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Certificate of Analysis and Data Sheet

Recombinant Human Stem Cell Factor

Catalog No.
228-11412

Source:
E. Coli

Synonyms

Kit ligand Precursor, C-kit ligand, SCF, Mast cell growth factor, MGF, SF, KL-1, Kitl, DKFZp686F2250.

Introduction:

Stem cell factor / KIT ligand (SCF) is a cytokine which binds CD117(c-Kit). SCF is also known as "steel factor" or "c-kit ligand". SCF exists in two forms, cell surface bound SCF and soluble (or free) SCF. Soluble SCF is produced by the cleavage of surface bound SCF by metalloproteases. SCF is a growth factor important for the survival, proliferation, and differentiation of hematopoietic stem cells and other hematopoietic progenitor cells. One of its roles is to change the BFU-E (burst-forming unit-erythroid) cells, which are the earliest erythrocyte precursors in the erythrocytic series, into the CFU-E (colony-forming unit-erythroid).

Description:

Stem Cell Factor Human Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 165 amino acids and having a molecular mass of 18409 Dalton. The SCF is purified by proprietary chromatographic techniques.

Physical Appearance:

Sterile Filtered White lyophilized (freeze-dried) powder.

Formulation:

Lyophilized from a concentrated (1mg/ml) solution in water containing 10mM Acetic acid.

Purity

Greater than 98.0% as determined by(a) Analysis by RP-HPLC.
(b) Analysis by SDS-PAGE.

Solubility

It is recommended to reconstitute the lyophilized Stem Cell Factor in sterile 18M Ω -cm H₂O not less than 100 μ g/ml, which can then be further diluted to other aqueous solutions.

**The products are furnished for LABORATORY RESEARCH USE ONLY.
Not for diagnostic or therapeutic use.**



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Stability:

Lyophilized KIT ligand although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution SCF should be stored at 4°C between 2-7 days and for future use below -18°C.

For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA).

Please prevent freeze-thaw cycles.

Amino acid sequence

The sequence of the first five N-terminal amino acids was determined and was found to be Met-Glu-Gly-Ile-Cys.

Biological Activity

The ED50 as determined by the dose-dependant stimulation of Human TF-1 cells is < 2 ng/ml, corresponding to a Specific Activity of 5×10^5 IU/mg.

Protein content

Protein quantitation was carried out by two independent methods

1. UV spectroscopy at 280 nm using the absorbency value of 0.52 as the extinction coefficient for a 0.1% (1mg/ml) solution. This value is calculated by the PC GENE computer analysis program of protein sequences (IntelliGenetics).
2. Analysis by RP-HPLC, using a standard solution of Stem Cell Factor as a Reference Standard.

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