ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Human Mast stem cell growth factor (SCFR) Antibodies

□ Cat. # AB-23046-A	Rabbit Anti-Human SCFR IgG (aff pure)	**SIZE**: 100 ug
□ Cat. # AB-23046-P	Human SCFR blocking peptide	**SIZE**: 100 ug

Cluster of differentiation (CD) molecules are markers on the cell surface, as recognized by specific sets of antibodies, used to identify the cell type, stage of differentiation and activity of a cell. Mast/stem cell growth factor receptor (SCFR), a protein in humans is encoded by the KIT gene. Hematopoietic stem cells (HSC), multipotent progenitors (MPP), and common myeloid progenitors (CMP) express high levels of CD117. Early T lineage progenitors (ETP/DN1) and DN2 thymocytes express high levels of c-Kit. In addition, mast cells, melanocytes in the skin, and interstitial cells of Cajal in the digestive tract express CD117. Hematopoietic progenitor cells are normally present in the blood at low levels. CD117 is an important cell surface marker used to identify certain types of hematopoietic (blood) progenitors in the bone marrow. Mobilization is the process by which progenitors are made to migrate from the bone marrow into the bloodstream, thus increasing their numbers in the blood. Signaling through CD117 has been implicated in mobilization. Multiple transcript variants encoding different isoforms have been found for this gene. In response to stem cell factor (SCF) binding, KIT can activate several signaling pathways. It hosphorylates PIK3R1, PLCG1, SH2B2/APS, CBL and activates the AKT1 signaling pathway by phosphorylation of PIK3R1, the regulatory subunit of phosphatidylinositol 3-kinase. Activated KIT also transmits signals via GRB2 and activation of RAS, RAF1 and the MAP kinases MAPK1/ERK2 and/or MAPK3/ERK1.

Protein function: Tyrosine-protein kinase that acts as cell-surface receptor for the cytokine KITLG/SCF and 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.
Protein name Mast/stem cell growth factor, Proto-oncogene kinase Kit, pi45 c-Kit, Piebald trait protein, v-kit Hardy-Zuckerman 4 feline sarcoma viral oncogene homolog, EC=2.7.10.1
Gene name Name: KIT
Synonyms: SCFR
Subcellular location: Cell membrane, Single pass type I membrane protein
Sequence similarity: Belongs to the protein kinase superfamily. Tyr protein kinase family. CSF-1/PDGF receptor subfamily.Contains 5 Ig-like C2-type (immunoglobulin-like) domains.Contains 1 protein kinase domain

Source of Antigen and Antibodies

Antigen	19-aa peptide of mast/stem cell growth factor receptor; (protein accession #P10721). (**designated mast stem cell growth factor receptor or control peptide**)conjugated to KLH; Epitope location ~ C terminal
Ab Host/type	Rabbit, polyclonal Aff pure IgG1 (**cat #**) purified over the antigen column
2-ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG
□ 100 ug/100ul □ solution □ lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
□ 100 ug/100 ul □ solution □ lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage
Short-term: unopened, undiluted liquid vials at 20°C and powder at 4°C or -20°C..
Long-term: at –20°C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20°C or below.
Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure using Chemiluminescence technique).

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: not tested. We recommend the use of affinity pure antibody at 2-20 ug/ml.

Specificity & Cross-reactivity

Human AB-23046 peptide is 89% conserved in mouse and 84% conserved in rat. This peptide can also react with isoform 1 of the sequence due to the similarities in the amino acids. Antibody reactivity in various species is not established. The AB-23046-P control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity.

General References: Giebel L.B., (1992) Oncogene 7:2207; Andre C., (1997) Genomics 39:216; Jin P., (2008) Arthritis Res. Ther. 10:R73; Neumann I., (2010) Pediatr. Blood Cancer 55:464; Ota T., (2004) Nat. Genet. 36:40; Hillier L.W., (2005) Nature 434; Yamamoto K., (1993) Jpn. J. Cancer Res. 84:1136;

**This product is for In vitro research use only.*

Related materials available from ADI

Antibodies:

AB-23046-A-P 120301SM

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, San Antonio, TX 78244, USA; **Email**: service@4adi.com
☎ (800) 786-5777; (210) 561-9515; **Fax**: (210) 561-9544; **Web Site**: www.4adi.com