

## Product Information

### MONOCLONAL ANTI-HUMAN STEM CELL FACTOR (SCF), CLONE 13302.6

Product Number **S 2806**

#### Product Description

Monoclonal Anti-Human SCF (IgG1 isotype) is purified from a mouse hybridoma. Recombinant, human SCF (rhSCF) expressed in *E. coli* was used as immunogen. The antibody is purified by Protein A affinity chromatography.

Monoclonal Anti-Human SCF may be used in immunoblotting and ELISA. The antibody shows no cross-reactivity with cytokines tested\*.

Stem Cell Factor (SCF), also called *c-kit* Ligand (KL) or Mast Cell Growth Factor (MGF), is a peptide growth factor/cytokine with broad activities, especially related to hematopoiesis.<sup>1-3</sup> Among the many activities of SCF are the ability to act on early hematopoietic progenitor/stem cells and to stimulate the proliferation and survival of mast cells. Also, SCF is one of the most potent stimulators of multilineage progenitors (CFU-GEMM) in both human and murine bone marrow cells.<sup>2,4</sup> SCF acts synergistically with other growth factors, including erythropoietin, G-CSF, M-CSF, GM-CSF, IL-3 and IL-6, to increase the number and size of colonies of hematopoietic progenitors.<sup>1,2,5</sup> SCF appears to play an important role in the survival, proliferation or migration of primordial germ cells and melanoblasts during both development and maturation.<sup>6-9</sup>

Natural, human SCF is a 25-35 kDa glycoprotein as determined using SDS-PAGE.<sup>1,2,3,10</sup> Under non-denaturing conditions, SCF appears to be a non-covalently linked dimer of 50-55 kDa.<sup>10</sup> SCF is synthesized as a transmembrane protein which is then cleaved, presumably at the cell surface, to yield a soluble protein.<sup>11-14</sup> An alternative form of SCF exists whereby the proteolytic cleavage site is spliced out, allowing the transmembrane section to remain intact and biologically active SCF (38 kDa) to remain attached to the cell surface.<sup>11,13</sup> The predominant message in many cells is the secreted form of SCF, but the attached (spliced) and secreted forms are expressed at similar levels in some cells.

The receptor for SCF is the *c-kit* ligand, a transmembrane 150-165 kDa glycoprotein belonging to the receptor tyrosine kinase subclass III family, which includes receptors to PDGF and M-CSF.<sup>15-18</sup>

#### Reagents

The purified antibody is lyophilized from PBS to which no preservatives have been added.

#### Reconstitution

To one vial of lyophilized powder, add 1 ml of 0.2 µm-filtered PBS to produce a 0.5 mg/ml stock solution of Anti-Human SCF. If aseptic technique is used, no further filtration should be needed for use in cell culture environments.

#### Storage/Stability

Prior to reconstitution, store at -20 °C. Reconstituted product may be stored at 2-8 °C for up to one month. For prolonged storage, freeze in working aliquots at -20 °C. Avoid repeated freezing and thawing.

#### Product Profile

Two to four µg/ml capture antibody will detect 6.9 pg/ml of rhSCF as determined by capture ELISA.

One to two µg/ml antibody will detect SCF at 25 ng/lane under non-reducing conditions and 200 ng/lane under reducing conditions as determined by indirect immunoblotting.

## References

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\*rhCNTF, rhEGF, rmEGF, rhEpo, bFGF-acidic, bFGF-basic, rhG-CSF, rhGM-CSF, rmGM-CSF, rhIL-1 alpha, rhIL-1 beta, rmIL-1 beta, rhIL-2, rhIL-3, rmIL-3, rhIL-4, rmIL-4, rhIL-5, rmIL-5, rhIL-6, rmIL-6, rhIL-7, rmIL-7, rhIL-8, rhLIF, hPDGF, pPDGF, rmSCF, rhTGF-alpha, hTGF-beta 1, pTGF-beta 1, rhTGF-beta 1, pTGF-beta 1.2, pTGF-beta 2, rhTNF-alpha, rhTNF-beta, rhsTNF RI

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