SANTA CRUZ BIOTECHNOLOGY, INC.

PLA1A (Y-16): sc-79675

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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

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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 phospho-lipase A1 that exhibits lysophosphatidylserine-specific lysophospholipase activity in humans. J. Biol. Chem. 274: 11053-11059.
5. Wen, X.Y., et al. 2001. Murine phosphatidylserine-specific phospholipase A1 (Ps-pla1) maps to chromosome 16 but is distinct from the lpd (lipid defect) locus. Mamm. Genome. 12: 129-132.
6. Aoki, J., et al. 2002. Structure and function of phosphatidylserine-specific phospholipase A1. Biochim. Biophys. Acta 1582: 26-32.
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CHROMOSOMAL LOCATION

Genetic locus: PLA1A (human) mapping to 3q13.33; Pla1a (mouse) mapping to 16 B4.

SOURCE

PLA1A (Y-16) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PLA1A of human origin.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-79675 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PLA1A (Y-16) is recommended for detection of PLA1A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

PLA1A (Y-16) is also recommended for detection of PLA1A in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PLA1A siRNA (h): sc-76160, PLA1A siRNA (m): sc-76161, PLA1A shRNA Plasmid (h): sc-76160-SH, PLA1A shRNA Plasmid (m): sc-76161-SH, PLA1A shRNA (h) Lentiviral Particles: sc-76160-V and PLA1A shRNA (m) Lentiviral Particles: sc-76161-V.

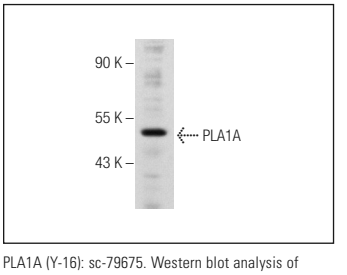
Molecular Weight of PLA1A: 50 kDa.

Positive Controls: HEK293 whole cell lysate.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PLA1A (Y-16): sc-79675. Western blot analysis of PLA1A expression in HEK293 whole cell lysate.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.