Biotinylated Human SCF / KITLG Protein, Avitag™,His Tag

Catalog # SCF-H82E1

Synonym

KITLG,FPH2,KL-1,Kitl,MGF,SCF,SF,SHEP7,KL

Source

Biotinylated Human SCF, Avitag,His Tag(SCF-H82E1) is expressed from human 293 cells (HEK293). It contains AA Glu 26 - Ala 190 (Accession # AAH69797). Predicted N-terminus: Glu 26

Molecular Characterization

This protein carries an Avi tag (Avitag™) at the C-terminus, followed by a polyhistidine tag.

The protein has a calculated MW of 21.7 kDa. The protein migrates as 26-38 kDa under reducing (R) condition (SDS-PAGE) due to different glycosylation.

Labeling

Biotinylation of this product is performed using Avitag™ technology. Briefly, the single lysine residue in the Avitag is enzymatically labeled with biotin.

Protein Ratio

Passed as determined by the HABA assay / binding ELISA.

Endotoxin

Less than 1.0 EU per μg by the LAL method.

Purity

>95% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 μm filtered solution in PBS, pH7.4 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

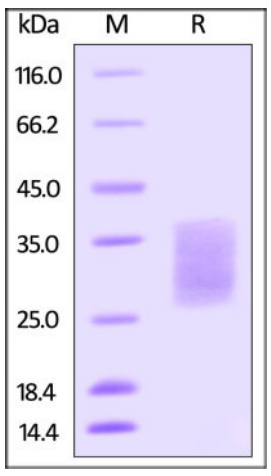
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

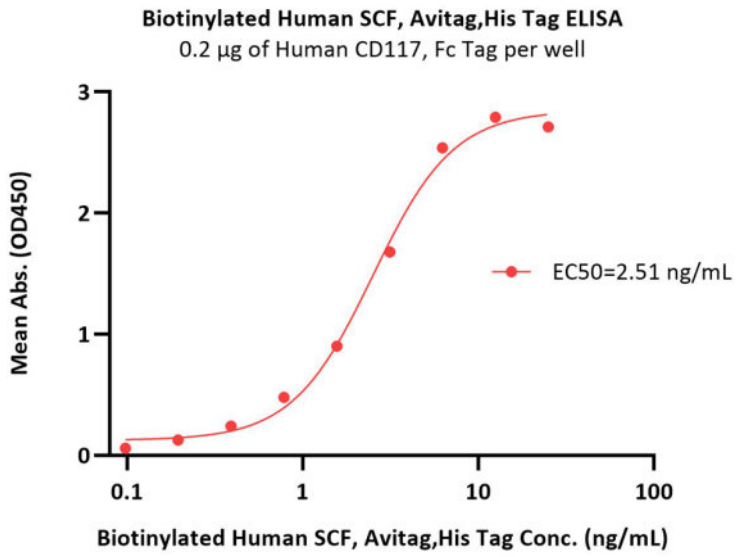
- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE



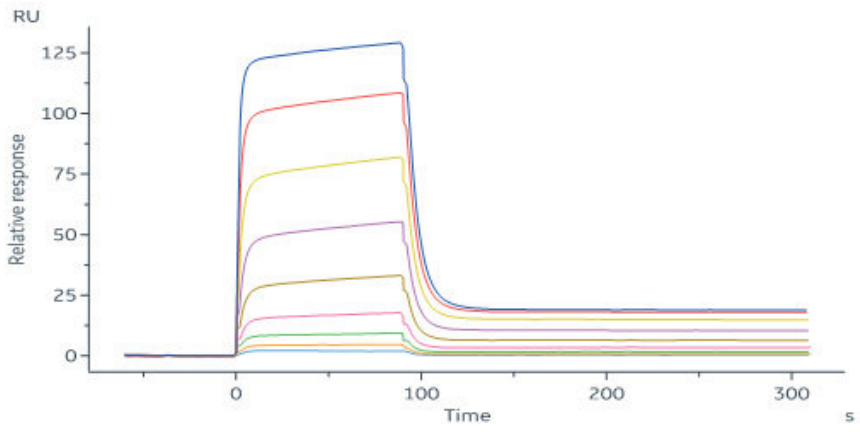
Biotinylated Human SCF, Avitag,His Tag on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95%.

Bioactivity-ELISA



Immobilized Human CD117, Fc Tag (Cat. No. CD7-H5255) at 2 μg/mL (100 μL/well) can bind Biotinylated Human SCF, Avitag,His Tag (Cat. No. SCF-H82E1) with a linear range of 0.1-3 ng/mL (QC tested).

Bioactivity-SPR



Biotinylated Human SCF, Avitag,His Tag (Cat. No. SCF-H82E1) captured on Biotin CAP-Series S Sensor Chip can bind Human CD117, His Tag (Cat. No. CD7-H52H4) with an affinity constant of 0.236 μM as determined in a SPR assay (Biacore 8K) (Routinely tested).

Background

Stem Cell Factor is also known as SCF, kit-ligand, KL, steel factor, KITLG, FPH2, KL-1, Kitl, MGF, SCF, SF, or SHEP7, and is a cytokine that binds to the c-Kit receptor (CD117). SCF can exist both as a transmembrane protein and a soluble protein. This cytokine plays an important role in hematopoiesis (formation of blood cells), spermatogenesis, and melanogenesis. The soluble and transmembrane forms of the protein are formed by alternative splicing of the same RNA transcript.Soluble and transmembrane SCF is produced by fibroblasts and endothelial cells. Soluble SCF has a molecular weight of 18,5 KDa and forms a dimer. SCF plays an important role in the hematopoiesis during embryonic development. Sites where hematopoiesis takes place, such as the fetal liver and bone marrow, all express SCF. During development, the presence of the SCF also plays an important role in the localization of melanocytes, cells that produce melanin and control pigmentation. SCF plays a role in the regulation of HSCs in the stem cell niche in the bone marrow. SCF may be used along with other cytokines to culture HSCs and hematopoietic progenitors. The expansion of these cells ex-vivo (outside the body) would allow advances in bone-marrow transplantation, in which HSCs are transferred to a patient to re-establish blood formation.

Clinical and Translational Updates