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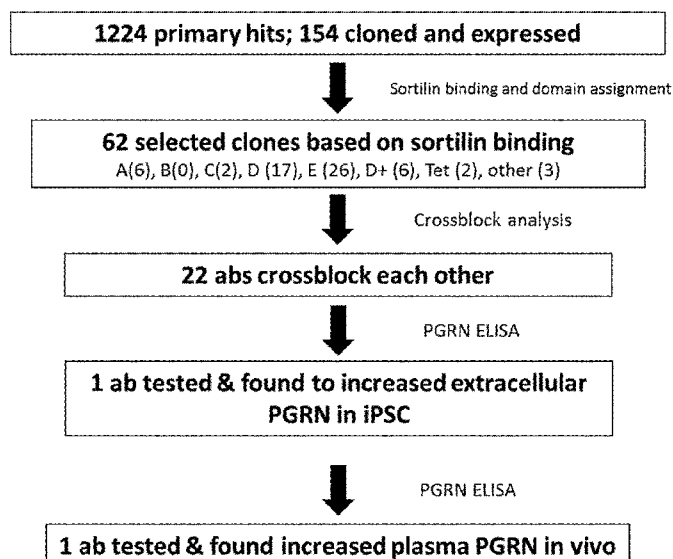
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(54) Title: AGENTS, USES AND METHODS FOR TREATMENT

Figure 1



(57) Abstract: The present invention relates to monoclonal anti-Sortilin antibodies which have been found useful in correcting a deficient level of progranulin (PGRN). In particular, these antibodies can be used in the treatment of frontotemporal dementia (FTD) and amyotrophic lateral sclerosis (ALS) and other neurodegenerative disorders such as Alzheimers disease (AD).



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INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2018/069460

A. CLASSIFICATION OF SUBJECT MATTER
 INV. C07K16/28 A61K39/00
 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)

C07K 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, WPI Data, BIOSIS, Sequence Search, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2016/164637 A1 (ALECTOR LLC [US]) 13 October 2016 (2016-10-13)	1-9, 82-93
Y	paragraph [0013] - paragraph [0014] tables 1,6,8,9	10-13

X	WO 2017/009327 A1 (H LUNDBECK AS [DK]) 19 January 2017 (2017-01-19)	1-9, 82-93
Y	figures 2, 16 paragraph [0022] - paragraph [0023] paragraph [00148] - paragraph [00150] paragraph [00171] paragraph [00175] paragraph [00203]	10-13
	----- -/-	



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

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INTERNATIONAL SEARCH REPORT

International application No

PCT/EP2018/069460

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	NYKJAER A ET AL: "Sortilin is essential for proNGF-induced neuronal cell death", NATURE, MACMILLAN JOURNALS LTD, LONDON, GB, vol. 427, 26 February 2004 (2004-02-26), pages 843-848, XP002286438, ISSN: 0028-0836, DOI: 10.1038/NATURE02319 the whole document -----	1-13, 82-93
A	FATEMEH GHAEMIMANESH ET AL: "Production and Characterization of a Novel Monoclonal Antibody Against Human Sortilin", MONOCLONAL ANTIBODIES IN IMMUNODIAGNOSIS AND IMMUNOTHERAPY, vol. 34, no. 6, 1 December 2015 (2015-12-01), pages 390-395, XP055305165, ISSN: 2167-9436, DOI: 10.1089/mab.2015.0042 abstract -----	1-13, 82-93
A	VINCENT J-P ET AL: "Neurotensin and neurotensin receptors", TRENDS IN PHARMACOLOGICAL SCIENCES, ELSEVIER, HAYWARTH, GB, vol. 20, no. 7, 1 July 1999 (1999-07-01), pages 302-309, XP004171851, ISSN: 0165-6147, DOI: 10.1016/S0165-6147(99)01357-7 abstract; figures 1-3 -----	1-13, 82-93

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP2018/069460

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.:

10-13(completely); 1-9, 82-93(partially)

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.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

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

1. claims: 10-13(completely); 1-9, 82-93(partially)

An antibody defined by SEQ. ID 1-6 , SEQ. 109, SEQ. 110 capable of binding in or with E region of sortilin as defined in SEQ. ID 146

2. claims: 14-17(completely); 1-9, 82-93(partially)

An antibody defined by SEQ. ID 7-12 , SEQ. 111, SEQ. 112 capable of binding in or with E region of sortilin as defined in SEQ. ID 146

3. claims: 18-21(completely); 1-9, 82-93(partially)

An antibody defined by SEQ. ID 13-18 , SEQ. 113, SEQ. 114 capable of binding in or with E region of sortilin as defined in SEQ. ID 146

4. claims: 22-25(completely); 1-9, 82-93(partially)

An antibody defined by SEQ. ID 19-24 , SEQ. 115, SEQ. 116 capable of binding in or with E region of sortilin as defined in SEQ. ID 146

5. claims: 26-29(completely); 1-9, 82-93(partially)

An antibody defined by SEQ. ID 25-30 , SEQ. 117, SEQ. 118 capable of binding in or with E region of sortilin as defined in SEQ. ID 146

6. claims: 30-33(completely); 1-9, 82-93(partially)

An antibody defined by SEQ. ID 31-36 , SEQ. 119, SEQ. 120 capable of binding in or with E region of sortilin as defined in SEQ. ID 146

7. claims: 34-37(completely); 1-9, 82-93(partially)

An antibody defined by SEQ. ID 37-42 , SEQ. 121, SEQ. 122 capable of binding in or with E region of sortilin as defined in SEQ. ID 146

8. claims: 38-41(completely); 1-9, 82-93(partially)

An antibody defined by SEQ. ID 43-48 , SEQ. 123, SEQ. 124

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

capable of binding in or with E region of sortilin as
defined in SEQ. ID 146

9. claims: 42-45(completely); 1-9, 82-93(partially)

An antibody defined by SEQ. ID 49-54 , SEQ. 125, SEQ. 126
capable of binding in or with E region of sortilin as
defined in SEQ. ID 146

10. claims: 46-49(completely); 1-9, 82-93(partially)

An antibody defined by SEQ. ID 55-60 , SEQ. 127, SEQ. 128
capable of binding in or with E region of sortilin as
defined in SEQ. ID 146

11. claims: 50-53(completely); 1-9, 82-93(partially)

An antibody defined by SEQ. ID 61-66 , SEQ. 129, SEQ. 130
capable of binding in or with E region of sortilin as
defined in SEQ. ID 146

12. claims: 54-57(completely); 1-9, 82-93(partially)

An antibody defined by SEQ. ID 67-72 , SEQ. 131, SEQ. 132
capable of binding in or with E region of sortilin as
defined in SEQ. ID 146

13. claims: 58-61(completely); 1-9, 82-93(partially)

An antibody defined by SEQ. ID 73-78 , SEQ. 133, SEQ. 134
capable of binding in or with E region of sortilin as
defined in SEQ. ID 146

14. claims: 62-65(completely); 1-9, 82-93(partially)

An antibody defined by SEQ. ID 79-84 , SEQ. 135, SEQ. 136
capable of binding in or with E region of sortilin as
defined in SEQ. ID 146

15. claims: 66-69(completely); 1-9, 82-93(partially)

An antibody defined by SEQ. ID 85-90 , SEQ. 137, SEQ. 138
capable of binding in or with E region of sortilin as
defined in SEQ. ID 146

16. claims: 70-73(completely); 1-9, 82-93(partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

An antibody defined by SEQ. ID 91-96 , SEQ. 139, SEQ. 140
capable of binding in or with E region of sortilin as
defined in SEQ. ID 146

17. claims: 74-77(completely); 1-9, 82-93(partially)

An antibody defined by SEQ. ID 97-102 , SEQ. 141, SEQ. 142
capable of binding in or with E region of sortilin as
defined in SEQ. ID 146

18. claims: 78-81(completely); 1-9, 82-93(partially)

An antibody defined by SEQ. ID 103-108 , SEQ. 143, SEQ.
144capable of binding in or with E region of sortilin as
defined in SEQ. ID 146

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2018/069460

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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