SANTA CRUZ BIOTECHNOLOGY, INC.

Gliomedin siRNA (h): sc-62378

BACKGROUND

Gliomedin is a 551 amino acid protein encoded by the human gene GLDN. Glio-medin is thought to play a role in the formation of the nodes of Ranvier along myelinated axons. Accumulation of Na^+ channels at the nodes of Ranvier is a prerequisite for saltatory conduction. In peripheral nerves, clustering of these channels along the axolemma is regulated by myelinating Schwann cells through an unknown mechanism. Gliomedin is a glial ligand for Neurofascin and NrCAM, two axonal immunoglobulin cell adhesion molecules that are associated with Na^+ channels at the nodes of Ranvier. Gliomedin is expressed by myelinating Schwann cells and accumulates at the edges of each myelin segment during development, where it aligns with the forming nodes. Glio-medin is a single-pass type II membrane protein localized to the nodes of Ranvier and is specifically expressed in spinal cord, brain, placenta and sciatic nerve. It is more abundant in peripheral than central nervous system.

REFERENCES

1. Lustig, M., et al. 2001. NrCAM and Neurofascin interactions regulate Ankyrin G and sodium channel clustering at the node of Ranvier. Curr. Biol. 11: 1864-1869.
2. Eshed, Y., et al. 2005. Gliomedin mediates Schwann cell-axon interaction and the molecular assembly of the nodes of Ranvier. Neuron 47: 215-229.
3. Occhi, S., et al. 2005. Both Laminin and Schwann cell dystroglycan are necessary for proper clustering of sodium channels at nodes of Ranvier. J. Neurosci. 25: 9418-9427.
4. Koticha, D., et al. 2006. Neurofascin interactions play a critical role in clustering sodium channels, Ankyrin G and β IV spectrin at peripheral nodes of Ranvier. Dev. Biol. 293: 1-12.
5. Eshed, Y., et al. 2007. Secreted gliomedin is a perinodal matrix component of peripheral nerves. J. Cell Biol. 177: 551-562.

CHROMOSOMAL LOCATION

Genetic locus: GLDN (human) mapping to 15q21.2.

PRODUCT

Gliomedin 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 Gliomedin shRNA Plasmid (h): sc-62378-SH and Gliomedin shRNA (h) Lentiviral Particles: sc-62378-V as alternate gene silencing products.

For independent verification of Gliomedin (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-62378A, sc-62378B and sc-62378C.

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

Gliomedin siRNA (h) is recommended for the inhibition of Gliomedin 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 Gliomedin gene expression knockdown using RT-PCR Primer: Gliomedin (h)-PR: sc-62378-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.