

TIP-1 siRNA (m): sc-154278

BACKGROUND

Tax interaction protein 1 (TIP-1), also known as Tax1-binding protein 3 or glutaminase-interacting protein 3, is a 124 amino acid protein localized to the cytoplasm and nucleus. TIP-1 contains one PDZ domain, through which most of its interactions with other proteins are made. The PDZ domain of TIP-1 interacts with the C-terminus of Rhotekin to facilitate Rho-mediated activation of the FOS serum response element. The PDZ domain also interacts with β -catenin to inhibit the transcriptional activity of β -catenin. TIP-1 may also act as an inhibitor of the Wnt signaling pathway. TIP-1 has been detected in a variety of cell lines, including HeLa, and is weakly expressed in peripheral blood leukocytes.

REFERENCES

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2. Reynaud, C., et al. 2000. The PDZ protein TIP-1 interacts with the Rho effector rhotekin and is involved in Rho signaling to the serum response element. *J. Biol. Chem.* 275: 33962-33968.
3. Olalla, L., et al. 2001. The C-terminus of human glutaminase L mediates association with PDZ domain-containing proteins. *FEBS Lett.* 488: 116-122.
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5. Xie, L., et al. 2006. PDZ binding motif of HTLV-1 Tax promotes virus-mediated T-cell proliferation *in vitro* and persistence *in vivo*. *Blood* 107: 1980-1988.
6. Alewine, C., et al. 2006. TIP-1 has PDZ scaffold antagonist activity. *Mol. Biol. Cell* 17: 4200-4211.
7. Park, H.U., et al. 2006. Human T-cell leukemia virus type 1 Tax attenuates gamma-irradiation-induced apoptosis through physical interaction with Chk2. *Oncogene* 25: 438-447.
8. Besser, J., et al. 2007. Tip-1 induces filopodia growth and is important for gastrulation movements during zebrafish development. *Dev. Growth Differ.* 49: 205-214.
9. Zhang, J., et al. 2008. Structural basis of β -catenin recognition by Tax-interacting protein-1. *J. Mol. Biol.* 384: 255-263.

CHROMOSOMAL LOCATION

Genetic locus: Tax1bp3 (mouse) mapping to 11 B4.

PRODUCT

TIP-1 siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see TIP-1 shRNA Plasmid (m): sc-154278-SH and TIP-1 shRNA (m) Lentiviral Particles: sc-154278-V as alternate gene silencing products.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

TIP-1 siRNA (m) is recommended for the inhibition of TIP-1 expression in mouse 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 μ M in 66 μ l. 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

TIP-1 (1H5): sc-517168 is recommended as a control antibody for monitoring of TIP-1 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-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. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 TIP-1 gene expression knockdown using RT-PCR Primer: TIP-1 (m)-PR: sc-154278-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.