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PI4K2A (PI4K II) Antibody (N-term) Blocking peptide

Synthetic peptide
Catalog # BP8032a

Specification

PI4K2A (PI4K II) Antibody (N-term) Blocking peptide - Product Information

Primary Accession Q9BTU6

PI4K2A (PI4K II) Antibody (N-term) Blocking peptide - Additional Information

Gene ID 55361

Other Names
Phosphatidylinositol 4-kinase type 2-alpha, Phosphatidylinositol 4-kinase type II-alpha, PI4K2A

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP8032a was selected from the N-term region of human PI4K II . 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.

PI4K2A (PI4K II) Antibody (N-term) Blocking peptide - Protein Information

Name PI4K2A

Function
Membrane-bound phosphatidylinositol-4 kinase (PI4-kinase) that catalyzes the phosphorylation of phosphatidylinositol (PI) to phosphatidylinositol 4-phosphate (PI4P), a lipid that plays important roles in endocytosis, Golgi function, protein sorting and membrane trafficking and is required for prolonged survival of neurons. Besides, phosphorylation of phosphatidylinositol (PI) to phosphatidylinositol 4- phosphate (PI4P) is the first committed step in the generation of phosphatidylinositol 4,5-bisphosphate (PIP2), a precursor of the second messenger inositol 1,4,5-trisphosphate (InsP3).

Cellular Location
Golgi apparatus, trans-Golgi network membrane; Lipid-anchor. Membrane raft. Cell projection, dendrite {ECO:0000250|UniProtKB:Q2TBE6}. Presynaptic cell membrane {ECO:0000250|UniProtKB:Q2TBE6}. Synapse, synaptosome {ECO:0000250|UniProtKB:Q2TBE6}.

Mitochondrion {ECO:0000250|UniProtKB:Q2TBE6}. Endosome. Cytoplasmic vesicle. Membrane; Lipid-anchor. Cell membrane. Perikaryon {ECO:0000250|UniProtKB:Q2TBE6}. Cell projection, neuron projection {ECO:0000250|UniProtKB:Q2TBE6}. Note=Found in subdomains of the plasma membrane termed non-caveolar membrane rafts. Transported from neuronal cell body to neuron projections and neurite tips in a BLOC-1- and AP-3- complexes-dependent manner. {ECO:0000250|UniProtKB:Q2TBE6}

Tissue Location
Widely expressed. Highest expression is observed in kidney, brain, heart, skeletal muscle, and placenta and lowest expression is observed in colon, thymus, and small intestine

PI4K2A (PI4K II) Antibody (N-term) Blocking peptide - Protocols

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

- Blocking Peptides

PI4K2A (PI4K II) Antibody (N-term) Blocking peptide - Images

PI4K2A (PI4K II) Antibody (N-term) Blocking peptide - Background

Phosphatidylinositolpolyphosphates (PtdInsPs) are centrally involved in many biologic processes, ranging from cell growth and organization of the actin cytoskeleton to endo- and exocytosis. PI4KII phosphorylates PtdIns at the D-4 position, an essential step in the biosynthesis of PtdInsPs. PI4K II is activated by detergent and inhibited by adenosine. Overexpression of PI4KII in COS-7 cells increases synthesis of PtdIns4P. Some cells overexpressing PI4KII have scattered or no perinuclear Golgi. Knockdown of PI4KII by RNA interference (RNAi) does not disrupt the Golgi, and some cells show expanded Golgi. RNAi reduces the Golgi level of PtdIns4P and blocks the association between AP1 and the trans-Golgi network. PI4KII RNAi had little effect on intra-Golgi trafficking, but it inhibited export to plasma membrane export by 35%. It has been proposed that PI4KII generates PtdIns4P-rich domains within the Golgi that specify docking of the AP1 coat machinery.

PI4K2A (PI4K II) Antibody (N-term) Blocking peptide - References

Wang, Y.J., et al., Cell 114(3):299-310 (2003).Minogue, S., et al., J. Biol. Chem. 276(20):16635-16640 (2001).Barylko, B., et al., J. Biol. Chem. 276(11):7705-7708 (2001).Waugh, M.G., et al., Biochem. J. 373 (Pt 1), 57-63 (2003).