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PLA2G4A Antibody (Center) Blocking Peptide

Synthetic peptide
Catalog # BP8510c

Specification

PLA2G4A Antibody (Center) Blocking Peptide - Product Information

Primary Accession P47712

PLA2G4A Antibody (Center) Blocking Peptide - 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
The synthetic peptide sequence used to generate the antibody AP8510c was selected from the Center region of human PLA2G4A. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

PLA2G4A Antibody (Center) Blocking Peptide - Protein Information

PLA2G4A Antibody (Center) Blocking Peptide - 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) Blocking Peptide - 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)

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:<a href="http://www.uniprot.org/citations/10358058"

target="_blank">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 lysophopholipids 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) Blocking Peptide - Protocols

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

- Blocking Peptides