(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
12 November 2009 (12.11.2009)

PCT

(10) International Publication Number
WO 2009/137795 A3

(51) International Patent Classification:
A61K 38/16 (2006.01) *A61K 48/00* (2006.01)
A61P 3/10 (2006.01) *A61P 25/28* (2006.01)

(21) International Application Number:
PCT/US2009/043343

(22) International Filing Date:
8 May 2009 (08.05.2009)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
61/051,608 8 May 2008 (08.05.2008) US

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(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, 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, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, 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, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (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, SE, SI, SK, 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))*

[Continued on next page]

(54) Title: METHODS FOR TREATING ENDOPLASMIC RETICULUM (ER) STRESS DISORDERS

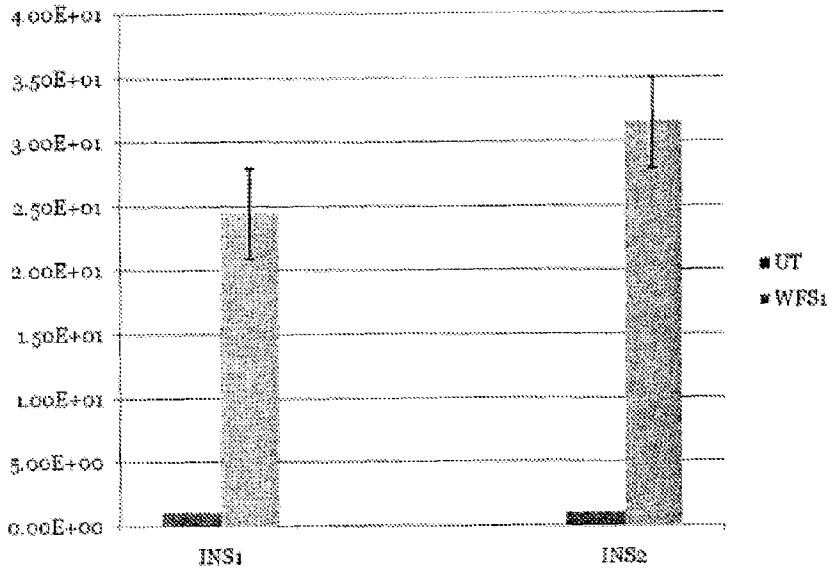


Figure 9

(57) Abstract: The present invention provides methods for treating ER stress disorders and for identifying compounds for treating ER stress disorders.

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Published:

— *with international search report (Art. 21(3))*

(88) Date of publication of the international search report:
25 February 2010

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/043343

A. CLASSIFICATION OF SUBJECT MATTER

A61K 38/16(2006.01)i, A61P 3/10(2006.01)i, A61K 48/00(2006.01)i, A61P 25/28(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)

IPC 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)

e-KOMPASS, PubMed(Keywords: ER-stress, HRD1, ATF6, WFS1)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KANEKO, M. et al., "Human HRD1 protects against ER stress-induced apoptosis through ER-associated degradation", FEBS Letters, 2002, Vol. 532, pages 147-152 See abstract and pages 150, 151	3, 6, 7, 9-11
A	US 20060280744 A1(POPKO, B. et al.) 14 December 2006 See claims 1, 2, 5, 6	3, 6, 7, 9-11
A	KANEKO, M. et al., "A different pathway in the endoplasmic reticulum stress-induced expression of human HRD1 and SEL1 genes", FEBS Letters, 2007, Vol. 581, pages 5355-5360 See abstract and fig. 2	3, 6, 7, 9-11
A	OMURA, T., "A ubiquitin ligase HRD1 promotes the degradation of Pael receptor, a substrate of Parkin", Journal of Neurochemistry, 2006, Vol. 99, pages 1456-1469 See abstract and pages 1462-1466	3, 6, 7, 9-11

☒ 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 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	Date of mailing of the international search report
04 DECEMBER 2009 (04.12.2009)	**04 DECEMBER 2009 (04.12.2009)**
Name and mailing address of the ISA/KR Korean Intellectual Property Office Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea Facsimile No. 82-42-472-7140	Authorized officer KIM, YUN-KYUNG Telephone No. 82-42-481-8406

Form PCT/ISA/210 (second sheet) (July 2008)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/043343

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.: 1, 2, 4, 5, 8
because they relate to subject matter not required to be searched by this Authority, namely:
Claims 1, 2, 4, 5, 8 pertain to methods of treatment of the human by therapy as well as diagnosis method and thus relate to a subject matter which this International Searching Authority is not required, under Article 17(2)(a)(i) of the PCT and Rule 39.1(iv) of the Regulations under the PCT, to search.

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:

1. ☐ As all required addtional 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

International application No.
PCT/US2009/043343

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FONSECA, S. G. et al., "WFS1 is a novel component of the unfolded protein response and maintains homeostasis of the endoplasmic reticulum in pancreatic beta-cells", J. B. C., 2005, Vol. 280, No. 47, pages 39609-39615 See the abstract	3, 6, 7, 9-11
A	YAMADA, T. et al., "WFS1-deficiency increases endoplasmic reticulum stress, impairs cell cycle progression and triggers the apoptotic pathway specifically in pancreatic beta-cells", Human Molecular genetics, 2006, Vol. 15, No. 10, pages 1600-1609 See the introduction	3, 6, 7, 9-11

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2009/043343

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2006-0280744 A1	14.12.2006	CA 2612374 A1	28.12.2006
		EP 1909562 A2	16.04.2008
		JP 2008-546704 A	25.12.2008
		US 2008-0096202 A1	24.04.2008
		US 07423194 B2	09.09.2008
		US 2006-0280685 A1	14.12.2006
		US 2006-0282905 A1	14.12.2006
		WO 2006-138412 A2	28.12.2006
		WO 2006-138412 A3	28.12.2006