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- 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, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW, 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)
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations
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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 02/014358 A3**

(54) Title: NOVEL SECRETED PROTEINS AND THEIR USES

(57) Abstract: The present invention provides nucleic acid sequences encoding novel human proteins. These novel nucleic acids are useful for constructing the claimed DNA vectors and host cells of the invention and for preparing the claimed nucleic acids, recombinant proteins and antibodies that are useful in the claimed methods and medical uses.

## INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US 01/21124

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7	C12N15/12	C12N15/62	C12N5/10	C12N1/21	C07K14/47
	C07K14/475	C07K16/18	A61K39/395	A61K31/713	A61K38/18

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 C12N A61K

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)

EMBL, EPO-Internal, WPI Data, BIOSIS, MEDLINE

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99 29718 A (GENETICS INST) 17 June 1999 (1999-06-17) cited in the application the whole document ---	1-21
X	US 5 916 751 A (TABIBZADEH SIAMAK ET AL) 29 June 1999 (1999-06-29) the whole document ---	1-21
X	WO 99 09198 A (HUMAN GENOME SCIENCES INC ;EBNER REINHARD (US); RUBEN STEVEN M (US) 25 February 1999 (1999-02-25) cited in the application the whole document ---	1-21
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 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.

"&amp;" document member of the same patent family

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 01/21124

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 99 06443 A (HUYNH THANH V ;LEE SE JIN (US); SEBALD SUZANNE (US); UNIV JOHNS HO) 11 February 1999 (1999-02-11) the whole document ---	1-21
X	KOSAKI K ET AL: "Characterization and mutation analysis of human LEFTY A and LEFTY B, homologues of murine genes implicated in left-right axis development." AMERICAN JOURNAL OF HUMAN GENETICS, vol. 64, no. 3, March 1999 (1999-03), pages 712-721, XP002210149 ISSN: 0002-9297 cited in the application figure 3A ---	1-10
P,X	WO 00 66068 A (NORTH SHORE LONG ISLAND JEWISH) 9 November 2000 (2000-11-09) the whole document -----	1-21

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 01/21124

## 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 claim 18 is 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.: 17(partially), 18 (partially), 19  
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.:  
  
1-21 (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:

Invention 1: Claims 1-21 (all partially)

A nucleic acid of SEQ ID No 1 encoding the polypeptide LP105 of Seq Id No 2.

Furthermore, vectors expressing said polypeptide and derivatives, transformed host cells, antibodies and pharmaceutical compositions comprising said nucleic acid/ polypeptide or antibodies directed to said polypeptide.

Invention 2-19: Claims 1-21 (all partially)

As for invention 1, but relating to nucleic acids of the following SEQ ID NOs and the encoded polypeptides of the following Seq Id NOs.

Nucleic acid SEQ ID NOs:	Polypeptide Seq Id NOs
3	4
5	6
7	8
9	10
11	12
13	14
15	16
17	18
19	20
21	22
23	24
25	26
27	28
29	30
31	32
33	34
35	36
37	38

Furthermore, vectors expressing said polypeptide and derivatives, transformed host cells, antibodies and pharmaceutical compositions comprising said nucleic acid/ polypeptide or antibodies directed to said polypeptide.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 17(partially), 18 (partially), 19

Present claims 17 (partially), 18 (partially), 19 relate to compounds defined by reference to a desirable characteristic or property, namely the ability to have an agonistic or antagonistic effect on the polypeptide of SEQ ID 2. The claims cover all amounts of composition and all compounds having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT only for antibodies directed to the polypeptide of SEQ ID 2. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the compounds by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for claims 17, 18 and 19 only for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to an LP polypeptide, an LP polypeptide antibody, an anti-LP polypeptide ribozyme, a polynucleotide encoding the LP polypeptide of SEQ ID 2.

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.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 01/21124

Patent document cited in search report	A	Publication date	Patent family member(s)	Publication date
WO 9929718	A	17-06-1999	US 6027917 A AU 1463199 A CA 2313381 A1 EP 1037907 A2 JP 2002505851 T WO 9929718 A2 US 2002143159 A1	22-02-2000 28-06-1999 17-06-1999 27-09-2000 26-02-2002 17-06-1999 03-10-2002
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