

TRB-3 (h): 293T Lysate: sc-114588

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 ATF-4, 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.

REFERENCES

1. Du, K., Herzog, S., Kulkarni, R.N. and Montminy, M. 2003. TRB-3: a tribbles homolog that inhibits Akt/PKB activation by Insulin in liver. *Science* 300: 1574-1577.
2. Kiss-Toth, E., Bagstaff, S.M., Sung, H.Y., Jozsa, V., Dempsey, C., Caunt, J.C., Oxley, K.M., Wyllie, D.H., Polgar, T., Harte, M., O'Neill, L.A., Qvarnstrom, E.E. and Dowler, S.K. 2004. Human tribbles, a protein family controlling mitogen-activated protein kinase cascades. *J. Biol. Chem.* 279: 42703-42708.
3. Koo, S.H., Satoh, H., Herzog, S., Lee, C.H., Hedrick, S., Kulkarni, R., Evans, R.M., Olefsky, J. and Montminy, M. 2004. PGC-1 promotes Insulin resistance in liver through PPAR α -dependent induction of TRB-3. *Nat. Med.* 10: 530-534.
4. Ohoka, N., Yoshii, S., Hattori, T., Onozaki, K. and Hayashi, H. 2005. TRB-3, 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. and Ord, T. 2005. Characterization of human NIPK (TRB-3, SKIP3) gene activation in stressful conditions. *Biochem. Biophys. Res. Commun.* 330: 210-218.
6. Prudente, S., Hribal, M.L., Flex, E., Turchi, F., Morini, E., De Cosmo, S., Bacci, S., Tassi, V., Cardellini, M., Lauro, R., Sesti, G., Dallapiccola, B. and Trischitta, V. 2005. The functional Q84R polymorphism of mammalian Tribbles homolog TRB-3 is associated with Insulin resistance and related cardiovascular risk in Caucasians from Italy. *Diabetes* 54: 2807-2811.
7. Wood, J.R., Nelson-Degrave, V.L., Jansen, E., McAllister, J.M., Mosselman, S. and Strauss, J.F., 3rd. 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.
8. Stayrook, K.R., Bramlett, K.S., Savkur, R.S., Ficorilli, J., Cook, T., Christe, M.E., Michael, L.F. and Burris, T.P. 2005. Regulation of carbohydrate metabolism by the farnesoid X receptor. *Endocrinology* 146: 984-991.
9. Iynedjian, P.B. 2005. Lack of evidence for a role of TRB-3/NIPK as an inhibitor of PKB-mediated insulin signalling in primary hepatocytes. *Biochem. J.* 386: 113-118.

CHROMOSOMAL LOCATION

Genetic locus: TRIB3 (human) mapping to 20p13.

PRODUCT

TRB-3 (h): 293T Lysate represents a lysate of human TRB-3 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

TRB-3 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive TRB-3 antibodies. Recommended use: 10-20 μ l per lane.

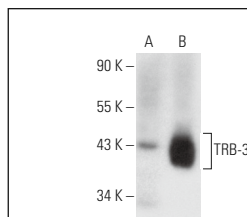
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

TRB-3 (G-10): sc-271572 is recommended as a positive control antibody for Western Blot analysis of enhanced human TRB-3 expression in TRB-3 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

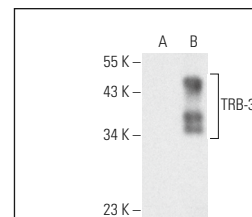
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:
1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



TRB-3 (G-10): sc-271572. 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.



TRB-3 (E-7): sc-514455. 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.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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