CLAIMS

What is claimed is:

1. A pharmaceutical composition comprising an isolated human antibody or antigen-binding fragment thereof, and a pharmaceutically acceptable carrier or diluent, wherein the antibody or antigen-binding fragment specifically binds to, or blocks the biological activity of wild-type mature human GDF8 comprising SEQ ID NO: 340, but (a) does not bind to, or block the biological activity of a chimeric GDF8/TGFβ1 construct having amino acids 48-72 of mature human GDF8 replaced with the corresponding amino acid sequence of TGFβ1, and (b) does not bind to an isolated polypeptide consisting of amino acids 48-72 of SEQ ID NO: 340; and wherein the antibody or antigen-binding fragment comprises a heavy and light chain variable domain amino acid sequence pair (HCVR/LCVR) selected from the group consisting of SEQ ID NOs: 360/368; and 376/384.

2. The composition of claim 1, wherein the chimeric GDF8/TGFβ1 construct comprises the amino acid sequence of SEQ ID NO: 352.

3. The composition of claim 1 or claim 2, wherein the antibody or antigen-binding fragment further does not bind isolated GDF8 peptides having amino acid sequences of amino acids 1-14, 1-18, 17-42, 48-65, 48-69, 52-65, 52-72, 56-65, 56-72, 65-72, 73-90, 75-105 and 91-105, of SEQ ID NO: 340.

4. The composition of any one of claims 1 to 3, wherein the isolated human antibody or antigen-binding fragment thereof comprises a HCVR having the amino acid sequence of SEQ ID NO:360, and a LCVR having the amino acid sequence of SEQ ID NO:368.

5. The composition of any one of claims 1 to 4, for use as a medicament.

6. The composition of any one of claims 1 to 5, for use in treating a patient afflicted with, diagnosed with, or at risk of being afflicted with a disease or disorder that is treatable by inhibiting GDF8 activity.

7. The composition of claim 6, wherein the disease or disorder that is treatable by inhibiting GDF8 activity is a disease or disorder selected from the group consisting of sarcopenia, cachexia, and muscle atrophy due to disuse or immobilization.

8. Use of the pharmaceutical composition of any one of claims 1 to 4 in the manufacture of a medicament for use in treating a patient afflicted with, diagnosed with, or at risk of being afflicted with a disease or disorder that is treatable by inhibiting GDF8 activity.

9. The use as defined in claim 8, wherein the disease or disorder that is treatable by inhibiting GDF8 activity is a disease or disorder selected from the group consisting of sarcopenia, cachexia, muscle wasting, muscle atrophy, cancer, arthritis, multiple sclerosis, amyotrophic lateral sclerosis, Parkinson's disease, osteoporosis, osteoarthritis, osteopenia, bone fractures including hip fractures, metabolic syndromes, glucose homeostasis and insulin sensitivity.

10. The use of claim 9, wherein the cachexia is idiopathic or secondary to other conditions.

11. The use of claim 9, wherein the muscle wasting or atrophy is caused by or associated with disuse, immobilization, bed rest, injury, medical treatment or surgical intervention.

12. The use of claim 9, wherein the metabolic syndrome is selected from the group consisting of diabetes, obesity, nutritional disorders, organ atrophy, chronic obstructive pulmonary disease and anorexia.