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SCF Antibody

Catalog # ASC10905

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	P21583
Other Accession	P21583, 134289
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	30899
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	SCF antibody can be used for detection of SCF by Western blot at 1 - 2 g/mL. Antibody can also be used for immunohistochemistry starting at 2.5 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	4254
Other Names	Kit ligand, Mast cell growth factor, MGF, Stem cell factor, SCF, c-Kit ligand, Soluble KIT ligand, sKITLG, KITLG, MGF, SCF
Target/Specificity	KITLG;
Reconstitution & Storage	SCF antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	SCF Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	KITLG (HGNC:6343)
Synonyms	MGF, SCF
Function	Ligand for the receptor-type protein-tyrosine kinase KIT. Plays an essential role in the regulation of cell survival and proliferation, hematopoiesis, stem cell maintenance, gametogenesis, mast cell development, migration and function, and in melanogenesis. KITLG/SCF binding can activate several signaling pathways. Promotes phosphorylation of PIK3R1, the regulatory subunit of phosphatidylinositol 3-kinase, and subsequent activation of the kinase AKT1. KITLG/SCF and KIT also transmit signals via GRB2 and activation

	of RAS, RAF1 and the MAP kinases MAPK1/ERK2 and/or MAPK3/ERK1. KITLG/SCF and KIT promote activation of STAT family members STAT1, STAT3 and STAT5. KITLG/SCF and KIT promote activation of PLCG1, leading to the production of the cellular signaling molecules diacylglycerol and inositol 1,4,5-trisphosphate. KITLG/SCF acts synergistically with other cytokines, probably interleukins.
Cellular Location	[Isoform 1]: Cell membrane; Single-pass type I membrane protein [Soluble KIT ligand]: Secreted.

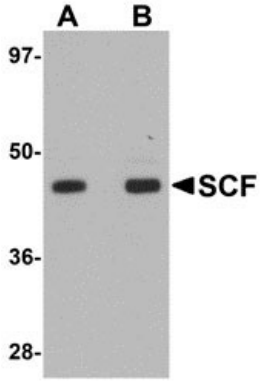
Background

SCF Antibody: Stem cell factor (SCF) is the ligand of the c-Kit oncogene and is expressed by various structural and inflammatory cells in the airways. Binding of SCF by the c-Kit receptor leads to homodimerization of the receptor and the activation of signalling pathways such as PI-3, PLC-gamma, Jak/STAT, and MAP kinase pathways. SCF expression leads to the induction of mast cell survival and the expression and release of histamine, pro-inflammatory cytokines and chemokines. The inhibition of the SCF/c-Kit pathway leads to a decrease in histamine levels, mast cell and eosinophil infiltration, IL-4 production and airway hyperresponsiveness, suggesting this pathway may be a useful therapeutic target in inflammatory diseases such as asthma. At least two isoforms of SCF are known to exist.

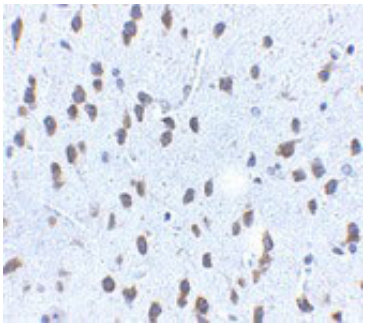
References

Reber L, Da Silva CA, and Frossard N. Stem cell factor and its receptor c-Kit as targets for inflammatory diseases. Euro. J. Pharmacology 2006; 533:327-40.
Jensen BM, Metcalfe DD, and Gilfillan AM. Targeting kit activation: a potential therapeutic approach in the treatment of allergic inflammation. Inflamm. Allergy Drug Targets 2007; 6:57-62.
Lukacs NW, Strieter RM, Lincoln PM, et al. Stem cell factor (c-kit ligand) influences eosinophil recruitment and histamine levels in allergic airway inflammation. J. Immunol. 1996; 156:3945-51.

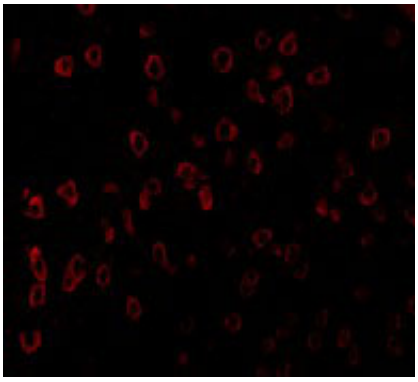
Images



Western blot analysis of SCF in rat brain tissue lysate with SCF antibody at (A) 1 and (B) 2 µg/mL.



Immunohistochemistry of SCF in mouse brain tissue with SCF antibody at 2.5 µg/mL.



Immunofluorescence of SCF in Human Brain tissue with SCF antibody at 20 µg/mL.