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PIK3CD (Center Y524) Blocking peptide
Synthetic peptide
Catalog # BP19523c

Specification

PIK3CD (Center Y524) Blocking peptide - Product Information

Primary Accession O00329

PIK3CD (Center Y524) Blocking peptide - Additional Information

Gene ID 5293

Other Names
Phosphatidylinositol 4, 5-bisphosphate 3-kinase catalytic subunit delta isoform, PI3-kinase subunit delta, PI3K-delta, PI3Kdelta, PtdIns-3-kinase subunit delta, Phosphatidylinositol 4, 5-bisphosphate 3-kinase 110 kDa catalytic subunit delta, PtdIns-3-kinase subunit p110-delta, p110delta, PIK3CD

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.

PIK3CD (Center Y524) Blocking peptide - Protein Information

Name PIK3CD

Function
Phosphoinositide-3-kinase (PI3K) phosphorylates phosphatidylinositol (PI) and its phosphorylated derivatives at position 3 of the inositol ring to produce 3-phosphoinositides (PubMed:9235916). Uses ATP and PtdIns(4,5)P2 (phosphatidylinositol 4,5- bisphosphate) to generate phosphatidylinositol 3,4,5-trisphosphate (PIP3) (PubMed:15135396). 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. Mediates immune responses. Plays a role in B-cell development, proliferation, migration, and function. Required for B-cell receptor (BCR) signaling. Mediates B-cell proliferation response to anti-IgM, anti-CD40 and IL4 stimulation. Promotes cytokine production in response to TLR4 and TLR9. Required for antibody class switch mediated by TLR9. Involved in the antigen presentation function of B-cells. Involved in B-cell chemotaxis in response to CXCL13 and sphingosine 1-phosphate (S1P). Required for proliferation, signaling and cytokine production of naive, effector and memory T-cells. Required for T-cell receptor (TCR) signaling. Mediates TCR signaling events at the immune synapse. Activation by TCR leads to antigen-dependent memory T-cell migration and retention to antigenic tissues. Together

with PIK3CG participates in T-cell development. Contributes to T-helper cell expansion and differentiation. Required for T-cell migration mediated by homing receptors SELL/CD62L, CCR7 and S1PR1 and antigen dependent recruitment of T-cells. Together with PIK3CG is involved in natural killer (NK) cell development and migration towards the sites of inflammation. Participates in NK cell receptor activation. Plays a role in NK cell maturation and cytokine production. Together with PIK3CG is involved in neutrophil chemotaxis and extravasation. Together with PIK3CG participates in neutrophil respiratory burst. Plays important roles in mast-cell development and mast cell mediated allergic response. Involved in stem cell factor (SCF)-mediated proliferation, adhesion and migration. Required for allergen-IgE-induced degranulation and cytokine release. The lipid kinase activity is required for its biological function. Isoform 2 may be involved in stabilizing total RAS levels, resulting in increased ERK phosphorylation and increased PI3K activity.

Cellular Location
Cytoplasm.

Tissue Location
In humans, the highest levels of expression are seen in peripheral blood mononuclear cells, spleen, and thymus, and low levels of expression in testes, uterus, colon, and small intestine but not in other tissues examined including prostate, heart, brain, and liver (PubMed:9235916). Isoform 2 is expressed in normal thymus, lung and spleen tissues, and is detected at low levels in normal lysates from colon and ovarian biopsies, at elevated levels in lysates from colorectal tumors and is abundantly expressed in some ovarian tumors (at protein level). Both isoform 1 and isoform 2 are widely expressed Isoform 1 is expressed predominantly in leukocytes

PIK3CD (Center Y524) Blocking peptide - Protocols

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

- Blocking Peptides

PIK3CD (Center Y524) Blocking peptide - Images

PIK3CD (Center Y524) Blocking peptide - Background

Phosphoinositide 3-kinases (PI3Ks) phosphorylate inositollipids and are involved in the immune response. The protein encodedby this gene is a class I PI3K found primarily in leukocytes. Likeother class I PI3Ks (p110-alpha p110-beta, and p110-gamma), theencoded protein binds p85 adapter proteins and GTP-bound RAS.However, unlike the other class I PI3Ks, this proteinphosphorylates itself, not p85 protein.

PIK3CD (Center Y524) Blocking peptide - References

Bailey, S.D., et al. Diabetes Care 33(10):2250-2253(2010)Ruano, G., et al. Pharmacogenomics 11(7):959-971(2010)Marwick, J.A., et al. J. Allergy Clin. Immunol. 125(5):1146-1153(2010)Koutros, S., et al. Cancer Res. 70(6):2389-2396(2010)Williams, O., et al. Chem. Biol. 17(2):123-134(2010)