

DESCRIPTION	
Species Reactivity	Human
Specificity	Detects human and mouse CD117/c-kit in direct ELISAs and Western blots. In Western blots, approximately 2% cross-reactivity with recombinant human PDGF sRα is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf21-derived recombinant human CD117/c-kit Gln26-Thr520 Accession # P10721
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. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

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	0.1 µg/mL	See Below
Flow Cytometry	2.5 µg/10 ⁶ cells	TF-1 human erythroleukemic cell line
Immunohistochemistry	5-15 µg/mL	See Below
Simple Western	5 µg/mL	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Neutralization	Measured by its ability to neutralize SCF/c-kit Ligand-induced proliferation in the TF-1 human erythroleukemic cell line. Kitamura, T. <i>et al.</i> (1989) <i>J. Cell Physiol.</i> 140:323. The Neutralization Dose (ND ₅₀) is typically 0.06-0.36 µg/mL in the presence of 20 ng/mL Recombinant Human SCF/c-kit Ligand.	

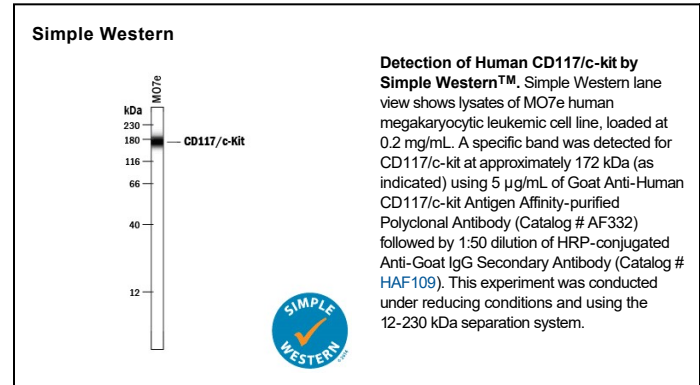
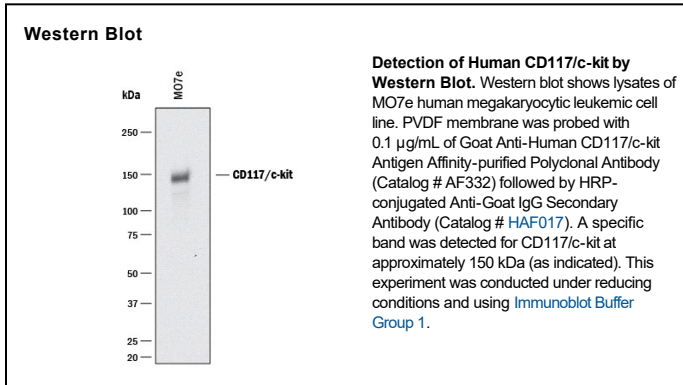
DATA

Neutralization

Cell Proliferation Induced by SCF/c-kit Ligand and Neutralization by Human CD117/c-kit Antibody. Recombinant Human SCF/c-kit Ligand (Catalog # 255-SC) induces cell proliferation in the TF-1 human erythroleukemic cell line in a dose-dependent manner (orange line), as measured by the Resazurin (Catalog # AR002). Under these conditions, proliferation elicited by SCF/c-kit Ligand is neutralized (green line) by increasing concentrations of Goat Anti-Human CD117/c-kit Antigen Affinity-purified Polyclonal Antibody (Catalog # AF332). The ND₅₀ is typically 0.06-0.36 µg/mL in the presence of 20 ng/mL of Recombinant Human SCF/c-kit Ligand.

Immunohistochemistry

CD117/c-kit in Human Brain. CD117/c-kit was detected in immersion fixed paraffin-embedded sections of human brain (hippocampus) using Goat Anti-Human CD117/c-kit Antigen Affinity-purified Polyclonal Antibody (Catalog # AF332) at 15 µg/mL overnight at 4 °C. Before incubation with the primary antibody, tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained using the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific staining was localized to neurons. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> ● 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.

BACKGROUND

Stem cell factor receptor (CD117, the gene product of the *c-kit* proto-oncogene) and its ligand, stem cell factor (also named c-kit ligand, mast cell growth factor), play essential roles in gametogenesis, melanogenesis and hematopoiesis. The human stem cell factor receptor cDNA encodes a 972 amino acid (aa) residue precursor membrane protein with a 25 aa residue signal peptide (experimentally determined), a 495 aa residue extracellular domain, a 23 aa residue transmembrane segment and a 429 aa residue cytoplasmic domain. Stem cell factor receptor is a member of the type III subfamily of receptor tyrosine kinases (RTK) that also includes the receptors for M-CSF, Flt-3, PDGF, and VEGF. All class III RTKs are characterized by the presence of five immunoglobulin-like domains in their extracellular region and a split kinase domain in their intracellular region. SCF binding induces receptor homodimerization and signal transduction. SCF receptor is expressed in hematopoietic progenitor cells, normal B- and T-lymphocyte progenitor cells, mast cells, germ cells, melanocytes, neurons, glial cells, placenta, kidney, lung, and gut. In addition, SCF receptor expression has also been reported in a number of human tumor cell lines. SCF receptor can be proteolytically cleaved from the cell surface and high levels of soluble SCF receptor has been detected in cell conditioned medium and human plasma. Recombinant soluble SCF receptor binds SCF with high affinity and is a potent SCF antagonist.

References:

1. Broudy, V. (1997) Blood **90**:1345.
2. Vliagoftis, H. *et al.* (1997) J. Allergy Clin. Immunol. **100**:435.