



(51) International Patent Classification:

A61K 38/22 (2006.01) A61P 21/02 (2006.01)
A61K 38/16 (2006.01) A61P 21/00 (2006.01)

(21) International Application Number:

PCT/US2011/035831

(22) International Filing Date:

10 May 2011 (10.05.2011)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/333,661 11 May 2010 (11.05.2010) US

(71) Applicant (for all designated States except US): **QUEST-COR PHARMACEUTICALS** [US/US]; 3260 Whipple Road, Union City, CA 94587 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **SOMERA-MOLINA, Kathleen, C.** [US/US]; 9460 Farley Drive, Huntley, IL 60142 (US).

(74) Agents: **MUNSON, Peter, R.** et al.; Wilson Sonsini Goodrich & Rosati, 650 Page Mill Road, Palo Alto, CA 94304-1050 (US).

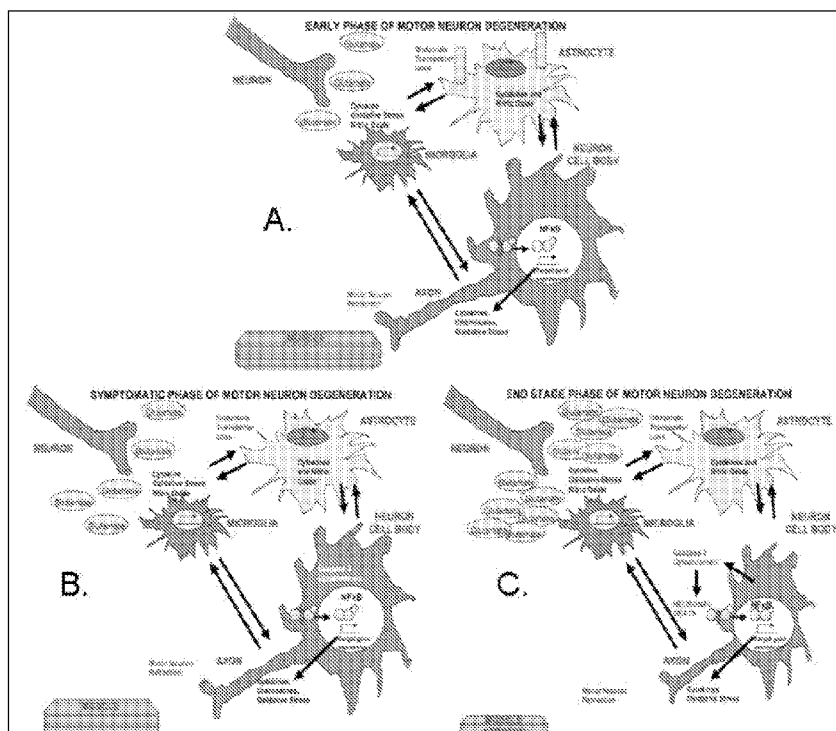
(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, 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, RO, RS, RU, 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.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

[Continued on next page]

(54) Title: ACTH FOR TREATMENT OF AMYOTROPHIC LATERAL SCLEROSIS

FIGURE 1



(57) Abstract: Provided herein are methods of treatment of Amyotrophic Lateral Sclerosis comprising administration of adrenocorticotrophic hormone (ACTH), or fragment, analog, complex or aggregate thereof, or any combination thereof, to an individual in need thereof.



GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*

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

15 March 2012

A. CLASSIFICATION OF SUBJECT MATTER*A61K 38/22(2006.01)i, A61K 38/16(2006.01)i, A61P 21/02(2006.01)i, A61P 21/00(2006.01)i*

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 38/22; A61K 31/522; C07D 471/04; A61K 38/17; A61K 31/437

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

Korean utility models and applications for utility models

Japanese utility models and applications for utility models

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

eKOMPASS(KIPO internal) & Keywords: ACTH, amyotrophic lateral sclerosis,

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GILBERT H. GLASER, PSYCHOSOMATIC MEDICINE, 1953, vol. XV, no.4, pp. 280-291. See page 286, left column.	1-27
A	US 2005-0009847 A1 (BERTILSSON GORAN et al.) 13 January 2005 See the whole document.	1-27
A	US 2005-0026937 A1 (HARTZ RICHARD A.) 03 February 2005 See the whole document.	1-27
A	US 7045529 B2 (RICHARD G. WILDE et al.) 16 May 2006 See the whole document.	1-27



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

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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

"&" document member of the same patent family

Date of the actual completion of the international search

16 JANUARY 2012 (16.01.2012)

Date of mailing of the international search report

16 JANUARY 2012 (16.01.2012)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 189 Cheongsu-ro,
Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

KIM Jung Tae

Telephone No. 82-42-481-5594



INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2011/035831**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.: 28
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 an additional fee, this Authority did not invite payment of any additional fee.
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/US2011/035831

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2005-0009847 A1	13.01.2005	AU 2003-280117 A1	15.06.2004
		AU 2003-280117 B2	10.09.2009
		CA 2506850 A1	03.06.2004
		CA 2546843 A1	09.09.2005
		EP 1583541 A2	12.10.2005
		EP 1583541 B1	12.01.2011
		EP 1750752 A2	14.02.2007
		JP 2006-514630 A	11.05.2006
		JP 2010-195841 A	09.09.2010
		US 2005-0009742 A1	13.01.2005
		US 2005-0209142 A1	22.09.2005
		US 2006-0079448 A1	13.04.2006
		US 2009-0232775 A1	17.09.2009
		US 6969702 B2	29.11.2005
		WO 2004-045592 A2	03.06.2004
		WO 2004-045592 A3	03.06.2004
		WO 2005-081619 A2	09.09.2005
		WO 2005-081619 A3	09.09.2005
US 2005-0026937 A1	03.02.2005	US 2003-0119831 A1	26.06.2003
		US 7098217 B2	29.08.2006
US 7045529 B2	16.05.2006	AU 3264201 A	25.06.2001
		AU 3264201 A	25.06.2001
		CA 2392992 A1	21.06.2001
		EP 1244666 A1	02.10.2002
		JP 2003-516992 A	20.05.2003
		JP 2003-516992 T	20.05.2003
		JP 2003-516992 T	20.05.2003
		US 2004-229887 A1	18.11.2004
		WO 01-44248A1	21.06.2001
		WO 01-44248A1	21.06.2001