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Anti-PLA2G4A Antibody

Catalog # ABO11354

Product Information

Application	WB
Primary Accession	P47712
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Cytosolic phospholipase A2(PLA2G4A) detection. Tested with WB in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	5321
Other Names	Cytosolic phospholipase A2, cPLA2, Phospholipase A2 group IVA, Phospholipase A2, 3.1.1.4, Phosphatidylcholine 2-acylhydrolase, Lysophospholipase, 3.1.1.5, PLA2G4A, CPLA2, PLA2G4
Calculated MW	85239
Application Details	Western blot, 0.1-0.5 □g/ml, Human, Rat, Mouse
Subcellular Localization	Cytoplasm. Cytoplasmic vesicle. Translocates to membrane vesicles in a calcium-dependent fashion.
Tissue Specificity	Expressed in various tissues such as macrophages, platelets, neutrophils, fibroblasts and lung endothelium.
Source	Eukaryota
Protein Name	Cytosolic phospholipase A2
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human PLA2G4A (686-700aa PNQAFKRLHDLMHFN), different from the related rat and mouse sequences by one amino acid.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins

Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated freezing and thawing.
Sequence Similarities	Contains 1 C2 domain.

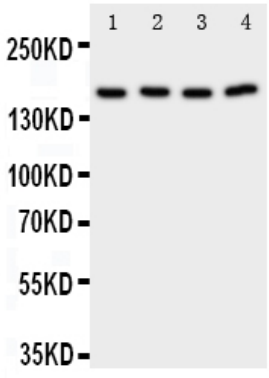
Protein Information

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)

Background

PLA2G4A(Phospholipase A2, Group IVA), is an enzyme that in humans is encoded by the PLA2G4A gene. Tay et al.(1995) mapped the PLA2G4A gene to rat chromosome 13 by PCR-based intercross genotyping and to human 1q25 by fluorescence in situ hybridization. By site-directed mutagenesis and biochemical analysis of the recombinant protein, Sharp et al.(1994) determined that ser228 participates in the catalytic mechanism of cPLA2 and that both the phospholipase A2 and the lysophospholipase activities are catalyzed by the same active site residue(s). PLA2G4A, the cytosolic phospholipase A2, appears to subserve transmembrane signaling responses to extracellular ligands(Skorecki, 1995).

Images



Anti-PLA2G4A antibody, ABO11354, Western blottingLane 1: Rat Testis Tissue LysateLane 2: Rat Brain Tissue LysateLane 3: A549 Cell LysateLane 4: COLO320 Cell Lysate

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