

CLAIMS

1. A progastrin-binding antibody, or an antigen-binding fragment thereof, for use in the prevention or the treatment of lung cancer.
2. A progastrin-binding antibody, or an antigen-binding fragment thereof, for the
5 use of claim 1, wherein said progastrin-binding antibody, or antigen-binding fragment thereof, is selected among single chain antibodies, camelized antibodies, IgA1 antibodies, IgA2 antibodies, IgD antibodies, IgE antibodies, IgG1 antibodies, IgG2 antibodies, IgG3 antibodies, IgG4 antibodies and IgM antibodies.
- 10 3. A progastrin-binding antibody, or an antigen-binding fragment thereof, for the use of any one of claims 1 or 2, wherein said progastrin-binding antibody, or an antigen-binding fragment thereof, is selected among N-terminal anti-progastrin antibodies and C-terminal anti-progastrin antibodies.
- 15 4. A progastrin-binding antibody, or an antigen-binding fragment thereof, for the use of any one of claims 1 to 3, wherein said progastrin-binding antibody, or an antigen-binding fragment thereof, is a neutralizing antibody.
5. A progastrin-binding antibody, or an antigen-binding fragment thereof, for the use of any one of claims 1 to 4, wherein said antibody is selected in the group consisting of:
 - 20 - An antibody comprising a heavy chain comprising at least one, preferentially at least two, preferentially three, of CDR-H1, CDR-H2 and CDR-H3 of amino acid sequences SEQ ID N°4, 5 and 6, respectively, and a light chain comprising at least one, preferentially at least two, preferentially three, of CDR-L1, CDR-L2 and CDR-L3 of amino acid
25 sequences SEQ ID N°7, 8 and 9, respectively,
 - An antibody comprising a heavy chain comprising at least one, preferentially at least two, preferentially three, of CDR-H1, CDR-H2 and CDR-H3 of amino acid sequences SEQ ID N°10, 11 and 12, respectively, and a light chain comprising at least one, preferentially at least two,
30 preferentially three, of CDR-L1, CDR-L2 and CDR-L3 of amino acid sequences SEQ ID N°13, 14 and 15, respectively,

- 5 - An antibody comprising a heavy chain comprising at least one, preferentially at least two, preferentially three, of CDR-H1, CDR-H2 and CDR-H3 of amino acid sequences SEQ ID N° 16, 17 and 18, respectively, and a light chain comprising at least one, preferentially at least two, preferentially three, of CDR-L1, CDR-L2 and CDR-L3 of amino acid sequences SEQ ID N° 19, 20 and 21, respectively,
- 10 - An antibody comprising a heavy chain comprising at least one, preferentially at least two, preferentially three, of CDR-H1, CDR-H2 and CDR-H3 of amino acid sequences SEQ ID N° 22, 23 and 24, respectively, and a light chain comprising at least one, preferentially at least two, preferentially three, of CDR-L1, CDR-L2 and CDR-L3 of amino acid sequences SEQ ID N° 25, 26 and 27, respectively,
- 15 - An antibody comprising a heavy chain comprising at least one, preferentially at least two, preferentially three, of CDR-H1, CDR-H2 and CDR-H3 of amino acid sequences SEQ ID N° 28, 29 and 30, respectively, and a light chain comprising at least one, preferentially at least two, preferentially three, of CDR-L1, CDR-L2 and CDR-L3 of amino acid sequences SEQ ID N° 31, 32 and 33, respectively, and
- 20 - An antibody comprising a heavy chain comprising at least one, preferentially at least two, preferentially three, of CDR-H1, CDR-H2 and CDR-H3 of amino acid sequences SEQ ID N° 34, 35 and 36, respectively, and a light chain comprising at least one, preferentially at least two, preferentially three, of CDR-L1, CDR-L2 and CDR-L3 of amino acid sequences SEQ ID N° 37, 38 and 39, respectively.
- 25 6. A progastrin-binding antibody, or an antigen-binding fragment thereof, for the use of any one of claims 1 to 5, wherein said antibody is selected in the group consisting of:
- 30 • A monoclonal antibody comprising a heavy chain of amino acid sequence SEQ ID N° 41 and a light chain of amino acid sequence SEQ ID N° 42;
- A monoclonal antibody comprising a heavy chain of amino acid sequence SEQ ID N° 43 and a light chain of amino acid sequence SEQ ID N° 44;

- A monoclonal antibody comprising a heavy chain of amino acid sequence SEQ ID N° 45 and a light chain of amino acid sequence SEQ ID N° 46;
 - A monoclonal antibody comprising a heavy chain of amino acid sequence SEQ ID N° 47 and a light chain of amino acid sequence SEQ ID N° 48;
 - 5 • A monoclonal antibody comprising a heavy chain of amino acid sequence SEQ ID N° 49 and a light chain of amino acid sequence SEQ ID N° 50; and
 - A monoclonal antibody comprising a heavy chain of amino acid sequence SEQ ID N° 51 and a light chain of amino acid sequence SEQ ID N° 52.
7. A progastrin-binding antibody, or an antigen-binding fragment thereof, for
10 the use of any one of claims 1 to 5, wherein said antibody is a humanized antibody.
8. A progastrin-binding antibody, or an antigen-binding fragment thereof, for the use of claim 7, wherein said antibody is selected in the group consisting of:
- 15 • A humanized antibody comprising a heavy chain variable region of amino acid sequence SEQ ID N° 53, and a light chain variable region of amino acid sequence SEQ ID N° 54;
 - A humanized antibody comprising a heavy chain variable region of amino acid sequence SEQ ID N° 55, and a light chain variable region of amino acid sequence SEQ ID N° 56;
 - 20 • A humanized antibody comprising a heavy chain variable region of amino acid sequence selected between SEQ ID N° 57, 58, and 59, and a light chain variable region of amino acid sequence selected between SEQ ID N° 60, 61, and 62;
 - A humanized antibody comprising a heavy chain variable region of amino acid sequence selected between SEQ ID N° 63, 64, and 65, and a light chain variable region of amino acid sequence selected between SEQ ID N° 66, 67, and 68;
 - 25 • A humanized antibody comprising a heavy chain variable region of amino acid sequence selected between SEQ ID N° 69 and 71, and a light chain variable region of amino acid sequence selected between SEQ ID N° 70 and 72; and
 - 30 • A humanized antibody comprising a heavy chain variable region of amino acid sequence selected between SEQ ID N° 75 and 76, and a light chain

variable region of amino acid sequence selected between SEQ ID N° 77 and 78;

wherein said antibody also comprises constant regions of the light-chain and the heavy-chain derived from a human antibody.

- 5 9. A progastatin-binding antibody, or an antigen-binding fragment thereof, for the use of any one of claims 7 or 8, wherein said antibody comprises a heavy chain variable region of amino acid sequence SEQ ID N° 71 and a light chain variable region of amino acid sequence SEQ ID N° 72, said antibody also comprising constant regions of the light-chain and the heavy-chain derived from a human antibody.
- 10
10. A progastatin-binding antibody, or an antigen-binding fragment thereof, for the use of any one of claims 7 to 9, wherein said antibody comprises a heavy chain of amino acid sequence SEQ ID N° 73 and a light chain of amino acid sequence SEQ ID N° 74.
- 15
11. A pharmaceutical composition comprising the progastatin-binding antibody, or an antigen-binding fragment thereof, of any one of claims 1 to 10, and a pharmaceutically acceptable carrier and/or an excipient, for the prevention or the treatment of lung cancer.
- 20
12. The pharmaceutical composition for the use of claim 11, further comprising a second therapeutic agent.
13. The pharmaceutical composition for the use of claim 12, wherein said agent is a biological agent or a chemotherapeutic agent.
- 25
14. The pharmaceutical composition for the use of claim 13, wherein said biological agent is an anti-EGFR monoclonal antibody or an anti-VEGF monoclonal antibody.
- 30
15. The pharmaceutical composition for the use of claim 14, wherein said chemotherapeutic agent is selected in the group of alkylating agents, anti-metabolites, anti-tumor antibiotics, mitotic inhibitors, chromatin function inhibitors, anti-angiogenesis agents, anti-estrogens, anti-androgens and immunomodulators.