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PLA1A Antibody

Catalog # ASC11558

Product Information

Application	WB, IF, E
Primary Accession	Q53H76
Other Accession	NP_056984, 7706661
Reactivity	Human, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	49715
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	PLA1A antibody can be used for detection of PLA1A by Western blot at 1 - 2 g/mL. For immunofluorescence start at 20 g/mL.

Additional Information

Gene ID	51365
Other Names	Phospholipase A1 member A, 3.1.1.-, Phosphatidylserine-specific phospholipase A1, PS-PLA1, PLA1A, NMD, PSPLA1
Target/Specificity	PLA1A; At least three isoforms of PLA1A are known to exist; this antibody will detect all three isoforms.
Reconstitution & Storage	PLA1A antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	PLA1A Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PLA1A (HGNC:17661)
Synonyms	NMD, PSPLA1
Function	Hydrolyzes the ester bond of the acyl group attached at the sn-1 position of phosphatidylserines (phospholipase A1 activity) and 1-acyl-2-lysophosphatidylserines (lysophospholipase activity) in the pathway of phosphatidylserines acyl chain remodeling (PubMed:10196188). Cleaves phosphatidylserines exposed on the outer leaflet of the plasma membrane of apoptotic cells producing 2-acyl-1-lysophosphatidylserines, which in turn enhance mast cell activation and histamine production (By similarity). Has no

	activity toward other glycerophospholipids including phosphatidylcholines, phosphatidylethanolamines, phosphatidic acids or phosphatidylinositols, or glycerolipids such as triolein (By similarity).
Cellular Location	Secreted {ECO:0000250|UniProtKB:P97535}.
Tissue Location	Widely expressed. Expressed in placenta, prostate and liver. Weakly or not expressed in skin, leukocytes, platelets, colon, spleen, lung, muscle and kidney.

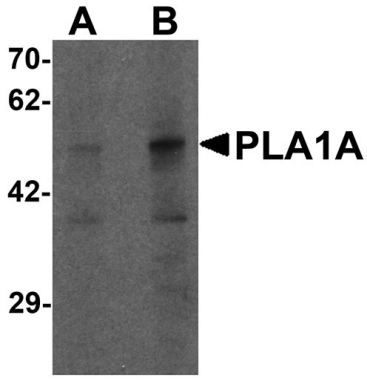
Background

PLA1A Antibody: PLA1A is a phospholipase that hydrolyzes fatty acids at the sn-1 position of phosphatidylserine and 1-acyl-2-lysophosphatidylserine. This secreted protein hydrolyzes phosphatidylserine (PS) in liposomes and can also hydrolyze PS in apoptotic cells and activate platelets where the resulting 2-acyl-lysophosphatidylserine acts as a lipid mediator for mast cells, T cells, and neural cells, suggesting that a major function of PLA1A may be the production of lysophospholipid mediators. PLA1A is upregulated in rat peripheral blood cells bearing long-term surviving cardiac allograft. PLA1A is also expressed in human THP-1-derived macrophages and this expression is upregulated in cells treated with lipopolysaccharide, a TLR4 ligand. This upregulation is inhibited with corticosteroids, which are often used at high dosages to suppress chronic allograft rejection.

References

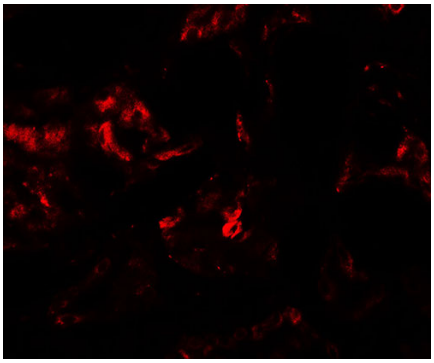
Sato T, Aoki J, Nagai Y, et al. Serine phospholipid-specific phospholipase A that is secreted from activated platelets. A new member of the lipase family. J. Biol. Chem. 1997; 272:2192-8.
Aoki J, Nagai Y, Hosono H, et al. Structure and function of phosphatidylserine-specific phospholipase A1. Biochim. Biophys. Acta 2002; 1582:26-32.
Hosono H, Homma M, Ogasawa Y, et al. Expression of phosphatidylserine-specific phospholipase A(1) mRNA in human THP-1-derived macrophages. Cell Transplant. 2010; 19:759-64.

Images



Western blot analysis of PLA1A in human kidney tissue lysate with PLA1A antibody at (A) 1 and (B) 2 µg/mL.

Immunofluorescence of PLA1A in human kidney tissue with PLA1A antibody at 20 µg/mL.



Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.