SANTA CRUZ BIOTECHNOLOGY, INC.

# PLA1A siRNA (h): sc-76160

## BACKGROUND

Members of the AB hydrolase superfamily have diverse catalytic functions and play a crucial role in the metabolism of lipids. PLA1A (phospholipase A1 member A), also known as NMD or PSPLA1, is a 456 amino acid secreted protein that belongs to the AB hydrolase superfamily. Expressed in a variety of tissues, including liver, placenta and prostate, PLA1A functions to hydrolyze the ester bond at the sn-1 position of phosphatidylserine (PS) and 1-acyl-2-lysophosphatidylserine (lyso-PS), thus producing 2-acyl lysophospholipids and playing a role in histamine production. Three isoforms of PLA1A exist due to alternative splicing events. The gene encoding PLA1A maps to human chromosome 3, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci. Key tumor suppressing genes on chromosome 3 include those that encode the apoptosis mediator RASSF1, the cell migration regulator HYAL1 and the angiogenesis suppressor SEMA3B. Marfan syndrome, porphyria, von Hippel-Lindau syndrome, osteogenesis imperfecta and Charcot-Marie-tooth disease are a few of the numerous genetic diseases associated with chromosome 3.

## REFERENCES


1. Bohn, E., et al. 1992. Annexin II inhibits calcium-dependent phospholipase A1 and lysophospholipase but not triacyl glycerol lipase activities of rat liver hepatic lipase. FEBS Lett. 296: 237-240.
2. van Groningen, J.J., et al. 1997. NMD, a novel gene differentially expressed in human melanoma cell lines, encodes a new atypical member of the enzyme family of lipases. FEBS Lett. 404: 82-86.
3. Sato, T., et al. 1997. Serine phospholipid-specific phospholipase A that is secreted from activated platelets. A new member of the lipase family. J. Biol. Chem. 272: 2192-2198.
4. Nagai, Y., et al. 1999. An alternative splicing form of phosphatidylserine-specific phospholipase A1 that exhibits lysophosphatidylserine-specific lysophospholipase activity in humans. J. Biol. Chem. 274: 11053-11059.


## CHROMOSOMAL LOCATION

Genetic locus: PLA1A (human) mapping to 3q13.33.

## PRODUCT

PLA1A 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 PLA1A shRNA Plasmid (h): sc-76160-SH and PLA1A shRNA (h) Lentiviral Particles: sc-76160-V as alternate gene silencing products.

For independent verification of PLA1A (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-76160A, sc-76160B and sc-76160C.

## PROTOCOLS

See our web site at 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 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

PLA1A siRNA (h) is recommended for the inhibition of PLA1A 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PLA1A gene expression knockdown using RT-PCR Primer: PLA1A (h)-PR: sc-76160-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.