

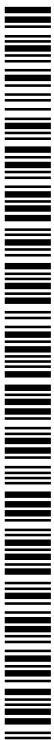


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[Continued on next page]

(54) Title: METHODS OF TREATMENT FOR RETINAL DISEASES

(57) Abstract: The present invention provides methods of treating a retinal disorder comprising administering an effective amount of a neurotrophic factor to a subject having the retinal disorder. The neurotrophic factors useful in the invention include mesencephalic astrocyte-derived neurotrophic factor (MANF) and conserved dopamine neurotrophic factor (CDNF). The present invention further comprises pharmaceutical compositions and kits containing MANF and CDFN.



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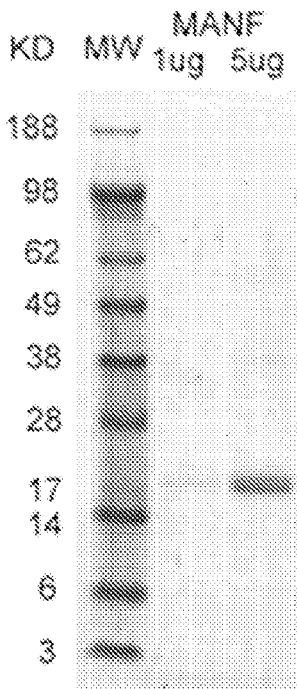


FIGURE 1



KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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**(88) Date of publication of the international search report:**

8 May 2014

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 12/41701

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61K 38/16, A61K 38/00 (2012.01)

USPC - 514/21.2, 514/1.1

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)

USPC - 514/21.2, 514/1.1

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

USPC - 530/350

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PubWEST - PGPB,USPT,USOC,EPAB,JPAB; Dialog Classic Files - 654, 652, 349, 348, 340, 35, 65, 155; UPTO Web Page; PCT Patentscope; Google Scholar; Search terms - treatment, prevention, retinal disorder, neurodegeneration, MANF,CDNF, intravitreal administration, injection, genetic disease, ganglion, photoreceptor, recombinant protein

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X - Y	US 2009/0282495 A1 (SAARMA et al.) 12 November 2009 (12.11.2009) para [0001], [0009]-[0013], [0053], [0145], [0147], [0161], [0163], [0184], [0186], [0200], [0203], [0234], [0244], [0270], [0295], abstract	16-18, 21-23, 26, 29, 45 ----- 1-15, 19, 20, 24, 25, 27, 28, 33, 34, 36-39, 46, 47
X - Y	WO 2011.053675 A2 (RUNEBERG-ROOS et al.) 05 May 2011 (05.05.2011) para [0029], [0041], [0042], [0171], [0174], [0175], [0196], [0210], [0220]	30, 34, 35 ----- 31-33, 36-44
Y	US 2009/0041759 A1 (McVEY et al.) 12 February 2009 (12.02.2009) para [0010], [0012], [0020], [0021], [0051], [0052], [0077], [0079] [0087], [0090], [0093], [0105], [0114], [0117], [0124]	1-15, 19, 20, 39, 44
Y	US 2002/0182198 A1 (COMMISSIONG et al.) 05 December 2002 (05.12.2002) para [0016], [0032], [0119], SEQ ID NO: 1	2, 24, 27, 33, 46
Y	US 2006/0084619 A1 (SAARMA et al.) 20 April 2006 (20.04.2006) para [0008], [0009], [0011], SEQ ID NO: 2	5, 25, 28, 31, 47
Y	US 2008/0305083 A1 (DOREY et al.) 11 December 2008 (11.12.2008) para [0075], [0084], [0085], [0104], [0177]	13, 14, 40-43

 Further documents are listed in the continuation of Box C.

\* 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

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"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

Date of the actual completion of the international search

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 12/41701

## 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: