

SCF Protein, Rat (His)

Cat. No.:	HY-P72480
Synonyms:	Kit ligand; MGF; SCF; c-Kit ligand; sKITLG; Kitlg
Species:	Rat
Source:	E. coli
Accession:	P21581 (Q26-A189)
Gene ID:	60427
Molecular Weight:	Approximately 17 kDa

PROPERTIES

AA Sequence	<p> Q E I C R N P V T D N V K D I T K L V A N L P N D Y M I T L N Y V A G M D V L P S H C W L R D M V T H L S V S L T T L L D K F S N I S E G L S N Y S I I D K L G K I V D D L V A C M E E N A P K N V K E S L K K P E T R N F T P E E F F S I F N R S I D A F K D F M V A S D T S D C V L S S T L G P E K D S R V S V T K P F M L P P V A </p>
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 µm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/µg, determined by LAL method.
Reconstitution	It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH ₂ O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	<p>Stem Cell Factor (SCF) operates as a pivotal ligand for the receptor-type protein-tyrosine kinase KIT, exerting indispensable regulatory functions in cell survival, proliferation, hematopoiesis, stem cell maintenance, gametogenesis, mast cell development, migration, and melanogenesis. Upon binding to KIT, SCF activates diverse signaling pathways, triggering phosphorylation events that lead to the activation of key kinases such as AKT1 and components of the MAP kinase cascade, including RAS, RAF1, and MAPK1/ERK2 or MAPK3/ERK1. Furthermore, SCF-driven signaling involves the activation of STAT family members (STAT1, STAT3, and STAT5) and PLCG1, culminating in the production of crucial cellular signaling molecules. Operating synergistically with other cytokines, likely interleukins, SCF forms homodimers and non-covalently</p>
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links to KIT, resulting in the formation of a heterotetramer that mediates KIT dimerization and subsequent activation through autophosphorylation. This intricate network underscores SCF's multifaceted role in orchestrating diverse cellular processes and developmental pathways.

Caution: Product has not been fully validated for medical applications. For research use only.

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