

CLAIMS

1. An antibody or antigen-binding fragment thereof binding to EGFRvIII (Epidermal Growth Factor Receptor Variant III), in which the antibody or antigen-binding fragment thereof
5 binds to an EGFRvIII epitope having a sequence of SEQ ID NO: 1 comprising

a heavy chain variable region comprising complementarity determining region (CDR) H1 comprising a sequence of SEQ ID NO: 2, CDRH2 comprising a sequence of SEQ ID NO: 3, and CDRH3
10 comprising a sequence of SEQ ID NO: 4; and

a light chain variable region comprising CDRL1 comprising a sequence of SEQ ID NO: 5, CDRL2 comprising a sequence of SEQ ID NO: 6, and CDRL3 comprising a sequence of SEQ ID NO: 7.

15 2. The antibody or antigen-binding fragment thereof according to claim 1, wherein the antibody or antigen-binding fragment thereof comprises a framework region (FR) comprising one or more sequences selected from the group consisting of sequences of SEQ ID NOS: 8 to 15.

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3. The antibody or antigen-binding fragment thereof according to claim 1, wherein the antibody or antigen-binding fragment thereof comprises a heavy chain variable region comprising a sequence of SEQ ID NO: 16.

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4. The antibody or antigen-binding fragment thereof according to claim 1, wherein the antibody or antigen-binding fragment thereof comprises a light chain variable region comprising a sequence of SEQ ID NO: 17.

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5. A nucleic acid encoding the antibody or antigen-binding fragment thereof according to any one of claims 1 to 4.

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6. The antibody or antigen-binding fragment thereof according to claim 5, wherein the nucleic acid comprises a sequence of SEQ ID NO: 18 or 19.

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7. An expression vector comprising the nucleic acid according to claim 5.

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

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9. A method of producing the antibody or antigen-binding fragment thereof according to any one of claims 1 to 4, the method comprising the steps of:

(a) culturing the cell according to claim 8; and

(b) recovering an antibody or antigen-binding fragment

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thereof from the cultured cell.

10. A kit when used for diagnosing cancer comprising an antibody or antigen-binding fragment of any one of claims 1 to 4.

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11. Use of an antibody or antigen-binding fragment thereof of any one of claims 1 to 4 in the manufacture of a medicament for preventing or treating cancer in a subject.

10 12. The kit of claim 10, or the use of claim 11, wherein the cancer is selected from the group consisting of lung cancer, colon cancer, gastric cancer, renal cancer, prostate cancer, breast cancer, glioblastoma, and ovarian cancer.