Recombinant Feline SCF/c-kit Ligand

Catalog Number: 2268-SC/CF

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_{50} 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. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS.
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:

1. Broudy, V.C. (1997) Blood **90**:1345.
2. Nakagawa, S. and T. Kitoh (2000) Curr. Opin. Hematol. **7**:133.
3. Yoshida, H. *et al.* (2001) J. Invest. Dermatol. Symp. Proc. **6**:1.
4. Kang, J. and S.D. Der (2004) Curr. Opin. Immunol. **16**:180.
5. Dunham, S.P. and D.E. Onions (1996) DNA Seq. **6**:233.
6. Hsu, Y-R. *et al.* (1997) J. Biol. Chem. **272**:6406.
7. Kapur, R. *et al.* (1998) Blood **91**:879.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449