

# apoLD1 siRNA (h): sc-96047

## BACKGROUND

ApoLD1 (apolipoprotein L domain containing 1), also known as VERGE (vascular early response gene protein), is a 279 amino acid multi-pass membrane protein that belongs to the apolipoprotein L family and exists as two alternatively spliced isoforms. Encoded by a gene that maps to human chromosome 12p13.1, apoLD1 functions as an endothelial cell early responder and may assist in regulation of endothelial cell signaling and vascular function. ApoLD1 may also be linked to angiogenesis and activity-dependent brain vasculature changes, and may affect blood-brain permeability. Expressed in neonatal dermal microvascular endothelial cells, apoLD1 is induced by hypoxia, focal ischemia, TNF $\alpha$  and FGF-2, and is likely synthesized and degraded quickly. ApoLD1 exhibits sensitivity to PKC stimulation and phorbol myristate acetate (PMA) exposure, which results in rapid and transient actin cytoskeleton remodeling, suggesting apoLD1 assists in actin cytoskeleton reorganization and vascular permeability.

## REFERENCES

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2. Tsai, M.S., et al. 2007. Functional network analysis of the transcriptomes of mesenchymal stem cells derived from amniotic fluid, amniotic membrane, cord blood, and bone marrow. *Stem Cells* 25: 2511-2523.
3. Le Toriell, E., et al. 2008. Haploinsufficiency of CDKN1B contributes to leukemogenesis in T-cell polymphocytic leukemia. *Blood* 111: 2321-2328.
4. Hoek, K.S., et al. 2008. Novel MITF targets identified using a two-step DNA microarray strategy. *Pigment Cell Melanoma Res.* 21: 665-676.
5. Cheung, H.H., et al. 2010. Genome-wide DNA methylation profiling reveals novel epigenetically regulated genes and non-coding RNAs in human testicular cancer. *Br. J. Cancer* 102: 419-427.
6. Wolterink, S., et al. 2010. Therapeutic antibodies to human L1CAM: functional characterization and application in a mouse model for ovarian carcinoma. *Cancer Res.* 70: 2504-2515.
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## CHROMOSOMAL LOCATION

Genetic locus: APOLD1 (human) mapping to 12p13.1.

## PRODUCT

apoLD1 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 apoLD1 shRNA Plasmid (h): sc-96047-SH and apoLD1 shRNA (h) Lentiviral Particles: sc-96047-V as alternate gene silencing products.

For independent verification of apoLD1 (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-96047A, sc-96047B and sc-96047C.

## 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

apoLD1 siRNA (h) is recommended for the inhibition of apoLD1 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 apoLD1 gene expression knockdown using RT-PCR Primer: apoLD1 (h)-PR: sc-96047-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.