SANTA CRUZ BIOTECHNOLOGY, INC.

Paralemmin siRNA (h): sc-62753

BACKGROUND

Paralemmin, also called Paralemmin-1 or PALM, is a widely expressed peripheral membrane protein that is involved in cell structure and shape. A hydrophobic protein, Paralemmin is anchored to the cytoplasmic side of the cell membrane via di-palmitoylation and prenylation of its C-terminal cysteine cluster. Functioning at the synapse to regulate neuronal plasticity and plasma membrane dynamics, Paralemmin can bind to the dopamine receptor D3, thereby reducing D3 expression and subsequent adenylate cyclase activity. Overexpression of Paralemmin induces fibroblasts to extend long filopodia and to assume extreme cell shapes, suggesting involvement in the formation and stabilization of the plasma membrane. Two isoforms of Paralemmin exists due to alternative splicing events.

REFERENCES

1. Burwinkel, B., et al. 1998. Structure of the human paralemmin gene (PALM), mapping to human chromosome 19p13.3 and mouse chromosome 10, and exclusion of coding mutations in grizzled, mocha, jittery, and hesitant mice. Genomics 49: 462-466.
2. Kutzleb, C., et al. 1998. Paralemmin, a prenyl-palmitoyl-anchored phosphoprotein abundant in neurons and implicated in plasma membrane dynamics and cell process formation. J. Cell Biol. 143: 795-813.
3. Hu, B., et al. 2001. The paralemmin protein family: identification of paralemmin-2, an isoform differentially spliced to AKAP2/AKAP-KL, and of palmdelphin, a more distant cytosolic relative. Biochem. Biophys. Res. Commun. 285: 1369-1376.
4. Andreu, N., et al. 2001. PALML, a novel paralemmin-related gene mapping on human chromosome 1p21. Gene 278: 33-40.
5. Bagchi, M., et al. 2003. Paralemnin of the lens. J. Cell. Biochem. 89: 917-921.
6. Castellini, M., et al. 2005. Palm is expressed in both developing and adult mouse lens and retina. BMC Ophthalmol. 5: 14.
7. Hu, B., et al. 2005. Molecular characterization and immunohistochemical localization of palmdelphin, a cytosolic isoform of the paralemmin protein family implicated in membrane dynamics. Eur. J. Cell Biol. 84: 853-866.

CHROMOSOMAL LOCATION

Genetic locus: PALM (human) mapping to 19p13.3.

PRODUCT

Paralemmin 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 Paralemmin shRNA Plasmid (h): sc-62753-SH and Paralemmin shRNA (h) Lentiviral Particles: sc-62753-V as alternate gene silencing products.

For independent verification of Paralemmin (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-62753A, sc-62753B and sc-62753C.

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

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

GENE EXPRESSION MONITORING

Paralemmin (D-5): sc-365869 is recommended as a control antibody for monitoring of Paralemmin 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 Paralemmin gene expression knockdown using RT-PCR Primer: Paralemmin (h)-PR: sc-62753-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.