

# TRB-3 (C-18): sc-34212

## 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. TRB3 binds to ATF4 inhibiting its transcriptional activation activity, and regulates activation of MAP kinases. In the liver, TRB-3 is a target for PPAR- $\alpha$ . Amounts of TRB3 RNA and protein are higher in livers of diabetic mice compared with those in wild-type 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.

## REFERENCES

1. Du, K., et al. 2003. TRB3: a tribbles homolog that inhibits Akt/PKB activation by Insulin in liver. *Science* 300: 1574-1577.
2. Kiss-Toth, E., et al. 2004. Human tribbles, a protein family controlling mitogen-activated protein kinase cascades. *J. Biol. Chem.* 279: 42703-42708.
3. Koo, S.H., et al. 2004. PGC-1 promotes Insulin resistance in liver through PPAR- $\alpha$ -dependent induction of TRB-3. *Nat. Med.* 10: 530-534.
4. Ohoka, N., et al. 2005. TRB3, a novel ER stress-inducible gene, is induced via ATF4-CHOP pathway and is involved in cell death. *EMBO J.* 24: 1243-1255.
5. Ord, D., et al. 2005. Characterization of human NIPK (TRB3, SKIP3) gene activation in stressful conditions. *Biochem. Biophys. Res. Commun.* 330: 210-218.
6. Prudente, S., et al. 2005. The functional Q84R polymorphism of mammalian tribbles homolog TRB3 is associated with Insulin resistance and related cardiovascular risk in caucasians from Italy. *Diabetes* 54: 2807-2811.
7. Wood, J.R., et al. 2005. Valproate-induced alterations in human theca cell gene expression: clues to the association between valproate use and metabolic side effects. *Physiol. Genomics.* 20: 233-243.

## CHROMOSOMAL LOCATION

Genetic locus: TRB3 (human) mapping to 20p13-p12.2; Trib3 (mouse) mapping to 2 G3.

## SOURCE

TRB-3 (C-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of TRB-3 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-34212 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

TRB-3 (C-18) is recommended for detection of TRB-3 of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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.

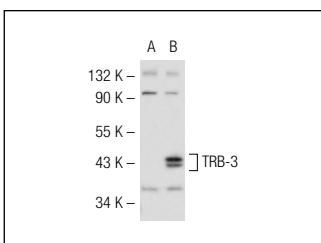
Molecular Weight of TRB-3: 45 kDa.

Positive Controls: TRB-3 (h): 293T lysate: sc-114588.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



TRB-3 (C-18): sc-34212. Western blot analysis of TRB-3 expression in non-transfected: sc-117752 (A) and human TRB-3 transfected: sc-114588 (B) 293T whole cell lysates.

## RESEARCH USE

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

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Try **TRB-3 (D-4): sc-365842** or **TRB-3 (G-10): sc-271572**, our highly recommended monoclonal alternatives to TRB-3 (C-18).