

PIK3CA / PI3K Alpha Antibody (Internal)
Goat Polyclonal Antibody
Catalog # ALS12269**Specification**

PIK3CA / PI3K Alpha Antibody (Internal) - Product Information

Application	IHC
Primary Accession	P42336
Reactivity	Human, Mouse, Rat, Rabbit, Hamster, Monkey, Horse, Bovine, Dog
Host	Goat
Clonality	Polyclonal
Calculated MW	124kDa KDa

PIK3CA / PI3K Alpha Antibody (Internal) - 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, 2.7.1.153, 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, 2.7.11.1, PIK3CA

Target/Specificity

Human PIK3CA.

Reconstitution & Storage

Store at -20°C. Minimize freezing and thawing.

Precautions

PIK3CA / PI3K Alpha Antibody (Internal) is for research use only and not for use in diagnostic or therapeutic procedures.

PIK3CA / PI3K Alpha Antibody (Internal) - 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](http://www.uniprot.org/citations/15135396)), PubMed: [23936502](http://www.uniprot.org/citations/23936502), PubMed: [28676499](http://www.uniprot.org/citations/28676499)). Uses ATP and PtdIns(4,5)P2 (phosphatidylinositol 4,5-bisphosphate) to generate phosphatidylinositol 3,4,5-trisphosphate (PIP3) (PubMed: [15135396](http://www.uniprot.org/citations/15135396)), PubMed: [28676499](http://www.uniprot.org/citations/28676499))

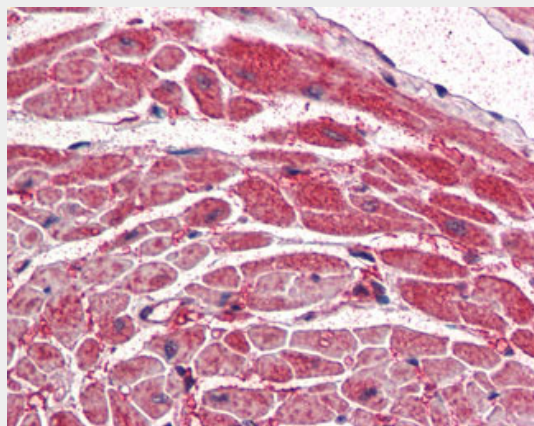
target="_blank">28676499). PIP3 plays a key role by recruiting PH domain- containing proteins to the membrane, including AKT1 and PDK1, activating signaling cascades involved in cell growth, survival, proliferation, motility and morphology. Participates in cellular signaling in response to various growth 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 PDK1-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).

PIK3CA / PI3K Alpha Antibody (Internal) - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

PIK3CA / PI3K Alpha Antibody (Internal) - Images



Anti-PIK3CA antibody IHC of human heart.

PIK3CA / PI3K Alpha Antibody (Internal) - Background

Phosphoinositide-3-kinase (PI3K) that phosphorylates PtdIns (Phosphatidylinositol), PtdIns4P (Phosphatidylinositol 4- phosphate) and PtdIns(4,5)P2 (Phosphatidylinositol 4,5- bisphosphate) to generate phosphatidylinositol 3,4,5-trisphosphate (PIP3). PIP3 plays a key role by recruiting PH domain-containing proteins to the membrane, including AKT1 and PDK1, 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 in breast cancer cells through the PDK1- 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. Has also serine-protein kinase activity: phosphorylates PIK3R1 (p85alpha regulatory subunit), EIF4EBP1 and HRAS.

PIK3CA / PI3K Alpha Antibody (Internal) - References

- Volinia S., et al. *Genomics* 24:472-477(1994).
Stirdivant S.M., et al. *Bioorg. Med. Chem.* 5:65-74(1997).
Mitsuuchi Y., et al. *Oncogene* 18:4891-4898(1999).
Yamaguchi H., et al. *J. Cell Biol.* 193:1275-1288(2011).
Huang C.-H., et al. *Cell Cycle* 7:1151-1156(2008).