Human SCF/c-kit Ligand Antibody

Polyclonal Goat IgG
Catalog Number: AB-255-NA

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human SCF/c-kit Ligand in direct ELISAs and Western blots. In direct ELISA, approximately 45% cross-reactivity with recombinant mouse SCF is observed, approximately 30% cross-reactivity with recombinant canine SCF, recombinant rat SCF, and recombinant feline SCF is observed. It will also neutralize the biological activity of recombinant mouse SCF at a 10 fold higher IgG concentration.
Source	Polyclonal Goat IgG
Purification	Protein A or G purified
Immunogen	*E. coli*-derived recombinant human SCF/c–kit Glu26-Ala189 Accession # P21583
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

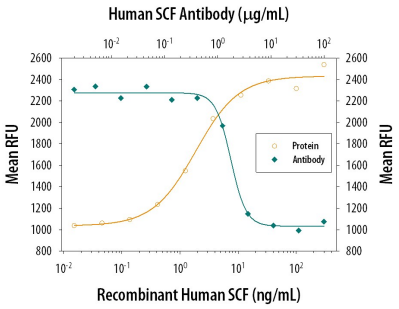
APPLICATIONS

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
Western Blot	1 µg/mL	Recombinant Human SCF/c-kit Ligand (Catalog # 255-SC)
Neutralization	Measured by its ability to neutralize SCF/c–kit Ligand-induced proliferation in the TF–1 human erythroleukemic cell line. Kitamura, T. *et al.* (1989) J. Cell Physiol. **140**:323. The Neutralization Dose (ND_{50}) is typically 0.4-2 µg/mL in the presence of 10 ng/mL Recombinant Human SCF/c–kit Ligand.	

DATA

Neutralization



Cell Proliferation Induced by SCF/c-kit Ligand and Neutralization by Human SCF/c-kit Ligand Antibody. Recombinant Human SCF/c-kit Ligand (Catalog # 255-SC) stimulates proliferation in the TF-1 human erythroleukemic cell line in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human SCF/c-kit Ligand (10 ng/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human SCF/c-kit Ligand Polyclonal Antibody (Catalog # AB-255-NA). The ND_{50} is typically 0.4-2 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 1 mg/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. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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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:

1. Ashman, L.K. (1999) Int. J. Biochem. Cell Biol. **31**:1037.
2. Sette, C. *et al.* (2000) Int. J. Dev. Biol. **44**:599.
3. Yoshida, H. *et al.* (2001) J. Invest. Dermatol. Symp. Proc. **6**:1.
4. Erlandsson, A. *et al.* (2004) Exp. Cell Res. **301**:201.
5. Kapur, R. *et al.* (2002) Blood **100**:1287.
6. Wang, C.-H. *et al.* (2007) Arterioscler. Thromb. Vasc. Biol. **27**:540.
7. Bashamboo, A. *et al.* (2006) J. Cell Sci. **119**:3039.
8. Reber, L. *et al.* (2006) Eur. J. Pharmacol. **533**:327.
9. Martin, F.H. *et al.* (1990) Cell **63**:203.
10. Arakawa, T. *et al.* (1991) J. Biol. Chem. **266**:18942.
11. Majumdar, M.K. *et al.* (1994) J. Biol. Chem. **269**:1237.
12. Brannan, C.I. *et al.* (1991) Proc. Natl. Acad. Sci. **88**:4671.
13. Anderson, D.M. *et al.* (1991) Cell Growth Differ. **2**:373.
14. Lemmon, M.A. *et al.* (1997) J. Biol. Chem. **272**:6311.
15. Kanellakis, P. *et al.* (2006) Cardiovasc. Res. **70**:117.

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