



# Palmdelphin siRNA (h): sc-88247

## BACKGROUND

Palmdelphin (PALMD), also known as PALML, is a 551 amino acid cytoplasmic protein that belongs to the paralemmin family. Palmdelphin exists as three alternatively spliced isoforms and interacts with the astrocyte marker, Gl Syn (glutamine synthetase). Although ubiquitously expressed, Palmdelphin is most abundant in cardiac and skeletal muscle. The gene that encodes Palmdelphin consists of approximately 48,667 bases and maps to human chromosome 1p21.2. Spanning about 260 million base pairs and encoding around 3,000 genes, chromosome 1 makes up 8% of the human genome. The rare aging disease Hutchinson-Gilford progeria is associated with chromosome 1 through the LMNA gene, which encodes Lamin A. When defective, the LMNA gene product can build up in the nucleus and cause characteristic nuclear blebs. The MUTYH gene is located on chromosome 1 and is partially responsible for familial adenomatous polyposis. Stickler syndrome, Parkinsons, Gaucher disease and Usher syndrome are also associated with chromosome 1.

## REFERENCES

1. Eudy, J.D., et al. 1998. Isolation of a gene encoding a novel member of the nuclear receptor superfamily from the critical region of Usher syndrome type IIa at 1q41. *Genomics* 50: 382-384.
2. 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.
3. Andreu, N., et al. 2001. PALML, a novel paralemmin-related gene mapping on human chromosome 1p21. *Gene* 278: 33-40.
4. Tayebi, N., et al. 2001. Gaucher disease and parkinsonism: a phenotypic and genotypic characterization. *Mol. Genet. Metab.* 73: 313-321.
5. Plasilova, M., et al. 2004. Exclusion of an extracolonic disease modifier locus on chromosome 1p33-36 in a large Swiss familial adenomatous polyposis kindred. *Eur. J. Hum. Genet.* 12: 365-371.
6. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 610182. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
7. Betarbet, R., et al. 2008. Fas-associated factor 1 and Parkinson's disease. *Neurobiol. Dis.* 31: 309-315.
8. Holliday, E.G., et al. 2009. Strong evidence for a novel schizophrenia risk locus on chromosome 1p31.1 in homogeneous pedigrees from Tamil Nadu, India. *Am. J. Psychiatry* 166: 206-215.
9. Yokoi, T., et al. 2009. Analysis of the vitreous membrane in a case of type 1 Stickler syndrome. *Graefes Arch. Clin. Exp. Ophthalmol.* 247: 715-718.

## CHROMOSOMAL LOCATION

Genetic locus: PALMD (human) mapping to 1p21.2.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

## PRODUCT

Palmdelphin 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Palmdelphin shRNA Plasmid (h): sc-88247-SH and Palmdelphin shRNA (h) Lentiviral Particles: sc-88247-V as alternate gene silencing products.

For independent verification of Palmdelphin (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-88247A, sc-88247B and sc-88247C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

Palmdelphin siRNA (h) is recommended for the inhibition of Palmdelphin 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  $\mu$ M in 66  $\mu$ l. 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 Palmdelphin gene expression knockdown using RT-PCR Primer: Palmdelphin (h)-PR: sc-88247-PR (20  $\mu$ l, 411 bp). 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.