

Cytokeratin 13 siRNA (h): sc-43308

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. Cytokeratins have been found to be useful markers of tissue differentiation, which is directly applicable to the characterization of malignant tumors. Cytokeratins 10 and 13 are present in the cytoskeletal region of a subset of squamous cell carcinomas. Cytokeratin 13 belongs to the intermediate filament family and is a heterotetramer of two type I acidic and two type II basic keratins. It is generally associated with cytokeratin 4. Defects in the KRT13 gene are a cause of white sponge nevus of cannon (WSN), a rare autosomal dominant disorder which predominantly affects noncornified stratified squamous epithelia and is characterized by the presence of soft, white and spongy plaques in the oral mucosa.

REFERENCES

1. Richard, G., et al. 1995. Keratin 13 point mutation underlies the hereditary mucosal epithelial disorder white sponge nevus. *Nat. Genet.* 11: 453-455.
2. Rugg, E., et al. 1999. Identification of two novel mutations in keratin 13 as the cause of white sponge naevus. *Oral Dis.* 5: 321-324.
3. Terrinoni, A., et al. 2001. A novel mutation in the keratin 13 gene causing oral white sponge nevus. *J. Dent. Res.* 80: 919-923.
4. Chao, S.C., et al. 2003. A novel mutation in the keratin 4 gene causing white sponge naevus. *Br. J. Dermatol.* 148: 1125-1128.
5. SWISS-PROT/TrEMBL (P13646). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: KRT13 (human) mapping to 17q21.2.

PRODUCT

Cytokeratin 13 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Cytokeratin 13 shRNA Plasmid (h): sc-43308-SH and Cytokeratin 13 shRNA (h) Lentiviral Particles: sc-43308-V as alternate gene silencing products.

For independent verification of Cytokeratin 13 (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-43308A, sc-43308B and sc-43308C.

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.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Cytokeratin 13 siRNA (h) is recommended for the inhibition of Cytokeratin 13 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 μ M in 66 μ 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.

GENE EXPRESSION MONITORING

Cytokeratin 13 (A-3): sc-390982 is recommended as a control antibody for monitoring of Cytokeratin 13 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Cytokeratin 13 gene expression knockdown using RT-PCR Primer: Cytokeratin 13 (h)-PR: sc-43308-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.