



PCDHB2 shRNA (h) Lentiviral Particles: sc-91999-V

BACKGROUND

Protocadherins are a large family of cadherin-like cell adhesion proteins that are involved in the establishment and maintenance of neuronal connections in the brain. There are three protocadherin gene clusters, designated α , β and γ , all of which contain multiple tandemly arranged genes. PCDHB2 (protocadherin β 2), whose alternative names include MGC111392 or PCDH- β 2, is one of 16 proteins in the protocadherin β cluster, and contains 798 amino acids. PCDHB2 is a single-pass type I membrane protein which is involved in maintaining specific neuronal connections in the brain. PCDHB2 contains six cadherin domains and has a potential role in calcium-dependent cell-adhesion. Unlike the α and γ gene clusters whose genes are spliced to downstream constant region exons during transcription, members of the β cluster (such as PCDHB2) do not use constant-region exons to produce mRNAs. As a result, each protocadherin β gene encodes the transmembrane, extracellular and short cytoplasmic domains of the protein.

REFERENCES

1. Wu, Q., et al. 1999. A striking organization of a large family of human neural cadherin-like cell adhesion genes. *Cell* 97: 779-790.
2. Yagi, T., et al. 2000. Cadherin superfamily genes: functions, genomic organization, and neurologic diversity. *Genes Dev.* 14: 1169-1180.
3. Vanhalst, K., et al. 2001. The human and murine protocadherin- β one-exon gene families show high evolutionary conservation, despite the difference in gene number. *FEBS Lett.* 495: 120-125.
4. Wu, Q., et al. 2001. Comparative DNA sequence analysis of mouse and human protocadherin gene clusters. *Genome Res.* 11: 389-404.
5. Frank, M., et al. 2002. Protocadherins. *Curr. Opin. Cell Biol.* 14: 557-562.
6. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 606328. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>

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.

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.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: PCDHB2 (human) mapping to 5q31.3.

PRODUCT

PCDHB2 shRNA (h) 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 1.0×10^6 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 PCDHB2 siRNA (h): sc-91999 and PCDHB2 shRNA Plasmid (h): sc-91999-SH as alternate gene silencing products.

APPLICATIONS

PCDHB2 shRNA (h) Lentiviral Particles is recommended for the inhibition of PCDHB2 expression in human cells.

SUPPORT REAGENTS

Control shRNA Lentiviral Particles: sc-108080. Available as 200 μl 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PCDHB2 gene expression knockdown using RT-PCR Primer: PCDHB2 (h)-PR: sc-91999-PR (20 μl). Annealing temperature for the primers should be $55-60^{\circ}\text{C}$ and the extension temperature should be $68-72^{\circ}\text{C}$.

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.