

# KRTAP10-10 siRNA (h): sc-91379

## BACKGROUND

Hair is a structure that is unique to mammals. It plays an important role in the retention of heat, as well as sexual dimorphism, attraction of mates and protection of skin. The major components of hair are  $\alpha$ -keratins and keratin-associated proteins (KRTAPs or KAPs), each of which are encoded by multi-gene families. Hair keratins form an intermediate filament (IF) network, which is embedded in an interfilamentous matrix consisting of KRTAPs. KRTAPs comprise three major groups, which are essential for the formation of rigid and resistant hair shafts through disulfide bond cross-linking or hydrophobic interactions with keratins. These groups are designated high cysteine (HS), which includes subfamilies 1, 2, 3, 10, 12, 16, 29 and 31, ultrahigh cysteine, including subfamilies 4, 5, 9, 17, 28, 30, 32 and 33, and high glycine-tyrosine (HGT), which includes subfamilies 6, 7, 8, 19, 20 and 21. KRTAP10-10 is a 251 amino acid protein that interacts with keratins and belongs to the KRTAP type 10 family.

## REFERENCES

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3. Langbein, L., Rogers, M.A., Winter, H., Praetzel, S., Beckhaus, U., Rackwitz, H.R. and Schweizer, J. 1999. The catalog of human hair keratins. I. Expression of the nine type I members in the hair follicle. *J. Biol. Chem.* 274: 19874-19884.
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5. Maderson, P.F. 2003. Mammalian skin evolution: a reevaluation. *Exp. Dermatol.* 12: 233-236.
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7. Rogers, M.A., Langbein, L., Praetzel-Wunder, S., Winter, H. and Schweizer, J. 2006. Human hair keratin-associated proteins (KAPs). *Int. Rev. Cytol.* 251: 209-263.
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## CHROMOSOMAL LOCATION

Genetic locus: KRTAP10-10 (human) mapping to 21q22.3.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

KRTAP10-10 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see KRTAP10-10 shRNA Plasmid (h): sc-91379-SH and KRTAP10-10 shRNA (h) Lentiviral Particles: sc-91379-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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

KRTAP10-10 siRNA (h) is recommended for the inhibition of KRTAP10-10 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  $\mu$ M in 66  $\mu$ 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor KRTAP10-10 gene expression knockdown using RT-PCR Primer: KRTAP10-10 (h)-PR: sc-91379-PR (20  $\mu$ 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.