

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

|                                                    |                                                                                                  |                                                                          |
|----------------------------------------------------|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|
| Applicant's or agent's file reference<br>008541344 | <b>FOR FURTHER ACTION</b><br>see Form PCT/ISA/220<br>as well as, where applicable, item 5 below. |                                                                          |
| International application No.<br>PCT/EP2024/050407 | International filing date (day/month/year)<br>9 January 2024 (09-01-2024)                        | (Earliest) Priority Date (day/month/year)<br>9 January 2023 (09-01-2023) |
| Applicant<br><br>ALCHEMAB THERAPEUTICS LTD         |                                                                                                  |                                                                          |

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 5 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 43.6bis(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. 5  
☒ 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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International application No.

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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.
  - b. ☒ furnished subsequent to the international filing date for the purposes of international search (Rule 13*ter*.1(a)).  
☒ accompanied by a statement to the effect that the sequence listing does not go beyond the disclosure in the international application as filed.
2. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, this report has been established to the extent that a meaningful search could be carried out without a WIPO Standard ST.26 compliant sequence listing.
3. Additional comments:

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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
| <b>A. CLASSIFICATION OF SUBJECT MATTER</b><br><b>INV. C07K16/18 A61P25/28</b><br><b>ADD. A61K39/00</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                               |                                                                         |
| According to International Patent Classification (IPC) or to both national classification and IPC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                               |                                                                         |
| <b>B. FIELDS SEARCHED</b><br>Minimum documentation searched (classification system followed by classification symbols)<br><b>C07K A61K A61P</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                               |                                                                         |
| 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)<br><b>EPO-Internal, BIOSIS, EMBASE, WPI Data</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                               |                                                                         |
| <b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                               |                                                                         |
| Category*                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                                                                                                                                            | Relevant to claim No.                                                   |
| <b>A</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>F MILLE ET AL: "Interfering with multimerization of netrin-1 receptors triggers tumor cell death", CELL DEATH &amp; DIFFERENTIATION, vol. 16, no. 10, 19 June 2009 (2009-06-19), pages 1344-1351, XP055219239, GB ISSN: 1350-9047, DOI: 10.1038/cdd.2009.75 e.g. abstract; the whole document</b><br>----- | <b>1-42</b>                                                             |
| <b>X</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>WO 2017/076864 A1 (NETRIS PHARMA [FR]) 11 May 2017 (2017-05-11)</b>                                                                                                                                                                                                                                        | <b>1, 37, 38, 41</b>                                                    |
| <b>Y</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>e.g. page 7, paragraphs 1-2; claims 1-11; the whole document</b><br>-----<br>-/--                                                                                                                                                                                                                          | <b>1-42</b>                                                             |
| <input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> See patent family annex.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                               |                                                                         |
| <p>* Special categories of cited documents :</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"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)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"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</p> <p>"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</p> <p>"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</p> <p>"&amp;" document member of the same patent family</p> |                                                                                                                                                                                                                                                                                                               |                                                                         |
| Date of the actual completion of the international search<br><b>26 April 2024</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                               | Date of mailing of the international search report<br><b>13/05/2024</b> |
| Name and mailing address of the ISA/<br>European Patent Office, P.B. 5818 Patentlaan 2<br>NL - 2280 HV Rijswijk<br>Tel. (+31-70) 340-2040,<br>Fax: (+31-70) 340-3016                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                               | Authorized officer<br><b>Gruber, Andreas</b>                            |

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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. |
| X                                                    | <p>GUIQIN CHEN: "Netrin-1 receptor UNC5C cleavage by active [delta]-secretase enhances neurodegeneration, promoting Alzheimer's disease pathologies", SCIENCE ADVANCES, vol. 7, no. 16, 16 April 2021 (2021-04-16), XP093154734, US</p> <p>ISSN: 2375-2548, DOI: 10.1126/sciadv.abe4499</p> <p>Retrieved from the Internet:<br/>URL:https://www.science.org/doi/pdf/10.1126/sciadv.abe4499&gt;</p>                                                                | 1, 37, 38, 41         |
| Y                                                    | <p>e.g. abstract; page 11, right-hand column, paragraph 1, third last sentence; page 2, left-hand column, last paragraph, last half till right-hand column, paragraph 1; the whole document</p> <p>-----</p>                                                                                                                                                                                                                                                      | 1-42                  |
| Y                                                    | <p>WO 2013/071119 A2 (GENENTECH INC [US]; HOFFMANN LA ROCHE [CH])<br/>16 May 2013 (2013-05-16)<br/>blocking the aberrant apoptotic signaling of the T835M UNC5C variant may treat AD (the whole document, e.g. page 44, lines 9-11). D2 discloses NTN1 neutralizing agents, e.g. an antibody, which bind to a netrin-1 receptor, e.g. UNC5C for treating cancer (the whole document, e.g. page 7, paragraphs 1-2; class 1-11; the whole document</p> <p>-----</p> | 1-42                  |
| A                                                    | <p>P R Spilman: "Netrin-1 Interrupts Amyloid-[beta] Amplification, Increases sA[beta]PP[alpha] in vitro and in vivo, and Improves Cognition in a Mouse Model of Alzheimer's Disease - IOS Press",<br/>/ 26 April 2016 (2016-04-26), XP093155020,<br/>Retrieved from the Internet:<br/>URL:https://content.iospress.com/articles/journal-of-alzheimers-disease/jad151046<br/>the whole document</p> <p>-----</p>                                                   | 1-42                  |

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

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| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
|-------------------------------------------|---------------------|----------------------------|---------------------|
| WO 2017076864 A1                          | 11-05-2017          | AR 106543 A1               | 24-01-2018          |
|                                           |                     | TW 201720459 A             | 16-06-2017          |
|                                           |                     | WO 2017076864 A1           | 11-05-2017          |
| WO 2013071119 A2                          | 16-05-2013          | AR 088827 A1               | 10-07-2014          |
|                                           |                     | BR 112014011127 A2         | 16-05-2017          |
|                                           |                     | CA 2854779 A1              | 16-05-2013          |
|                                           |                     | CN 103930568 A             | 16-07-2014          |
|                                           |                     | CN 105063186 A             | 18-11-2015          |
|                                           |                     | CN 106011243 A             | 12-10-2016          |
|                                           |                     | EP 2776582 A2              | 17-09-2014          |
|                                           |                     | HK 1214631 A1              | 29-07-2016          |
|                                           |                     | JP 6338530 B2              | 06-06-2018          |
|                                           |                     | JP 2014533949 A            | 18-12-2014          |
|                                           |                     | JP 2018166507 A            | 01-11-2018          |
|                                           |                     | KR 20140089384 A           | 14-07-2014          |
|                                           |                     | RU 2014123511 A            | 20-12-2015          |
|                                           |                     | US 2014371094 A1           | 18-12-2014          |
|                                           |                     | WO 2013071119 A2           | 16-05-2013          |