SANTA CRUZ BIOTECHNOLOGY, INC.

COL17A1 siRNA (h): sc-43070

BACKGROUND

The extensive collagen family comprises several chain types, including fibril-forming interstitial collagens and basement membrane collagens, with each type containing multiple isoforms. Products of the COL gene family, collagens are characterized as fibrous, extracellular matrix proteins with high tensile strength that constitute the major components of connective tissues, such as tendons and cartilage. All collagens contain a triple helix domain and frequently show lateral self-association in order to form complex connective tissues. Collagen Type XVII, also designated BP180, represents a type II transmembrane, epithelial adhesion molecule that plays a role in cell migration and differentiation. The full length Collagen Type XVII protein is expressed in hemidesmosomes of keratinocytes. Proteolytic shedding of Collagen Type XVII results in a species in the extracellular matrix, and this process may be mediated by a disintegrin and metalloprotease (ADAM) family member. The BPAG2 gene, which encodes the Collagen Type XVII protein, maps to human chromosome 10q25.1. Mutations in this gene result in bullous pemphigoid, an inflammatory subepidermal blistering skin disease associated with an IgG autoimmune response to Collagen Type XVII.

REFERENCES

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8. Labrousse, A.L., et al. 2002. The metalloprotease-directed shedding of BP 180 (collagen XVII) from human keratinocytes in culture is unaffected by ceramide and cell-matrix interaction. Eur. J. Dermatol. 12: 240-246.
9. Yamamoto, K., et al. 2002. Cloning of hamster type XVII collagen cDNA, and pathogenesis of anti-type XVII collagen antibody and complement in hamster bullous pemphigoid. J. Invest. Dermatol. 118: 485-492.

CHROMOSOMAL LOCATION

Genetic locus: COL17A1 (human) mapping to 10q24.33.

PRODUCT

COL17A1 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 COL17A1 shRNA Plasmid (h): sc-43070-SH and COL17A1 shRNA (h) Lentiviral Particles: sc-43070-V as alternate gene silencing products.

For independent verification of COL17A1 (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-43070A, sc-43070B and sc-43070C.

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

COL17A1 siRNA (h) is recommended for the inhibition of COL17A1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor COL17A1 gene expression knockdown using RT-PCR Primer: COL17A1 (h)-PR: sc-43070-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Nanba, D., et al. 2021. EGFR-mediated epidermal stem cell motility drives skin regeneration through COL17A1 proteolysis. J. Cell Biol. 220: e202012073.

RESEARCH USE

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