SANTA CRUZ BIOTECHNOLOGY, INC.

Trk (C-13): sc-119

SANTA CRUZ BIOTECHNOLOGY

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 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).

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 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-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 in additional species, including 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.

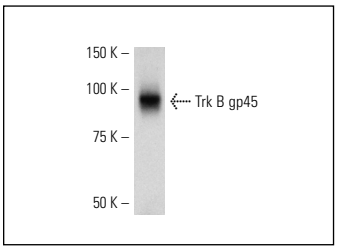
Trk B (C-13) X TransCruz antibody is recommended for ChIP assays.

Positive Controls: rat brain extract: sc-2392, rat cerebellum extract : sc-2398 or mouse brain extrac: sc-2253.

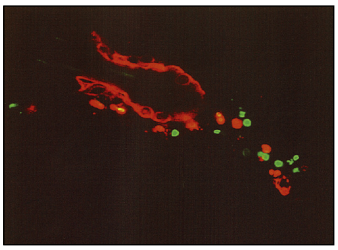
RESEARCH USE

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

DATA



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



Trk B [TK-] (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

1. Musgrove, E.A., et al. 1998. Mechanisms of cyclin-dependent kinase inactivation by progestins. Mol. Cell. Biol. 18: 1812-1825.
2. Labouyrie, E., et al. 1999. Expression of neurotrophins and their receptors in human bone marrow. Am. J. Pathol. 154: 405-415.
3. Murthy, K.S., et al. 2003. Differential signalling by muscarinic receptors in smooth muscle: m2-mediated inactivation of myosin light chain kinase via Gi3, Cdc42/Rac1 and p21-activated kinase 1 pathway, and m3-mediated MLC20 (20 kDa regulatory light chain of myosin II) phosphorylation via Rho-associated kinase/myosin phosphatase targeting subunit 1 and protein kinase C/CPI-17 pathway. Biochem. J. 374: 145-155.
4. Rose, C.R., et al. 2003. Truncated TrkB-T1 mediates neurotrophin-evoked calcium signalling in glia cells. Nature 426: 74-78.
5. Artico, M., et al. 2004. Peribronchial innervation of the rat lung. Int. J. Mol. Med. 14: 615-620.
6. Silhol, M., et al. 2005. Age-related changes in brain-derived neurotrophic factor and tyrosine kinase receptor isoforms in the hippocampus and hypothalamus in male rats. Neuroscience 132: 613-624.
7. Tan, J., et al. 2006. Aminoglycoside-induced degeneration of adult spiral ganglion neurons involves differential modulation of tyrosine kinase B and p75 neurotrophin receptor signaling. Am. J. Pathol. 169: 528-543.
8. De Wit, J., et al. 2006. Long-term adeno-associated viral vector-mediated expression of truncated TrkB in the adult rat facial nucleus results in motor neuron degeneration. J. Neurosci. 26: 1516-1530.
9. Pillai, A., et al. 2008. Increased truncated TrkB receptor expression and decreased BDNF/TrkB signaling in the frontal cortex of reeler mouse model of schizophrenia. Schizophr. Res. 100: 325-333.

STORAGE

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