SANTA CRUZ BIOTECHNOLOGY, INC.

T6BP siRNA (m): sc-154029

BACKGROUND

Tumor necrosis factor receptor (TNFR)-associated factors (TRAFs) are a family of proteins that are downstream signal transducers of the TNFR superfamily. The T6BP (also designated T6BP and TXBP151) gene encodes a protein, which functions as a Tax1 (human T-cell leukemia virus type I) binding protein 1 and a TRAF6-interacting protein. T6BP interacts with the N-terminal ring finger and zinc finger domains of TRAF6 through its coiled-coil region. IL-1 induces the TRAF6-T6BP complex depending on the presence of the IL-1 receptor-associated kinase (IRAK). Therefore, TRAF6 exists in two different complexes, TRAF6-IRAK or TRAF6-T6BP after IL-1 stimulation. However, T6BP does not play a direct role in the activation of IkB kinases or Jun N-terminal kinase. T6BP also binds to T-cell leukemia virus type-I Tax protein. In NIH/3T3 cells, T6BP can inhibit apoptosis induced by TNF, which in turns causes proteolysis of the T6BP protein. In addition, T6BP can interact with A20, which is a Cys2/Cys2 zinc finger protein induced by a vareity of inflammatory stimuli, to mediate the anti-apoptotic activity of A20.

REFERENCES

1. Rothe, M., et al. 1994. A novel family of putative signal transducers associated with the cytoplasmic domain of the 75 kDa tumor necrosis factor receptor. Cell 78: 681-692.
2. Hu, H.M., et al. 1994. A novel RING finger protein interacts with the cytoplasmic domain of CD40. J. Biol. Chem. 269: 30069-30072.

CHROMOSOMAL LOCATION

Genetic locus: Tax1bp1 (mouse) mapping to 6 B3.

PRODUCT

T6BP siRNA (m) 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 T6BP shRNA Plasmid (m): sc-154029-SH and T6BP shRNA (m) Lentiviral Particles: sc-154029-V as alternate gene silencing products.

For independent verification of T6BP (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-154029A, sc-154029B and sc-154029C.

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.

PROTOCOLS

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

APPLICATIONS

T6BP siRNA (m) is recommended for the inhibition of T6BP 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 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

T6BP (H-6): sc-393143 is recommended as a control antibody for monitoring of T6BP 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 T6BP gene expression knockdown using RT-PCR Primer: T6BP (m)-PR: sc-154029-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. Li, Z., et al. 2020. A novel target TAX1BP1 and P38/Nrf2 pathway independently involved in the anti-neuroinflammatory effect of isobavachalcone. Free Radic. Biol. Med. 153: 132-139.
2. Shen, Y., et al. 2022. Ursodeoxycholic acid reduces antitumor immunosuppression by inducing CHIP-mediated TGF-β degradation. Nat. Commun. 13: 3419.
3. Wu, X., et al. 2023. Upregulation of A20 and TAX1BP1 contributes to the anti-neuroinflammatory and antidepressant effects of bavachalcone. Int. Immunopharmacol. 122: 110552.

RESEARCH USE

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