SANTA CRUZ BIOTECHNOLOGY, INC.

LLGL4 siRNA (h): sc-77931

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The Power to Question

BACKGROUND

In *Drosophilia*, Scribble (Scrib), Discs large (Dlg), and Lethal giant larvae (Lgl) function together to regulate epithelial polarity and, significantly, the human homologs of these proteins have been linked to the progression of cancer. LLGL4 (Lethal(2) giant larvae protein homolog 4), also designated Syntaxin-binding protein 5-like or Tomosyn-2, is a 1,186 amino acid protein that is expressed in brain hippocampus, kidney, germ cell tumors and lung carcinoid. As a member of the WD repeat L(2)GL family, it is likely that LLGL4 plays a role in vesicle trafficking and exocytosis. LLGL4 contains one v-SNARE coiled-coil homology domain and six WD repeats, which are sites for protein-protein interactions. LLGL4 shares 68% sequence similarity with human LLGL3, also known as Tomosyn, which is an important component in the neurotransmitter release process. There are two isoforms of LLGL4 that are produced as a result of alternative splicing events.

REFERENCES

1. Fujita, Y., et al. 1998. Tomosyn: a syntaxin-1-binding protein that forms a novel complex in the neurotransmitter release process. Neuron 20: 905-915.
2. Yokoyama, S., et al. 1999. Three splicing variants of tomosyn and identification of their syntaxin-binding region. Biochem. Biophys. Res. Commun. 256: 218-222.
3. Humbert, P., et al. 2003. Dlg, Scribble and Lgl in cell polarity, cell proliferation and cancer. Bioessays 25: 542-553.
4. Katoh, M. and Katoh, M. 2004. Identification and characterization of human LLGL4 gene and mouse Llgl4 gene in silico. Int. J. Oncol. 24: 737-742.
5. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 604586. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Groffen, A.J., et al. 2005. Two distinct genes drive expression of seven tomosyn isoforms in the mammalian brain, sharing a conserved structure with a unique variable domain. J. Neurochem. 92: 554-568.

CHROMOSOMAL LOCATION

Genetic locus: STXBP5L (human) mapping to 3q13.33.

PRODUCT

LLGL4 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 LLGL4 shRNA Plasmid (h): sc-77931-SH and LLGL4 shRNA (h) Lentiviral Particles: sc-77931-V as alternate gene silencing products.

For independent verification of LLGL4 (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-77931A, sc-77931B and sc-77931C.

PROTOCOLS

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

LLGL4 siRNA (h) is recommended for the inhibition of LLGL4 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LLGL4 gene expression knockdown using RT-PCR Primer: LLGL4 (h)-PR: sc-77931-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.