SANTA CRUZ BIOTECHNOLOGY, INC.

Thrombospondin 1 siRNA (h): sc-36665

BACKGROUND

The thrombospondin proteins (TSP 1-4) compose a family of glycoproteins that are involved in cell-to-cell and cell-to-matrix signaling. These extracellular, cell-surface proteins form complexes of both homo- and heteromultimers. Thrombospondins play a role in development, aggregation of platelets, adhesion and migration of cells, and progression of cells through the growth cycle. Thrombospondin 1 is released from platelets in response to Thrombin stimulation and is a transient component of the extracellular matrix of developing and repairing tissues. Thrombospondin 2 shares a high degree of homology with Thrombospondin 1 and is thought to have overlapping but unique functions. Thrombospondin 3 is a developmentally regulated heparin binding protein. Thrombospondin 4 is neuronally expressed and stimulates neurite outgrowth.

CHROMOSOMAL LOCATION

Genetic locus: THBS1 (human) mapping to 15q14.

PRODUCT

Thrombospondin 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 Thrombospondin 1 shRNA Plasmid (h): sc-36665-SH and Thrombospondin 1 shRNA (h) Lentiviral Particles: sc-36665-V as alternate gene silencing products.

For independent verification of Thrombospondin 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-36665A, sc-36665B and sc-36665C.

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

Thrombospondin 1 siRNA (h) is recommended for the inhibition of Thrombospondin 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.

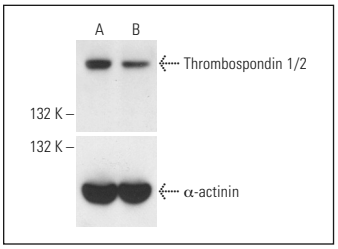
GENE EXPRESSION MONITORING

Thrombospondin 1 (C-8): sc-393504 is recommended as a control antibody for monitoring of Thrombospondin 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Thrombospondin 1 gene expression knockdown using RT-PCR Primer: Thrombospondin 1 (h)-PR: sc-36665-PR (20 µl, 422 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

DATA



Thrombospondin 1 siRNA (h): sc-36665. Western blot analysis of Thrombospondin 1 expression in non-transfected control (**A**) and Thrombospondin 1 siRNA transfected (**B**) HeLa cells. Blot probed with Thrombospondin 1/2 (H-300): sc-14013. α-actinin (H-2): sc-17829 used as specificity and loading control.

SELECT PRODUCT CITATIONS

1. Bienes-Martínez, R., et al. 2012. Autocrine stimulation of clear-cell renal carcinoma cell migration in hypoxia via HIF-independent suppression of Thrombospondin 1. Sci. Rep. 2: 788.
2. Dogar, A.M., et al. 2014. Multiple microRNAs derived from chemically synthesized precursors regulate Thrombospondin 1 expression. Nucleic Acid Ther. 24: 149-159.
3. Jeanne, A., et al. 2015. Identification of TAX2 peptide as a new unpredicted anti-cancer agent. Oncotarget 6: 17981-18000.
4. Bergström, S.E., et al. 2015. Antigen-induced regulation of T-cell motility, interaction with antigen-presenting cells and activation through endogenous Thrombospondin 1 and its receptors. Immunology 144: 687-703.
5. Panezai, J., et al. 2017. T-cell regulation through a basic suppressive mechanism targeting low-density lipoprotein receptor-related protein 1. Immunology 152: 308-327.
6. Guillon, J., et al. 2019. Regulation of senescence escape by TSP1 and CD47 following chemotherapy treatment. Cell Death Dis. 10: 199.

RESEARCH USE

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