SANTA CRUZ BIOTECHNOLOGY, INC.

Dermatopontin siRNA (h): sc-88148

BACKGROUND

Dermatopontin, also known as TRAMP or DPT, is a 201 amino acid secreted protein belonging to the Dermatopontin family. Expressed in fibroblasts, heart, skeletal muscle, brain and pancreas, Dermatopontin may participate in cell-matrix interactions and matrix assembly by possibly serving as a communication link between the cell surface of dermal fibroblasts and their extracellular matrix environment. Dermatopontin may also play a critical role in the elasticity of skin and collagen accumulation attributed to collagen fibrillogenesis. Implicated in accelerating collagen fibril formation, Dermatopontin stabilizes collagen fibrils against low-temperature dissociation. Induced by TGFβ1 and inhibited by IL-4, Dermatopontin may be involved in the pathogenesis and growth of prostate cancer. Dermatopontin enhances the activity of TGFβ1 and inhibits cell proliferation.

REFERENCES

1. Kuroda, K., et al. 1999. Dermatopontin expression is decreased in hypertrophic scar and systemic sclerosis skin fibroblasts and is regulated by transforming growth factor-β1, interleukin-4, and matrix collagen. J. Invest. Dermatol. 112: 706-710.
2. Takeda, U., et al. 2002. Targeted disruption of dermatopontin causes abnormal collagen fibrillogenesis. J. Invest. Dermatol. 119: 678-683.
3. Catherino, W.H., et al. 2004. Reduced dermatopontin expression is a molecular link between uterine leiomyomas and keloids. Genes Chromosomes Cancer 40: 204-217.
4. Okamoto, O., et al. 2006. Dermatopontin, a novel player in the biology of the extracellular matrix. Connect. Tissue Res. 47: 177-189.
5. Cooper, L.J., et al. 2006. The role of dermatopontin in the stromal organization of the cornea. Invest. Ophthalmol. Vis. Sci. 47: 3303-3310.
6. Takeuchi, T., et al. 2006. Extracellular matrix dermatopontin modulates prostate cell growth *in vivo*. J. Endocrinol. 190: 351-361.

CHROMOSOMAL LOCATION

Genetic locus: DPT (human) mapping to 1q24.2.

PRODUCT

Dermatopontin 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 Dermatopontin shRNA Plasmid (h): sc-88148-SH and Dermatopontin shRNA (h) Lentiviral Particles: sc-88148-V as alternate gene silencing products.

For independent verification of Dermatopontin (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-88148A, sc-88148B and sc-88148C.

PROTOCOLS

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

Dermatopontin siRNA (h) is recommended for the inhibition of Dermatopontin 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

Dermatopontin (F-4): sc-376863 is recommended as a control antibody for monitoring of Dermatopontin 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 Dermatopontin gene expression knockdown using RT-PCR Primer: Dermatopontin (h)-PR: sc-88148-PR (20 µl, 564 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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