SANTA CRUZ BIOTECHNOLOGY, INC.

c-Kit (3C11): sc-53147

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. Majumder, S., et al. 1988. c-Kit protein, a transmembrane kinase: identification in tissues and characterization. Mol. Cell. Biol. 8: 4896-5002.
4. 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.
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. and Leder, P. 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 (mouse) mapping to 5 C3.3.

SOURCE

c-Kit (3C11) is a rat monoclonal antibody raised against IL-3-dependent mast cells derived from normal bone marrow.

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 200 µg IgG_{2b} in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

c-Kit (3C11) is available conjugated to either phycoerythrin (sc-53147 PE) or fluorescein (sc-53147 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

APPLICATIONS

c-Kit (3C11) is recommended for detection of c-Kit of mouse origin by flow cytometry (1 µg per 1 x 10^6 cells).

Suitable for use as control antibody for c-Kit siRNA (m): sc-29852, c-Kit shRNA Plasmid (m): sc-29852-SH and c-Kit shRNA (m) Lentiviral Particles: sc-29852-V.

Molecular Weight of c-Kit precursor: 120 kDa.

Molecular Weight of mature c-Kit: 145 kDa.

REFERENCES

1. Sachewsky, N. and Morshead, C.M. 2014. Prosurvival factors derived from the embryonic brain promote adult neural stem cell survival. Stem Cells Dev. 23: 2469-2481.

RESEARCH USE

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

PROTOCOLS

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

CONJUGATES

See **c-Kit (E-3): sc-365504** for c-Kit antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.