

# ALP siRNA (m): sc-72486

## BACKGROUND

ALP (actinin-associated LIM protein), also known as PDLIM3 (PDZ and LIM domain protein 3) is a 364 amino acid protein that contains one LIM zinc-binding domain and one PDZ domain and localizes to the cytoplasm, as well as to myofiber Z-lines. Existing as three alternatively spliced isoforms, two of which exhibit tissue-specific expression in skeletal muscle and heart, ALP interacts with  $\alpha$ -actinin-2 and, via this interaction, is thought to play a role in Actin filament organization, specifically regulating the association of Actin filaments arrays with muscle cells. The gene encoding ALP maps to a region on human chromosome 4 that is associated with facioscapulohumeral muscular dystrophy, suggesting that defects in the ALP gene may be involved in the pathogenesis of muscular dystrophy.

## REFERENCES

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3. Bouju, S., et al. 1999. Exclusion of muscle specific actinin-associated LIM protein (ALP) gene from 4q35 facioscapulohumeral muscular dystrophy (FSHD) candidate genes. *Neuromuscul. Disord.* 9: 3-10.
4. Kjaavuniemi, T., et al. 2004. The ZASP-like motif in actinin-associated LIM protein is required for interaction with the  $\alpha$ -actinin rod and for targeting to the muscle Z-line. *J. Biol. Chem.* 279: 26402-26410.
5. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 605889. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Pomiès, P., et al. 2007. The cytoskeleton-associated PDZ-LIM protein, ALP, acts on serum response factor activity to regulate muscle differentiation. *Mol. Biol. Cell* 18: 1723-1733.
7. Arola, A.M., et al. 2007. Mutations in PDLIM3 and MYOZ1 encoding myocyte Z line proteins are infrequently found in idiopathic dilated cardiomyopathy. *Mol. Genet. Metab.* 90: 435-440.

## CHROMOSOMAL LOCATION

Genetic locus: Pdlm3 (mouse) mapping to 8 B1.1.

## PRODUCT

ALP 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 ALP shRNA Plasmid (m): sc-72486-SH and ALP shRNA (m) Lentiviral Particles: sc-72486-V as alternate gene silencing products.

For independent verification of ALP (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-72486A, sc-72486B and sc-72486C.

## 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

ALP siRNA (m) is recommended for the inhibition of ALP 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.

## GENE EXPRESSION MONITORING

ALP (B-10): sc-365765 is recommended as a control antibody for monitoring of ALP 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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 ALP gene expression knockdown using RT-PCR Primer: ALP (m)-PR: sc-72486-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.

## PROTOCOLS

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