Claims

1. An isolated antibody that specifically binds to human oncostatin M, which blocks the interaction between human oncostatin M and gp130 and which comprises:

(i) a light chain variable region amino acid sequence of SEQ ID NO:51 and a heavy chain variable region amino acid sequence of SEQ ID NO:55;
(ii) a light chain variable region amino acid sequence of SEQ ID NO:49 and a heavy chain variable region amino acid sequence of SEQ ID NO:55;
(iii) a light chain variable region amino acid sequence of SEQ ID NO:50 and a heavy chain variable region amino acid sequence of SEQ ID NO:55;
(iv) a light chain variable region amino acid sequence of SEQ ID NO:52 and a heavy chain variable region amino acid sequence of SEQ ID NO:54;
(v) a light chain variable region amino acid sequence of SEQ ID NO:53 and a heavy chain variable region amino acid sequence of SEQ ID NO:54;
(vi) a light chain variable region amino acid sequence of SEQ ID NO:49 and a heavy chain variable region amino acid sequence of SEQ ID NO:54;

(vii) a light chain variable region comprising CDRs 1, 2 and 3 of SEQ ID NOs: 30, 42 and 27 in an IGKV4-1(B3) framework and a heavy chain variable region amino acid sequence of SEQ ID NO:55;
(viii) a light chain variable region comprising CDRs 1, 2 and 3 of SEQ ID NOs: 31, 42 and 27 in an IGKV4-1(B3) framework and a heavy chain variable region amino acid sequence of SEQ ID NO:55;
(ix) a light chain variable region comprising CDRs 1, 2 and 3 of SEQ ID NOs: 33, 42 and 27 in an IGKV4-1(B3) framework and a heavy chain variable region amino acid sequence of SEQ ID NO:55;
(x) a light chain variable region comprising CDRs 1, 2 and 3 of SEQ ID NOs: 34, 42 and 45 in an IGKV4-1(B3) framework and a heavy chain variable region amino acid sequence of SEQ ID NO:55;
(xi) a light chain variable region comprising CDRs 1, 2 and 3 of SEQ ID NOs: 35, 42 and 27 in an IGKV4-1(B3) framework and a heavy chain variable region amino acid sequence of SEQ ID NO:55;
(xii) a light chain variable region comprising CDRs 1, 2 and 3 of SEQ ID NOs: 36, 42 and 27 in an IGKV4-1(B3) framework and a heavy chain variable region amino acid sequence of SEQ ID NO:55;
(xiii) a light chain variable region comprising CDRs 1, 2 and 3 of SEQ ID NOs: 41, 42 and 27 in an IGKV4-1(B3) framework and a heavy chain variable region amino acid sequence of SEQ ID NO:55;
(xiv) a light chain variable region comprising CDRs 1, 2 and 3 of SEQ ID NOs: 35, 42 and 27 in an IGKV4-1(B3) framework and a heavy chain variable region amino acid sequence of SEQ ID NO:54; or
(xv) a light chain variable region comprising CDRs 1, 2 and 3 of SEQ ID NOs: 40, 26 and 27 in an IGKV4-1(B3) framework and a heavy chain variable region amino acid sequence of SEQ ID NO:54.

2. The isolated antibody of claim 1, wherein the antibody comprises a light chain variable region amino acid sequence of SEQ ID NO: 51 and a heavy chain variable region amino acid sequence SEQ ID NO: 55.

3. The isolated antibody of claim 1, wherein the antibody comprises a light chain variable region amino acid sequence of SEQ ID NO: 53 and a heavy chain variable region amino acid sequence SEQ ID NO: 54.

4. An isolated antibody according to any of claims 1-3, further comprising a human heavy chain constant region selected from the group consisting of IgA1, IgA2, IgD, IgE, IgG1, IgG2, IgG3, IgG4, and IgM.

5. The isolated antibody of claim 4, wherein the constant region comprises a human IgG isotype.

6. The isolated antibody of claim 5, wherein

(i) the isotype is IgG1; or
(ii) the constant region is mutated to enhance the affinity of the antibody to the neonatal receptor (FcRn) as compared to an antibody with the wild-type IgG1 constant domain sequence, such as wherein the constant region is mutated at positions 428 and 434, wherein the numbering is according to the Kabat EU numbering, for example wherein the mutations are M428L and N434S, wherein the numbering is according to the Kabat EU numbering.

7. An antigen binding fragment of any of the antibodies of claims 1-6, optionally wherein said fragment is selected from the group consisting of a Fab, Fab', Fd, F(ab)2, and ScFv.

8. A pharmaceutical composition comprising an isolated antibody or antigen binding fragment of the antibody according to any of claims 1-7 and a pharmaceutically acceptable excipient or carrier.

9. The composition of claim 8 for use in therapy.

10. An isolated polynucleotide encoding the heavy chain and light chain of the therapeutic antibody or antigen binding fragment thereof of any of claims 1-7.

11. A stably transformed or transfected recombinant host cell comprising the isolated polynucleotide of claim 10.

12. A stably transformed or transfected recombinant host cell comprising:

(i) a polynucleotide encoding the light chain variable amino acid sequence of SEQ ID NO: 53 and a second polynucleotide encoding the heavy chain variable amino acid sequence of SEQ ID NO: 54; or
(ii) a polynucleotide encoding the light chain variable amino acid sequence of SEQ ID NO: 51 and a second polynucleotide encoding the heavy chain variable amino acid sequence of SEQ ID NO: 55;

optionally wherein said cell is mammalian, for example wherein said cell is CHO.

13. A process for the manufacture of an antibody, comprising the steps of culturing a host cell of claim 11 or claim 12 and recovering the antibody from the cell.