/10 // C07K 14/705

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(21) International Application Number: PCT/US01/24942

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(22) International Filing Date: 8 August 2001 (08.08.2001)

(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, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK,
SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/223,763 8 August 2000 (08.08.2000) US
60/255,838 15 December 2000 (15.12.2000) US

(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, GQ, GW, ML, MR, NE, SN, TD,
TG).

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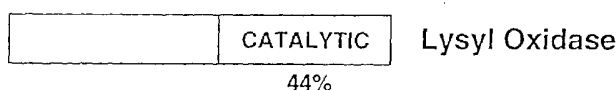
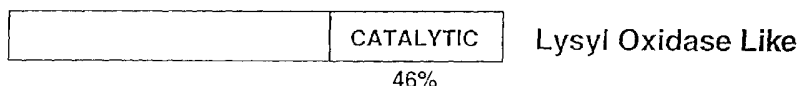
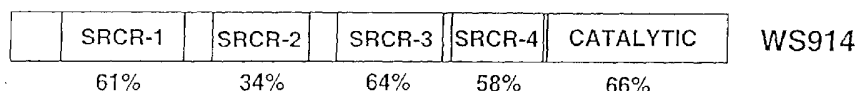
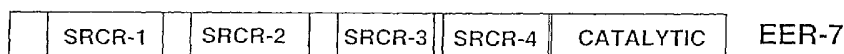
Published:
— with international search report

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(88) Date of publication of the international search report:
28 August 2003

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: A MEMBER OF THE LYSYL OXIDASE GENE FAMILY



(57) Abstract: The present invention relates to a novel lysyl oxidase genes, termed EER-7. The invention relates to the protein and nucleic acids encoding the protein. The invention further relates to an assay system to identify compounds that selectively modulate EER-7 protein activity by interaction with estrogen receptors.



WO 02/012470 A3

INTERNATIONAL SEARCH REPORT

national Application No

PCT/US 01/24942

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/53 C12N9/06 G01N33/573 G01N33/566 A01K67/027
C07K16/40 C12Q1/68 C12N5/10 //C07K14/705

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)

BIOSIS, EPO-Internal, SEQUENCE SEARCH, WPI Data, PAJ, EMBL

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	LANGENAU D M ET AL: "The upregulation of messenger ribonucleic acids during 17alpha, 20beta-dihydroxy-4-pregnen-3-one-induced ovulation in the perch ovary." JOURNAL OF MOLECULAR ENDOCRINOLOGY, vol. 23, no. 2, October 1999 (1999-10), pages 137-152, XP002211806 ISSN: 0952-5041	1-25, 40, 41, 45, 46
Y	page 144, right-hand column, paragraph 3 -page 147, left-hand column, paragraph 1; figures 4,5 --- -/--	26-39, 42-44



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
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- *Z* document member of the same patent family

Date of the actual completion of the international search

24 September 2002

Date of mailing of the international search report

11/10/2002

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/24942

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	SAITO H ET AL: "Regulation of a novel gene encoding a lysyl oxidase-related protein in cellular adhesion and senescence" JOURNAL OF BIOLOGICAL CHEMISTRY, AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, BALTIMORE, MD, US, vol. 272, no. 13, 28 March 1997 (1997-03-28), pages 8157-8160, XP002187526 ISSN: 0021-9258 cited in the application the whole document ---	1-25, 40, 41, 45, 46
X	DATABASE EMBL 'Online! 12 February 2000 (2000-02-12) Database accession no. AL139241 XP002211809 abstract ---	18-20
X	MORALES D E ET AL: "ESTROGEN PROMOTES ANGIOGENIC ACTIVITY IN HUMAN UMBILICAL VEIN ENDOTHELIAL CELLS IN VITRO AND IN A MURINE MODEL" CIRCULATION, AMERICAN HEART ASSOCIATION, DALLAS, TX, US, vol. 91, no. 3, 1 February 1995 (1995-02-01), pages 755-763, XP000574264 ISSN: 0009-7322 the whole document ---	26-29, 42-44
X	DAVIS VICKI L ET AL: "Aberrant reproductive phenotypes evident in transgenic mice expressing the wild-type mouse estrogen receptor." ENDOCRINOLOGY, vol. 135, no. 1, 1994, pages 379-386, XP008008475 ISSN: 0013-7227 page 380, right-hand column, paragraph 3 -page 381, right-hand column, paragraph 4 ---	46
E	WO 01 92495 A (MEYERS RACHEL ;MILLENNIUM PHARM INC (US)) 6 December 2001 (2001-12-06) SEQ ID NO: 2 claims; figures; examples ---	1-25, 40, 41, 45, 46
E	WO 01 83702 A (KIM YOUNGHO ;UNIV HAWAII (US); BOYD CHARLES D (US); CSISZAR KATALI) 8 November 2001 (2001-11-08) SEQ ID NO: 10 (LOXL4) claims; figures; examples ---	1-25, 40, 41, 45, 46
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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/24942

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	WO 00 61774 A (HUMAN GENOME SCIENCES INC ;NI JIAN (US); ROSEN CRAIG A (US); RUBEN) 19 October 2000 (2000-10-19) SEQ ID NO: 9, SEQ ID NO: 7 page 15 -page 16 ---	1-15, 17-25, 40,41
Y	WO 00 37681 A (BHAT RAMESH A ;HARRIS HEATHER (US); AMERICAN HOME PROD (US)) 29 June 2000 (2000-06-29) claims ---	26-39, 42-44
X	SANADA H ET AL: "CHANGES IN COLLAGEN CROSS LINKING AND LYSYL OXIDASE BY ESTROGEN" BIOCHIMICA ET BIOPHYSICA ACTA, vol. 541, no. 3, 1978, pages 408-413, XP008007649 EN ISSN: 0006-3002 cited in the application the whole document ---	1-46
X	OZASA H ET AL: "LYSYL OXIDASE ACTIVITY IN THE MOUSE UTERINE CERVIX IS PHYSIOLOGICALLY REGULATED BY ESTROGEN" ENDOCRINOLOGY, vol. 109, no. 2, 1981, pages 618-621, XP008007638 ISSN: 0013-7227 cited in the application the whole document ---	1-46
P,X	ITO HIROMU ET AL: "Molecular cloning and biological activity of a novel lysyl oxidase-related gene expressed in cartilage" JOURNAL OF BIOLOGICAL CHEMISTRY, AMERICAN SOCIETY OF BIOLOGICAL CHEMISTS, BALTIMORE, MD, US, vol. 276, no. 26, 29 June 2001 (2001-06-29), pages 24023-24029, XP002199860 ISSN: 0021-9258 the whole document ---	1-25,40, 41
A	US 5 945 279 A (POWER RONAN F ET AL) 31 August 1999 (1999-08-31) the whole document -----	1-46

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 01/24942

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:

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

Continuation of Box I.2

Present claim 46 relates to an extremely large number of possible compounds. In fact, the claims contain so many options, that a lack of clarity within the meaning of Article 6 PCT arises to such an extent as to render a meaningful search of the claims impossible. Consequently, the search has been carried out for those parts of the application which do appear to be clear, namely those referring to estrogen receptor, recited in the examples.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/24942

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 0192495	A	06-12-2001	AU 6516201 A WO 0192495 A2 US 2002068322 A1	11-12-2001 06-12-2001 06-06-2002
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