SANTA CRUZ BIOTECHNOLOGY, INC.

TRB-3 (D-4): sc-365842

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

TRB-3 (tribbles 3), also called NIPK (neuronal cell death-inducible protein kinase) disrupts Insulin signaling by binding directly to Akt kinases and blocking their activation. TRB-3 binds to ATF4, inhibiting its transcriptional activation activity, and regulates activation of MAP kinases. In the liver, TRB-3 is a target for PPAR-α. Amounts of TRB-3 RNA and protein are higher in livers of diabetic mice compared with those in wildtype mice. TRB3 contributes to Insulin resistance in individuals with susceptibility to type II diabetes. Highest expression of TRB-3 is in liver, pancreas, peripheral blood leukocytes and bone marrow.

CHROMOSOMAL LOCATION

Genetic locus: TRIB3 (human) mapping to 20p13; Trib3 (mouse) mapping to 2 G3.

SOURCE

TRB-3 (D-4) is a mouse monoclonal antibody raised against amino acids 1-165 mapping at the N-terminus of TRB-3 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TRB-3 (D-4) is available conjugated to agarose (sc-365842 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365842 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365842 PE), fluorescein (sc-365842 FITC), Alexa Fluor® 488 (sc-365842 AF488), Alexa Fluor® 546 (sc-365842 AF546), Alexa Fluor® 594 (sc-365842 AF594) or Alexa Fluor® 647 (sc-365842 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365842 AF680) or Alexa Fluor® 790 (sc-365842 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

TRB-3 (D-4) is recommended for detection of TRB-3 of mouse, rat and human origin 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), 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 TRB-3 siRNA (h): sc-44426, TRB-3 siRNA (m): sc-44427, TRB-3 shRNA Plasmid (h): sc-44426-SH, TRB-3 shRNA Plasmid (m): sc-44427-SH, TRB-3 shRNA (h) Lentiviral Particles: sc-44426-V and TRB-3 shRNA (m) Lentiviral Particles: sc-44427-V.

Molecular Weight of TRB-3: 45 kDa.

Positive Controls: TRB-3 (m): 293T Lysate: sc-127703, L8 cell lysate: sc-3807 or c4 whole cell lysate: sc-364186.

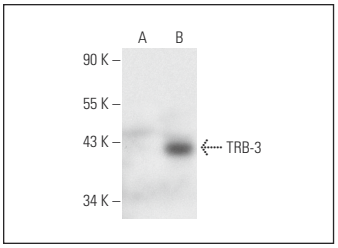
STORAGE

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

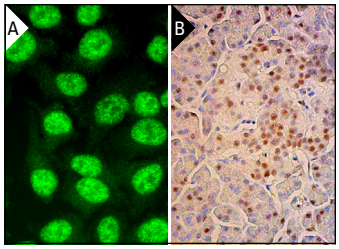
RESEARCH USE

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

DATA



TRB-3 (D-4): sc-365842. Western blot analysis of TRB-3 expression in non-transfected: sc-117752 (**A**) and mouse TRB-3 transfected: sc-127703 (**B**) 293T whole cell lysates.



TRB-3 (D-4): sc-365842. Immunofluorescence staining of formalin-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing nuclear staining of exocrine glandular cells and Islets of Langerhans (**B**).

SELECT PRODUCT CITATIONS

1. da Rocha, A.L., et al. 2015. Downhill running-based overtraining protocol improves hepatic Insulin signaling pathway without concomitant decrease of inflammatory proteins. PLoS ONE 10: e0140020.
2. Botteri, G., et al. 2017. VLDL and apolipoprotein CIII induce ER stress and inflammation and attenuate Insulin signalling via Toll-like receptor 2 in mouse skeletal muscle cells. Diabetologia 60: 2262-2273.
3. Li, K., et al. 2020. TRIB3 promotes Myc-associated lymphoma development through suppression of UBE3B-mediated Myc degradation. Nat. Commun. 11: 6316.
4. Meng, Z., et al. 2021. HMOX1 upregulation promotes ferroptosis in diabetic atherosclerosis. Life Sci. 284: 119935.
5. Balamurugan, K., et al. 2022. PHLPP1 promotes neutral lipid accumulation through AMPK/ChREBP-dependent lipid uptake and fatty acid synthesis pathways. iScience 25: 103766.
6. Kido, K., et al. 2022. Fasting potentiates Insulin-mediated glucose uptake in rested and prior-contracted rat skeletal muscle. Am. J. Physiol. Endocrinol. Metab. 322: E425-E435.
7. Peyman, M., et al. 2023. Soluble epoxide hydrolase-targeting PROTAC activates AMPK and inhibits endoplasmic reticulum stress. Biomed. Pharmacother. 168: 115667.
8. Peyman, M., et al. 2024. SIRT1 regulates hepatic vldlr levels. Cell Commun. Signal. 22: 297.

PROTOCOLS

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