COL8A2 shRNA (m) Lentiviral Particles: sc-72952-V

**BACKGROUND**

COL8A2 (collagen α-2(VIII) chain), also known as endothelial collagen, is a 703 amino acid secreted protein. COL8A2 is a major component of the Descemet membrane (basement membrane) of corneal endothelial cells. COL8A2 can form homodimers as well as heterodimers with COL8A1. Defects in COL8A2 are a cause for posterior polymorphous corneal dystrophy (PPCD) and Fuchs endothelial corneal dystrophy (FECD), both being disorders with visual impairment occurring in adulthood. COL8A2 is also the cause of posterior-polymorphous corneal dystrophy 2 (PPCD2), a rare familial disorder that occurs from birth onwards.

**REFERENCES**

3. Gottsch, J.D., et al. 2005. Inheritance of a novel COL8A2 mutation defines a transfer (a) this product (b) its components or (c) materials made using BP-HRP (Cruz Mounting Medium: sc-24941 6 + Adiguzel, E., et al. 2006. Migration and growth are attenuated in vascular BP-HRP: sc-516102 or m-IgG κ in 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.

**CHROMOSOMAL LOCATION**

Genetic locus: Col8a2 (mouse) mapping to 4 D2.2.

**PRODUCT**

COL8A2 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 µl frozen stock containing 1.0 x 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 COL8A2 siRNA (m): sc-72952 and COL8A2 shRNA Plasmid (m): sc-72952-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.

**PROTOCOLS**

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

**APPLICATIONS**

COL8A2 shRNA (m) Lentiviral Particles is recommended for the inhibition of COL8A2 expression in mouse cells.

**SUPPORT REAGENTS**

Control shRNA Lentiviral Particles: sc-108080. Available as 200 µl frozen viral stock containing 1.0 x 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**

COL8A2 (1F4): sc-293350 is recommended as a control antibody for monitoring of COL8A2 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-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-PE (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-IgGκ BP-FITC: sc-516141 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Hard-set Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

**RT-PCR REAGENTS**

Semi-quantitative RT-PCR may be performed to monitor COL8A2 gene expression knockdown using RT-PCR Primer: COL8A2 (m)-PR: sc-72952-PR (20 µl). 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.

**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.