

CLAIMS

1. An anti-human NGF antibody Fab fragment selected from a group consisting of (a) and (b) below:

(a) an anti-human NGF antibody Fab fragment comprising a heavy-chain fragment consisting of the amino acid sequence shown by SEQ ID NO: 5 and a light-chain consisting of the amino acid sequence shown by SEQ ID NO: 8; and,

(b) an anti-human NGF antibody Fab fragment derived from posttranslational modification of the anti-human NGF antibody Fab fragment of (a).

2. The anti-human NGF antibody Fab fragment according to claim 1, comprising a heavy-chain fragment consisting of the amino acid sequence shown by SEQ ID NO: 5 and a light-chain fragment consisting of the amino acid sequence shown by SEQ ID NO: 8.

3. The anti-human NGF antibody Fab fragment according to claim 1, wherein said posttranslational modification is pyroglutamylation at N-terminus of a heavy-chain variable region.

4. The anti-human NGF antibody Fab fragment according to claim 1, comprising a heavy-chain fragment consisting of the amino acid sequence shown by SEQ ID NO: 5, where a glutamine at amino acid position 1 of SEQ ID NO:5 is modified to a pyroglutamic acid, and a light-chain fragment consisting of the amino acid sequence shown by SEQ ID NO: 8.

5. A polynucleotide comprising a base sequence encoding the heavy-chain fragment of the anti-human NGF antibody Fab fragment according to claim 1.

6. An expression vector selected from a group consisting of (a) and (b) shown below:

(a) an expression vector comprising a polynucleotide comprising a base sequence encoding the heavy-chain fragment of the anti-human NGF antibody Fab fragment according to claim 1, and a polynucleotide comprising a base sequence encoding the light-chain of said anti-human NGF antibody Fab fragment; and

(b) an expression vector comprising a polynucleotide comprising a base sequence encoding the heavy-chain fragment of the anti-human NGF antibody Fab fragment according

to claim 1.

7. A host cell transformed with the expression vector according to claim 6.

8. The host cell according to claim 7 selected from a group consisting of (a) and (b) shown below:

(a) a host cell transformed with an expression vector comprising a polynucleotide comprising a base sequence encoding the heavy-chain fragment of the anti-human NGF antibody Fab fragment according to claim 1, and a polynucleotide comprising a base sequence encoding the light-chain of said anti-human NGF antibody Fab fragment; and
(b) a host cell transformed with an expression vector comprising a polynucleotide comprising a base sequence encoding the heavy-chain fragment of the anti-human NGF antibody Fab fragment according to claim 1, and with an expression vector comprising a polynucleotide comprising a base sequence encoding the light-chain of the said anti-human NGF antibody Fab fragment.

9. A method for producing an anti-human NGF antibody Fab fragment, comprising culturing the host cell according to claim 8 to express an anti-human NGF antibody Fab fragment.

10. An anti-human NGF antibody Fab fragment capable of being produced by the method according to claim 9.

11. A pharmaceutical composition comprising the anti-human NGF antibody Fab fragment according to any one of claims 1 - 4 and 10, and a pharmaceutically acceptable carrier.

12. The pharmaceutical composition according to claim 11 for use in the treatment of postoperative pain.

13. A pharmaceutical composition comprising the anti-human NGF antibody Fab fragment according to claim 2, the anti-human NGF antibody Fab fragment according to claim 4, and a pharmaceutically acceptable carrier.

14. The pharmaceutical composition according to claim 13 for use in the treatment of postoperative pain.
15. Use of the anti-human NGF antibody Fab fragment according to any one of claims 1 - 4 and 10, in the manufacture of a local pharmaceutical composition for the treatment of postoperative pain.
16. The anti-human NGF antibody Fab fragment according to any one of claim 1 - 4 and 10 for use in the treatment of postoperative pain by local administration.
17. Use of the anti-human NGF antibody Fab fragment according to any one of claims 1 - 4 and 10 in the manufacture of a medicament for the treatment of postoperative pain, wherein the medicament is to be administered locally.