

Product Information

Stem Cell Factor

Mouse, Recombinant
Expressed IN *E. coli*

Product Number **S 9915**

Product Description

Stem Cell Factor¹ (SCF) (also called *c-kit* Ligand² (KL) or Mast Cell Growth Factor³ (MGF)) is a peptide growth factor/cytokine with broad activities, especially associated with hematopoiesis. Among SCF's many activities are the ability to act on early hematopoietic progenitor/stem cells and to stimulate the proliferation and survival of mast cells. SCF is one of the most potent stimulators of multilineage progenitors (CFU-GEMM) in both human and murine bone marrow cells.^{2, 4} 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.^{1, 2, 5} SCF appears to play an important role in the survival, proliferation or migration of the primordial germ cells and melanoblasts during both development^{6, 7} and maturation stages.^{8, 9} Recombinant mouse SCF is an 18.3 kDa protein containing 164 amino acid residues. The gene encoding *c-kit* ligand is a putative product of the murine steel locus.¹⁰

Reagent

Lyophilized from a 0.2 µm-filtered buffered solution.

Storage/Stability

The lyophilized product is best stored at -20 °C. It is stable for up to a few weeks at room temperature. Reconstituted product should be stored in working aliquots at -20 °C. Repeated freezing and thawing is not recommended. Do not store in frost-free freezer.

Reconstitution

Reconstitute the contents of the vial with water to a concentration of 0.1-1.0 mg/ml. This solution can then be diluted into other aqueous buffers and stored at 2-8 °C for up to one week. For extended storage, freeze in working aliquots at -20 °C. Repeated freezing and thawing is not recommended.

Product Profile

The biological activity is determined by the dose-dependent stimulation of the proliferation of human TF-1 cells. The ED₅₀ is defined as the effective concentration of growth factor that elicits a 50% increase in cell growth in a cell based bioassay.

Purity: ≥ 95% as determined by SDS-PAGE and HPLC.

Endotoxin: < 0.1 ng/µg growth factor.

References

1. Zsebo, K. M., et al., *Cell*, **63**, 195 (1990).
2. Nocka, K., et al., *EMBO J.*, **9**, 3287 (1990).
3. Williams, D. E., et al., *Cell*, **63**, 167 (1990).
4. Broxmeyer, H. E., et al., *Blood*, **77**, 2142 (1991).
5. Martin, F. H., et al., *Cell*, **63**, 203 (1990).
6. Bennett, D., *J. Morphology*, **98**, 199 (1956).
7. Silvers, W., *Coat Colors of Mice: A Model for Gene Action and Interaction* (New York: Springer-Verlag), p. 206 (1979).
8. Orr-Urtregger, A., et al., *Development*, **109**, 911 (1990).
9. Manova, K., et al., *Development*, **110**, 1057 (1990).
10. Copeland, N. G., et al., *Cell*, **63**, 175 (1990).

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