SANTA CRUZ BIOTECHNOLOGY, INC.

Fascin 1 siRNA (h): sc-35359

BACKGROUND

Cell adhesion to extracellular matrix is an important physiological stimulus for organization of the Actin-based cytoskeleton. Adhesion to the matrix glycoprotein Thrombospondin 1 triggers the sustained formation of F-Actin microspikes that contain the Actin-bundling protein Fascin. These structures are also implicated in cell migration, which may be an important function of Thrombospondin 1 in tissue remodelling and wound repair. Fascin bundles Actin microfilaments within dynamic cellular structures such as microspikes, stress fibers and membrane ruffles. Fascin could serve as a prognostic factor for abnormal ovarian epithelial pathology and could be a novel target for the treatment of ovarian cancer. Fascin, an Actin-bundling protein, identifies dendritic cells in the blood and in tissues.

REFERENCES

1. Jaffe, R., et al. 1998. Fascin and the differential diagnosis of childhood histiocytic lesions. Pediatr. Dev. Pathol. 1: 216-221.
2. Adams, J.C., et al. 2000. Stimulation of Fascin spikes by Thrombospondin 1 is mediated by the GTPases Rac and Cdc42. J. Cell Biol. 150: 807-822.
3. Tubb, B.E., et al. 2000. Characterization of human retinal Fascin gene (FSCN2) at 17q25: close physical linkage of Fascin and cytoplasmic Actin genes. Genomics 65: 146-156.

CHROMOSOMAL LOCATION

Genetic locus: FSCN1 (human) mapping to 7p22.1.

PRODUCT

Fascin 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 Fascin 1 shRNA Plasmid (h): sc-35359-SH and Fascin 1 shRNA (h) Lentiviral Particles: sc-35359-V as alternate gene silencing products.

For independent verification of Fascin 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-35359A, sc-35359B and sc-35359C.

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

Fascin 1 siRNA (h) is recommended for the inhibition of Fascin 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

Fascin 1 (D-10): sc-46675 is recommended as a control antibody for monitoring of Fascin 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 Fascin 1 gene expression knockdown using RT-PCR Primer: Fascin 1 (h)-PR: sc-35359-PR (20 µl, 554 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Onodera, M., et al. 2009. Fascin is involved in tumor necrosis factor-α-dependent production of MMP9 in cholangiocarcinoma. Lab. Invest. 89: 1261-1274.
2. Chen, S.F., et al. 2009. Effects of small interfering RNAs targeting Fascin on gene expression in oral cancer cells. J. Oral Pathol. Med. 38: 722-730.
3. Conacci-Sorrell, M., et al. 2014. Stress-induced cleavage of Myc promotes cancer cell survival. Genes Dev. 28: 689-707.
4. Hoa, N.T., et al. 2015. Fascin 1 knock-down of human glioma cells reduces their microvilli/filopodia while improving their susceptibility to lymphocyte-mediated cytotoxicity. Am. J. Transl. Res. 7: 271-284.
5. Wang, X., et al. 2015. Inhibition of leucine aminopeptidase 3 suppresses invasion of ovarian cancer cells through down-regulation of Fascin and MMP-2/9. Eur. J. Pharmacol. 768: 116-122.
6. Schenk, M., et al. 2015. Salinomycin inhibits growth of pancreatic cancer and cancer cell migration by disruption of Actin stress fiber integrity. Cancer Lett. 358: 161-169.
7. Yang, Y., et al. 2015. Fas signaling promotes gastric cancer metastasis through Stat3-dependent upregulation of Fascin. PLoS ONE 10: e0125132.

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.