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PI4KCB Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8030a

Product Information

Application	WB, IHC-P, E
Primary Accession	Q9UBF8
Other Accession	O08561, Q8BKC8, O02810, Q5VWB9
Reactivity	Human
Predicted	Bovine, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB1676
Calculated MW	91379
Antigen Region	20-51

Additional Information

Gene ID	5298
Other Names	Phosphatidylinositol 4-kinase beta, PI4K-beta, PI4Kbeta, PtdIns 4-kinase beta, NPIK, PI4K92, PI4KB, PIK4CB
Target/Specificity	This PI4KCB antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 20-51 amino acids from the N-terminal region of human PI4KCB.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	PI4KCB Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PI4KB (HGNC:8984)
Synonyms	PIK4CB

Function	Phosphorylates phosphatidylinositol (PI) in the first committed step in the production of the second messenger inositol- 1,4,5,-trisphosphate (PIP). May regulate Golgi disintegration/reorganization during mitosis, possibly via its phosphorylation. Involved in Golgi-to-plasma membrane trafficking (By similarity) (PubMed:10559940, PubMed:11277933, PubMed:12749687, PubMed:9405935). May play an important role in the inner ear development.
Cellular Location	Endomembrane system. Mitochondrion outer membrane; Peripheral membrane protein. Rough endoplasmic reticulum membrane; Peripheral membrane protein. Golgi apparatus. Golgi apparatus membrane. Cytoplasm, perinuclear region. Note=Found in the outer membrane of mitochondria and membranes of the rough endoplasmic reticulum. Recruited to the Golgi complex by the small GTPase ARF to stimulate the synthesis of phosphatidylinositol 4,5- bisphosphate (PIP2) on the Golgi complex. Recruited to the Golgi apparatus membrane by ACBD3 (PubMed:24672044, PubMed:27009356, PubMed:28289207). GGA2 is also involved in the recruitment (PubMed:28289207).
Tissue Location	Widely expressed with highest levels in heart, skeletal muscle, pancreas, testis and ovary. Weakly expressed in liver (PubMed:9020160, PubMed:9405935, PubMed:9405938). Expressed in the innear ear in the epithelium of the spinal organ of corti

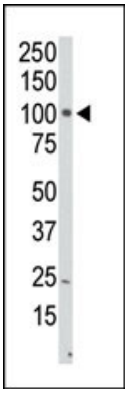
Background

Phosphoinositides are pivotal precursors to important second messengers and as signaling and molecules. Phosphatidylinositol 4-kinases (PI4Ks) are are crucial regulators of the phosphoinsitide cascade. PI4KCB is a wortmannin-sensitive PI 4-kinase responsible for regulating the synthesis of agonist-sensitive pools of polyphosphoinositides. The cellular reservoir of PI4KCB is predominantly cytosolic, however the protein is is activated strongly by recruitment to the membrane to stimulate phosphatidylinositol 4,5-bisphosphate synthesis at the plasma membrane. PI4KCB contains an N-terminal lipid kinase unique domain, which is shared by members of both the PI3 kinase and PI4 kinase families, and a C-terminal catalytic domain, which defines this protein as a member of a much larger protein/lipid kinase family.

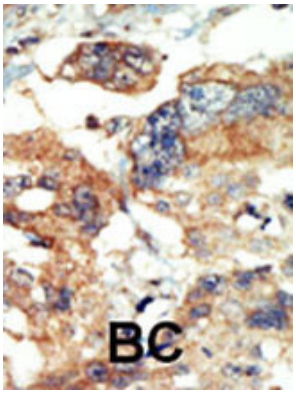
References

Wei, Y.J., et al., J. Biol. Chem. 277(48):46586-46593 (2002).
Balla, A., et al., J. Biol. Chem. 277(22):20041-20050 (2002).
Sorensen, S.D., et al., Mol. Pharmacol. 53(5):827-836 (1998).
Saito, T., et al., DNA Res. 4(4):301-305 (1997).
Suzuki, K., et al., DNA Res. 4(4):273-280 (1997).

Images



Western blot analysis of anti-PI4KCB Pab (Cat. #AP8030a) in A375 cell lysate. PI4KCB (arrow) was detected using purified Pab. Secondary HRP-anti-rabbit was used for signal visualization with chemiluminescence.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Citations

- Phosphatidylinositol 4-kinase III beta is essential for replication of human rhinovirus and its inhibition causes a lethal phenotype in vivo.