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[Continued on next page]

(54) Title: VECTORS AND METHODS TO TREAT ISCHEMIA

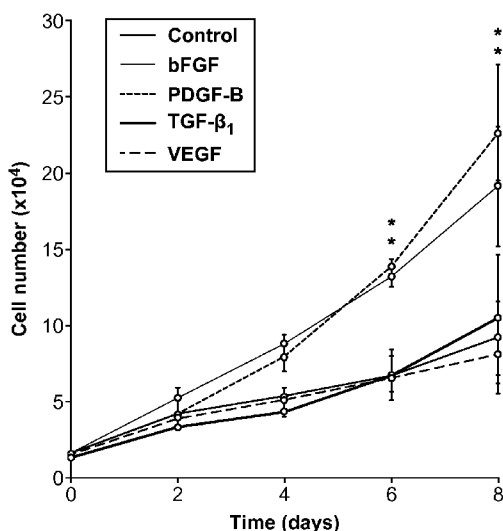


FIG. 2

(57) Abstract: This disclosure relates to vectors, isolated cells, compositions, and methods for the treatment of critical limb ischemia and associated disorders. One aspect of the disclosure relates to a vector comprising a nucleic acid encoding a 165A isoform VEGF protein and a promoter that regulates expression of the nucleic acid encoding the VEGF.





MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK,
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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2014/029386

A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - A61K 48/00 (2014.01) USPC - 424/93.21 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(8) - A61K 35/12, 48/00, C12N 5/10, 15/12, 15/63, 15/86, 15/867 (2014.01) USPC -424/93.21; 435/320.1, 325, 350, 351, 352, 353, 354, 363, 366 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched CPC -A61K 48/00, 48/005, 38/1866; C12N 5/0663, 5/10, 15/63, 15/86, 2501/115, 2501/135, 2501/15, 2501/165, 2740/15043 (2014.06) Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) PatBase, Google Patents, Google, PubMed		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2007/0010469 A1 (CHAN et al) 11 January 2007 (11.01.207) entire document	1, 2, 16, 17, 19, 20, 36
-		
Y		3-15, 18, 21-31
Y	US 2011/0201118 A1 (YANG et al) 18 August 2011 (18.08.2011) entire document	3, 4
Y	US 2005/0026288 A1 (HARMS et al) 03 February 2005 (03.02.2005) entire document	5-7
Y	US 2012/0076763 A1 (ANDERSON et al) 29 March 2012 (29.03.2012) entire document	7, 9, 11-15
Y	US 2011/0256160 A1 (MEIRON et al) 20 October 2011 (20.10.2011) entire document	18, 29-31
Y	US 2009/0155220 A1 (LOSORDO) 18 June 2009 (18.06.2009) entire document	21-28
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input type="checkbox"/>		
* 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 application or patent 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 15 August 2014		Date of mailing of the international search report 29 AUG 2014
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201		Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2014/029386

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

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of a sequence listing filed or furnished:

a. (means)

on paper

in electronic form

b. (time)

in the international application as filed

together with the international application in electronic form

subsequently to this Authority for the purposes of search

2. In addition, in the case that more than one version or copy of a sequence listing 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:

SEQ ID NOs:1 and 26 were searched.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2014/029386

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 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.: 32-35
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 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 additional fees, this Authority did not invite payment of additional fees.
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 and, where applicable, the payment of a protest fee.
- The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.
- No protest accompanied the payment of additional search fees.