

p-Trk (Tyr 680/Tyr 681): sc-7996

BACKGROUND

The Trk proto-oncogene encodes a 140 kDa membrane-spanning protein tyrosine kinase, Trk A, also designated Trk gp140, whose expression is restricted *in vivo* to neurons of the sensory spinal and cranial ganglia of neural crest origin. Nerve growth factor (NGF) stimulates tyrosine phosphorylation of Trk A in neural cell lines and in embryonic dorsal root ganglia. Tyrosine phosphorylation of Trk A by NGF is rapid, specific and occurs with picomolar quantities of factor, indicating that the response is mediated by physiological amounts of NGF, suggesting that Trk A participates in the primary signal transduction mechanism of NGF. By comparison, the brain-derived neurotrophic factor (BDNF) and, to a lesser extent, neurotrophin-3 (NT-3), but not NGF, can induce tyrosine phosphorylation of Trk B gp145.

REFERENCES

1. Martin-Zanca, D., et al. 1986. A human oncogene formed by the fusion of truncated tropomyosin and protein tyrosine kinase sequences. *Nature* 319: 743-748.
2. Reinach, F.C. and Macleod, A.R. 1986. Tissue-specific expression of the human tropomyosin gene involved in the generation of the Trk oncogene. *Nature* 322: 648-650.
3. Martin-Zanca, D., et al. 1989. Molecular and biochemical characterization of the human Trk proto-oncogene. *Mol. Cell. Biol.* 9: 24-33.

CHROMOSOMAL LOCATION

Genetic locus: NTRK1 (human) mapping to 1q22; Ntrk1 (mouse) mapping to 3 F1.

SOURCE

p-Trk (Tyr 680/Tyr 681) is a goat polyclonal antibody raised against a short amino acid sequence containing dually phosphorylated Tyr 680 and Tyr 681 of Trk of human origin.

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-7996 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

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.

APPLICATIONS

p-Trk (Tyr 680/Tyr 681) is recommended for detection of Tyr 680 and Tyr 681 dually phosphorylated Trk 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).

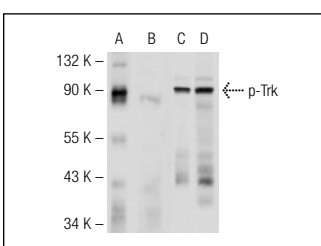
p-Trk (Tyr 680/Tyr 681) is also recommended for detection of correspondingly phosphorylated Tyr on Trk in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Trk siRNA (h): sc-29511, Trk siRNA (m): sc-29512, Trk shRNA Plasmid (h): sc-29511-SH, Trk shRNA Plasmid (m): sc-29512-SH, Trk shRNA (h) Lentiviral Particles: sc-29511-V and Trk shRNA (m) Lentiviral Particles: sc-29512-V.

Molecular Weight of p-Trk: 140 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, RAW 264.7 + IFN-γ cell lysate: sc-2259 or Ramos cell lysate: sc-2216.

DATA



Western blot analysis of Trk phosphorylation in untreated (A, C) and lambda protein phosphatase (sc-200312A) treated (B, D) Ramos whole cell lysates. Antibodies tested include p-Trk (Tyr 680/Tyr 681)-R: sc-7996-R (A, B) and Trk (C-15): sc-139 (C, D).

SELECT PRODUCT CITATIONS

1. Qiao, L.Y. and Vizzard, M.A. 2002. Cystitis-induced upregulation of tyrosine kinase (TrkA, TrkB) receptor expression and phosphorylation in rat micturition pathways. *J. Comp. Neurol.* 454: 200-211.
2. Qiao, L.Y. and Vizzard, M.A. 2004. Up-regulation of phosphorylated CREB but not c-Jun in bladder afferent neurons in dorsal root ganglia after cystitis. *J. Comp. Neurol.* 469: 262-274.
3. Renné, C., et al. 2005. Autocrine- and paracrine-activated receptor tyrosine kinases in classic Hodgkin lymphoma. *Blood* 105: 1051-4059.
4. Qiao, L.Y. and Vizzard, M.A. 2005. Spinal cord injury-induced expression of TrkA, TrkB, phosphorylated CREB, and c-Jun in rat lumbosacral dorsal root ganglia. *J. Comp. Neurol.* 482: 142-154.
5. Wong, A.W., et al. 2008. Neurotrophin receptor homolog-2 regulates nerve growth factor signaling. *J. Neurochem.* 106: 1964-1976.