

Trk C (K-13): sc-21802

BACKGROUND

The Trk proto-oncogene encodes a tyrosine protein kinase, Trk gp140, also designated Trk A, 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 neurotrophin-3 (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. Isoform C of Trk 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.
4. Hempstead, B.L., et al. 1991. High-affinity NGF binding requires coexpression of the Trk proto-oncogene and the low-affinity NGF receptor. *Nature* 350: 678-683.
5. Klein, R., et al. 1991. The Trk proto-oncogene encodes a receptor for nerve growth factor. *Cell* 65: 189-197.
6. Cordon-Cardo, C., et al. 1991. The Trk tyrosine protein kinase mediates the mitogenic properties of nerve growth factor and neurotrophin-3. *Cell* 66: 173-183.
7. Klein, R., et al. 1991. The Trk B tyrosine protein kinase is a receptor for brain-derived neuro-trophic factor and neurotrophin-3. *Cell* 66: 395-403.
8. SWISS-PROT/TrEMBL (Q16288). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

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

SOURCE

Trk C (K-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Trk C of human 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-21802 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Trk C (K-13) 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), 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).

Trk C (K-13) is also recommended for detection of Trk C in additional species, including bovine and porcine.

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 splice variants: 50-145 kDa.

Positive Controls: EOC 20 whole cell lysate: sc-364187.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **Trk C (WW6): sc-80403**, our highly recommended monoclonal alternative to Trk C (K-13).