

Trk C (7H6): sc-517245

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, is mainly expressed in nervous tissue, and is a functional receptor for NT-3. Four forms of Trk C are produced by alternative splicing. Isoform A is full length Trk C, isoform B differs from A between amino acids 529 to 612 and is missing amino acids 613 to 839. Trk C, isoform C is missing amino acids 712 to 725 and isoform D is missing amino acids 402 to 410.

REFERENCES

1. Klein, R., et al. 1989. Trk B, a novel tyrosine protein kinase receptor expressed during mouse neural development. *EMBO J.* 8: 3701-3709.
2. Klein, R., et al. 1990. Expression of the tyrosine kinase receptor gene Trk B is confined to the murine embryonic and adult nervous system. *Development* 109: 845-850.
3. Kaplan, D.R., et al. 1991. Tyrosine phosphorylation and tyrosine kinase activity of the Trk proto-oncogene product induced by NGF. *Nature* 350: 158-160.

CHROMOSOMAL LOCATION

Genetic locus: NTRK3 (human) mapping to 15q25.3; Ntrk3 (mouse) mapping to 7 D3.

SOURCE

Trk C (7H6) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 32-429 of Trk C of human origin (extracellular domain).

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Trk C (7H6) is available conjugated to agarose (sc-517245 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-517245 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-517245 PE), fluorescein (sc-517245 FITC), Alexa Fluor[®] 488 (sc-517245 AF488), Alexa Fluor[®] 546 (sc-517245 AF546), Alexa Fluor[®] 594 (sc-517245 AF594) or Alexa Fluor[®] 647 (sc-517245 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-517245 AF680) or Alexa Fluor[®] 790 (sc-517245 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

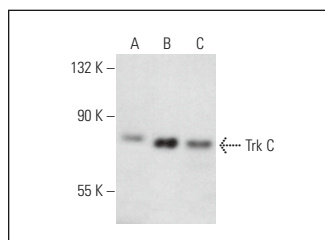
Trk C (7H6) is recommended for detection of Trk C of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 C siRNA (h): sc-36730, Trk C siRNA (m): sc-36731, Trk C shRNA Plasmid (h): sc-36730-SH, Trk C shRNA Plasmid (m): sc-36731-SH, Trk C shRNA (h) Lentiviral Particles: sc-36730-V and Trk C shRNA (m) Lentiviral Particles: sc-36731-V.

Molecular Weight of Trk C: 145 kDa.

Positive Controls: SK-N-MC cell lysate: sc-2237, SK-N-SH cell lysate: sc-2410 or HL-60 whole cell lysate: sc-2209.

DATA



Trk C (7H6): sc-517245. Western blot analysis of Trk C expression in SK-N-SH (A), SK-N-MC (B) and HL-60 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Kempfle, J.S., et al. 2021. A novel small molecule neurotrophin-3 analogue promotes inner ear neurite outgrowth and synaptogenesis *in vitro*. *Front. Cell. Neurosci.* 15: 666706.
2. Lepa, C., et al. 2021. Trk C is essential for nephron function and *trans*-activates Igf1R signaling. *J. Am. Soc. Nephrol.* 32: 357-374.

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 for detailed protocols and support products.

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