SANTA CRUZ BIOTECHNOLOGY, INC.

TSC-36 siRNA (h): sc-39815

BACKGROUND

TSC-36 (also known as TGF-β1-stimulated clone 36, or FRP (follistatin-related protein 1) is a secreted extracellular glycoprotein. The amino acid sequence of TSC-36 is similar to follistatin, an inhibitor of activin, as it contains a follistatin module. TSC-36 is a heparin-binding protein suggested to have a role in the negative regulation of cellular growth, as its expression is induced in response to TGF-β1. In addition, TSC-36 is not found in small cell lung cancer (SCLC) cells, a highly aggressive neoplasm, but is detected in some non-small cell lung cancer (NSCLC) cells, a moderately aggressive neoplasm.

REFERENCES

1. Shibanuma, M., Mashimo, J., Mita, A., Kuroki, T. and Nose, K. 1993. Cloning from a mouse osteoblastic cell line of a set of transforming growth factor β1-regulated genes, one of which seems to encode a follistatin-related polypeptide. Eur. J. Biochem. 217: 13-19.
2. Zwijsen, A., Blockx, H., Van Arnhem, W., Willems, J., Fransen, L., Devos, K., Raymackers, J., Van de Voorde, A. and Slegers, H. 1994. Characterization of a rat C6 glioma-secreted follistatin-related protein (FRP). Cloning and sequence of the human homologue. Eur. J. Biochem. 225: 937-946.
3. Mashimo, J., Maniwa, R., Sugino, H. and Nose, K. 1997. Decrease in the expression of a novel TGFβ1-inducible and Ras-recision gene, TSC-36, in human cancer cells. Cancer Lett. 113: 213-219.
4. Tanaka, M., Ozaki, S., Osakada, F., Mori, K., Okubo, M. and Nakao, K. 1998. Cloning of follistatin-related protein as a novel autoantigen in systemic rheumatic diseases. Int. Immunol. 10: 1305-1314.
5. Okabayashi, K., Shoji, H., Onuma, Y., Nakamura, T., Nose, K., Sugino, H. and Asashima, M. 1999. cDNA cloning and distribution of the *Xenopus* follistatin-related protein. Biochem. Biophys. Res. Commun. 254: 42-48.
6. Sumitomo, K., Kurisaki, A., Yamakawa, N., Tsuchida, K., Shimizu, E., Sone, S. and Sugino, H. 2000. Expression of a TGF-β1 inducible gene, TSC-36, causes growth inhibition in human lung cancer cell lines. Cancer Lett. 155: 37-46.

CHROMOSOMAL LOCATION

Genetic locus: FSTL1 (human) mapping to 3q13.33.

PRODUCT

TSC-36 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 TSC-36 shRNA Plasmid (h): sc-39815-SH and TSC-36 shRNA (h) Lentiviral Particles: sc-39815-V as alternate gene silencing products.

For independent verification of TSC-36 (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-39815A, sc-39815B and sc-39815C.

RESEARCH USE

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

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

TSC-36 siRNA (h) is recommended for the inhibition of TSC-36 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

TSC-36 (JJ7): sc-80408 is recommended as a control antibody for monitoring of TSC-36 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 TSC-36 gene expression knockdown using RT-PCR Primer: TSC-36 (h)-PR: sc-39815-PR (20 µl, 596 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Tsou, P.S., Wren, J.D., Amin, M.A., Schiopu, E., Fox, D.A., Khanna, D. and Sawalha, A.H. 2016. Histone deacetylase 5 is overexpressed in scleroderma endothelial cells and impairs angiogenesis via repression of proangiogenic factors. Arthritis Rheumatol. 68: 2975-2985.
2. Guo, J., Liang, W., Li, J. and Long, J. 2016. Knockdown of FSTL1 inhibits oxLDL-induced inflammation responses through the TLR4/MyD88/NFκB and MAPK pathway. Biochem. Biophys. Res. Commun. 478: 1528-1533.

PROTOCOLS

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