

PIK3CA / PI3K Alpha Antibody (aa303-631, clone 6D9)
Mouse Monoclonal Antibody
Catalog # ALS16460

Specification

PIK3CA / PI3K Alpha Antibody (aa303-631, clone 6D9) - Product Information

Application	IHC
Primary Accession	P42336
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	124kDa KDa

PIK3CA / PI3K Alpha Antibody (aa303-631, clone 6D9) - 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 / PI3K Alpha

Reconstitution & Storage

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

Precautions

PIK3CA / PI3K Alpha Antibody (aa303-631, clone 6D9) is for research use only and not for use in diagnostic or therapeutic procedures.

PIK3CA / PI3K Alpha Antibody (aa303-631, clone 6D9) - 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)). 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).

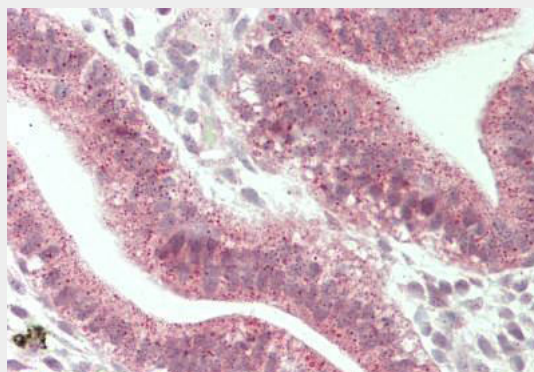
Volume
50 µl

PIK3CA / PI3K Alpha Antibody (aa303-631, clone 6D9) - 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 (aa303-631, clone 6D9) - Images



Human Uterus: Formalin-Fixed, Paraffin-Embedded (FFPE)

PIK3CA / PI3K Alpha Antibody (aa303-631, clone 6D9) - 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 (aa303-631, clone 6D9) - 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).