

We claim:

1. An isolated antibody or antigen-binding fragment thereof that binds specifically to tropomyosin receptor kinase B (TrkB), wherein the antibody or antigen-binding fragment thereof comprises a set of six complementarity determining regions (HCDR1-HCDR2-HCDR3-LCDR1-LCDR2-LCDR3) comprising an HCDR1 comprising the amino acid sequence of SEQ ID NO:4, an HCDR2 comprising the amino acid sequence of SEQ ID NO:6, an HCDR3 comprising the amino acid sequence of SEQ ID NO:8, an LCDR1 comprising the amino acid sequence of SEQ ID NO:12, an LCDR2 comprising the amino acid sequence of SEQ ID NO:14, and an LCDR3 comprising the amino acid sequence of SEQ ID NO:16.
2. The isolated antibody or antigen-binding fragment thereof of claim 1, comprising an HCVR comprising the amino acid sequence of SEQ ID NO:2 and an LCVR comprising the amino acid sequence of SEQ ID NO:10.
3. The isolated antibody or antigen-binding fragment of claim 1, wherein the antibody or antigen-binding fragment thereof binds human TrkB with a K_D of less than 300 nM as measured by surface plasmon resonance at 25° C.
4. The isolated antibody or antigen-binding fragment of claim 1, wherein the antibody or antigen-binding fragment thereof binds human TrkB with a dissociative half life ($t_{1/2}$) of greater than 10 minutes as measured by surface plasmon resonance at 25° C.
5. The isolated antibody or antigen-binding fragment of claim 1, wherein the antibody or antigen-binding fragment thereof activates human TrkB signaling in the absence of BDNF in cells engineered to express TrkB with an EC_{50} of less than 100 pM.
6. The isolated antibody or antigen-binding fragment thereof of claim 1, wherein the antibody or antigen-binding fragment thereof is a fully human monoclonal antibody.
7. A pharmaceutical composition comprising the antibody or antigen-binding fragment of claim 1, and a pharmaceutically acceptable carrier or diluent.
8. A pharmaceutical composition, comprising:

a pharmaceutically acceptable carrier or diluent; and

isolated antibody or antigen-binding fragment thereof, comprising an HCVR comprising the amino acid sequence of SEQ ID NO:2 and an LCVR comprising the amino acid sequence of SEQ ID NO:10,

wherein the antibody or antigen-binding fragment thereof activates human TrkB signaling in the absence of BDNF in cells engineered to express TrkB with an EC_{50} of less than 100 pM,

wherein the antibody or antigen-binding fragment thereof is a fully human monoclonal antibody.

9. An isolated antibody or antigen-binding fragment thereof that binds specifically to tropomyosin receptor kinase B (TrkB),

wherein a heavy chain variable region (HCVR) of the antibody or antigen-binding fragment thereof comprises an HCDR1 comprising amino acid sequence of SEQ ID NO:4, an HCDR2 comprising amino acid sequence of SEQ ID NO:6, and an HCDR3 comprising amino acid sequence of SEQ ID NO:8, and

a light chain variable region (LCVR) of the antibody or antigen-binding fragment thereof comprises an LCDR1 comprising amino acid sequence of SEQ ID NO:12, an LCDR2 comprising amino acid sequence of SEQ ID NO:14, and an LCDR3 comprising amino acid sequence of SEQ ID NO:16,

wherein the antibody or antigen-binding fragment thereof activates human TrkB signaling in the absence of BDNF in cells engineered to express TrkB with an EC_{50} of less than 100 pM, and

wherein the antibody or antigen-binding fragment thereof is a fully human monoclonal antibody.