

Trk (C-13): sc-119



The Power to Question

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 NTRK2, 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: NTRK2 (human) mapping to 9q21.33; Ntrk2 (mouse) mapping to 13 B1.

SOURCE

Trk B (C-13) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping at the C-terminus of Trk B of mouse origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-119 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for ChIP application, sc-119 X, 200 µg/0.1 ml.

APPLICATIONS

Trk B (C-13) is recommended for detection of Trk B splice variants L1 and L10 of mouse origin, Trk B gp95 of mouse and rat origin and Trk B-T1 of 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); non cross-reactive with Trk B splice variants Trk B gp145 of rat origin or Trk B T-Shc, Trk A gp140 or Trk C gp145 of human origin.

Trk B (C-13) is also recommended for detection of Trk B-T1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Trk B siRNA (h): sc-36728, Trk B siRNA (m): sc-36729, Trk B shRNA Plasmid (h): sc-36728-SH, Trk B shRNA Plasmid (m): sc-36729-SH, Trk B shRNA (h) Lentiviral Particles: sc-36728-V and Trk B shRNA (m) Lentiviral Particles: sc-36729-V.

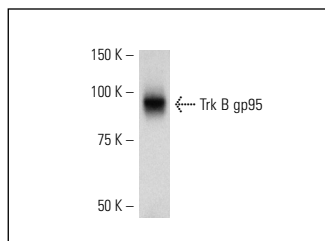
Trk B (C-13) X TransCruz antibody is recommended for ChIP assays.

Molecular Weight of Trk B splice variants: 95-145 kDa.

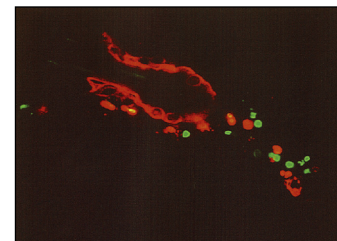
STORAGE

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

DATA



Trk B (C-13): sc-119. Western blot analysis of Trk B expression in rat brain tissue extract.



Trk B (C-13): sc-119. Cryostat sections of mouse skin showing hair follicle staining. Note red immunofluorescence staining of Trk B and green TUNEL staining marking apoptotic cells. Kindly provided by Hair Research Group, Humboldt University, Berlin.

SELECT PRODUCT CITATIONS

- Musgrove, E.A., et al. 1998. Mechanisms of cyclin-dependent kinase inactivation by progestins. *Mol. Cell. Biol.* 18: 1812-1825.
- Baj, G., et al. 2009. BDNF splice variants from the second promoter cluster support cell survival of differentiated neuroblastoma upon cytotoxic stress. *J. Cell Sci.* 122: 36-43.
- Mayeur, S., et al. 2010. Placental BDNF/TrkB signaling system is modulated by fetal growth disturbances in rat and human. *Placenta* 31: 785-791.
- Michaelsen, K., et al. 2010. Neurotrophin receptors TrkB.T1 and p75NTR cooperate in modulating both functional and structural plasticity in mature hippocampal neurons. *Eur. J. Neurosci.* 32: 1854-1865.
- Troca-Marín, JA., et al. 2011. An increase in basal BDNF provokes hyperactivation of the Akt-mammalian target of rapamycin pathway and deregulation of local dendritic translation in a mouse model of Down's syndrome. *J. Neurosci.* 31: 9445-9455.
2011. Retraction. Spirolactone prevents renal dysfunction and fibrosis induced by tacrolimus. *Am. J. Physiol. Renal Physiol.* 301: F917.
- Hill, R.A., et al. 2011. Sex-dependent and region-specific changes in TrkB signaling in BDNF heterozygous mice. *Brain Res.* 1384: 51-60.

RESEARCH USE

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

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Try **Trk B (F-1): sc-377218** or **Trk B (H-8): sc-136990**, our highly recommended monoclonal alternatives to Trk B (C-13).