

# p-c-Kit (Tyr 568/570): sc-18076

## 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. The Tyr 568 and Tyr 570 residues are phosphorylated *in vivo* following ligand-stimulation.

## 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. 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.
4. Majumder, S., et al. 1988. c-Kit protein, a transmembrane kinase: identification in tissues and characterization. *Mol. Cell. Biol.* 8: 4896-5002.
5. 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.
6. Flanagan, J.G., et al. 1990. The Kit ligand: a cell surface molecule altered in steel mutant fibroblasts. *Cell* 63: 185-194.

## CHROMOSOMAL LOCATION

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

## SOURCE

p-c-Kit (Tyr 568/570) is available as either goat (sc-18076) or rabbit (sc-18076-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing dually phosphorylated Tyr 568 and Tyr 570 of c-Kit of mouse 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 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-18076 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

p-c-Kit (Tyr 568/570) is recommended for detection of Tyr 568 and Tyr 570 dually phosphorylated c-Kit of mouse, rat and 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

p-c-Kit (Tyr 568/570) is also recommended for detection of correspondingly phosphorylated Tyr on c-Kit in additional species, including equine, canine, bovine, porcine and avian.

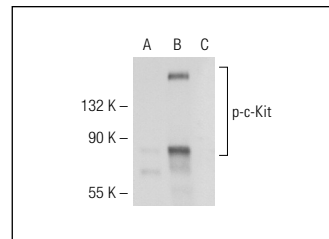
Suitable for use as control antibody for c-Kit siRNA (h): sc-29225, c-Kit siRNA (m): sc-29852, c-Kit shRNA Plasmid (h): sc-29225-SH, c-Kit shRNA Plasmid (m): sc-29852-SH, c-Kit shRNA (h) Lentiviral Particles: sc-29225-V and c-Kit shRNA (m) Lentiviral Particles: sc-29852-V.

Molecular weight of immature form p-c-Kit: 120 kDa.

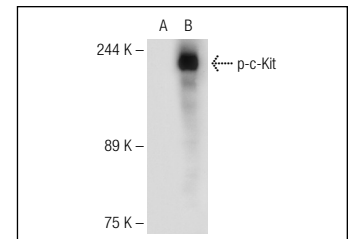
Molecular weight of mature glycosylated p-c-Kit: 145 kDa.

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

## DATA



p-c-Kit (Tyr 568/570)-R: sc-18076-R. 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.



p-c-Kit (Tyr 568/570)-R: sc-18076-R. Western blot analysis of c-Kit phosphorylation in untreated (A) and EGF treated (B) A-431 whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Basciani, S., et al. 2005. Imatinib mesylate inhibits Leydig cell tumor growth: evidence for *in vitro* and *in vivo* activity. *Cancer Res.* 65: 1897-1903.
2. Samayawardhena, L.A., et al. 2008. Protein-tyrosine phosphatase  $\alpha$  regulates stem cell factor-dependent c-Kit activation and migration of mast cells. *J. Biol. Chem.* 283: 29175-29185.
3. Weise, J.M., et al. 2009. Differential regulation of human and mouse telomerase reverse transcriptase (TERT) promoter activity during testis development. *Mol. Reprod. Dev.* 76: 309-317.
4. Krasagakis, K., et al. 2011. KIT receptor activation by autocrine and paracrine stem cell factor stimulates growth of merkel cell carcinoma *in vitro*. *J. Cell. Physiol.* 226: 1099-1109.

## RESEARCH USE

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