

c-Kit (57A5): sc-65276

BACKGROUND

The c-Kit proto-oncogene is a member of the receptor tyrosine kinase family and, more specifically, is closely related to the platelet derived growth factor receptor (PDGFR). c-Kit, the normal cellular homolog of the HZ4-feline sarcoma virus transforming gene (v-Kit), encodes a transmembrane receptor. c-Kit regulates a variety of biological responses including chemotaxis, cell proliferation, apoptosis and adhesion. c-Kit is also identical with the product of the W locus in mice and, as such, is integral to the development of mast cells and hematopoiesis. The ligand for the c-Kit receptor (KL) has been identified and is encoded at the murine steel (Sl) locus. Kit is the human homolog of the proto-oncogene c-Kit. Mutations in Kit are integral for tumor growth and progression in various cancers.

REFERENCES

1. Besmer, P., et al. 1986. A new acute transforming feline retrovirus and relationship of its oncogene v-Kit with the protein kinase gene family. *Nature* 320: 415-417.
2. Yarden, Y., et al. 1987. Human proto-oncogene c-Kit: a new cell surface receptor kinase for an unidentified ligand. *EMBO J.* 6: 3341-3347.
3. Geissler, E.N., et al. 1988. The dominant-white spotting W locus of the mouse encodes the c-Kit proto-oncogene. *Cell* 55: 185-195.
4. Majumder, S., et al. 1988. c-Kit protein, a transmembrane kinase: identification in tissues and characterization. *Mol. Cell. Biol.* 8: 4896-5002.
5. Chabot, B., et al. 1988. The proto-oncogene c-Kit encoding a transmembrane tyrosine kinase receptor maps to the mouse W locus. *Nature* 335: 88-90.
6. Flanagan, J.G., et al. 1990. The Kit ligand: a cell surface molecule altered in steel mutant fibroblasts. *Cell* 63: 185-194.
7. Lerner, N.B., et al. 1991. Monoclonal antibody YB5.B8 identifies the human c-Kit protein product. *Blood* 77: 1876-1883.
8. Tsai, M., et al. 1991. The rat c-Kit ligand, stem cell factor, induces the development of connective tissue-type and mucosal mast cells *in vivo*. Analysis by anatomical distribution, histochemistry and protease phenotype. *J. Exp. Med.* 174: 125-131.
9. de Vries, P., et al. 1992. Thymus reconstitution by c-Kit-expressing hematopoietic stem cells purified from adult mouse bone marrow. *J. Exp. Med.* 176: 1503-1509.

CHROMOSOMAL LOCATION

Genetic locus: KIT (human) mapping to 4q12.

SOURCE

c-Kit (57A5) is a mouse monoclonal antibody raised against MO7e tumor cells of human origin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PRODUCT

Each vial contains 100 µg IgG₁ in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

c-Kit (57A5) is recommended for detection of c-Kit of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10⁶ cells).

Suitable for use as control antibody for c-Kit siRNA (h): sc-29225, c-Kit shRNA Plasmid (h): sc-29225-SH and c-Kit shRNA (h) Lentiviral Particles: sc-29225-V.

Molecular Weight of c-Kit precursor: 120 kDa.

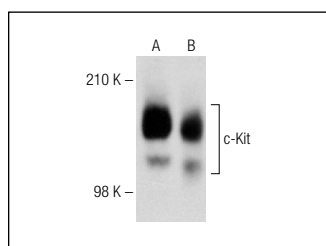
Molecular Weight of mature c-Kit: 145 kDa.

Positive Controls: HEL 92.1.7 cell lysate: sc-2270, TF-1 cell lysate: sc-2412 or CCRF-HSB-2 cell lysate: sc-2265.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotting A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



c-Kit (57A5): sc-65276. Western blot analysis of c-Kit expression in HEL 92.1.7 (A) and TT (B) whole cell lysates.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.