SANTA CRUZ BIOTECHNOLOGY, INC.

Cytokeratin 8 siRNA (h): sc-35156

BACKGROUND

Cytokeratins comprise a diverse group of intermediate filament proteins (IFPs) that are expressed as pairs in both keratinized and non-keratinized epithelial tissue. Cytokeratins play a critical role in differentiation and tissue specialization and function to maintain the overall structural integrity of epithelial cells. They have been found to be useful markers of tissue differentiation, which is directly applicable to the characterization of malignant tumors. Cytokeratin 8 expression is seen in epithelium and epithelium-derived tumors. The Cytokeratin 8 and 18 pair are normally expressed in simple epithelia, but not in stratified epithelial cells. Research indicates that squamous cell carcinomas derived from stratified epithelia show abnormal expression of Cytokeratin 8 and 18, although it is not known whether these proteins contribute to the malignant phenotype of the cells. Expression of Cytokeratin 8 and 18 in oral squamous cell carcinomas is an independent prognostic marker that indicates a poor prognosis. Cytokeratin 8 expression correlates with malignancy in leukoplakia and carcinomas of the head and neck; it is expressed in all non-small-cell lung cancers. Cytokeratin 8 has been shown to possess extracellular epitopes on tumor cells, which may represent valuable targets for therapy.

CHROMOSOMAL LOCATION

Genetic locus: KRT8 (human) mapping to 12q13.13.

PRODUCT

Cytokeratin 8 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 8 shRNA Plasmid (h): sc-35156-SH and Cytokeratin 8 shRNA (h) Lentiviral Particles: sc-35156-V as alternate gene silencing products.

For independent verification of Cytokeratin 8 (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-35156A, sc-35156B and sc-35156C.

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 8 siRNA (h) is recommended for the inhibition of Cytokeratin 8 expression in human cells.

PROTOCOLS

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

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 8 (C51): sc-8020 is recommended as a control antibody for monitoring of Cytokeratin 8 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 8 gene expression knockdown using RT-PCR Primer: Cytokeratin 8 (h)-PR: sc-35156-PR (20 µl, 429 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Long, X. and Nephew, K.P. 2006. Fulvestrant (ICI 182,780)-dependent interacting proteins mediate immobilization and degradation of estrogen receptor-α. J. Biol. Chem. 281: 9607-9615.
2. Liu, F., et al. 2008. Overexpression of cell surface cytokeratin 8 in multidrug-resistant MCF-7/MX cells enhances cell adhesion to the extracellular matrix. Neoplasia 10: 1275-1284.
3. Kanaji, N., et al. 2011. Cytokeratins negatively regulate the invasive potential of lung cancer cell lines. Oncol. Rep. 26: 763-768.
4. Nava-Acosta, R., et al. 2013. Cytokeratin 8 is an epithelial cell receptor for Pet, a cytotoxic serine protease autotransporter of *Enterobacteriaceae*. MBio 4: e00838-13.
5. Petrosyan, A., et al. 2015. Keratin 1 plays a critical role in Golgi localization of core 2 N-acetylglucosaminyltransferase M via interaction with its cytoplasmic tail. J. Biol. Chem. 290: 6256-6269.
6. Baek, A., et al. 2017. Autophagy and KRT8/keratin 8 protect degeneration of retinal pigment epithelium under oxidative stress. Autophagy 13: 248-263.
7. Son, S., et al. 2022. Autophagosome-lysosome fusion is facilitated by plectin-stabilized actin and keratin 8 during macroautophagic process. Cell. Mol. Life Sci. 79: 95.

RESEARCH USE

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