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# Cytokeratin 13 shRNA (m) Lentiviral Particles: sc-44558-V

## 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 (mouse) mapping to 11 D.

## PRODUCT

Cytokeratin 13 shRNA (m) Lentiviral Particles is a pool of concentrated, transduction-ready viral particles containing 3 target-specific constructs that encode 19-25 nt (plus hairpin) shRNA designed to knock down gene expression. Each vial contains 200  $\mu$ l frozen stock containing  $1.0 \times 10^6$  infectious units of virus (IFU) in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see Cytokeratin 13 siRNA (m): sc-44558 and Cytokeratin 13 shRNA Plasmid (m): sc-44558-SH as alternate gene silencing products.

## RESEARCH USE

The purchase of this product conveys to the buyer the nontransferable right to use the purchased amount of the product and all replicates and derivatives for research purposes conducted by the buyer in his laboratory only (whether the buyer is an academic or for-profit entity). The buyer cannot sell or otherwise transfer (a) this product (b) its components or (c) materials made using this product or its components to a third party, or otherwise use this product or its components or materials made using this product or its components for Commercial Purposes.

## APPLICATIONS

Cytokeratin 13 shRNA (m) Lentiviral Particles is recommended for the inhibition of Cytokeratin 13 expression in mouse cells.

## SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200  $\mu$ l frozen viral stock containing  $1.0 \times 10^6$  infectious units of virus (IFU); contains an shRNA construct encoding a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA.

## 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 (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Cytokeratin 13 gene expression knockdown using RT-PCR Primer: Cytokeratin 13 (m)-PR: sc-44558-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## BIOSAFETY

Lentiviral particles can be employed in standard Biosafety Level 2 tissue culture facilities (and should be treated with the same level of caution as with any other potentially infectious reagent). Lentiviral particles are replication-incompetent and are designed to self-inactivate after transduction and integration of shRNA constructs into genomic DNA of target cells.

## STORAGE

Store lentiviral particles at -80° C. Stable for at least one year from the date of shipment. Once thawed, particles can be stored at 4° C for up to one week. Avoid repeated freeze thaw cycles.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.