SANTA CRUZ BIOTECHNOLOGY, INC.

Cypin siRNA (m): sc-142742

BACKGROUND

The assembly of neurotransmitter receptors and associated signal transduction machinery at synaptic sites involves postsynaptic density 95 (PSD-95) and related membrane-associated guanylate kinase (MAGUK) proteins. Cypin, (cytoplasmic PSD-95 interactor, also designated guanine deaminase and nedasin S), regulates intermediate steps in postsynaptic protein sorting, such as synaptic clustering of MAGUK proteins, and associates with multiple members of the PSD-95 family. Expressed both pre- and post-synaptically, Cypin is most prevalent within the cytoplasm of dendritic shafts and in the neck of synaptic spines. In non-neuronal cells, Cypin is most highly expressed in the basal membrane of intestinal epithelial cells. Cypin is also highly expressed in kidney, liver, lung, brain, and spleen, with lower levels of expression in placenta, heart, and skeletal muscle. Native Cypin may also be expressed as a dimer and a tetramer.

REFERENCES

1. Kim, E., et al. 1995. Clustering of Shaker-type K^+ channels by direct interaction with the PSD-95/SAP90 family for membrane-associated guanylate kinases. Nature 378: 85-88.
2. Kornau, H.C., et al. 1995. Domain interaction between NMDA receptor subunits and the postsynaptic density protein PDS-95. Science 269: 1737-1740.
3. Brenman, J.E., et al. 1996. Interaction of nitric oxide synthase with the postsynaptic density protein PSD-95 and α1-syntrophin mediated by PDZ motifs. Cell 84: 757-767.
4. Firestein, B., et al. 1999. Cypin: a cytosolic regulator of PSD-95 postsynaptic targeting. Neuron 24: 659-672.
5. Kuwahara, H., et al. 1999. A novel NE-dlg/SAP102-associated protein, p51-nedasin, related to the amidohydrolase superfamily, interferes with the association between NE-dlg/SAP102 and N-methyl-D-aspartate receptor. J. Biol. Chem. 274: 32204-32214.
6. Yuan, G., et al. 1999. Cloning and characterization of human guanine deaminase. J. Biol. Chem. 274: 8175-8180.

CHROMOSOMAL LOCATION

Genetic locus: Gda (mouse) mapping to 19 B.

PRODUCT

Cypin 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 Cypin shRNA Plasmid (m): sc-142742-SH and Cypin shRNA (m) Lentiviral Particles: sc-142742-V as alternate gene silencing products.

For independent verification of Cypin (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-142742A, sc-142742B and sc-142742C.

RESEARCH USE

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

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

Cypin siRNA (m) is recommended for the inhibition of Cypin 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

Cypin (D-7): sc-393571 is recommended as a control antibody for monitoring of Cypin 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 Cypin gene expression knockdown using RT-PCR Primer: Cypin (m)-PR: sc-142742-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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