

p-c-Kit (Tyr 721): sc-101659

BACKGROUND

The c-Kit proto-oncogene has been identified as a member of the receptor tyrosine kinase family and more specifically has been shown to be 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 has also been shown to be 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 shown to be encoded at the murine steel (*Sl*) locus. Two sites on c-Kit are able to bind SH2(CHK), the Tyr 568/570 diphosphorylated sequence and the monophosphorylated Tyr 721 sequence. SH2(CHK) binds to the two sites directly and only the Tyr 568/570, and not the Tyr 721, is able to bind SH2(CHK). The Tyr 568 and Tyr 570 residues are phosphorylated *in vivo* following ligand-stimulation.

REFERENCES

- 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.
- 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.
- 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.
- 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.
- Majumder, S., et al. 1988. c-Kit protein, a transmembrane kinase: identification in tissues and characterization. *Mol. Cell. Biol.* 8: 4896-5002.
- Lerner, N.B., et al. 1991. Monoclonal antibody YB5.B8 identifies the human c-Kit protein product. *Blood* 77: 1876-1883.
- 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.

CHROMOSOMAL LOCATION

Genetic locus: KIT (human) mapping to 4q12; Kit (mouse) mapping to 5 C3.3.

SOURCE

p-c-Kit (Tyr 721) is a rabbit polyclonal antibody raised against a short amino acid sequence containing Tyr 721 phosphorylated c-Kit of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

p-c-Kit (Tyr 721) is recommended for detection of Tyr 721 phosphorylated c-Kit of human origin, correspondingly phosphorylated Tyr 719 of mouse origin and correspondingly phosphorylated Tyr 722 of rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for c-Kit siRNA (h): sc-29225, c-Kit siRNA (m): sc-29852, c-Kit siRNA (r): sc-63363, c-Kit shRNA Plasmid (h): sc-29225-SH, c-Kit shRNA Plasmid (m): sc-29852-SH, c-Kit shRNA Plasmid (r): sc-63363-SH, c-Kit shRNA (h) Lentiviral Particles: sc-29225-V, c-Kit shRNA (m) Lentiviral Particles: sc-29852-V and c-Kit shRNA (r) Lentiviral Particles: sc-63363-V.

Molecular Weight of p-c-Kit precursor: 120 kDa.

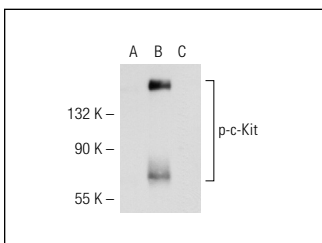
Molecular Weight of mature p-c-Kit: 145 kDa.

Positive Controls: A-431 + EGF whole cell lysate: sc-2202 or A-431 whole cell lysate: sc-2201.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



p-c-Kit (Tyr 721): sc-101659. Western blot analysis of c-Kit phosphorylation in untreated (A), EGF treated (B) and EGF and lambda protein phosphatase (sc-200312A) treated (C) A-431 whole cell lysates.

SELECT PRODUCT CITATIONS

- Yu, X., et al. 2011. Cadmium induced p53-dependent activation of stress signaling, accumulation of ubiquitinated proteins, and apoptosis in mouse embryonic fibroblast cells. *Toxicol. Sci.* 120: 403-412.

RESEARCH USE

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