SANTA CRUZ BIOTECHNOLOGY, INC.

Trk B (F-1): sc-377218

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 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 (F-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 37-75 within an extracellular domain of Trk B of human origin.

PRODUCT

Each vial contains 200 µg IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-377218 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Trk B (F-1) is recommended for detection of Trk B, Trk B-T1 and Trk B T-Shc of human origin, Trk B splice variants L1 and L10 of mouse origin, and Trk B gp95 and Trk B gp145 of rat origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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 B siRNA (h): sc-36728, Trk B siRNA (m): sc-36729, Trk B siRNA (r): sc-270466, Trk B shRNA Plasmid (h): sc-36728-SH, Trk B shRNA Plasmid (m): sc-36729-SH, Trk B shRNA Plasmid (r): sc-270466-SH, Trk B shRNA (h) Lentiviral Particles: sc-36728-V, Trk B shRNA (m) Lentiviral Particles: sc-36729-V and Trk B shRNA (r) Lentiviral Particles: sc-270466-V.

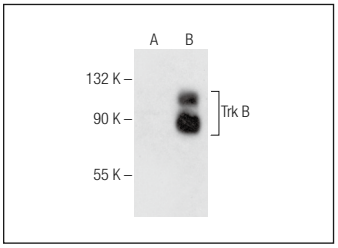
Molecular Weight of Trk B splice variants: 95-145 kDa.

Positive Controls: Trk B (h): 293T Lysate: sc-113925, PC-12 cell lysate: sc-2250 or H4 cell lysate: sc-2408.

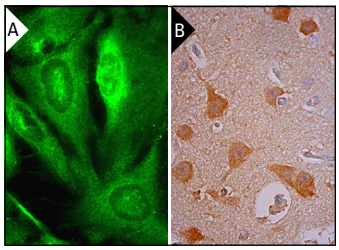
STORAGE

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

DATA



Trk B (F-1): sc-377218. Western blot analysis of Trk B expression in non-transfected: sc-117752 (**A**) and human Trk B transfected: sc-113925 (**B**) 293T whole cell lysates.



Trk B (F-1): sc-377218. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cytoplasmic 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

1. Camer, D., et al. 2015. Bardoxolone methyl prevents high-fat diet-induced alterations in prefrontal cortex signalling molecules involved in recognition memory. Prog. Neuropsychopharmacol. Biol. Psychiatry 59: 68-75.
2. Heinen, T.E., et al. 2016. Trk inhibition reduces cell proliferation and potentiates the effects of chemotherapeutic agents in Ewing sarcoma. Oncotarget 7: 34860-34880.
3. Mizoguchi, T., et al. 2018. Impaired cerebellar development in mice overexpressing VGF. Neurochem. Res. 44: 374-387.
4. Han, F., et al. 2019. Therapeutic potential of a Trk B agonistic antibody for ischemic brain injury. Neurobiol. Dis. 127: 570-581.
5. Potikha, T., et al. 2019. Lack of galectin-1 exacerbates chronic hepatitis, liver fibrosis, and carcinogenesis in murine hepatocellular carcinoma model. FASEB J. 33: 7995-8007.
6. Just-Borràs, L., et al. 2019. Overview of impaired BDNF signaling, their coupled downstream serine-threonine kinases and SNARE/SM complex in the neuromuscular junction of the amyotrophic lateral sclerosis model SOD1-G93A mice. Mol. Neurobiol. 56: 6856-6872.
7. Antunes, L.C.M., et al. 2019. Tropomyosin-related kinase receptor and neurotrophin expression in cutaneous melanoma is associated with a poor prognosis and decreased survival. Oncology 97: 26-37.

RESEARCH USE

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