

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 721767	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2015/054836	International filing date (<i>day/month/year</i>) 9 October 2015 (09-10-2015)	(Earliest) Priority Date (<i>day/month/year</i>) 9 October 2014 (09-10-2014)
Applicant GENVEC, INC.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 6 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

- ☒ the international application in the language in which it was filed
☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6**bis**(a)).

c. ☒ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box No. II)

3. ☐ **Unity of invention is lacking** (see Box No III)

4. With regard to the **title**,

- ☒ the text is approved as submitted by the applicant
☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- ☒ the text is approved as submitted by the applicant
☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. 2
☐ as suggested by the applicant
☒ as selected by this Authority, because the applicant failed to suggest a figure
☐ as selected by this Authority, because this figure better characterizes the invention
b. ☐ none of the figures is to be published with the abstract

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Box No. I 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:
- a. ☒ forming part of the international application as filed:
- ☒ in the form of an Annex C/ST.25 text file.
- ☐ on paper or in the form of an image file.
- b. ☐ furnished together with the international application under PCT Rule 13~~ter~~.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
- c. ☐ furnished subsequent to the international filing date for the purposes of international search only:
- ☐ in the form of an Annex C/ST.25 text file (Rule 13~~ter~~.1(a)).
- ☐ on paper or in the form of an image file (Rule 13~~ter~~.1(b) and Administrative Instructions, Section 713).
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 forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

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A. CLASSIFICATION OF SUBJECT MATTER
INV. C12N15/861 C07K14/47 A61K48/00
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)
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 practicable, search terms used)

EPO-Internal, BIOSIS, Sequence Search, 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.
A	SHOU JIANYONG ET AL: "Robust generation of new hair cells in the mature mammalian inner ear by adenoviral expression of Hath1", MOLECULAR AND CELLULAR NEUROSCIENCES, SAN DIEGO, US, vol. 23, no. 2, 1 June 2003 (2003-06-01), pages 169-179, XP002291286, ISSN: 1044-7431, DOI: 10.1016/S1044-7431(03)00066-6 page 177, left-hand column, last paragraph - right-hand column, paragraph 1; figure 1A ----- -/--	1-15



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 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

9 December 2015

Date of mailing of the international search report

18/12/2015

Name and mailing address of the ISA/

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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.
A	PRAETORIUS MARK ET AL: "Adenovector-mediated hair cell regeneration is affected by promoter type.", ACTA OTO-LARYNGOLOGICA FEB 2010, vol. 130, no. 2, February 2010 (2010-02), pages 215-222, XP009187599, ISSN: 1651-2251 page 215, right-hand column, last paragraph - page 216, left-hand column, line 3 page 220, right-hand column, last paragraph - page 221, right-hand column, line 2 page 222, left-hand column, last paragraph -----	1-15
A	C SCHLECKER ET AL: "Selective atonal gene delivery improves balance function in a mouse model of vestibular disease", GENE THERAPY, vol. 18, no. 9, 7 April 2011 (2011-04-07), pages 884-890, XP055234381, GB ISSN: 0969-7128, DOI: 10.1038/gt.2011.33 see the whole document, in particular the section "Vector production and application" -----	1-15
A	Keerthana Devarajan ET AL: "Adenovector-Mediated Gene Delivery to Human Umbilical Cord Mesenchymal Stromal Cells Induces Inner Ear Cell Phenotype", Cellular reprogramming, 1 February 2013 (2013-02-01), pages 43-54, XP055234384, United States DOI: 10.1089/cell.2011.0097 Retrieved from the Internet: URL:http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4298749/pdf/cell.2011.0097.pdf [retrieved on 2015-12-08] see in particular section "Adenoviral vectors and vector production" -----	1-15
A	WO 2004/076626 A2 (GENVEC INC [US]; BROUGH DOUGLAS E [US]) 10 September 2004 (2004-09-10) see the whole document, in particular the cited passages; paragraphs [0007], [0008]; claims 22-24 ----- -/--	1-15

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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.
A	US 5 851 806 A (KOVESDI IMRE [US] ET AL) 22 December 1998 (1998-12-22) cited in the application see the whole document, in particular the cited passages; column 8, lines 45-67 -----	9

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Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)		Publication date
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			AU	711366 B2	14-10-1999
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			CZ	9801827 A3	11-11-1998
			DE	69635931 T2	30-11-2006
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			IS	4762 A	03-06-1998
			JP	3299761 B2	08-07-2002
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			JP	2002199894 A	16-07-2002
			NO	982687 A	13-07-1998
			NZ	325627 A	28-01-2000
			PL	327984 A1	04-01-1999
			SK	78598 A3	02-12-1998
			US	5851806 A	22-12-1998
			WO	9721826 A2	19-06-1997
