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Anti-PLA2G4A Antibody

Catalog # AP60039

Product Information

Application	WB, IHC, IF/IC
Primary Accession	P47712
Reactivity	Human, Mouse, Rat, Mk
Host	Rabbit
Clonality	Polyclonal
Calculated MW	85239

Additional Information

Gene ID	5321
Other Names	CPLA2; PLA2G4; Cytosolic phospholipase A2; cPLA2; Phospholipase A2 group IVA
Target/Specificity	KLH-conjugated synthetic peptide encompassing a sequence within the center region of human PLA2G4A. The exact sequence is proprietary.
Dilution	WB~~WB (1/500 - 1/1000), IHC (1/100 - 1/200), IF/IC (1/100 - 1/500) IHC~~WB (1/500 - 1/1000), IHC (1/100 - 1/200), IF/IC (1/100 - 1/500) IF/IC~~N/A
Format	Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.01% sodium azide.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

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:10358058, PubMed:14709560, PubMed:16617059, PubMed:17472963, PubMed:18451993, PubMed:27642067, PubMed:7794891, PubMed:8619991, PubMed:8702602, PubMed:9425121). 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:10358058, PubMed:17472963, PubMed:18451993, PubMed:7794891, PubMed:8619991, PubMed:9425121). Selectively hydrolyzes sn-2 arachidonoyl group from membrane phospholipids, providing

the precursor for eicosanoid biosynthesis via the cyclooxygenase pathway (PubMed:10358058, PubMed:17472963, PubMed:18451993, PubMed:7794891, PubMed:9425121). 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).

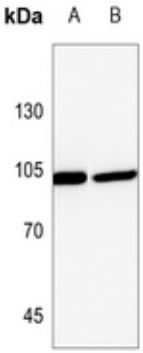
Cellular Location

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

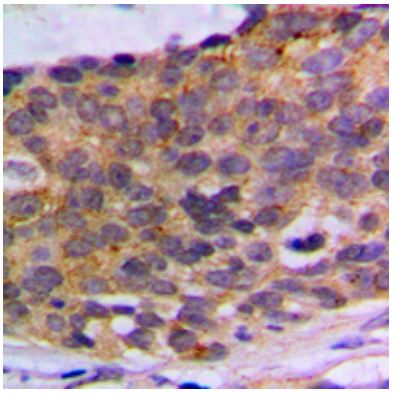
Tissue Location

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

Images

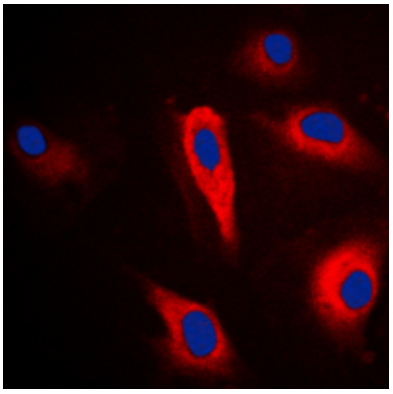


Western blot analysis of PLA2G4A expression in mouse kidney (A), rat kidney (B) whole cell lysates. (Predicted band size: 85 kD; Observed band size: 98 kD)

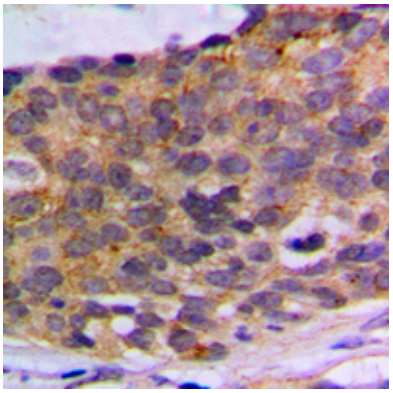


Immunohistochemical analysis of PLA2G4A staining in human breast cancer formalin fixed paraffin embedded tissue section. The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0). The section was then incubated with the antibody at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.

Immunofluorescent analysis of PLA2G4A staining in HeLa cells. Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS for 5-10 minutes and blocked with 3% BSA-PBS for 30 minutes at room temperature. Cells were probed with the primary antibody in 3% BSA-PBS and incubated overnight at 4 °C in a humidified chamber. Cells were washed with PBST and incubated with a DyLight 594-conjugated secondary antibody (red) in PBS



at room temperature in the dark. DAPI was used to stain the cell nuclei (blue).



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