SANTA CRUZ BIOTECHNOLOGY, INC.

DLG5 siRNA (h): sc-60541

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 CARD6, CARD8-12 and CARD14. 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

1. Nakamura, H., et al. 1998. Identification of a novel human homolog of the *Drosophila* dlg, P-dlg, specifically expressed in the gland tissues and interacting with p55. FEBS Lett. 433: 63-67.
2. Shah, G., et al. 2002. The cloning, genomic organization and tissue expression profile of the human DLG5 gene. BMC Genomics 3: 6.
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.
8. Daly, M.J., et al. 2005. Association of DLG5 R30Q variant with inflammatory bowel disease. Eur. J. Hum. Genet. 13: 835-839.

CHROMOSOMAL LOCATION

Genetic locus: DLG5 (human) mapping to 10q22.3.

PRODUCT

DLG5 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see DLG5 shRNA Plasmid (h): sc-60541-SH and DLG5 shRNA (h) Lentiviral Particles: sc-60541-V as alternate gene silencing products.

For independent verification of DLG5 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-60541A, sc-60541B and sc-60541C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCL, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

DLG5 siRNA (h) is recommended for the inhibition of DLG5 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

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-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (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-516140 or m-IgGκ 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 (h)-PR: sc-60541-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zhou, Z., et al. 2015. Methylation-mediated silencing of DLG5 facilitates bladder cancer metastasis. Exp. Cell Res. 331: 399-407.

RESEARCH USE

For research use only, not for use in diagnostic procedures.