CLAIMS

1. Use of a pharmaceutical composition 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,

wherein the composition comprises 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, wherein the chimeric GDF8/TGFβ1 construct comprises the amino acid sequence of SEQ ID NO: 352, 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) comprising SEQ ID NOs: 360/368, and 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, osteoporosis, osteoarthritis, osteopenia, bone fractures including hip fractures, metabolic syndromes, glucose homeostasis and insulin sensitivity.

2. The use as defined in claim 1, 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.

3. The use as defined in claim 1, wherein the cachexia is idiopathic or secondary to other conditions.

4. The use as defined in claim 3, wherein the cachexia is secondary to other conditions selected from the group consisting of cancer, arthritis, multiple sclerosis, amyotrophic lateral sclerosis, chronic renal failure, chronic obstructive pulmonary disease, and Parkinson's disease.

5. The use as defined in claim 1, wherein the muscle wasting or atrophy is caused by or associated with disuse, immobilization, bed rest, injury, medical treatment, ~~or~~ surgical intervention, or by necessity of mechanical ventilation.

6. The use as defined in claim 5, wherein the surgical intervention is selected from the group consisting of hip fracture, hip replacement, and knee replacement.

7. The use as defined in claim 1, wherein the metabolic syndrome is selected from the group consisting of diabetes, obesity, nutritional disorders, organ atrophy, chronic obstructive pulmonary disease and anorexia.