

PLA2G4A Antibody (Center)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8510c

Specification

PLA2G4A Antibody (Center) - Product Information

Application	IF, WB, IHC-P, FC,E
Primary Accession	P47712
Other Accession	P50393 , Q9TT38 , P47713 , P50392 , P49147 , O77793
Reactivity	Human
Predicted	Chicken, Zebrafish, Horse, Mouse, Rabbit, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	85239
Antigen Region	513-541

PLA2G4A Antibody (Center) - Additional Information

Gene ID 5321

Other Names

Cytosolic phospholipase A2, cPLA2, Phospholipase A2 group IVA, Phospholipase A2, Phosphatidylcholine 2-acylhydrolase, Lysophospholipase, PLA2G4A, CPLA2, PLA2G4

Target/Specificity

This PLA2G4A antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 513-541 amino acids from the Central region of human PLA2G4A.

Dilution

IF~~1:10~50
WB~~1:1000
IHC-P~~1:10~50
FC~~1:10~50

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

PLA2G4A Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

PLA2G4A Antibody (Center) - Protein Information

Name PLA2G4A

Synonyms CPLA2, PLA2G4

Function Has primarily calcium-dependent phospholipase and lysophospholipase activities, with a major role in membrane lipid remodeling and biosynthesis of lipid mediators of the inflammatory response (PubMed:[7794891](#), PubMed:[8619991](#), PubMed:[8702602](#), PubMed:[9425121](#), PubMed:[10358058](#), PubMed:[14709560](#), PubMed:[16617059](#), PubMed:[17472963](#), PubMed:[27642067](#), PubMed:[18451993](#)). Plays an important role in embryo implantation and parturition through its ability to trigger prostanoid production (By similarity). Preferentially hydrolyzes the ester bond of the fatty acyl group attached at sn-2 position of phospholipids (phospholipase A2 activity) (PubMed:[7794891](#), PubMed:[8619991](#), PubMed:[9425121](#), PubMed:[10358058](#), PubMed:[17472963](#), PubMed:[18451993](#)). Selectively hydrolyzes sn-2 arachidonoyl group from membrane phospholipids, providing the precursor for eicosanoid biosynthesis via the cyclooxygenase pathway (PubMed:[18451993](#), PubMed:[7794891](#), PubMed:[9425121](#), PubMed:[10358058](#), PubMed:[17472963](#)). In an alternative pathway of eicosanoid biosynthesis, hydrolyzes sn-2 fatty acyl chain of eicosanoid lysophospholipids to release free bioactive eicosanoids (PubMed:[27642067](#)). Hydrolyzes the ester bond of the fatty acyl group attached at sn-1 position of phospholipids (phospholipase A1 activity) only if an ether linkage rather than an ester linkage is present at the sn-2 position. This hydrolysis is not stereospecific (PubMed:[7794891](#)). Has calcium-independent phospholipase A2 and lysophospholipase activities in the presence of phosphoinositides (PubMed:[12672805](#)). Has O-acyltransferase activity. Catalyzes the transfer of fatty acyl chains from phospholipids to a primary hydroxyl group of glycerol (sn-1 or sn-3), potentially contributing to monoacylglycerol synthesis (PubMed:[7794891](#)).

Cellular Location

Cytoplasm. Golgi apparatus membrane. Nucleus envelope Note=Translocates to intracellular membranes in a calcium-dependent way.

Tissue Location

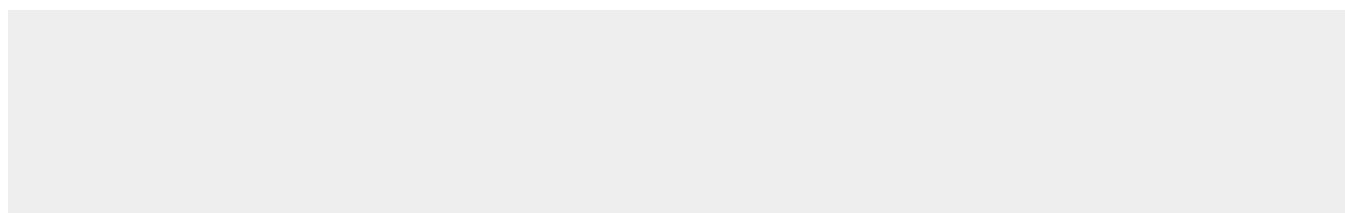
Expressed in various cells and tissues such as macrophages, neutrophils, fibroblasts and lung endothelium. Expressed in platelets (at protein level) (PubMed:25102815)

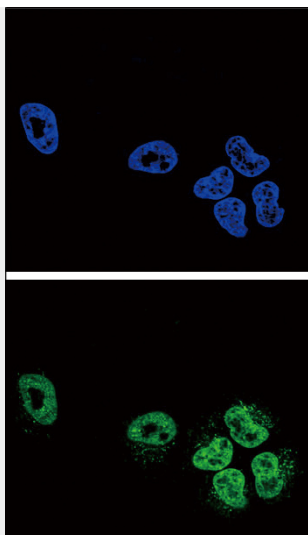
PLA2G4A Antibody (Center) - Protocols

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

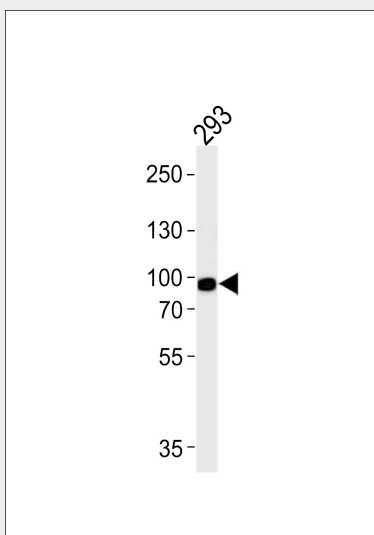
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

PLA2G4A Antibody (Center) - Images

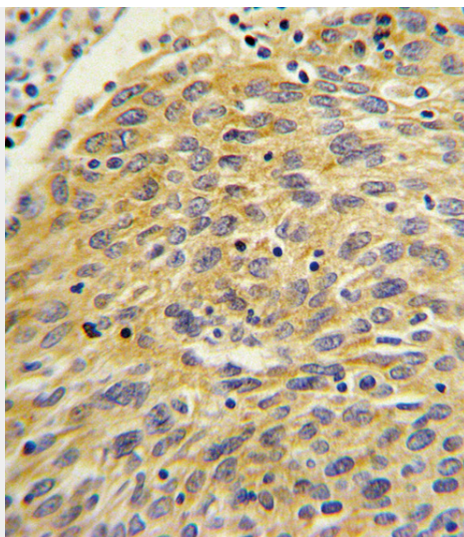




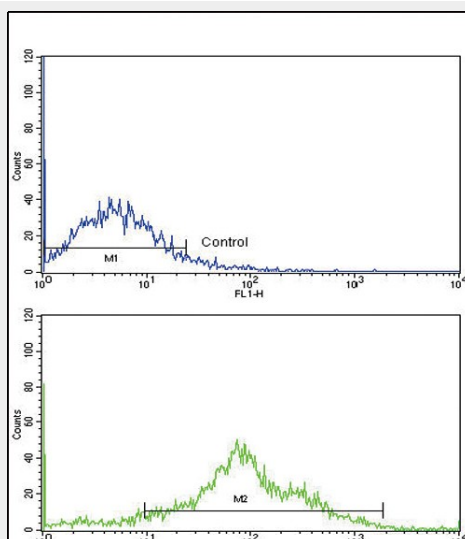
Confocal immunofluorescent analysis of PLA2G4A Antibody (Center)(Cat. #AP8510c) with NCI-H460 cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green). DAPI was used to stain the cell nuclear (blue).



Western blot analysis of lysate from 293 cell line, using PLA2G4A Antibody (Center) (Cat. #AP8510c). AP8510c was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysate at 35ug.



Formalin-fixed and paraffin-embedded human lung carcinoma with PLA2G4A Antibody (Center), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Flow cytometric analysis of NCI-H292 cells using PLA2G4A Antibody (Center)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

PLA2G4A Antibody (Center) - Background

PLA2G4A is a member of the cytosolic phospholipase A2 group IV family. The enzyme catalyzes the hydrolysis of membrane phospholipids to release arachidonic acid which is subsequently metabolized into eicosanoids. Eicosanoids, including prostaglandins and leukotrienes, are lipid-based cellular hormones that regulate hemodynamics, inflammatory responses, and other intracellular pathways. The hydrolysis reaction also produces lysophospholipids that are converted into platelet-activating factor. The enzyme is activated by increased intracellular Ca^{2+} levels and phosphorylation, resulting in its translocation from the cytosol and nucleus to perinuclear membrane vesicles.

PLA2G4A Antibody (Center) - References

Sharp, J.D., et.al., J. Biol. Chem. 266 (23), 14850-14853 (1991)
Clark, J.D., et.al., Cell 65 (6), 1043-1051 (1991)