SANTA CRUZ BIOTECHNOLOGY, INC.

Keratin 80 siRNA (h): sc-96163

BACKGROUND

The keratin multigene family is made of the "soft" epithelial cytokeratins and the "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 hair keratins: the acidic type I hair keratin proteins and the basic/neutral type II hair keratin proteins. Keratin 80, also known as KRT80 or KB80, is a 452 amino acid protein that is weakly expressed in tongue, but is not expressed skin or in any other tissues. Belonging to the intermediate filament family, Keratin 80 exists as a heterotetramer of two type I and two type II keratins. Keratin 80 is suggested to be involved in cell differentiation. Keratin 80 exits as three alternatively spliced isoforms and is encoded by a gene located on human chromosome 12q13.13.

REFERENCES

1. Heid, H.W., Werner, E. and Franke, W.W. 1986. The complement of native α-keratin polypeptides of hair-forming cells: a subset of eight polypeptides that differ from epithelial cytokeratins. Differentiation 32: 101-119.
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., 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.
4. 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.
5. Rogers, M.A., Edler, L., Winter, H., Langbein, L., Beckmann, I. and Schweizer, J. 2005. Characterization of new members of the human type II keratin gene family and a general evaluation of the keratin gene domain on chromosome 12q13.13. J. Invest. Dermatol. 124: 536-544.
6. 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.
7. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611161. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/

CHROMOSOMAL LOCATION

Genetic locus: KRT80 (human) mapping to 12q13.13.

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.

PRODUCT

Keratin 80 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 Keratin 80 shRNA Plasmid (h): sc-96163-SH and Keratin 80 shRNA (h) Lentiviral Particles: sc-96163-V as alternate gene silencing products.

For independent verification of Keratin 80 (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-96163A, sc-96163B and sc-96163C.

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 80 siRNA (h) is recommended for the inhibition of Keratin 80 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 Keratin 80 gene expression knockdown using RT-PCR Primer: Keratin 80 (h)-PR: sc-96163-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.