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PI3KCA Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8016C

Product Information

Application	WB, E
Primary Accession	P42336
Other Accession	Q14CW1
Reactivity	Human, Rat, Mouse
Predicted	Bovine, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB11623
Calculated MW	124284
Antigen Region	504-533

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 PI3KCA antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 504-533 amino acids from the Central region of human PI3KCA.
Dilution	WB~~1:1000 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	PI3KCA Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

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).

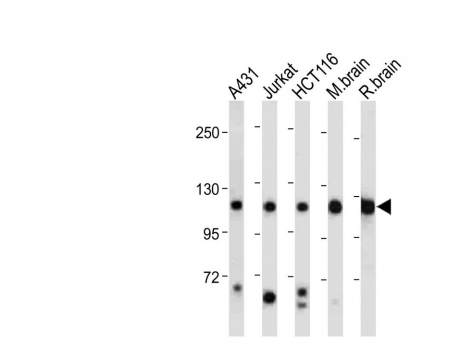
Background

Phosphatidylinositol 3-kinase is composed of an 85 kDa regulatory subunit and a 110 kDa catalytic subunit. The protein encoded by this gene represents the catalytic subunit, which uses ATP to phosphorylate PtdIns, PtdIns4P and PtdIns(4,5)P2. This gene has been found to be oncogenic and has been implicated in cervical cancers.

References

Tiwari, S. Nat Immunol. August; 10(8): 907?17 (2009).
Ballou, L.M., et al., J. Biol. Chem. 278(26):23472-23479 (2003).
Singh, B., et al., Genes Dev. 16(8):984-993 (2002).
Shayesteh, L., et al., Nat. Genet. 21(1):99-102 (1999).
Volinia, S., et al., Genomics 24(3):472-477 (1994).
Hiles, I.D., et al., Cell 70(3):419-429 (1992).

Images



All lanes : Anti-PI3KCA Antibody (Center) at 1:2000 dilution Lane 1: A431 whole cell lysate Lane 2: Jurkat whole cell lysate Lane 3: HCT116 whole cell lysate Lane 4: Mouse brain tissue lysate Lane 5: Rat brain tissue lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 124 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

Citations

- Integrin α6/Akt/Erk signaling is essential for human breast cancer resistance to radiotherapy.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.