SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 16 siRNA (h): sc-60498

BACKGROUND

Cytokeratins comprise a diverse group of intermediate filament proteins that are expressed as pairs in both keratinized and non-keratinized epithelial tissue. The cytokeratin proteins play a critical role in differentiation, as well as tissue specialization and function, to maintain the overall structural integrity of epithelial cells. Cytokeratins are also useful markers in identifying the origin of metastatic tumors. Cytokeratin 16 is expressed in benign stratified squamous epithelium and squamous cell carcinoma of the head and neck, as well as luminal cells of mammary gland and sweat ducts. It is absent in noninvasive breast carcinomas and normal breast tissue. Mutations in the Cytokeratin 16 gene cause various diseases, including pachyonychia congenita type 1 (PC1), nonepidermolytic palmoplantar keratoderma (NEPPK) and unilateral palmoplantar verrucous nevus (UPVN).

REFERENCES

1. Wetzels, R.H., et al. 1991. Basal cell-specific and hyperproliferation-related keratins in human breast cancer. Am. J. Pathol. 138: 751-763.
2. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 600962. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
3. Leon, J.E., et al. 2005. Clinicopathological and immunohistochemical study of 39 cases of adenomatoid odontogenic tumor: a multicentric study. Oral Oncol. 41: 835-842.
4. Sesterhenn, A.M., et al. 2005. Cytokeratins 6 and 16 are frequently expressed in head and neck squamous cell carcinoma cell lines and fresh biopsies. Anticancer Res. 25: 2675-2680.
5. Shen, J., et al. 2005. Clinicopathological and immunohistochemical study of oral teratoid cyst. Zhonghua Kou Qiang Yi Xue Za Zhi 40: 62-66.

CHROMOSOMAL LOCATION

Genetic locus: KRT16 (human) mapping to 17q21.2.

PRODUCT

Cytokeratin 16 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 Cytokeratin 16 shRNA Plasmid (h): sc-60498-SH and Cytokeratin 16 shRNA (h) Lentiviral Particles: sc-60498-V as alternate gene silencing products.

For independent verification of Cytokeratin 16 (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-60498A, sc-60498B and sc-60498C.

PROTOCOLS

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

Cytokeratin 16 siRNA (h) is recommended for the inhibition of Cytokeratin 16 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.

GENE EXPRESSION MONITORING

Cytokeratin 16 (E-10): sc-377224 is recommended as a control antibody for monitoring of Cytokeratin 16 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Cytokeratin 16 gene expression knockdown using RT-PCR Primer: Cytokeratin 16 (h)-PR: sc-60498-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.