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Cytokeratin 15 shRNA (m) Lentiviral Particles: sc-44525-V

BACKGROUND

Cytokeratin 15 (CK15, K15, K1CO, keratin15, type I cytoskeletal 15) is an intermediate filament (IF) type I protein that is responsible for the mechanical integrity of epithelial cells. Keratin family members are subdivided into cyto-keratins and hair keratins. Most of the type I cyto-keratins consist of acidic proteins which are arranged in pairs of heterotypic keratin chains, and are clustered in a region on chromosome 17q21.2. Cytokeratin 15 is a specific marker of stem cells of the hair-follicle bulge and may be a useful marker for diagnosis between basal cell carcinoma and trichoepithelioma. Trichoblastoma are benign neoplasms of follicular differentiation frequently found in nevus sebaceus. Many morphologic features are shared with nodular basal cell carcinoma, sometimes rendering a diagnosis difficult. Trichoblastoma and BCC show variable expression of Cytokeratin 15 and Cytokeratin 19, and absence of hair keratins.

REFERENCES

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2. Waseem, A., et al. 1999. Keratin 15 expression in stratified epithelia: downregulation in activated keratinocytes. *J. Invest. Dermatol.* 112: 362-369.
3. Werner, S., et al. 2000. Suppression of keratin 15 expression by transforming growth factor β *in vitro* and by cutaneous injury *in vivo*. *Exp. Cell Res.* 254: 80-90.
4. Whittock, N.V., et al. 2000. Genomic organization and amplification of the human keratin 15 and keratin 19 genes. *Biochem. Biophys. Res. Commun.* 267: 462-465.
5. Badock, V., et al. 2001. Apoptosis-induced cleavage of keratin 15 and keratin 17 in a human breast epithelial cell line. *Cell Death Differ.* 8: 308-315.
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CHROMOSOMAL LOCATION

Genetic locus: Krt1-15 (mouse) mapping to 11 D.

PRODUCT

Cytokeratin 15 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 μ l frozen stock containing 1.0×10^6 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 15 siRNA (m): sc-44525 and Cytokeratin 15 shRNA Plasmid (m): sc-44525-SH as alternate gene silencing products.

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.

APPLICATIONS

Cytokeratin 15 shRNA (m) Lentiviral Particles is recommended for the inhibition of Cytokeratin 15 expression in mouse cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 μ l frozen viral stock containing 1.0×10^6 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 15 (M-14): sc-69554 is recommended as a control antibody for monitoring of Cytokeratin 15 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 donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (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 15 gene expression knockdown using RT-PCR Primer: Cytokeratin 15 (m)-PR: sc-44525-PR (20 μ l). Annealing temperature for the primers should be $55-60^\circ$ C and the extension temperature should be $68-72^\circ$ 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.

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.

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