CLAIMS

1. An isolated antibody, or an antigen-binding fragment thereof, that binds a GDF-8 prodomain (SEQ ID NO: 70) but does not bind a mature GDF-8 growth factor, a mature GDF-11 growth factor, a GDF-11 prodomain or a complex comprising a GDF-11 prodomain and a GDF-11 growth factor, wherein the antibody or the fragment inhibits the release of the mature GDF-8 growth factor from a GDF-8 growth factor prodomain complex.

2. The antibody of claim 1, wherein the prodomain has not been cleaved at the BMP/tolloid cleavage site between residues Arg 75 and Asp 76 of the GDF-8 prodomain (SEQ ID NO: 70).

3. The antibody or the fragment according to claim 1 or 2, which prevents proteolytic cleavage between residues Arg 75 and Asp 76 of the GDF-8 prodomain (SEQ ID NO: 70).

4. The antibody or the fragment according to any one of claims 1 to 3, which prevents association between the GDF-8 growth factor prodomain complex and the proteolytic cleavage by at least one metalloproteinase.

5. The antibody or the fragment according to claim 4, wherein the metalloproteinase is mammalian tolloid-like 2 (mTLL2).

6. The antibody or the fragment according to any one of claims 1 to 5, which recognizes an epitope within the GDF-8 arm region of the prodomain set forth in SEQ ID NO: 77.

7. The antibody or the fragment according to any one of claims 1 to 6, wherein the GDF-8 prodomain has not been cleaved at a furin cleavage site.

8. The antibody or the fragment according to any one of claims 1 to 6, wherein the GDF-8 prodomain has been cleaved at a furin cleavage site.

9. The antibody or the fragment according to any one of claims 1 to 8, which binds a complex comprising a GDF-8 prodomain and a GDF-8 growth factor.

10. The antibody or the fragment according to any one of claims 1 to 9, which is a human or humanized antibody or a fragment thereof.

11. The antibody or the fragment according to any one of claims 1 to 10, which is monoclonal.

12. The antibody or the fragment according to any one of claims 1 to 11, which is IgG, IgA, IgM, IgD or IgE.

13. The antibody or the fragment according to claim 12, which is IgG1 or IgG4.

14. The antibody or the fragment according to any one of claims 1 to 13, which is a multispecific antibody, wherein optionally the multispecific antibody is a bispecific antibody.

15. The antibody or the fragment according to any one of claims 1 to 14, wherein the antibody or the fragment is selected from the group consisting of a Fab, a Fab', a F(ab') 2, a Fv fragment, a diabody, a linear antibody, and a single-chain antibody molecule.

16. The antibody or the fragment according to any one of claims 1 to 15, comprising an antibody mimetic selected from the group consisting of a monobody, an affibody, an affilin, an affitin, an anticalin, an avimer, a centyrin, a darpin, and a fynomer.

17. The antibody or the fragment according to any one of claims 1 to 16, which is an inhibitory antibody or fragment.

18. A pharmaceutical composition comprising the antibody or the fragment according to any one of claims 1 to 17, and at least one pharmaceutically acceptable excipient.