



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification ⁷ : A61K 38/19, 48/00, A61L 27/54, 29/16, 33/06, A61P 9/10</p>	A3	<p>(11) International Publication Number: WO 00/24412</p> <p>(43) International Publication Date: 4 May 2000 (04.05.00)</p>
<p>(21) International Application Number: PCT/US99/24054</p> <p>(22) International Filing Date: 26 October 1999 (26.10.99)</p> <p>(30) Priority Data: 60/105,587 26 October 1998 (26.10.98) US</p> <p>(71) Applicants: LUDWIG INSTITUTE FOR CANCER RESEARCH [US/US]; 33rd floor, 605 Third Avenue, New York, NY 10158 (US). HELSINKI UNIVERSITY LICENSING LTD. OY [FI/FI]; Viikinkaari 6, FIN-00710 Helsinki (FI).</p> <p>(71)(72) Applicant and Inventor: YLA-HERTTUALA, Seppo [FI/FI]; University of Kuopio, A.I. Virtanen Institute, P.O. Box 1627, FIN-70211 Kuopio (FI).</p>	<p>(72) Inventors: ALITALO, Kari; University of Helsinki, Haartman Institute, Molecular/Cancer Biology Laboratory, P.O. Box 21, (Haartmaninkatu 3), FIN-00014 Helsinki (FI). HILTUNEN, Mikko, O.; University of Kuopio, A.I. Virtanen Institute, P.O. Box 1627, FIN-70211 Kuopio (FI). JELTSCH, Markku, M.; University of Helsinki, Haartman Institute, Molecular/Cancer Biology Laboratory, P.O. Box 21, (Haartmaninkatu 3), FIN-00014 Helsinki (FI). ACHEN, Marc, G.; Ludwig Institute for Cancer Research, Melbourne Branch, P.O. Box Royal Melbourne Hospital, Parkville, VIC 3050 (AU).</p> <p>(74) Agent: GASS, David, A.; Marshall, O'Toole, Gerstein, Murray & Borun, 6300 Sears Tower, 233 S. Wacker Drive, Chicago, IL 60606-6402 (US).</p> <p>(81) Designated States: AU, CA, CN, JP, NO, NZ, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p>Published <i>With international search report.</i></p> <p>(88) Date of publication of the international search report: 3 August 2000 (03.08.00)</p>	
<p>(54) Title: USE OF VEGF-C OR VEGF-D GENE OR PROTEIN TO PREVENT RESTENOSIS</p>		
<p>(57) Abstract</p>		
<p>The present invention provides materials and methods for preventing stenosis or restenosis of a blood vessel using Vascular Endothelial Growth Factor C (VEGF-C) and/or Vascular Endothelial Growth Factor D (VEGF-D) genes or proteins.</p>		

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/24054

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K38/19 A61K48/00 A61L27/54 A61L29/16 A61L33/06
A61P9/10

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 A61K A61L

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	WO 98 33917 A (THE LUDWIG INSTITUTE FOR CANCER RESEARCH) 6 August 1998 (1998-08-06) page 5, line 24 - line 32 page 19, line 8 - line 15 claims 1-57	1-21, 29
Y	--- -/--	22-28



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

14 April 2000

Date of mailing of the international search report

09/05/2000

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/24054

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>WITZENBICHLER, B. J. ET AL: "Bioactivity of vascular endothelial growth factor-2 (= VEGF - C) in vitro and in vivo following intraarterial administration of recombinant protein or intravascular gene transfer in a rabbit ischaemic hindlimb model."</p> <p>EUROPEAN HEART JOURNAL, (1997) VOL. 18, NO. ABSTR. SUPPL., PP. 5. MEETING INFO.: NINETEENTH CONGRESS OF THE EUROPEAN SOCIETY OF CARDIOLOGY TOGETHER WITH THE 32ND ANNUAL GENERAL MEETING OF THE ASSOCIATION OF EUROPEAN PAEDIATRIC CARDIOLOGISTS (AEPC) STOCKHO, XP000891992 abstract</p> <p style="text-align: center;">----</p>	22-28
X	<p>WO 98 19712 A (ST ELIZABETH'S MEDICAL CENTER OF BOSTON) 14 May 1998 (1998-05-14) cited in the application page 11, line 6 - line 15 page 20, line 15; claims 1-23</p> <p style="text-align: center;">----</p>	1-4, 14-29
X	<p>WO 98 07832 A (LUDWIG INSTITUTE FOR CANCER RESEARCH) 26 February 1998 (1998-02-26)</p> <p>page 9, line 9 - line 12 claims 1-77 page 10, line 21 - line 29</p> <p style="text-align: center;">----</p>	1,2, 11-13, 20,21
P,X	<p>FERRARA N ET AL: "Clinical applications of angiogenic growth factors and their inhibitors."</p> <p>NATURE MEDICINE, (DEC 1999) VOL.5, PP. 1359-64., XP002135826 the whole document</p> <p style="text-align: center;">----</p>	1-29
P,X	<p>WO 98 49300 A (COLLATERAL THERAPEUTICS) 5 November 1998 (1998-11-05) column 3, line 10 -column 4, line 2 claims 1-67</p> <p style="text-align: center;">-----</p>	1-29

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 99/24054

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:
Remark: Although claims 1-21 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/US 99/24054

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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		EP 0956339 A	17-11-1999
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		EP 0977854 A	09-02-2000