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see Notice of 4 June 2009

(54) Title: VEGFR-1/NRP-1 TARGETING PEPTIDES

(57) Abstract: The present invention concerns the fields of molecular medicine and targeted delivery of therapeutic agents. More specifically, the present invention relates to the identification of novel peptide sequences that incorporate the amino acids Leu-Pro-Arg (LPR), and particularly D(LPR), that selectively target VEGFR-1 and NRP-1 expressing cells. Targeted molecules in accordance with the invention are useful in the treatment and detection of neovascular or angiogenic VEGF associated disorders, including but not limited to cancer, obesity, diabetes, asthma, arthritis, cirrhosis and ocular diseases.



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INTERNATIONAL SEARCH REPORT

International application No

PCT/US2008/072675

A. CLASSIFICATION OF SUBJECT MATTER

INV. C07K5/08 C07K7/08
ADD.

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)

C07K

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, CHEM ABS Data, EMBASE, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
T	GIORDANO RICARDO J ET AL: "From combinatorial peptide selection to drug prototype (I): Targeting the vascular endothelial growth factor receptor pathway" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, vol. 107, no. 11, March 2010 (2010-03), pages 5112-5117, XP002609254 ISSN: 0027-8424 the whole document ----- -/--	1-43

☒ Further documents are listed in the continuation of Box C.

☒ See patent family 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

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C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PODDA E ET AL: "Dual mode of action of Bac7, a proline-rich antibacterial peptide" BIOCHIMICA ET BIOPHYSICA ACTA - GENERAL SUBJECTS, ELSEVIER SCIENCE PUBLISHERS, NL LNKD- DOI:10.1016/J.BBAGEN.2006.09.006, vol. 1760, no. 11, 1 November 2006 (2006-11-01), pages 1732-1740, XP025014984 ISSN: 0304-4165 [retrieved on 2006-11-01]	24
Y	p. 1734, section 3.1; Table 1, second entry	1-23, 25-43
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Y	p. 13, row 4, col. 5; par. 25	2-43
Y	GIORDANO R J ET AL: "BIOPANNING AND RAPID ANALYSIS OF SELECTIVE INTERACTIVE LIGANDS" NATURE MEDICINE, NATURE PUBLISHING GROUP, NEW YORK, NY, US LNKD- DOI:10.1038/NM1101-1249, vol. 7, no. 11, 1 January 2001 (2001-01-01), pages 1249-1253, XP002909554 ISSN: 1078-8956 p. 1250	1-43
Y	FISCHER P M: "THE DESIGN, SYNTHESIS AND APPLICATION OF STEREOCHEMICAL AND DIRECTIONAL PEPTIDE ISOMERS: A CRITICAL REVIEW" CURRENT PROTEIN AND PEPTIDE SCIENCE, BENTHAM SCIENCE PULBISHERS, NL LNKD- DOI:10.2174/1389203033487054, vol. 4, no. 5, 1 October 2003 (2003-10-01), pages 339-356, XP001205190 ISSN: 1389-2037 the whole document	1-43
Y	GIORDANO ET AL: "Structural Basis for the Interaction of a Vascular Endothelial Growth Factor Mimic Peptide Motif and Its Corresponding Receptors" CHEMISTRY AND BIOLOGY, CURRENT BIOLOGY, LONDON, GB LNKD- DOI:10.1016/J.CHEMBIOL.2005.07.008, vol. 12, no. 10, 1 October 2005 (2005-10-01), pages 1075-1083, XP005162884 ISSN: 1074-5521 * abstract	1-43

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2008/072675

Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:

a. type of material

☒

a sequence listing

☐

table(s) related to the sequence listing

b. format of material

☒

on paper

☒

in electronic form

c. time of filing/furnishing

☐

contained in the international application as filed

☐

filed together with the international application in electronic form

☒

furnished subsequently to this Authority for the purpose of search

2. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

3. Additional comments:

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2008/072675

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
EP 1502599	A1	02-02-2005	AR 039285 A1 16-02-2005
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