SANTA CRUZ BIOTECHNOLOGY, INC.

LLGL2 siRNA (m): sc-146759

BACKGROUND

LLGL2 (lethal giant larvae homolog 2), also referred to as HGL or LGL2, is a cortical cytoskeleton protein that is a part of a larger complex of proteins. The complex, which consists of LGN, PKC i and PAR-6β, may play a role in ensuring thecorrect organization and orientation of bipolar spindles for normal cell division and for the initial phase of the establishment of epithelial cell polarity. in *Drosophila melanogaster,* LLGL2 is required in follicle cells for the differentiation of both stalk cells and posterior follicle cells. In humans, LLGL2 may be involved in cell proliferation control and tumorigenesis. Phosphorylation of LLGL2 is induced during cell polarization and may contribute to the segregation of LLGL2 from the PKC i and PAR-6β complex. Overexpression of LLGL2 is thought to inhibit tight junction formation in cells. LLGL2 is expressed in the cytoplasm and localizes to the perinuclear structure of the cell.

REFERENCES

1. Müsch, A., et al. 2002. Mammalian homolog of *Drosophila* tumor suppressor lethal (2) giant larvae interacts with basolateral exocytic machinery in Madin-Darby canine kidney cells. Mol. Biol. Cell 13: 158-168.
2. Chalmers, A.D., et al. 2005. aPKC, Crumbs3 and Lgl2 control apicobasal polarity in early vertebrate development. Development 132: 977-986.
3. Yasumi, M., et al. 2005. Direct binding of Lgl2 to LGN during mitosis and its requirement for normal cell division. J. Biol. Chem. 280: 6761-6765.
4. Kallay, L.M., et al. 2006. Scribble associates with two polarity proteins, Lgl2 and Vangl2, via distinct molecular domains. J. Cell. Biochem. 99: 647-664.
5. Kuphal, S., et al. 2006. Expression of Hugl-1 is strongly reduced in malignant melanoma. Oncogene 25: 103-110.
6. Bialucha, C.U., et al. 2007. p32 is a novel mammalian Lgl binding protein that enhances the activity of protein kinase Czeta and regulates cell polarity. J. Cell Biol. 178: 575-581.
7. Zimmermann, T., et al. 2008. Cloning and characterization of the promoter of Hugl-2, the human homologue of *Drosophila* lethal giant larvae (lgl) polarity gene. Biochem. Biophys. Res. Commun. 366: 1067-1073.
8. Spaderna, S., et al. 2008. The transcriptional repressor ZEB1 promotes metastasis and loss of cell polarity in cancer. Cancer Res. 68: 537-544.

CHROMOSOMAL LOCATION

Genetic locus: Llgl2 (mouse) mapping to 11 E2.

PRODUCT

LLGL2 siRNA (m) is a target-specific 19-25 nt siRNA 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 LLGL2 shRNA Plasmid (m): sc-146759-SH and LLGL2 shRNA (m) Lentiviral Particles: sc-146759-V as alternate gene silencing products.

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

LLGL2 siRNA (m) is recommended for the inhibition of LLGL2 expression in mouse 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

LLGL2 (A-4): sc-376857 is recommended as a control antibody for monitoring of LLGL2 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 LLGL2 gene expression knockdown using RT-PCR Primer: LLGL2 (m)-PR: sc-146759-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

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

PROTOCOLS

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