

CLAIMS

1. An antigen-binding protein or antigen-binding fragment thereof that specifically binds to fibroblast growth factor receptor 3 (FGFR3), comprising an antibody heavy chain variable (VH) domain and an antibody light chain variable (VL) domain,

wherein the VH domain comprises a CDR-H1 sequence comprising the amino acid sequence of GDTFTDFE (SEQ ID NO: 70), a CDR-H2 sequence comprising the amino acid sequence of VDPETGGT (SEQ ID NO: 297), and a CDR-H3 sequence comprising the amino acid sequence of TRTYDGYPYAFDY (SEQ ID NO: 301); and

wherein the VL domain comprises a CDR-L1 sequence comprising the amino acid sequence of QSVLYSNNKNY (SEQ ID NO: 302), a CDR-L2 sequence comprising the amino acid sequence of WAS (SEQ ID NO: 74), and a CDR-L3 sequence comprising the amino acid sequence of QQYYSYRT (SEQ ID NO: 75).

2. The antigen binding protein or antigen-binding fragment thereof of claim 1, wherein the VH domain is at least about 90% identical to the amino acid sequence of SEQ ID NO: 57, and the VL domain is at least about 90% identical to the amino acid sequence of SEQ ID NO: 19.

3. The antigen binding protein or antigen-binding fragment thereof of claim 1, wherein the antibody heavy chain is at least 95% identical to the amino acid sequence of SEQ ID NO: 63, and the antibody light chain is at least 95% identical to the amino acid sequence of SEQ ID NO: 67.

4. The antigen binding protein or antigen-binding fragment thereof of claim 1, wherein the antibody heavy chain comprises the amino acid sequence of SEQ ID NO: 63, and the antibody light chain comprises the amino acid sequence of SEQ ID NO: 67.

5. The antigen binding protein or antigen-binding fragment thereof of claim 1, wherein the antigen binding protein or antigen-binding binding fragment thereof comprises an Fc region.

6. The antigen binding protein or antigen-binding fragment thereof of claim 5, wherein the Fc region is a human IgG1 Fc region.

7. The antigen binding protein or antigen-binding fragment thereof of claim 1, wherein the antigen binding protein or antigen-binding binding fragment thereof comprises an antibody F(ab), F(ab')₂, Fab'-SH, Fv, or scFv fragment.
8. The antigen binding protein or antigen-binding fragment thereof of claim 7, wherein the antibody F(ab) fragment comprises the sequence of SEQ ID NO: 56 followed by the first about 100 to about 110 amino acids of SEQ ID NO: 54.
9. The antigen binding protein or antigen-binding fragment thereof of claim 7, wherein the antibody F(ab) fragment comprises a heavy chain comprising the sequence of SEQ ID NO: 57 followed by the first about 100 to about 110 amino acids of SEQ ID NO: 54.
10. The antigen binding protein or antigen-binding fragment thereof of claim 7, wherein the antibody F(ab) fragment comprises a heavy chain comprising the sequence of SEQ ID NO: 58 followed by the first about 100 to about 110 amino acids of SEQ ID NO: 54.
11. A pharmaceutical composition comprising the antigen binding protein or antigen-binding fragment of claim 1, and a pharmaceutically acceptable carrier.
12. The antigen binding protein or antigen-binding fragment thereof of claim 1, wherein the antigen binding protein or antigen-binding binding fragment thereof comprises an antibody F(ab) fragment.
13. An antigen-binding protein or antigen-binding fragment thereof that specifically binds to fibroblast growth factor receptor 3 (FGFR3), comprising an antibody heavy chain variable (VH) domain and an antibody light chain variable (VL) domain, wherein: the VH domain comprises the amino acid sequence of SEQ ID NO: 57, and the VL domain comprises the amino acid sequence of SEQ ID NO: 19.
14. A pharmaceutical composition comprising the antigen binding protein or antigen-binding fragment of claim 13, and a pharmaceutically acceptable carrier.
15. An antibody F(ab) fragment, wherein the antibody F(ab) fragment comprises an antibody F(ab) fragment heavy chain comprising the amino acid sequence of SEQ ID NO: 155, 171, 180, 189, 198, 207, 216, 225, 234, 243, 252, 261, 270, 279, or 288, and an antibody F(ab) fragment light chain comprising the amino acid sequence of SEQ ID NO: 67.

16. A pharmaceutical composition comprising the antigen binding protein or antigen-binding fragment of claim 15, and a pharmaceutically acceptable carrier.