SANTA CRUZ BIOTECHNOLOGY, INC.

Syndecan-4 siRNA (h): sc-36588

BACKGROUND

Syndecans are type I integral membrane proteoglycans that contain both chondroitin sulfate and heparan sulfate groups. Syndecans are involved in cell-extracellular matrix adhesion and growth factor binding. Syndecan-1 (SYND1, also called CD138) is an extracellular matrix receptor which binds to collagens, Fibronectin and Thrombospondin. Syndecan-1 and Syndecan-3 (also designated N-Syndecan) interact with MK (midkine), a growth/differentiation factor invloved in embryogenesis of the central nervous system. Syndecan-2 (also designated fibroglycan) is highly expressed at areas of high morphogenetic activity, such as epithelial-mesenchymal interfaces and the prechondrogenic and preosteogenic mesenchymal condensations. Syndecan-4 (also designated amphiglycan or ryudocan) functions cooperativley with integrins in the processes of cell spreading, focal adhesion assembly and Actin stress fiber assembly.

CHROMOSOMAL LOCATION

Genetic locus: SDC4 (human) mapping to 20q13.12.

PRODUCT

Syndecan-4 siRNA (h) is a target-specific 19-25 nt siRNA 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 Syndecan-4 shRNA Plasmid (h): sc-36588-SH and Syndecan-4 shRNA (h) Lentiviral Particles: sc-36588-V as alternate gene silencing products.

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

Syndecan-4 siRNA (h) is recommended for the inhibition of Syndecan-4 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.

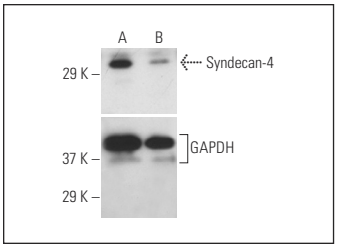
GENE EXPRESSION MONITORING

Syndecan-4 (5G9): sc-12766 is recommended as a control antibody for monitoring of Syndecan-4 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 Syndecan-4 gene expression knockdown using RT-PCR Primer: Syndecan-4 (h)-PR: sc-36588-PR (20 µl, 457 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

DATA



Syndecan-4 siRNA (h): sc-36588. Western blot analysis of Syndecan-4 expression in non-transfected control (**A**) and Syndecan-4 siRNA transfected (**B**) HeLa cells. Blot probed with Syndecan-4 (H-140): sc-15350. GAPDH (FL-335): sc-25778 used as specificity and loading control.

SELECT PRODUCT CITATIONS

1. Averbeck, M., et al. 2007. Switch in syndecan-1 and syndecan-4 expression controls maturation associated dendritic cell motility. Exp. Dermatol. 16: 580-589.
2. Vuong, T.T., et al. 2015. Syndecan-4 is a major syndecan in primary human endothelial cells *in vitro,* modulated by inflammatory stimuli and involved in wound healing. J. Histochem. Cytochem. 63: 280-292.
3. Qin, Y., et al. 2017. Killing two birds with one stone: dual blockade of integrin and FGF signaling through targeting Syndecan-4 in postoperative capsular opacification. Cell Death Dis. 8: e2920.
4. Fröhling, M., et al. 2018. Syndecan-4 modulates epithelial gut barrier function and epithelial regeneration in experimental colitis. Inflamm. Bowel Dis. 24: 2579-2589.
5. Hudák, A., et al. 2021. Contribution of syndecans to the cellular entry of SARS-CoV-2. Int. J. Mol. Sci. 22: 5336.
6. Hudák, A., et al. 2022. Syndecan-4 is a key facilitator of the SARS-CoV-2 delta variant's superior transmission. Int. J. Mol. Sci. 23: 796.
7. Letoha, A., et al. 2023. Exploring the syndecan-mediated cellular internalization of the SARS-CoV-2 omicron variant. Int. J. Mol. Sci. 24: 14140.

RESEARCH USE

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