

## DESCRIPTION

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human SCF/c-kit Ligand in ELISAs and Western blots. In sandwich immunoassays, approximately 55% cross-reactivity with recombinant feline SCF is observed, 20% cross-reactivity with recombinant canine SCF is observed, and less than 0.3% cross-reactivity with recombinant mouse SCF is observed.
<b>Source</b>	Polyclonal Goat IgG
<b>Purification</b>	Antigen Affinity-purified
<b>Immunogen</b>	<i>E. coli</i> -derived recombinant human SCF/c-kit Ligand (R&D Systems, Catalog # 255-SC) Glu26-Ala189 Accession # P21583
<b>Formulation</b>	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Western Blot</b>	0.1 µg/mL	Recombinant Human SCF/c-kit Ligand (Catalog # 255-SC)
<b>Human SCF/c-kit Ligand Sandwich Immunoassay</b>		<b>Reagent</b>
<b>ELISA Capture</b>	2-8 µg/mL	Human SCF/c-kit Ligand Antibody (Catalog # MAB655)
<b>ELISA Detection</b>	0.1-0.4 µg/mL	Human SCF/c-kit Ligand Biotinylated Antibody (Catalog # BAF255)
<b>Standard</b>		Recombinant Human SCF/c-kit Ligand (Catalog # 255-SC)

## PREPARATION AND STORAGE

<b>Reconstitution</b>	Reconstitute at 0.2 mg/mL in sterile PBS.
<b>Shipping</b>	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

## BACKGROUND

Stem cell factor (SCF), also known as c-kit ligand (KL), mast cell growth factor (MGF), and steel factor (SLF), is a widely expressed 28 - 40 kDa type I transmembrane glycoprotein (1). It promotes the survival, differentiation, and mobilization of multiple cell types including myeloid, erythroid, megakaryocytic, lymphoid, germ cell, and melanocyte progenitors (1-7). SCF is a primary growth and activation factor for mast cells and eosinophils (8). Mature human SCF consists of a 189 amino acid (aa) extracellular domain (ECD), a 23 aa transmembrane segment, and a 36 aa cytoplasmic tail (9). The ECD shows both N-linked and O-linked glycosylation (10). Proteolytic cleavage at two alternate sites in the extracellular juxtamembrane region releases a 25 kDa soluble molecule which is comparable to the only form produced by Steel-dickie mutant mice (11, 12). An alternately spliced isoform of human SCF lacks 28 aa that encompasses the primary proteolytic recognition site (13). Within the ECD of the short isoform (corresponding to this recombinant protein), human SCF shares 75%-83% aa sequence identity with canine, feline, mouse, and rat SCF. Rat SCF is active on mouse and human cells, but human SCF is only weakly active on mouse cells (9). Noncovalent dimers of transmembrane or soluble SCF interact with the receptor tyrosine kinase SCF R/c-kit to trigger receptor dimerization and signaling (14). SCF assists in the recovery of cardiac function following myocardial infarction by increasing the number of cardiomyocytes and vascular channels (15).

## References:

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