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PK3CA Antibody (Y317)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP7860a

Specification

PK3CA Antibody (Y317) - Product Information

Application	**WB, IHC-P, FC,E**
Primary Accession	P42336
Other Accession	P42337, P32871, A0A0G2K344
Reactivity	**Human**
Predicted	**Bovine, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**292-321**

PK3CA Antibody (Y317) - Additional Information

Gene ID 5290

Other Names
Phosphatidylinositol 4, 5-bisphosphate 3-kinase catalytic subunit alpha isoform, PI3-kinase subunit alpha, PI3K-alpha, PI3Kalpha, PtdIns-3-kinase subunit alpha, Phosphatidylinositol 4, 5-bisphosphate 3-kinase 110 kDa catalytic subunit alpha, PtdIns-3-kinase subunit p110-alpha, p110alpha, Phosphoinositide-3-kinase catalytic alpha polypeptide, Serine/threonine protein kinase PIK3CA, PIK3CA

Target/Specificity
This PK3CA antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 292-321 amino acids from human PK3CA.

Dilution
WB~~1:1000
IHC-P~~1:50~100
FC~~1:10~50

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
PK3CA Antibody (Y317) is for research use only and not for use in diagnostic or therapeutic procedures.

PK3CA Antibody (Y317) - Protein Information

Name PIK3CA

Function Phosphoinositide-3-kinase (PI3K) phosphorylates phosphatidylinositol (PI) and its phosphorylated derivatives at position 3 of the inositol ring to produce 3-phosphoinositides (PubMed:15135396, PubMed:23936502, PubMed:28676499). Uses ATP and PtdIns(4,5)P2 (phosphatidylinositol 4,5-bisphosphate) to generate phosphatidylinositol 3,4,5-trisphosphate (PIP3) (PubMed:15135396, PubMed:28676499). 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. Participates in cellular signaling in response to various growth factors. Involved in the activation of AKT1 upon stimulation by receptor tyrosine kinases ligands such as EGF, insulin, IGF1, VEGFA and PDGF. Involved in signaling via insulin-receptor substrate (IRS) proteins. Essential in endothelial cell migration during vascular development through VEGFA signaling, possibly by regulating RhoA activity. Required for lymphatic vasculature development, possibly by binding to RAS and by activation by EGF and FGF2, but not by PDGF. Regulates invadopodia formation through the PDPK1-AKT1 pathway. Participates in cardiomyogenesis in embryonic stem cells through a AKT1 pathway. Participates in vasculogenesis in embryonic stem cells through PDK1 and protein kinase C pathway. In addition to its lipid kinase activity, it displays a serine-protein kinase activity that results in the autophosphorylation of the p85alpha regulatory subunit as well as phosphorylation of other proteins such as 4EBP1, H-Ras, the IL-3 beta c receptor and possibly others (PubMed:23936502, PubMed:28676499). Plays a role in the positive regulation of phagocytosis and pinocytosis (By similarity).

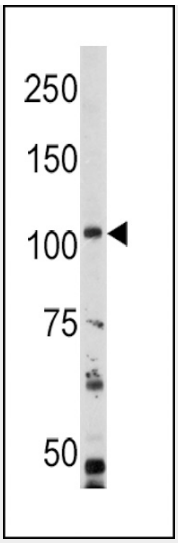
PK3CA Antibody (Y317) - Protocols

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

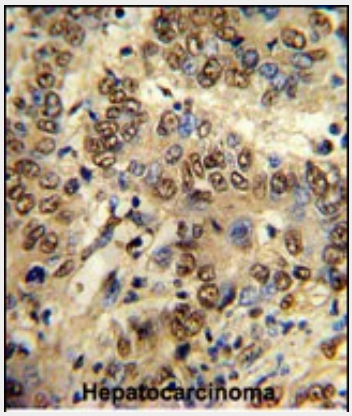
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

PK3CA Antibody (Y317) - Images

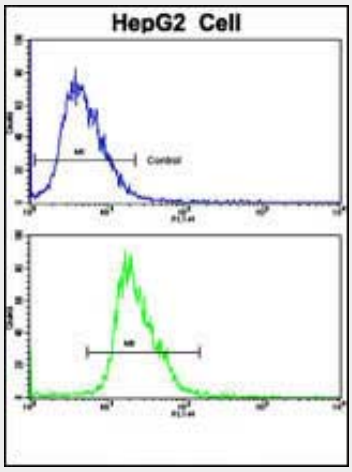
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Western blot analysis of anti-PK3CA Antibody (Y317) (Cat.#AP7860a) in mouse heart tissue lysates (35ug/lane). PK3CA (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human hepatocarcinoma reacted with PK3CA Antibody (Y317), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Flow cytometric analysis of HepG2 cells using PK3CA Antibody (Y317)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

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PK3CA Antibody (Y317) - Background

Phosphatidylinositol 3-kinase is composed of an 85 kDa regulatory subunit and a 110 kDa catalytic subunit. This protein represents the catalytic subunit, which uses ATP to phosphorylate PtdIns, PtdIns4P and PtdIns(4,5)P2.

PK3CA Antibody (Y317) - References

Zhao,L., Oncogene 27 (41), 5486-5496 (2008)
Volinia,S., Genomics 24 (3), 472-477 (1994)
Hiles,I.D., Cell 70 (3), 419-429 (1992)