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# APLP1 siRNA (m): sc-41908

## BACKGROUND

APLP1 (amyloid precursor-like protein 1) is a protein whose predicted amino acid sequence is 42% identical and 64% similar to that of the amyloid  $\beta$  protein precursor (APP). This 653-amino acid protein is also similar to APP in overall structure. The gene which encodes APLP1 maps to human chromosome 19q13.12. Since congenital nephrotic syndrome (CNF) maps close to APLP1, and because of the proposed interference of amyloid with basement membrane assembly, APLP1 had incorrectly been considered a candidate gene for CNF. APLP2 is a human sperm membrane protein which contains a segment with high homology to the transmembrane-cytoplasmic domains of APP found in brain plaques of Alzheimer disease patients. The human amyloid precursor-like protein APLP2 is a highly conserved homolog of a sequence-specific DNA-binding mouse protein with an important function in the cell cycle. The gene which encodes APLP2 maps to human chromosome 11q24.3.

## REFERENCES

1. Yan, Y.C., et al. 1990. Characterization of cDNA encoding a human sperm membrane protein related to A4 amyloid protein. *Proc. Natl. Acad. Sci. USA* 87: 2405-2408.
2. Wasco, W., et al. 1992. Identification of a mouse brain cDNA that encodes a protein related to the Alzheimer-associated amyloid  $\beta$ -protein precursor. *Proc. Natl. Acad. Sci. USA* 89: 10758-10762.
3. Wasco, W., et al. 1993. The amyloid precursor-like protein (APLP) gene maps to the long arm of human chromosome 19. *Genomics* 15: 237-239.
4. Lenkkeri, U., et al. 1998. Structure of the human amyloid-precursor-like protein gene APLP1 at 19q13.1. *Hum. Genet.* 102: 192-196.
5. Leach, R., et al. 1999. Assignment of amyloid-precursor-like protein 2 gene (APLP2) to 11q24 by fluorescent *in situ* hybridization. *Cytogenet. Cell Genet.* 87: 215-216.

## CHROMOSOMAL LOCATION

Genetic locus: *Aplp1* (mouse) mapping to 7 B1.

## PRODUCT

APLP1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see APLP1 shRNA Plasmid (m): sc-41908-SH and APLP1 shRNA (m) Lentiviral Particles: sc-41908-V as alternate gene silencing products.

For independent verification of APLP1 (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-41908A, sc-41908B and sc-41908C.

## PROTOCOLS

See our web site at [www.scbt.com](http://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  $\mu$ 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

APLP1 siRNA (m) is recommended for the inhibition of APLP1 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  $\mu$ 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 APLP1 gene expression knockdown using RT-PCR Primer: APLP1 (m)-PR: sc-41908-PR (20  $\mu$ l). 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.