

Recombinant Mouse SCF (carrier-free)

Catalog# / Size	579702 / 10 µg 579704 / 25 µg 579706 / 100 µg 579708 / 500 µg
Regulatory Status	RUO
Other Names	Kit Ligand, KITLG, Mast cell growth factor, MGF, Steel factor, SLF, Stem Cell Factor
Description	SCF (KITL) is a hematopoietic growth factor, and it can synergize with a number of other cytokines to stimulate growth of hemopoietic progenitors in vitro and stimulates blood cell production in vivo. SCF is encoded by Sl ('steel'), a gene critical to the development of several distinct cell lineages during embryonic life. KITL was identified as a soluble protein; nevertheless, the predicted amino acid sequence indicates that it is an integral transmembrane protein. KITL is generated by proteolytic cleavage from a transmembrane precursor. Two splice variants have been described for KITL, and proteolytic processing of both transmembrane protein products occurs on the cell surface. The binding of KITL, induces the dimerization of the KIT molecule, followed by a change in the configuration of the intracellular domain and the autophosphorylation of the receptor, opening several docking sites for signal transduction molecules. Dysregulation of SCF-Ki signaling and gain-of-function KIT mutations contribute to the genesis of many cancers, like acute myeloid leukemia, gastrointestinal stromal tumors, and mastocytosis.

Product Details

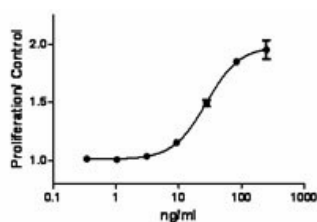
Source	Mouse SCF, amino acids Lys26-Ala189 (Accession# M59915) was expressed in <i>E. coli</i> .
Molecular Mass	The 165 amino acid N-terminal methionylated recombinant protein has a predicted molecular mass of 18298.0 Da. The DTT-reduced protein migrates at approximately 18 kDa by SDS-PAGE. The non-reduced protein migrates at approximately 14 kDa by SDS-PAGE.
Purity	>98%, as determined by Coomassie stained SDS-PAGE.
Formulation	0.22 µm filtered protein solution is in 10 mM NaHPO ₄ pH 7.2, 0.15M NaCl.
Endotoxin Level	Less than 0.01ng per µg cytokine as determined by the LAL method.
Concentration	10 and 25 µg sizes are bottled at 200 µg/mL. 100 µg size and larger sizes are lot-specific and bottled at the concentration indicated on the vial. To obtain lot-specific concentration, please enter the lot number in our Concentration and Expiration Lookup or Certificate of Analysis online tools.
Storage & Handling	Unopened vial can be stored between 2°C and 8°C for up to 2 weeks, at -20°C for up to six months, or at -70°C or colder until the expiration date. For maximum results, quick spin vial prior to opening. The protein can be aliquoted and stored at -20°C or colder. Stock solutions can also be prepared at 50 - 100 µg/mL in appropriate sterile buffer, carrier protein such as 0.2 - 1% BSA or HSA can be added when preparing the stock solution. Aliquots can be stored between 2°C and 8°C for up to one week and stored at -20°C or colder for up to 3 months. Avoid repeated freeze/thaw cycles.
Activity	ED ₅₀ = 5 - 20 ng/ml, corresponding to a specific activity of 0.5 - 2.0 x 10 ⁵ units/mg, as determined by the dose dependent stimulation of TF-1 cell proliferation.
Application	Bioassay
Application Notes	BioLegend carrier-free recombinant proteins provided in liquid format are shipped on blue-ice. Our comparison testing data indicates that when handled and stored as recommended, the liquid format has equal or better stability and shelf-life compared to commercially available lyophilized proteins after reconstitution. Our liquid proteins are verified in-house to maintain activity after shipping on blue ice and are backed by our 100% satisfaction guarantee . If you have any concerns, contact us at tech@biolegend.com .
Product Citations	<ol style="list-style-type: none">Caslin H, <i>et al.</i> 2017. Cell Immunol. 10.1016/j.cellimm.2017.04.013. PubMedBachran C, <i>et al.</i> 2017. Sci Rep.. 10.1038/s41598-017-17948-0. PubMedChen X <i>et al.</i> 2017. Cell stem cell. 21(6):747-760 . PubMed

4. Walker JA, *et al.* 2020. *Immunity*. 51(1):104-118. [PubMed](#)
5. Paris J *et al.* 2019. *Cell Stem Cell*. 25(1):137-148 . [PubMed](#)

Antigen Details

Structure	Cytokine
Distribution	SCF is widely expressed
Function	SCF has pleiotropic functions. It is involved in melanogenesis, gametogenesis, hematopoiesis and brain angiogenesis.
Interaction	The KIT receptor tyrosine kinase (RTK) is expressed in hematopoietic stem cells (multipotent hematopoietic stem cells, progenitors committed to myeloid and/or erythroid lineages, and T and B cell precursors), mast cells, and acute myeloid leukemia cells.
Ligand/Receptor	SCF binds to the extracellular domains of the KIT receptor tyrosine kinase.
Cell Type	Hematopoietic stem and progenitors, Embryonic Stem Cells
Biology Area	Angiogenesis, Cell Biology, Immunology, Signal Transduction, Stem Cells
Molecular Family	Cytokines/Chemokines, Growth Factors
Antigen References	<ol style="list-style-type: none">1. Sun L, <i>et al.</i> 2006 <i>Cancer Cell</i> 9:287-300.2. Magnol, <i>et al.</i> 2007 <i>BMC Dev Biol.</i> 7:81.3. Liu H, <i>et al.</i> 2007 <i>EMBO J</i> 26:891-901.4. Agosti V, <i>et al.</i> 2004 <i>J. Exp. Med.</i> 199:867-878.5. Huang L <i>et al.</i> 1992 <i>Mol Cell Biol</i> 3:349-362.6. Kitamura T, <i>et al.</i> 1989 <i>J. Cell Physiol.</i> 140:323-334.
Gene ID	17311

Product Data



TF-1 cell proliferation induced by mouse SCF

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