SANTA CRUZ BIOTECHNOLOGY, INC.

TRB-2 siRNA (h): sc-94644

BACKGROUND

TRB-2 (tribbles homolog 2), also known as TRIB2, C5FW or GS3955, is a cytoplasmic pro-apoptotic protein that belongs to the Tribbles subfamily of the serine/threonine protein kinase family. Members of the Tribbles subfamily, namely TRB-1, TRB-2 and TRB-3, contain a protein kinase-like or TRB domain that lacks the active site lysine and does not appear to display kinase activity. TRB proteins are induced by mitogens and interact with and are stabilized by MAPKKs. TRB proteins play an important function in the MAP kinase pathway, as is demonstrated by the inhibition of MAPK signaling in response to both over- and underexpression of TRB proteins. TRB-1 is widely expressed with highest levels found in bone marrow, pancreas, skeletal muscle, peripheral blood leukocytes and thyroid gland; TRB-2 is predominantly expressed in peripheral blood leukocytes; and TRB-3 is found at highest levels in pancreas, bone marrow and peripheral blood leukocytes.

REFERENCES

1. Wilkin, F., et al. 1997. Characterization of a phosphoprotein whose mRNA is regulated by the mitogenic pathways in dog thyroid cells. Eur. J. Biochem. 248: 660-668.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609462. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Wu, M., et al. 2003. SINK is a p65-interacting negative regulator of NFκB-dependent transcription. J. Biol. Chem. 278: 27072-27079.
4. Kiss-Toth, E., et al. 2004. Human tribbles, a protein family controlling mitogen-activated protein kinase cascades. J. Biol. Chem. 279: 42703-42708.
5. Zhang, Y., et al. 2005. Identification of tribbles homolog 2 as an autoantigen in autoimmune uveitis by phage display. Mol. Immunol. 42: 1275-1281.
6. Keeshan, K., et al. 2006. Tribbles homolog 2 inactivates C/EBPα and causes acute myelogenous leukemia. Cancer Cell 10: 401-411.
7. Lin, K.R., et al. 2007. Survival factor withdrawal-induced apoptosis of TF-1 cells involves a TRB2-Mcl-1 axis-dependent pathway. J. Biol. Chem. 282: 21962-21972.

CHROMOSOMAL LOCATION

Genetic locus: TRIB2 (human) mapping to 2p24.3.

PRODUCT

TRB-2 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TRB-2 shRNA Plasmid (h): sc-94644-SH and TRB-2 shRNA (h) Lentiviral Particles: sc-94644-V as alternate gene silencing products.

For independent verification of TRB-2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-94644A, sc-94644B and sc-94644C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

TRB-2 siRNA (h) is recommended for the inhibition of TRB-2 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

TRB-2 (F-5): sc-376776 is recommended as a control antibody for monitoring of TRB-2 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

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) 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TRB-2 gene expression knockdown using RT-PCR Primer: TRB-2 (h)-PR: sc-94644-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Aynaud, M.M., et al. 2012. Human Tribbles 3 protects nuclear DNA from cytidine deamination by APOBEC3A. J. Biol. Chem. 287: 39182-39192.

RESEARCH USE

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