

DLG5 shRNA (m) Lentiviral Particles: sc-60542-V

BACKGROUND

Membrane-associated guanylate kinase (MAGUK) family members function as molecular scaffolds for the assembly of multiprotein complexes localizing to the plasma membrane. Several mammalian proteins related to the *Drosophila* tumor suppressor discs-large (dlg) gene product belong to the MAGUK family. MAGUK family members include the postsynaptic proteins PSD-93, DLG5, Pals1, PSD-95 (SAP 90), densin-180, NE-dlg (SAP 120), dlg-1 (SAP 97), GKAP (GK-associated protein), p55, the tight junction associated proteins ZO-1-3, and the caspase-associated recruitment domain (CARD) proteins CARD 6, CARD 8-12 and CARD 14. DLG5, a cell-cell junction peripheral membrane protein, plays an important role in maintaining the structure of epithelial cell plasma membranes. It also plays an important part in transmitting extracellular signals to the cytoskeleton and the membrane. DLG5, which can interact with MPP1 and CTNNB1, is primarily expressed in prostate and placenta.

REFERENCES

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3. Wakabayashi, M., et al. 2003. Interaction of LP-dlg/KIAA0583, a membrane-associated guanylate kinase family protein, with Vinexin and β -catenin at sites of cell-cell contact. *J. Biol. Chem.* 278: 21709-21714.
4. Stoll, M., et al. 2004. Genetic variation in DLG5 is associated with inflammatory bowel disease. *Nat. Genet.* 36: 476-480.
5. Yamazaki, K., et al. 2004. Association analysis of SLC22A4, SLC22A5 and DLG5 in Japanese patients with Crohn disease. *J. Hum. Genet.* 49: 664-668.
6. Noble, C.L., et al. 2005. DLG5 variants do not influence susceptibility to inflammatory bowel disease in the Scottish population. *Gut* 54: 1354-1357.
7. Taniuchi, K., et al. 2005. Down-regulation of RAB6KIFL/KIF20A, a kinesin involved with membrane trafficking of discs large homologue 5, can attenuate growth of pancreatic cancer cell. *Cancer Res.* 65:105-112.
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CHROMOSOMAL LOCATION

Genetic locus: Dlg5 (mouse) mapping to 14 A3.

PRODUCT

DLG5 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 lentiviral transducing particles per milliliter in Dulbecco's Modified Eagle's Medium with 25 mM HEPES pH 7.3. Suitable for 10-20 transductions. Also see DLG5 siRNA (m): sc-60542 and DLG5 shRNA Plasmid (m): sc-60542-SH as alternate gene silencing products.

APPLICATIONS

DLG5 shRNA (m) Lentiviral Particles is recommended for the inhibition of DLG5 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

DLG5 (E-11): sc-374493 is recommended as a control antibody for monitoring of DLG5 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 MarkerTM 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 DLG5 gene expression knockdown using RT-PCR Primer: DLG5 (m)-PR: sc-60542-PR (20 μ 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.

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.