Claims

1. An isolated antibody or antibody fragment **of the IgG1 subtype**, which specifically binds to M-CSF and wherein said isolated antibody or antibody fragment is able to inhibit the binding of M-CSF to the M-CSF receptor with an IC50 of 10 pM or less in a receptor binding inhibition assay comprising M-CSF at a final concentration of 12.5 pM.

2. An isolated antibody or antibody fragment according to claim 1, wherein said antibody or antibody fragment comprises

(a) the HCDR1 region of SEQ ID NO.: 8, the HCDR2 region of SEQ ID NO.: 9, the HCDR3 region of SEQ ID NO.: 10, the LCDR1 region of SEQ ID NO.: 11, the LCDR2 region of SEQ ID NO.: 12 and the LCDR3 region of SEQ ID NO.: 13,

(b) the HCDR1 region of SEQ ID NO.: 18, the HCDR2 region of SEQ ID NO.: 19, the HCDR3 region of SEQ ID NO.: 20, the LCDR1 region of SEQ ID NO.: 21, the LCDR2 region of SEQ ID NO.: 22 and the LCDR3 region of SEQ ID NO.: 23,

(c) the HCDR1 region of SEQ ID NO.: 28, the HCDR2 region of SEQ ID NO.: 29, the HCDR3 region of SEQ ID NO.: 30, the LCDR1 region of SEQ ID NO.: 31, the LCDR2 region of SEQ ID NO.: 32 and the LCDR3 region of SEQ ID NO.: 33,

(d) the HCDR1 region of SEQ ID NO.: 38, the HCDR2 region of SEQ ID NO.: 39, the HCDR3 region of SEQ ID NO.: 40, the LCDR1 region of SEQ ID NO.: 41, the LCDR2 region of SEQ ID NO.: 42 and the LCDR3 region of SEQ ID NO.: 43,

(e) the HCDR1 region of SEQ ID NO.: 48, the HCDR2 region of SEQ ID NO.: 49, the HCDR3 region of SEQ ID NO.: 50, the LCDR1 region of SEQ ID NO.: 51, the LCDR2 region of SEQ ID NO.: 52 and the LCDR3 region of SEQ ID NO.: 53,

(f) the HCDR1 region of SEQ ID NO.: 58, the HCDR2 region of SEQ ID NO.: 59, the HCDR3 region of SEQ ID NO.: 60, the LCDR1 region of SEQ ID NO.: 61, the LCDR2 region of SEQ ID NO.: 62 and the LCDR3 region of SEQ ID NO.: 63,

(g) the HCDR1 region of SEQ ID NO.: 88, the HCDR2 region of SEQ ID NO.: 89, the HCDR3 region of SEQ ID NO.: 90, the LCDR1 region of SEQ ID NO.: 91, the LCDR2 region of SEQ ID NO.: 92 and the LCDR3 region of SEQ ID NO.: 93,

(h) the HCDR1 region of SEQ ID NO.: 98, the HCDR2 region of SEQ ID NO.: 99, the HCDR3 region of SEQ ID NO.: 100, the LCDR1 region of SEQ ID NO.: 101, the LCDR2 region of SEQ ID NO.: 102 and the LCDR3 region of SEQ ID NO.: 103, or

(i) the HCDR1 region of SEQ ID NO.: 108, the HCDR2 region of SEQ ID NO.: 109, the HCDR3 region of SEQ ID NO.: 110, the LCDR1 region of SEQ ID NO.: 111, the LCDR2 region of SEQ ID NO.: 112 and the LCDR3 region of SEQ ID NO.: 113.