



Syndecan-4 siRNA (m): sc-36589

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 involved 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 cooperatively with integrins in the processes of cell spreading, focal adhesion assembly and Actin stress fiber assembly.

REFERENCES

- Sanderson, R.D., et al. 1992. Adhesion of B lymphoid (MPC-11) cells to type I collagen is mediated by integral membrane proteoglycan, Syndecan. *J. Immunol.* 148: 3902-3911.
- David, G., et al. 1993. Spatial and temporal changes in the expression of fibroglycan (Syndecan-2) during mouse embryonic development. *Development* 119: 841-854.
- Salmivirta, M., et al. 1995. Syndecan family of cell surface proteoglycans: developmentally regulated receptors for extracellular effector molecules. *Experientia* 51: 863-872.

CHROMOSOMAL LOCATION

Genetic locus: Sdc4 (mouse) mapping to 2 H3.

PRODUCT

Syndecan-4 siRNA (m) 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Syndecan-4 shRNA Plasmid (m): sc-36589-SH and Syndecan-4 shRNA (m) Lentiviral Particles: sc-36589-V as alternate gene silencing products.

For independent verification of Syndecan-4 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-36589A, sc-36589B and sc-36589C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Syndecan-4 siRNA (m) is recommended for the inhibition of Syndecan-4 expression in mouse 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 μ M in 66 μ l. 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Syndecan-4 gene expression knockdown using RT-PCR Primer: Syndecan-4 (m)-PR: sc-36589-PR (20 μ l, 567 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

- Chung, J.S., et al. 2007. Syndecan-4 mediates the coinhibitory function of DC-HIL on T cell activation. *J. Immunol.* 179: 5778-5784.
- Kim, E.Y., et al. 2015. Syndecan-4 ectodomain evokes mobilization of podocyte TRPC6 channels and their associated pathways: an essential role for integrin signaling. *Biochim. Biophys. Acta* 1853: 2610-2620.
- Shi, J., et al. 2024. ABCG2 and SLC1A5 functionally interact to rewire metabolism and confer a survival advantage to cancer cells under oxidative stress. *J. Biol. Chem.* 300: 107299.

RESEARCH USE

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