SANTA CRUZ BIOTECHNOLOGY, INC.

Trk B (h): 293T Lysate: sc-113925

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.

REFERENCES

1. Martin-Zanca, D., et al. 1986. A human oncogene formed by the fusion of truncated Tropomyosin and protein tyrosine kinase sequences. Nature 319: 743-748.
2. Reinach, F.C., et al. 1986. Tissue-specific expression of the human Tropomyosin gene involved in the generation of the Trk oncogene. Nature 322: 648-650.
3. Martin-Zanca, D., et al. 1989. Molecular and biochemical characterization of the human Trk proto-oncogene. Mol. Cell. Biol. 9: 24-33.
4. 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.
5. Klein, R., et al. 1991. The Trk proto-oncogene encodes a receptor for nerve growth factor. Cell 65: 189-197.
6. 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.
7. 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.
8. Klein, R., et al. 1991. The Trk B tyrosine protein kinase is a receptor for brain-derived neurotrophic factor and neurotrophin-3. Cell 66: 395-403.
9. Ehrhard, P.B., et al. 1993. Expression of functional Trk protooncogene in human monocytes. Proc. Natl. Acad. Sci. USA 90: 5423-5427.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: NTRK2 (human) mapping to 9q21.33.

PRODUCT

Trk B (h): 293T Lysate represents a lysate of human Trk B transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

APPLICATIONS

Trk B (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Trk B antibodies. Recommended use: 10-20 µl per lane.

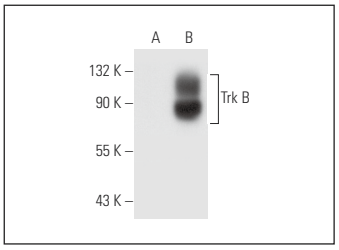
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-tranfected 293T cells.

Trk B (H-8): sc-136990 is recommended as a positive control antibody for Western Blot analysis of enhanced human Trk B expression in Trk B transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

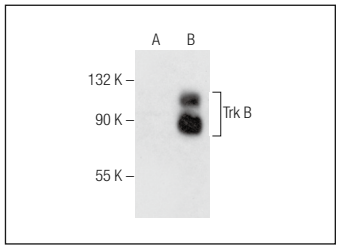
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



Trk B (H-8): sc-136990. 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. 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.

RESEARCH USE

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