

# Trk (MCTrks): sc-414

## 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 neurotrophin-3 (NT-3).

## SOURCE

Trk (MCTrks) is a mouse monoclonal antibody epitope corresponding to amino acids 777-790 mapping at the C-terminus of Trk A of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Trk (MCTrks) is available conjugated to agarose (sc-414 AC), 500 µg/0.25 ml agarose in 1 ml, for IP.

Blocking peptide available for competition studies, sc-414 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

Trk (MCTrks) is recommended for detection of Trk A, Trk B and Trk C 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 immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

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 Trk splice variants: 53-140 kDa.

Positive Controls: IMR-32 cell lysate: sc-2409, SH-SY5Y cell lysate: sc-3812 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.

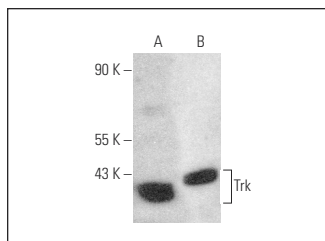
## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

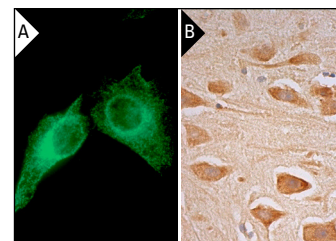
## RESEARCH USE

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

## DATA



Trk (MCTrks): sc-414. Western blot analysis of Trk expression in IMR-32 (A) and SH-SY5Y (B) whole cell lysates.



Trk (MCTrks): sc-414. Immunofluorescence staining of methanol-fixed SK-N-SH cells showing membrane localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human hippocampus tissue showing cytoplasmic staining of neuronal cells and glial cells (B).

## SELECT PRODUCT CITATIONS

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- Lindén, A., et al. 2001. Increased expression of neuronal Src and tyrosine phosphorylation of NMDA receptors in rat brain after systemic treatment with MK-801. *Neuropharmacology* 40: 469-481.
- Liu, H.Y. and Meakin, S.O. 2002. ShcB and ShcC activation by the Trk family of receptor tyrosine kinases. *J. Biol. Chem.* 277: 26046-26056.
- Nakamura, T., et al. 2002. Grit, a GTPase-activating protein for the Rho family, regulates neurite extension through association with the TrkA receptor and N-Shc and Crk<sub>L</sub>/Crk adapter molecules. *Mol. Cell. Biol.* 22: 8721-8734.
- Liu, H.Y., et al. 2005. Human tumorous imaginal disc 1 (TID-1) associates with Trk receptor tyrosine kinases and regulates neurite outgrowth in *nnr5*-Trk A cells. *J. Biol. Chem.* 280: 19461-19471.
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- Fu, X., et al. 2010. Retrograde neurotrophic signaling requires a protein interacting with receptor tyrosine kinases via C<sub>2</sub>H<sub>2</sub> zinc fingers. *Mol. Biol. Cell* 21: 36-49.
- Takaoka, N., et al. 2011. Analysis of the regulation of fatty acid binding protein 7 expression in human renal carcinoma cell lines. *BMC Mol. Biol.* 12: 31.
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## CONJUGATES

See **Trk (B-3): sc-7268** for Trk antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.