SANTA CRUZ BIOTECHNOLOGY, INC.

Keratin 32 siRNA (m): sc-146410

BACKGROUND

The Keratin multigene family is made of "soft" epithelial cytokeratins and "hard" hair Keratins. While the epithelial cytokeratins are involved in the layering and formation of epithelia, the hair Keratins are responsible for creating nails and hair. There are two types of Keratins: the acidic class I Keratin proteins and the basic/neutral class II Keratin proteins. Keratin 32 (Krt32), also known as Keratin, type I cuticular Ha2, Hka2, Krt1-2 or Krtha2, is a 406 amino acid protein belonging the the intermediate filament family. As a type I hair Keratin, Keratin 32 is an acidic protein which heterodimerizes with type II keratins to form hair and nails. Keratin 32 is expressed in the cuticle of the hair shaft and is encoded by a gene located on human chromosome 17q21.2 and mouse chromosome 11 D.

REFERENCES

1. Heid, H.W., Moll, I. and Franke, W.W. 1988. Patterns of expression of trichocytic and epithelial cytokeratins in mammalian tissues. I. Human and bovine hair follicles. Differentiation 37: 137-157.
2. Yu, J., Yu, D.W., Checkla, D.M., Freedberg, I.M. and Bertolino, A.P. 1993. Human hair keratins. J. Invest. Dermatol. 101: 56S-59S.
3. Rogers, M.A., Schweizer, J., Kreig, T. and Winter, H. 1994. A novel human type I hair keratin gene: evidence for two keratin hHa3 isoforms. Mol. Biol. Rep. 20: 155-161.
4. Rogers, M.A., Winter, H., Langbein, L., Krieg, T. and Schweizer, J. 1996. Genomic characterization of the human type I cuticular hair keratin hHa2 and identification of an adjacent novel type I hair keratin gene hHa5. J. Invest. Dermatol. 107: 633-638.
5. Rogers, M.A., Winter, H., Wolf, C., Heck, M. and Schweizer, J. 1998. Characterization of a 190-kilobase pair domain of human type I hair keratin genes. J. Biol. Chem. 273: 26683-26691.
6. Online Mendelian Inheritance in Man, OMIM™. 1998. Johns Hopkins University, Baltimore, MD. MIM Number: 602760. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/602760
7. 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.
8. Schweizer, J., Bowden, P.E., Coulombe, P.A., Langbein, L., Lane, E.B., Magin, T.M., Maltais, L., Omary, M.B., Parry, D.A., Rogers, M.A. and Wright, M.W. 2006. New consensus nomenclature for mammalian keratins. J. Cell Biol. 174: 169-174.

CHROMOSOMAL LOCATION

Genetic locus: Krt32 (mouse) mapping to 11 D.

PROTOCOLS

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

PRODUCT

Keratin 32 siRNA (m) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Keratin 32 shRNA Plasmid (m): sc-146410-SH and Keratin 32 shRNA (m) Lentiviral Particles: sc-146410-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 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

Keratin 32 siRNA (m) is recommended for the inhibition of Keratin 32 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 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 Keratin 32 gene expression knockdown using RT-PCR Primer: Keratin 32 (m)-PR: sc-146410-PR (20 µl). 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.