CLAIMS

1. An antibody that specifically binds to stem cell factor 248 (SCF248), wherein the antibody comprises a heavy chain CDR1, CDR2, and CDR3 comprising SEQ ID NOs: 1, 2, and 3, respectively; and a light chain CDR1, CDR2, and CDR3 comprising SEQ ID NOs: 4, 5, and 6, respectively;
wherein the antibody is humanized, and wherein the antibody comprises:

(a) a heavy chain variable region having the amino acid sequence of SEQ ID NO: 8; and

(b) a light chain variable region having the amino acid sequence of SEQ ID NO: 16.

2. The antibody of claim 1, wherein the antibody is a monoclonal antibody.

3. The antibody of claim 2, wherein the antibody comprises a human IgG4 domain.

4. The antibody of claim 3, wherein the IgG4 domain comprises a S241P mutation at amino acid residue 241 and an L248E mutation at amino acid residue 248, wherein the numbering of the residues is that of the Kabat numbering system.

5. The antibody of any one of claims 2-4, wherein the antibody comprises a heavy chain according to SEQ ID NO: 42 and a light chain according to SEQ ID NO: 49.

6. The antibody of any one of claims 1 to 5, wherein the antibody blocks the interaction between SCF and c-Kit.

7. The antibody of any one of claims 1 to 5 wherein the antibody causes internalization of SCF.

8. The antibody of any one of claims 1 to 7, wherein the antibody does not bind to SCF220.

9. An isolated nucleic acid molecule encoding the antibody of any one of claims 1 to 8.

10. An expression vector comprising a nucleic acid encoding the antibody of any one of claims 1 to 8.

11. A recombinant host cell comprising the expression vector of claim 10.