

TRB-3 (B-2): sc-390242

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. TRB-3 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 (B-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 51-89 within an internal region of TRB-3 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TRB-3 (B-2) is available conjugated to agarose (sc-390242 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-390242 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390242 PE), fluorescein (sc-390242 FITC), Alexa Fluor[®] 488 (sc-390242 AF488), Alexa Fluor[®] 546 (sc-390242 AF546), Alexa Fluor[®] 594 (sc-390242 AF594) or Alexa Fluor[®] 647 (sc-390242 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-390242 AF680) or Alexa Fluor[®] 790 (sc-390242 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390242 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

TRB-3 (B-2) 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 μ g per 100-500 μ g 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 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.

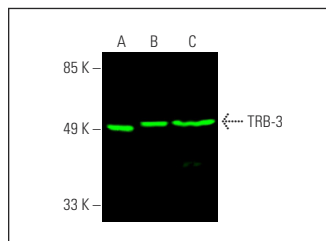
Molecular Weight of TRB-3: 45 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, L8 cell lysate: sc-3807 or KNRK whole cell lysate: sc-2214.

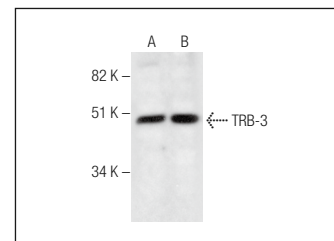
STORAGE

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

DATA



TRB-3 (B-2): sc-390242. Near-infrared western blot analysis of TRB-3 expression in Hep G2 (A), L8 (B) and KNRK (C) whole cell lysates. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Detection reagent used: m-IgG λ . BP-CFL 680: sc-516194.



TRB-3 (B-2): sc-390242. Western blot analysis of TRB-3 expression in L8 (A) and KNRK (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Canciglieri, P.H., et al. 2018. The reversal effect of physical exercise on aging-related increases in APPL2 content in skeletal muscle. *Life Sci.* 210: 209-213.
- Ren, X., et al. 2019. TRB-3 stimulates SIRT1 degradation and induces Insulin resistance by lipotoxicity via COP1. *Exp. Cell Res.* 382: 111428.
- Yu, W., et al. 2020. Effect of the alteration of Tribbles homologue 3 expression on epithelial-mesenchymal transition of transforming growth factor β 1-induced mouse alveolar epithelial cells through the Wnt/ β -catenin signaling pathway. *Mol. Med. Rep.* 21: 615-622.
- Pitale, P.M., et al. 2021. Tribbles homolog 3 mediates the development and progression of diabetic retinopathy. *Diabetes* 70: 1738-1753.
- Saltykova, I.V., et al. 2021. Tribbles homolog 3-mediated targeting the Akt/mTOR axis in mice with retinal degeneration. *Cell Death Dis.* 12: 664.
- Nyati, K.K., et al. 2021. The novel long noncoding RNA AU021063, induced by IL-6/Arid5a signaling, exacerbates breast cancer invasion and metastasis by stabilizing Trib3 and activating the Mek/Erk pathway. *Cancer Lett.* 520: 295-306.
- de Vicente, L.G., et al. 2021. TLR4 deletion increases basal energy expenditure and attenuates heart apoptosis and ER stress but mitigates the training-induced cardiac function and performance improvement. *Life Sci.* 285: 119988.
- Khan, M.F., et al. 2022. Endoplasmic reticulum stress-dependent activation of TRB-3-FoxO1 signaling pathway exacerbates hyperglycemic nephrotoxicity: protection accorded by naringenin. *Eur. J. Pharmacol.* 917: 174745.

RESEARCH USE

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