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NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD,
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SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
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(54) **Title:** USE OF A NEUREGULIN TO TREAT PERIPHERAL NERVE INJURY

(57) **Abstract:** Embodiments of the invention are directed to use of neuregulins to prevent or treat peripheral nerve injury, to attenuate, ameliorate or avoid the loss of peripheral nerve function.

INTERNATIONAL SEARCH REPORT

International application No PCT/US2010/052715

A. CLASSIFICATION OF SUBJECT MATTER INV. A61K38/18 A61P25/02 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) A61K A61P				
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, 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.		
X	WO 01/26607 A2 (UAB RESEARCH FOUNDATION [US]) 19 April 2001 (2001-04-19) page 8, paragraph 4; claims 42-46 -----	1-9		
X	WO 01/89568 A1 (CENES PHARMACEUTICALS INC [US]) 29 November 2001 (2001-11-29) page 4, line 27 - page 5, line 27 page 20, line 1 - page 21, line 8 page 25, line 9 - page 26, line 6 ----- -/--	1-9		
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.				
* Special categories of cited documents : <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none; vertical-align: top;"> "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 </td> <td style="width: 50%; border: none; vertical-align: top;"> "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 </td> </tr> </table>			"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
"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			
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Name and mailing address of the ISA/ European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Authorized officer Schnack, Anne			

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2010/052715

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>CHEN L-E ET AL: "Recombinant human glial growth factor 2 (rhGGF 2) improves functional recovery of crushed peripheral nerve (a double-blind study)", NEUROCHEMISTRY INTERNATIONAL, vol. 33, no. 4, 1 October 1998 (1998-10-01), pages 341-351, XP002262023, PERGAMON PRESS, OXFORD, GB ISSN: 0197-0186, DOI: 10.1016/S0197-0186(98)00037-0 the whole document</p>	1-9
A	<p>----- DIMACHKIE M M ET AL: "Peripheral nerve injury after brief lithotomy for transurethral collagen injection.", UROLOGY, vol. 56, no. 4, 1 October 2000 (2000-10-01), pages 669IV-669VI, XP002619684, ISSN: 1527-9995 the whole document</p>	1-9
A	<p>----- SHARMA AJEET D ET AL: "Peripheral nerve injuries during cardiac surgery: Risk factors, diagnosis, prognosis, and prevention", ANESTHESIA AND ANALGESIA, vol. 91, no. 6, December 2000 (2000-12), pages 1358-1369, XP002619685, ISSN: 0003-2999 the whole document</p>	1-9
A	<p>----- DATABASE MEDLINE [Online] US NATIONAL LIBRARY OF MEDICINE (NLM), BETHESDA, MD, US; February 2009 (2009-02), BURKE SIÛN ET AL: "When pain after surgery doesn't go away...", XP002619686, Database accession no. NLM19143655 abstract & BIOCHEMICAL SOCIETY TRANSACTIONS FEB 2009 LNKD- PUBMED:19143655, vol. 37, no. Pt 1, February 2009 (2009-02), pages 318-322, ISSN: 1470-8752</p> <p>----- -/--</p>	1-9

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2010/052715

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	COLAK T ET AL: "Comparison of nerve conduction velocities of lower extremities between runners and controls", JOURNAL OF SCIENCE AND MEDICINE IN SPORT, vol. 8, no. 4, 1 December 2005 (2005-12-01), pages 403-410, XP025343663, SPORTS MEDICINE AUSTRALIA, BELCONNEN, AU ISSN: 1440-2440, DOI: 10.1016/S1440-2440(05)80055-6 [retrieved on 2005-12-01] the whole document	1-9
X	----- US 6 096 873 A (SCHAEFER GABRIELE MARIA [US] ET AL) 1 August 2000 (2000-08-01) column 24, line 56 - line 58	1-9
X	----- US 2002/082229 A1 (GODOWSKI PAUL J [US] ET AL) 27 June 2002 (2002-06-27) paragraph [0243]	1-9

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2010/052715

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.:
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:

see additional sheet

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 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.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/US2010/052715

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0126607	A2	AU 7873200 A	23-04-2001
WO 0189568	A1	AT 516304 T	15-07-2011
		AU 7494701 A	03-12-2001
		AU 2001274947 B2	17-08-2006
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		US 6500941 B1	31-12-2002
US 2002082229	A1	US 6994856 B1	07-02-2006
		US 2006051351 A1	09-03-2006

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 2-4, 6, 7(completely); 1(partially)

Prevention of peripheral nerve injury by neuregulin prior to a surgical procedure

2. claims: 5(completely); 1(partially)

Prevention of peripheral nerve injury by neuregulin prior to childbirth

3. claims: 8, 9(completely); 1(partially)

Treatment/Prevention/Diagnosis of peripheral nerve injury by neuregulin in case of erectile dysfunction:

(a) as a result of any kind of accident or injury, e.g. knife and projectile wounds

(b) at risk of suffering a peripheral nerve injury such as prior to prostatectomy (prophylaxis)

(c) method of diagnosing the etiology of erectile dysfunction
