SANTA CRUZ BIOTECHNOLOGY, INC.

Shrm siRNA (m): sc-42249

BACKGROUND

Shrm is a PDZ domain protein which regulates aspects of cytoarchitecture required for proper neuralation. PDZ domains mediate protein-protein interactions which facilitate membrane protein localization and signaling complex assembly. Mutation of the mouse Shrm gene causes neural tube defects (NTDs) attributed to failure of the neural tube to close during development. Targeted mutation studies have identified a number of factors which regulate neural tube morphogenesis. Shrm is strongly expressed in neural epithelium at the time of cranial tube closure. Shrm is a cytoskeletal protein which localizes to adherens junctions and directly binds F-Actin. The Shrm protein can exist in a short and long form, designated $Shrm_S$ and $Shrm_L$, respectively.

REFERENCES

1. Chen, Z.F. and Behringer, R.R. 1995. twist is required in head mesenchyme for cranial neural tube morphogenesis. Genes Dev. 9: 686-699.
2. Ponting, C.P., et al. 1997. PDZ domains: targeting signalling molecules to sub-membranous sites. Bioessays 19: 469-479.
3. Songyang, Z., et al. 1997. Recognition of unique carboxyl-terminal motifs by distinct PDZ domains. Science 275: 73-77.
4. Hildebrand, J.D. and Soriano, P. 1999. Shroom, a PDZ domain-containing Actin-binding protein, is required for neural tube morphogenesis in mice. Cell 99: 485-497.
5. Kuan, C.Y., et al. 1999. The Jnk1 and Jnk2 protein kinases are required for regional specific apoptosis during early brain development. Neuron 22: 667-676.

CHROMOSOMAL LOCATION

Genetic locus: Shroom3 (mouse) mapping to 5 E2.

PRODUCT

Shrm 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 Shrm shRNA Plasmid (m): sc-42249-SH and Shrm shRNA (m) Lentiviral Particles: sc-42249-V as alternate gene silencing products.

For independent verification of Shrm (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-42249A, sc-42249B and sc-42249C.

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

Shrm siRNA (m) is recommended for the inhibition of Shrm 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 Shrm gene expression knockdown using RT-PCR Primer: Shrm (m)-PR: sc-42249-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.