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Phospho-PIK3CG(S1100) Antibody Blocking peptide
Synthetic peptide
Catalog # BP3464a

Specification

Phospho-PIK3CG(S1100) Antibody Blocking peptide - Product Information

Primary Accession P48736

Phospho-PIK3CG(S1100) Antibody Blocking peptide - Additional Information

Gene ID 5294

Other Names
Phosphatidylinositol 4, 5-bisphosphate 3-kinase catalytic subunit gamma isoform, PI3-kinase subunit gamma, PI3K-gamma, PI3Kgamma, PtdIns-3-kinase subunit gamma, Phosphatidylinositol 4, 5-bisphosphate 3-kinase 110 kDa catalytic subunit gamma, PtdIns-3-kinase subunit p110-gamma, p110gamma, Phosphoinositide-3-kinase catalytic gamma polypeptide, Serine/threonine protein kinase PIK3CG, p120-PI3K, PIK3CG

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP3464a was selected from the region of human Phospho-PIK3CG-S1100. 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.

Phospho-PIK3CG(S1100) Antibody Blocking peptide - Protein Information

Name PIK3CG

Function
Phosphoinositide-3-kinase (PI3K) that phosphorylates PtdIns(4,5)P2 (Phosphatidylinositol 4,5-bisphosphate) to generate phosphatidylinositol 3,4,5-trisphosphate (PIP3). PIP3 plays a key role by recruiting PH domain-containing proteins to the membrane, including AKT1 and PDPK1, activating signaling cascades involved in cell growth, survival, proliferation, motility and morphology. Links G-protein coupled receptor activation to PIP3 production. Involved in immune, inflammatory and allergic responses. Modulates leukocyte chemotaxis to inflammatory sites and in response to chemoattractant agents. May control leukocyte polarization and migration by regulating the spatial accumulation of PIP3 and by regulating the organization of F-actin formation

and integrin-based adhesion at the leading edge. Controls motility of dendritic cells. Together with PIK3CD is involved in natural killer (NK) cell development and migration towards the sites of inflammation. Participates in T-lymphocyte migration. Regulates T- lymphocyte proliferation, activation, and cytokine production. Together with PIK3CD participates in T-lymphocyte development. Required for B- lymphocyte development and signaling. Together with PIK3CD participates in neutrophil respiratory burst. Together with PIK3CD is involved in neutrophil chemotaxis and extravasation. Together with PIK3CB promotes platelet aggregation and thrombosis. Regulates alpha-IIb/beta-3 integrins (ITGA2B/ ITGB3) adhesive function in platelets downstream of P2Y12 through a lipid kinase activity-independent mechanism. May have also a lipid kinase activity-dependent function in platelet aggregation. Involved in endothelial progenitor cell migration. Negative regulator of cardiac contractility. Modulates cardiac contractility by anchoring protein kinase A (PKA) and PDE3B activation, reducing cAMP levels. Regulates cardiac contractility also by promoting beta-adrenergic receptor internalization by binding to GRK2 and by non- muscle tropomyosin phosphorylation. Also has serine/threonine protein kinase activity: both lipid and protein kinase activities are required for beta-adrenergic receptor endocytosis. May also have a scaffolding role in modulating cardiac contractility. Contributes to cardiac hypertrophy under pathological stress. Through simultaneous binding of PDE3B to RAPGEF3 and PIK3R6 is assembled in a signaling complex in which the PI3K gamma complex is activated by RAPGEF3 and which is involved in angiogenesis.

Cellular Location
Cytoplasm. Cell membrane

Tissue Location
Pancreas, skeletal muscle, liver and heart.

Phospho-PIK3CG(S1100) Antibody Blocking peptide - Protocols

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

- Blocking Peptides

Phospho-PIK3CG(S1100) Antibody Blocking peptide - Images

Phospho-PIK3CG(S1100) Antibody Blocking peptide - Background

PIK3CG belongs to the pi3/pi4-kinase family of proteins. It is an enzyme that phosphorylates phosphoinositides on the 3-hydroxyl group of the inositol ring. It is an important modulator of extracellular signals, including those elicited by E-cadherin-mediated cell-cell adhesion, which plays an important role in maintenance of the structural and functional integrity of epithelia. In addition to its role in promoting assembly of adherens junctions, the protein is thought to play a pivotal role in the regulation of cytotoxicity in NK cells. The gene for this protein is located in a commonly deleted segment of chromosome 7 previously identified in myeloid leukemias.

Phospho-PIK3CG(S1100) Antibody Blocking peptide - References

Andreozzi, F., et al., Endocrinology 145(6):2845-2857 (2004).Reddy, S.A., et al., Biochem. Biophys. Res. Commun. 316(4):1022-1028 (2004).Osaki, M., et al., J. Cancer Res. Clin. Oncol. 130(1):8-14 (2004).Khan, N.A., et al., J. Neurovirol. 9(6):584-593 (2003).Theberge, J.F., et al., Arch. Biochem. Biophys. 420(1):9-17 (2003).