

PI3KC2A Antibody (N-term) Blocking Peptide
Synthetic peptide
Catalog # BP8010a**Specification**

PI3KC2A Antibody (N-term) Blocking Peptide - Product Information

Primary Accession [O00443](#)
Other Accession [NP_002636](#)

PI3KC2A Antibody (N-term) Blocking Peptide - 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

The synthetic peptide sequence used to generate the antibody [AP8010a](/product/products/AP8010a) was selected from the N-term region of human PI3KC2A. 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.

PI3KC2A Antibody (N-term) Blocking Peptide - 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

PI3KC2A Antibody (N-term) Blocking Peptide - Protocols

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

- [Blocking Peptides](#)

PI3KC2A Antibody (N-term) Blocking Peptide - Images

PI3KC2A Antibody (N-term) Blocking Peptide - Background

PI3KC2A 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.

PI3KC2A Antibody (N-term) Blocking Peptide - References

Paulhe, F., et al., Biochem. Biophys. Res. Commun. 297(2):261-266 (2002).Domin, J., et al., J. Biol. Chem. 275(16):11943-11950 (2000).Brown, R.A., et al., J. Biol. Chem. 274(21):14529-14532 (1999).Zhang, J., et al., J. Biol. Chem. 273(23):14081-14084 (1998).Caldwell, G.M., et al., Cytogenet. Cell Genet. 92 (1-2), 103-107 (2001).