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PIK3C2A Antibody (C-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP11855B

Product Information

Application	WB, IHC-P, E
Primary Accession	O00443
Other Accession	NP_002636.2
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB31407
Calculated MW	190680
Antigen Region	1431-1458

Additional Information

Gene ID	5286
Other Names	Phosphatidylinositol 4-phosphate 3-kinase C2 domain-containing subunit alpha, PI3K-C2-alpha, PtdIns-3-kinase C2 subunit alpha, Phosphoinositide 3-kinase-C2-alpha, PIK3C2A
Target/Specificity	This PIK3C2A antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 1431-1458 amino acids from the C-terminal region of human PIK3C2A.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
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	PIK3C2A Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PIK3C2A
Function	Generates phosphatidylinositol 3-phosphate (PtdIns3P) and phosphatidylinositol 3,4-bisphosphate (PtdIns(3,4)P2) that act as second

	messengers. Has a role in several intracellular trafficking events. Functions in insulin signaling and secretion. Required for translocation of the glucose transporter SLC2A4/GLUT4 to the plasma membrane and glucose uptake in response to insulin-mediated RHOQ activation. Regulates insulin secretion through two different mechanisms: involved in glucose-induced insulin secretion downstream of insulin receptor in a pathway that involves AKT1 activation and TBC1D4/AS160 phosphorylation, and participates in the late step of insulin granule exocytosis probably in insulin granule fusion. Synthesizes PtdIns3P in response to insulin signaling. Functions in clathrin-coated endocytic vesicle formation and distribution. Regulates dynamin-independent endocytosis, probably by recruiting EEA1 to internalizing vesicles. In neurosecretory cells synthesizes PtdIns3P on large dense core vesicles. Participates in calcium induced contraction of vascular smooth muscle by regulating myosin light chain (MLC) phosphorylation through a mechanism involving Rho kinase-dependent phosphorylation of the MLCP-regulatory subunit MYPT1. May play a role in the EGF signaling cascade. May be involved in mitosis and UV-induced damage response. Required for maintenance of normal renal structure and function by supporting normal podocyte function. Involved in the regulation of ciliogenesis and trafficking of ciliary components (PubMed:31034465).
Cellular Location	Cell membrane. Cytoplasmic vesicle, clathrin-coated vesicle. Nucleus Cytoplasm Golgi apparatus, trans-Golgi network. Note=Inserts preferentially into membranes containing PtdIns(4,5)P2 (PubMed:17038310). Associated with RNA-containing structures (PubMed:11606566)
Tissue Location	Expressed in columnar and transitional epithelia, mononuclear cells, smooth muscle cells, and endothelial cells lining capillaries and small venules (at protein level). Ubiquitously expressed, with highest levels in heart, placenta and ovary, and lowest levels in the kidney. Detected at low levels in islets of Langerhans from type 2 diabetes mellitus individuals

Background

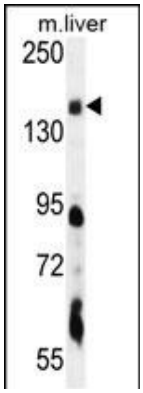
The protein encoded by this gene belongs to the phosphoinositide 3-kinase (PI3K) family. PI3-kinases play roles in signaling pathways involved in cell proliferation, oncogenic transformation, cell survival, cell migration, and intracellular protein trafficking. This protein contains a lipid kinase catalytic domain as well as a C-terminal C2 domain, a characteristic of class II PI3-kinases. C2 domains act as calcium-dependent phospholipid binding motifs that mediate translocation of proteins to membranes, and may also mediate protein-protein interactions. The PI3-kinase activity of this protein is not sensitive to nanomolar levels of the inhibitor wortmanin. This protein was shown to be able to be activated by insulin and may be involved in integrin-dependent signaling.

References

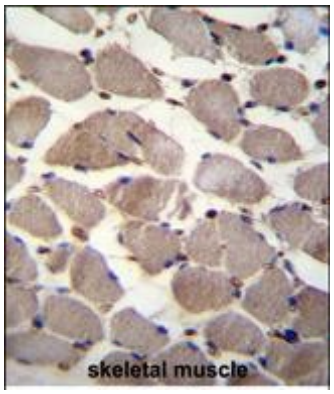
Liu, C.Y., et al. Carcinogenesis 31(7):1259-1263(2010)
Rose, J.E., et al. Mol. Med. 16 (7-8), 247-253 (2010) :
Kostakis, G.C., et al. Oral Surg Oral Med Oral Pathol Oral Radiol Endod 109 (5), E53-E58 (2010) :
Koutros, S., et al. Cancer Res. 70(6):2389-2396(2010)
Ng, S.K., et al. Biochem. Biophys. Res. Commun. 387(2):310-315(2009)

Images

PIK3C2A Antibody (C-term) (Cat. #AP11855b) western blot analysis in mouse liver tissue lysates (35ug/lane).This demonstrates the PIK3C2A antibody detected the



PIK3C2A protein (arrow).



PIK3C2A Antibody (C-term) (Cat. #AP11855b)immunohistochemistry analysis in formalin fixed and paraffin embedded human skeletal muscle followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of PIK3C2A Antibody (C-term) for immunohistochemistry. Clinical relevance has not been evaluated.

Citations

- Class II phosphatidylinositol 3-kinase α and β isoforms are required for vascular smooth muscle Rho activation, contraction and blood pressure regulation in mice
- miR-218 opposes a critical RTK-HIF pathway in mesenchymal glioblastoma.
- Class II PI3K α and β are required for Rho-dependent uterine smooth muscle contraction and parturition in mice.

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