

PLA1A Antibody
Catalog # ASC11558**Specification****PLA1A Antibody - 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	50 kDa KDa
Application Notes	PLA1A antibody can be used for detection of PLA1A by Western blot at 1 - 2 µg/mL. For immunofluorescence start at 20 µg/mL.

PLA1A Antibody - Additional InformationGene ID **51365****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.

PLA1A Antibody - Protein InformationName 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}.

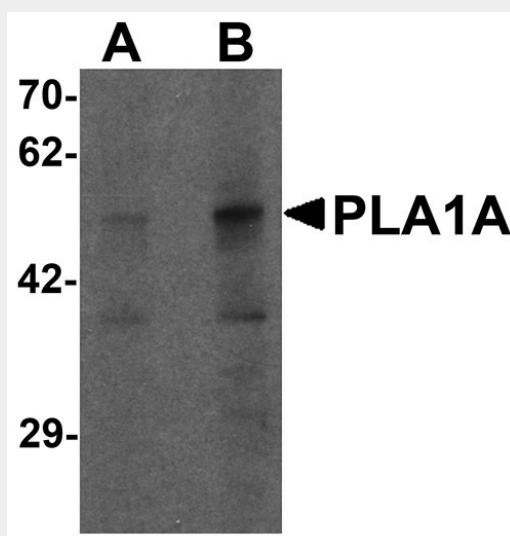
Tissue Location

Widely expressed. Expressed in placenta, prostate and liver. Weakly or not expressed in skin, leukocytes, platelets, colon, spleen, lung, muscle and kidney.

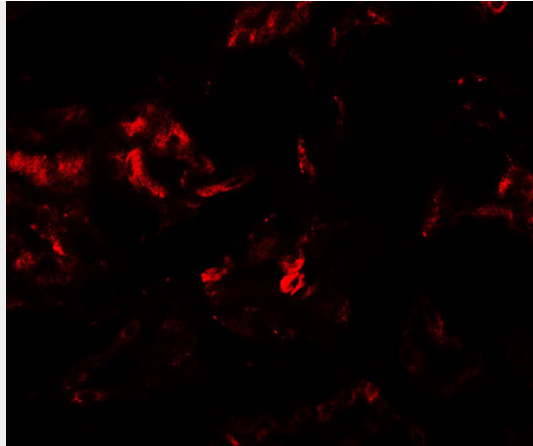
PLA1A Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

PLA1A Antibody - 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 $\mu\text{g/mL}$.

PLA1A Antibody - 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.

PLA1A Antibody - 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.