SANTA CRUZ BIOTECHNOLOGY, INC.

TNFα-IP 1 siRNA (h): sc-76696

BACKGROUND

TNFα-IP 1 (tumor necrosis factor, α-induced protein 1, endothelial), also known as B12, B61, EDP1 or TNFAIP1, is a BTB/POZ domain-containing protein that belongs to the KCTD10/KCTD13/TNFAIP1 family. TNFα-IP 1 contains one BTB/POZ motif, which is known to mediate homomeric and heteromeric POZ-POZ interactions and is common to transcriptional regulators involved in chromatin modeling. The expression of TNFα-IP 1 can be induced by IL-6 (interleukin-6) and by TNFα in the umbilical vein of endothelial cells. TNFα-IP 1 may be involved in DNA repair, DNA synthesis, cell apoptosis and human diseases. TNFα-IP 1 is suggested to play a role in the process of cancer and in the innate immunity against the hepatitis B virus.

REFERENCES

1. Swift, S., et al. 1998. Structure and chromosomal mapping of the TNF-α inducible endothelial protein 1 (Edp1) gene in the mouse. Biochim. Biophys. Acta 1442: 394-398.
2. Link, C.D., et al. 2003. Gene expression analysis in a transgenic *Caenorhabditis elegans* Alzheimer's disease model. Neurobiol. Aging 24: 397-413.
3. Zhou, J., et al. 2005. Cloning of two rat PDIP1 related genes and their interactions with proliferating cell nuclear antigen. J. Exp. Zool. A Comp. Exp. Biol. 303: 227-240.
4. Lin, M.C., et al. 2005. Tumor necrosis factor-α-induced protein 1 and immunity to hepatitis B virus. World J. Gastroenterol. 11: 7564-7568.
5. Yang, L.P., et al. 2006. Expression profile in the cell lines of human TNFAIP1 gene. Yi Chuan 28: 918-922.

CHROMOSOMAL LOCATION

Genetic locus: TNFAIP1 (human) mapping to 17q11.2.

PRODUCT

TNFα-IP 1 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 TNFα-IP 1 shRNA Plasmid (h): sc-76696-SH and TNFα-IP 1 shRNA (h) Lentiviral Particles: sc-76696-V as alternate gene silencing products.

For independent verification of TNFα-IP 1 (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-76696A, sc-76696B and sc-76696C.

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

TNFα-IP 1 siRNA (h) is recommended for the inhibition of TNFα-IP 1 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

TNFα-IP 1 (F-4): sc-515765 is recommended as a control antibody for monitoring of TNFα-IP 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-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 TNFα-IP 1 gene expression knockdown using RT-PCR Primer: TNFα-IP 1 (h)-PR: sc-76696-PR (20 µl, 583 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zhang, P., et al. 2015. Interaction between microRNA-181a and TNFAIP1 regulates pancreatic cancer proliferation and migration. Tumour Biol. 36: 9693-9701.
2. Xiao, Y., et al. 2020. TNFAIP1 is upregulated in APP/PS1 mice and promotes apoptosis in SH-SY5Y cells by binding to Rho B. J. Mol. Neurosci. E-published.

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.