

TRK-T3 (H-11): sc-515054

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

1. Greco, A., et al. 1995. The DNA rearrangement that generates the TRK-T3 oncogene involves a novel gene on chromosome 3 whose product has a potential coiled-coil domain. *Mol. Cell. Biol.* 15: 6118-6127.
2. Roccato, E., et al. 2002. Biological activity of the thyroid TRK-T3 oncogene requires signalling through Shc. *Br. J. Cancer* 87: 645-653.
3. Ranzi, V., et al. 2003. The signaling adapters fibroblast grow are activated by the thyroid TRK oncoproteins. *Endocrinology* 144: 922-928.
4. Roccato, E., et al. 2003. Role of TFG sequences outside the coiled-coil domain in TRK-T3 oncogenic activation. *Oncogene* 22: 807-818.

CHROMOSOMAL LOCATION

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

SOURCE

TRK-T3 (H-11) 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 IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TRK-T3 (H-11) is available conjugated to agarose (sc-515054 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-515054 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515054 PE), fluorescein (sc-515054 FITC), Alexa Fluor® 488 (sc-515054 AF488), Alexa Fluor® 546 (sc-515054 AF546), Alexa Fluor® 594 (sc-515054 AF594) or Alexa Fluor® 647 (sc-515054 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515054 AF680) or Alexa Fluor® 790 (sc-515054 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

TRK-T3 (H-11) 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, TFG siRNA (m): sc-61721, TRK-T3 shRNA Plasmid (h): sc-61720-SH, TFG shRNA Plasmid (m): sc-61721-SH, TRK-T3 shRNA (h) Lentiviral Particles: sc-61720-V and TFG shRNA (m) Lentiviral Particles: sc-61721-V.

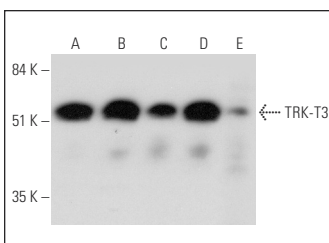
Molecular Weight of TRK-T3: 68 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, A549 cell lysate: sc-2413 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 (H-11): sc-515054. Western blot analysis of TRK-T3 expression in HeLa nuclear extract (A), MDA-MB-435S (B), HeLa (C) and A549 (D) whole cell lysates and human brain tissue extract (E).

SELECT PRODUCT CITATIONS

1. Qu, Z. and D'Mello, S.R. 2018. Proteomic analysis identifies NPTX1 and HIP1R as potential targets of histone deacetylase-3-mediated neurodegeneration. *Exp. Biol. Med.* 243: 627-638.
2. Carinci, M., et al. 2021. TFG binds LC3C to regulate ULK1 localization and autophagosome formation. *EMBO J.* E-published.

RESEARCH USE

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