

**DESCRIPTION**

**Source** *E. coli*-derived  
Lys26-Ala190, with an N-terminal Met  
Accession # P79169

**N-terminal Sequence Analysis** Met

**Predicted Molecular Mass** 18.6 kDa

**SPECIFICATIONS**

**Activity** Measured in a cell proliferation assay using TF-1 human erythroleukemic cells. Kitamura, T. *et al.* (1989) *J. Cell Physiol.* **140**:323. The ED<sub>50</sub> for this effect is 0.5-1.5 ng/mL.

**Endotoxin Level** <0.10 EU per 1 µg of the protein by the LAL method.

**Purity** >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

**Formulation** Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

**PREPARATION AND STORAGE**

**Reconstitution** Reconstitute at 25 µg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.

**Shipping** The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

**Stability & Storage** Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

**BACKGROUND**

Feline SCF (stem cell factor; also known as c-kit ligand) is a type I transmembrane (TM) glycoprotein that plays an important role in a number of fetal and adult developmental processes (1 - 4). It is synthesized as a 274 amino acid (aa) precursor that contains a 25 aa signal sequence, a 190 aa extracellular region, a 23 aa TM segment and a 36 aa cytoplasmic tail (5). Within the extracellular region there are two intrachain disulfide bonds and four α-helices. Although the predicted molecular weight is 19 kDa, the native molecule is anywhere from 28 - 40 kDa in size and reflects both N- and O-linked glycosylation (1). Glycosylation is not necessary for bioactivity (6). The transmembrane form of SCF can be cleaved proteolytically, generating a 165 aa soluble form. Circulating SCF exists as both a monomer and nondisulfide-linked homodimer, with monomer predominating (50% to 75%) (6). Both the soluble and TM forms have bioactivity. Their principal targets may be different, however (7). A second, alternate splice short form of feline SCF has been identified (5). It too, is membrane bound and contains 246 aa residues. It will not give rise to a soluble form, since alternate splicing removes the proteolytic cleavage site used in the long form. The ratio of long form to short form varies tissue to tissue (1). Soluble feline SCF shares 93%, 93%, 90%, 87%, and 78% aa sequence identity with porcine, canine, bovine, human and mouse SCF, respectively. Cells known to express SCF include endothelial cells, fibroblasts and keratinocytes (1).

**References:**

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3. Yoshida, H. *et al.* (2001) *J. Invest. Dermatol. Symp. Proc.* **6**:1.
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6. Hsu, Y-R. *et al.* (1997) *J. Biol. Chem.* **272**:6406.
7. Kapur, R. *et al.* (1998) *Blood* **91**:879.