

Trichohyalin siRNA (m): sc-61711

BACKGROUND

Trichohyalin is a nine domain containing structural protein that is produced in the medulla and inner root sheath of hair follicles. Among the structural motifs are two ERF-hand calcium binding domains located in domain 1. It is a member of the S100-fused protein family and a substrate of transglutaminase and peptidylarginine deaminase. Trichohyalin associates with keratin intermediate filaments (KIF) and peripheral cell envelope barrier proteins to coordinate cornified cell envelope organization.

REFERENCES

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2. Lee, S.C., et al. 1993. The structure of human Trichohyalin. Potential multiple roles as a functional EF-hand-like calcium-binding protein, a cornified cell envelope precursor, and an intermediate filament-associated (cross-linking) protein. *J. Biol. Chem.* 268: 12164-12176.
3. Manabe, M. and O'Guin, W.M. 1995. Existence of Trichohyalin-keratohyalin hybrid granules: co-localization of two major intermediate filament-associated proteins in non-follicular epithelia. *Differentiation* 58: 65-75.
4. Tarcsa, E., et al. 1997. The fate of Trichohyalin. Sequential posttranslational modifications by peptidyl-arginine deiminase and transglutaminases. *J. Biol. Chem.* 272: 27893-27901.
5. Ishida-Yamamoto, A., et al. 1997. Distinctive expression of Filaggrin and Trichohyalin during various pathways of epithelial differentiation. *Br. J. Dermatol.* 137: 9-16.
6. Steinert, P.M., et al. 1998. Biochemical evidence that small proline-rich proteins and Trichohyalin function in epithelia by modulation of the biomechanical properties of their cornified cell envelopes. *J. Biol. Chem.* 273: 11758-11769.
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CHROMOSOMAL LOCATION

Genetic locus: Tchh (mouse) mapping to 3 F2.1.

PRODUCT

Trichohyalin siRNA (m) is a pool of 2 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 Trichohyalin shRNA Plasmid (m): sc-61711-SH and Trichohyalin shRNA (m) Lentiviral Particles: sc-61711-V as alternate gene silencing products.

For independent verification of Trichohyalin (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-61711A and sc-61711B.

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

Trichohyalin siRNA (m) is recommended for the inhibition of Trichohyalin 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

Trichohyalin (F-2): sc-515130 is recommended as a control antibody for monitoring of Trichohyalin 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 MarkerTM 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 Trichohyalin gene expression knockdown using RT-PCR Primer: Trichohyalin (m)-PR: sc-61711-PR (20 μ l). 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.

PROTOCOLS

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