

p-Trk (Tyr 496): sc-7987

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. Klein, R., et al. 1989. Trk B, a novel tyrosine protein kinase receptor expressed during mouse neural development. *EMBO J.* 8: 3701-3709.
2. Klein, R., et al. 1990. Expression of the tyrosine kinase receptor gene Trk B is confined to the murine embryonic and adult nervous system. *Development* 109: 845-850.
3. Kaplan, D.R., et al. 1991. Tyrosine phosphorylation and tyrosine kinase activity of the Trk proto-oncogene product induced by NGF. *Nature* 350: 158-160.
4. Hempstead, B.L., et al. 1991. High-affinity NGF binding requires coexpression of the Trk proto-oncogene and the low-affinity NGF receptor. *Nature* 350: 678-683.
5. Klein, R., et al. 1991. The Trk proto-oncogene encodes a receptor for nerve growth factor. *Cell* 65: 189-197.
6. Klein, R., et al. 1991. The Trk B tyrosine protein kinase is a receptor for brain-derived neurotrophic factor and neurotrophin-3. *Cell* 66: 395-403.
7. Cordon-Cardo, C., et al. 1991. The Trk tyrosine protein kinase mediates the mitogenic properties of nerve growth factor and neurotrophin-3. *Cell* 66: 173-183.

CHROMOSOMAL LOCATION

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

SOURCE

p-Trk (Tyr 496) is available as either goat (sc-7987) or rabbit (sc-7987-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Tyr 496 phosphorylated Trk A 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-7987 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

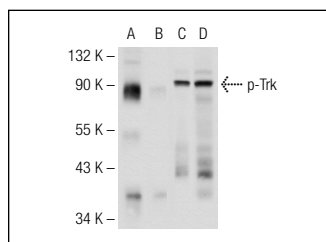
p-Trk (Tyr 496) is recommended for detection of Tyr 496 phosphorylated Trk A and correspondingly phosphorylated TrkB and TrkC of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of 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).

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

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 496)-R: sc-7987-R (A, B) and Trk (C-15): sc-139 (C, D).

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.

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Satisfaction
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Try **p-Trk (E-6): sc-8058**, our highly recommended monoclonal alternative to p-Trk (Tyr 496). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **p-Trk (E-6): sc-8058**.