SANTA CRUZ BIOTECHNOLOGY, INC.

LGN siRNA (m): sc-146717

BACKGROUND

LGN, also known as GPSM2 (G-protein-signaling modulator 2) or Pins, is a 684 amino acid member of the GPSM protein family. Localized to the cytoplasm, LGN has been found to interact with LLGL2 and INSC. LPN is involved in spindle pole orientation and also acts to stabilize the apical complex during neuroblast divisions. Ubiquitously expressed, LGN contributes to the functional activity of G α proteins. LPN contains four GoLoco/G protein regulatory motifs, a 19-amino-acid sequence that interacts with GDP-bound G_α subunits, and eight TPR (tetratricopeptide repeat) domains, which target proteins to subcellular regions of neuroblasts. Dysfunction of LGN has been found to be associated with the phenotype of multiple micronuclei. This phenotype is caused by chromosomal mis-segregation and defects in cell devision due to mis-localization of the mitotic spindle regulator protein NuMA.

REFERENCES

1. Kaushik, R., et al. 2003. Subcellular localization of LGN during mitosis: evidence for its cortical localization in mitotic cell culture systems and its requirement for normal cell cycle progression. Mol. Biol. Cell 14: 3144-3155.
2. Marty, C., et al. 2003. Identification of tetratricopeptide repeat 1 as an adaptor protein that interacts with heterotrimeric G proteins and the small GTPase Ras. Mol. Cell. Biol. 23: 3847-3858.
3. Du, Q. and Macara, I.G. 2004. Mammalian Pins is a conformational switch that links NuMA to heterotrimeric G proteins. Cell 119: 503-516.
4. 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.
5. Izaki, T., et al. 2006. Two forms of human Inscuteable-related protein that links Par3 to the Pins homologues LGN and AGS3. Biochem. Biophys. Res. Commun. 341: 1001-1006.

CHROMOSOMAL LOCATION

Genetic locus: Gpsm2 (mouse) mapping to 3 F3.

PRODUCT

LGN siRNA (m) 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 LGN shRNA Plasmid (m): sc-146717-SH and LGN shRNA (m) Lentiviral Particles: sc-146717-V as alternate gene silencing products.

For independent verification of LGN (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-146717A, sc-146717B and sc-146717C.

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

LGN siRNA (m) is recommended for the inhibition of LGN 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LGN gene expression knockdown using RT-PCR Primer: LGN (m)-PR: sc-146717-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.