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Phospho-PIK3CD(Y524) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3463a

Product Information

Application	DB, E
Primary Accession	O00329
Other Accession	O35904
Reactivity	Human
Predicted	Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB13317
Calculated MW	119479

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
Target/Specificity	This PIK3CD Antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding Y524 of human PIK3CD.
Dilution	DB~~1:500 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	Phospho-PIK3CD(Y524) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

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

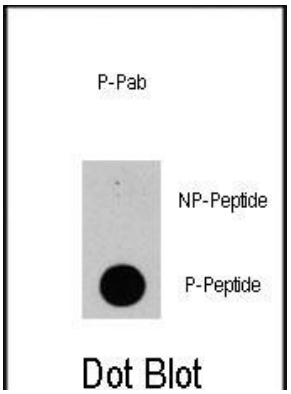
Background

Phosphoinositide 3-kinases (PI3Ks) phosphorylate the 3-prime OH position of the inositol ring of inositol lipids. See MIM 602838. The class I PI3Ks display a broad phosphoinositide lipid substrate specificity and include p110-alpha , p110-beta, and p110-gamma. p110-alpha and p110-beta interact with SH2/SH3-domain-containing p85 adaptor proteins and with GTP-bound Ras.

References

Khan, N.A., et al., J. Neurovirol. 9(6):584-593 (2003). Sadhu, C., et al., J. Immunol. 170(5):2647-2654 (2003). Deregibus, M.C., et al., J. Biol. Chem. 277(28):25195-25202 (2002). Cook, J.A., et al., J. Immunol. 169(1):254-260 (2002). Zauli, G., et al., FASEB J. 15(2):483-491 (2001).

Images



Dot blot analysis of anti-PIK3CD-pY524 Phospho-specific Pab (RB13317) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0.5ug per ml.