

Trk A (C-20): sc-20539

BACKGROUND

The Trk proto-oncogene encodes a tyrosine protein kinase, Trk A, also designated Trk gp140, that serves as a receptor for certain neurotrophic factors including nerve growth factor (NGF) and neurotrophin-3 (NT-3). Trk B is a tyrosine kinase gene highly related to Trk A. Trk B expression is confined to tissues within the central and peripheral nervous systems. The brain-derived neurotrophic factor (BDNF) and NT-3, but not NGF, can induce rapid phosphorylation on Tyrosine of Trk B gp145, one of the receptors encoded by Trk B, although BDNF elicits a response at least two orders of magnitude greater than NT-3. Thus it appears that Trk B gp145 may represent a neurotrophic receptor for BDNF and NT-3. The third member of the Trk family of tyrosine kinases, Trk C, encodes a protein designated Trk C gp145 that is preferentially expressed in brain tissue, is equally related to Trk A and Trk B and is a functional receptor for NT-3.

CHROMOSOMAL LOCATION

Genetic locus: NTRK1 (human) mapping to 1q23.1; Ntrk1 (mouse) mapping to 3 F1.

SOURCE

Trk A (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an extracellular domain of 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-20539 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Trk A (C-20) is recommended for detection of Trk A 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).

Trk A (C-20) is also recommended for detection of Trk A in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Trk A siRNA (h): sc-36726, Trk A siRNA (m): sc-36727, Trk A shRNA Plasmid (h): sc-36726-SH, Trk A shRNA Plasmid (m): sc-36727-SH, Trk A shRNA (h) Lentiviral Particles: sc-36726-V and Trk A shRNA (m) Lentiviral Particles: sc-36727-V.

Molecular Weight of Trk A: 80 kDa.

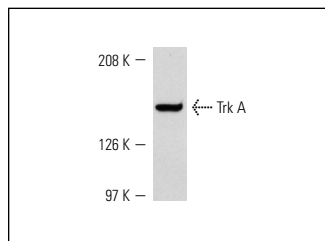
Molecular Weight of glycosylated Trk A: 140 kDa.

Positive Controls: PC-12 cell lysate: sc-2250, H4 cell lysate: sc-2408 or SK-N-SH cell lysate: sc-2410.

STORAGE

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

DATA



Trk A (C-20): sc-20539. Western blot analysis of Trk A expression in PC-12 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Raile, K., et al. 2006. Glucose regulates expression of the nerve growth factor (NGF) receptors Trk A and p75^{NTR} in rat islets and INS-1E β-cells. *Regul. Pept.* 135: 30-38.
2. Lazarov, O., et al. 2007. Impairments in fast axonal transport and motor neuron deficits in transgenic mice expressing familial Alzheimer's disease-linked mutant presenilin 1. *J. Neurosci.* 27: 7011-7020.
3. Simpson, P.J., et al. 2007. Progressive and inhibitory cell cycle proteins act simultaneously to regulate neurotrophin-mediated proliferation and maturation of neuronal precursors. *Cell Cycle* 6: 1077-1089.
4. Li, W., et al. 2008. Coordinate action of pre- and postsynaptic brain-derived neurotrophic factor is required for AMPAR trafficking and acquisition of *in vitro* classical conditioning. *Neuroscience* 155: 686-697.
5. Matsuoka, H. and Inoue, M. 2015. Src mediates endocytosis of TWIK-related acid-sensitive K⁺ channels in PC12 cells in response to nerve growth factor. *Am. J. Physiol. Cell Physiol.* 309: C251-C263.

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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