

# TRK-T3 (E-7): sc-515055

## BACKGROUND

Oncogenic rearrangements of the NTRK1 gene, which encodes the Trk A protein, are frequently detected in thyroid carcinomas. Such rearrangements fuse the NTRK1 tyrosine kinase domain to 5'-end sequences of different genes. TRK-T3 contains 1,412 nucleotides of NTRK1 preceded by 598 nucleotides belonging to TFG (TRK-fused gene), a ubiquitously expressed gene located on chromosome 3. The TRK-T3 protein within the TFG region contains a coiled-coil motif that gives the oncoprotein the capability to form complexes. The cytoplasmic TRK-T3 protein binds to and phosphorylates the Shc and SNT1/FRS2 adaptor proteins, both of which are involved in coupling the receptor tyrosine kinase to the mitogen-activated protein kinase pathway by recruiting Grb2/SOS. SHP-1 also interacts with and down-regulates TRK-T3.

## REFERENCES

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3. Ranzi, V., Meakin, S.O., Miranda, C., Mondellini, P., Pierotti, M.A. and Greco, A. 2003. The signaling adapters fibroblast growth are activated by the thyroid TRK oncoproteins. *Endocrinology* 144: 922-928.
4. Roccato, E., Pagliardini, S., Cleris, L., Canevari, S., Formelli, F., Pierotti, M.A. and Greco, A. 2003. Role of TFG sequences outside the coiled-coil domain in TRK-T3 oncogenic activation. *Oncogene* 22: 807-818.
5. Edel, M.J., Shvarts, A., Medema, J.P. and Bernards, R. 2004. An *in vivo* functional genetic screen reveals a role for the TRK-T3 oncogene in tumor progression. *Oncogene* 23: 4959-4965.
6. Roccato, E., Miranda, C., Raho, G., Pagliardini, S., Pierotti, M.A. and Greco, A. 2005. Analysis of SHP-1-mediated down-regulation of the TRK-T3 oncoprotein identifies TRK-fused gene (TFG) as a novel SHP-1-interacting protein. *J. Biol. Chem.* 280: 3382-3389.

## CHROMOSOMAL LOCATION

Genetic locus: TFG (human) mapping to 3q12.2; Tfg (mouse) mapping to 16 C1.1.

## SOURCE

TRK-T3 (E-7) is a mouse monoclonal antibody raised against amino acids 1-210 mapping at the N-terminus of TRK-T3 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## RESEARCH USE

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

## APPLICATIONS

TRK-T3 (E-7) is recommended for detection of TRK-T3 of human origin, TFG of mouse origin and the corresponding rat homolog 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TRK-T3 siRNA (h): sc-61720, TRK-T3 siRNA (m): sc-61721, TRK-T3 shRNA Plasmid (h): sc-61720-SH, TRK-T3 shRNA Plasmid (m): sc-61721-SH, TRK-T3 shRNA (h) Lentiviral Particles: sc-61720-V and TRK-T3 shRNA (m) Lentiviral Particles: sc-61721-V.

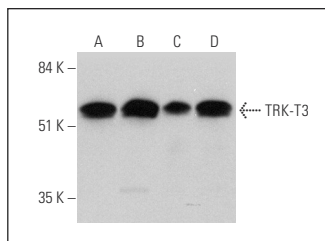
Molecular Weight of TRK-T3: 68 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, MDA-MB-435S whole cell lysate: sc-364184 or HeLa whole cell lysate: sc-2200.

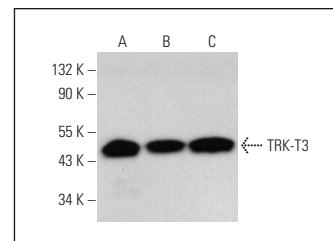
## RECOMMENDED SUPPORT REAGENTS

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. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



TRK-T3 (E-7): sc-515055. Western blot analysis of TRK-T3 expression in HeLa nuclear extract (A) and MDA-MB-435S (B), HeLa (C) and A549 (D) whole cell lysates.



TRK-T3 (E-7): sc-515055. Western blot analysis of TRK-T3 expression in HeLa (A), K-562 (B) and A-673 (C) whole cell lysates.

## 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](http://www.scbt.com) for detailed protocols and support products.