SANTA CRUZ BIOTECHNOLOGY, INC.

TAZ siRNA (h): sc-38568

BACKGROUND

The transcriptional co-activator with PDZ-binding motif (TAZ) is a 14-3-3-binding molecule. The highly conserved and ubiquitously expressed 14-3-3 proteins regulate differentiation, cell cycle progression and apoptosis by binding intracellular phosphoproteins involved in signal transduction. TAZ may link events at the plasma membrane and cytosketeton to nuclear transcription in a manner that can be regulated by 14-3-3. TAZ shares homology with the WW domain of Yes-associated protein (YAP) and functions as a transcriptional co-activator by binding to the PPXY motif present on transcription factors. TAZ recognizes immunoreactive protein bands in lysates from MDCK, NIH-3T3 and 293T cells. In addition, COS7, Hep G2, CHO and HeLa cells express endogenous TAZ. 14-3-3 binding requires TAZ phosphorylation on a single Serine 89 residue, resulting in the inhibition of TAZ transcriptional co-activation through 14-3-3-mediated nuclear export.

REFERENCES

1. Kanai, F., et al. 2000. TAZ: a novel transcriptional co-activator regulated by interactions with 14-3-3 and PDZ domain proteins. EMBO J. 19: 6778-6791.
2. Fu, H., et al. 2000. 14-3-3 proteins: structure, function, and regulation. Annu. Rev. Pharmacol. Toxicol. 40: 617-647.
3. Garner, C., et al. 2000. PDZ domains in synapse assembly and signaling. Trends Cell Biol. 7: 274-280.

CHROMOSOMAL LOCATION

Genetic locus: WWTR1 (human) mapping to 3q25.1.

PRODUCT

TAZ 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 TAZ shRNA Plasmid (h): sc-38568-SH and TAZ shRNA (h) Lentiviral Particles: sc-38568-V as alternate gene silencing products.

For independent verification of TAZ (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-38568A, sc-38568B and sc-38568C.

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

TAZ siRNA (h) is recommended for the inhibition of TAZ 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

TAZ (1F1): sc-293183 is recommended as a control antibody for monitoring of TAZ 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TAZ gene expression knockdown using RT-PCR Primer: TAZ (h)-PR: sc-38568-PR (20 µl, 551 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Serrano, I., et al. 2013. Inactivation of the Hippo tumour suppressor pathway by integrin-linked kinase. Nat. Commun. 4: 2976.
2. Mosqueira, D., et al. 2014. Hippo pathway effectors control cardiac progenitor cell fate by acting as dynamic sensors of substrate mechanics and nanostructure. ACS Nano 8: 2033-2047.
3. Fisher, M.L., et al. 2017. Sulforaphane reduces YAP/ΔNp63α signaling to reduce cancer stem cell survival and tumor formation. Oncotarget 8: 73407-73418.
4. Peng, J., et al. 2018. YAP and TAZ mediate steroid-induced alterations in the trabecular meshwork cytoskeleton in human trabecular meshwork cells. Int. J. Mol. Med. 41: 164-172.
5. Bae, J.S., et al. 2018. Depletion of MOB1A/B causes intestinal epithelial degeneration by suppressing Wnt activity and activating BMP/TGF-β signaling. Cell Death Dis. 9: 1083.
6. Li, Z., et al. 2018. Loss of the FAT1 tumor suppressor promotes resistance to CDK4/6 inhibitors via the Hippo pathway. Cancer Cell 34: 893-905.
7. Ma, W., et al. 2019. Downregulation of miR-125b promotes resistance of glioma cells to TRAIL through overexpression of Tafazzin which is a mitochondrial protein. Aging 11: 2670-2680.
8. Kang, J.H., et al. 2020. Transforming growth factor β induces fibroblasts to express and release the immunomodulatory protein PD-L1 into extracellular vesicles. FASEB J. 34: 2213-2226.

RESEARCH USE

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