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CaIPLA2 Rabbit pAb

Catalog # AP98022

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	O60733
Other Accession	O60733
Reactivity	Rat, Mouse
Predicted	Pig, Human, Rabbit, Dog, Sheep
Host	Rabbit
Clonality	Polyclonal
Calculated MW	89903
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human CaIPLA2
Epitope Specificity	331-430/806
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 7 ANK repeats. Contains 1 patatin domain.
SUBUNIT	Forms large oligomeric 270-350 kDa structures.
DISEASE	Defects in PLA2G6 are the cause of neurodegeneration with brain iron accumulation type 2B (NBIA2B) [MIM:610217]. A neurodegenerative disorder associated with iron accumulation in the brain, primarily in the basal ganglia. It is characterized by progressive extrapyramidal dysfunction leading to rigidity, dystonia, dysarthria and sensorimotor impairment. Defects in PLA2G6 are the cause of neurodegeneration with brain iron accumulation type 2A (NBIA2A) [MIM:256600]; also known as Seitelberger disease. NBIA2A is a neurodegenerative disease characterized by pathologic axonal swelling and spheroid bodies in the central nervous system. Onset is within the first 2 years of life with death by age 10 years. Defects in PLA2G6 are the cause of Parkinson disease type 14 (PARK14) [MIM:612953]. An adult-onset progressive neurodegenerative disorder characterized by parkinsonism, dystonia, severe cognitive decline, cerebral and cerebellar atrophy and absent iron in the basal ganglia on magnetic resonance imaging.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The protein encoded by this gene is an A2 phospholipase, a class of enzyme that catalyzes the release of fatty acids from phospholipids. The encoded protein may play a role in phospholipid remodelling, arachidonic acid release, leukotriene and prostaglandin synthesis, fas-mediated apoptosis, and transmembrane ion flux in glucose-stimulated B-cells. Several transcript variants encoding multiple isoforms have been described, but the full-length nature of only three of them have been determined to date. [provided by RefSeq, Dec 2010].

Additional Information

Gene ID	8398
Other Names	CaI-PLA2; GVI; INAD1; IPLA2-VIA; NBIA2; NBIA2A; NBIA2B; PARK14; PLA2; PNPLA9; iPLA2; iPLA2beta; iPLA(2)beta; GVI PLA2; iPLA2-beta; PLPL9_HUMAN; PLA2G6; 2-lysophosphatidylcholine acylhydrolase; Group VI phospholipase A2 (GVI PLA2); Intracellular membrane-associated calcium-independent phospholipase A2 beta (iPLA2-beta); Palmitoyl-CoA hydrolase; Patatin-like phospholipase domain-containing protein 9 (PNPLA9); 3.1.1.4; PLPLA9; PLPL9_MOUSE; PLPL9_RAT; phospholipase A2 group VI; phospholipase A2, group VI (cytosolic, calcium-independent); neurodegeneration with brain iron accumulation 2
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	PLA2G6
Synonyms	PLPLA9
Function	Calcium-independent phospholipase involved in phospholipid remodeling with implications in cellular membrane homeostasis, mitochondrial integrity and signal transduction. Hydrolyzes the ester bond of the fatty acyl group attached at sn-1 or sn-2 position of phospholipids (phospholipase A1 and A2 activity respectively), producing lysophospholipids that are used in deacylation-reacylation cycles (PubMed:10092647, PubMed:10336645, PubMed:20886109, PubMed:9417066). Hydrolyzes both saturated and unsaturated long fatty acyl chains in various glycerophospholipid classes such as phosphatidylcholines, phosphatidylethanolamines and phosphatidates, with a preference for hydrolysis at sn-2 position (PubMed:10092647, PubMed:10336645, PubMed:20886109). Can further hydrolyze lysophospholipids carrying saturated fatty acyl chains (lysophospholipase activity) (PubMed:20886109). Upon oxidative stress, contributes to remodeling of mitochondrial phospholipids in pancreatic beta cells, in a repair mechanism to reduce oxidized lipid content (PubMed:23533611). Preferentially hydrolyzes oxidized polyunsaturated fatty acyl chains from cardiolipins, yielding monolysocardiolipins that can be reacylated with unoxidized fatty acyls to regenerate native cardiolipin species (By similarity). Hydrolyzes oxidized glycerophosphoethanolamines present in pancreatic islets, releasing oxidized polyunsaturated fatty acids such as hydroxyeicosatetraenoates (HETEs) (By similarity). Has thioesterase activity toward fatty-acyl CoA releasing CoA-SH known to facilitate fatty acid transport and beta- oxidation in mitochondria particularly in skeletal muscle (PubMed:20886109). Plays a role in regulation of membrane dynamics and homeostasis. Selectively hydrolyzes sn-2 arachidonoyl group in plasmalogen phospholipids, structural components of lipid rafts and myelin (By similarity). Regulates F-actin polymerization at the pseudopods, which is required for both speed and directionality of MCP1/CCL2-induced monocyte chemotaxis (PubMed:18208975). Targets membrane phospholipids to produce potent lipid signaling messengers. Generates lysophosphatidate (LPA, 1-acyl-glycerol-3-phosphate), which acts via G protein receptors in various cell types (By similarity). Has phospholipase A2 activity toward platelet-activating factor (PAF, 1-O- alkyl-2-acetyl-sn-glycero-3-phosphocholine), likely playing a role in inactivation of this potent pro-inflammatory signaling lipid (By

	similarity). In response to glucose, amplifies calcium influx in pancreatic beta cells to promote INS secretion (By similarity).
Cellular Location	Cytoplasm. Cell membrane. Mitochondrion {ECO:0000250|UniProtKB:P97819}. Cell projection, pseudopodium. Note=Recruited to the membrane-enriched pseudopods upon MCP1/CCL2 stimulation in monocytes
Tissue Location	Four different transcripts were found to be expressed in a distinct tissue distribution

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