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# Goat Anti-PIK3CA / P110alpha Antibody
**Peptide-affinity purified goat antibody**
**Catalog # AF1827a**

## Specification

### Goat Anti-PIK3CA / P110alpha Antibody - Product Information

| | |
|---|---|
| Application | **IHC** |
| Primary Accession | P42336 |
| Other Accession | NP_006209, 5290, 18706 (mouse), 170911 (rat) |
| Reactivity | **Human** |
| Predicted | **Mouse, Rat, Dog, Cow** |
| Host | **Goat** |
| Clonality | **Polyclonal** |
| Concentration | **100ug/200ul** |
| Isotype | **IgG** |
| Calculated MW | **124284** |

### Goat Anti-PIK3CA / P110alpha Antibody - 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

**Format**
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

**Storage**
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**
Goat Anti-PIK3CA / P110alpha Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

### Goat Anti-PIK3CA / P110alpha Antibody - 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:<a

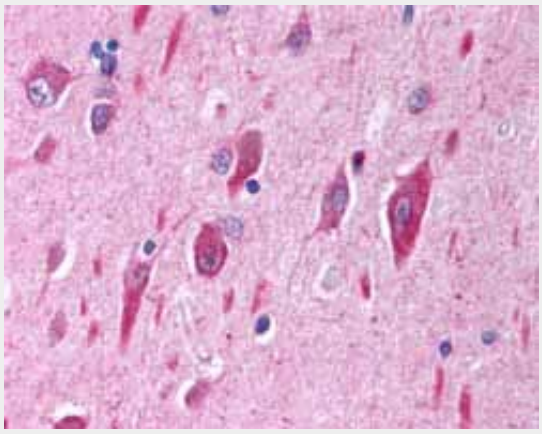
href="http://www.uniprot.org/citations/15135396" target="_blank">15135396</a>, PubMed:<a href="http://www.uniprot.org/citations/23936502" target="_blank">23936502</a>, PubMed:<a href="http://www.uniprot.org/citations/28676499" target="_blank">28676499</a>). Uses ATP and PtdIns(4,5)P2 (phosphatidylinositol 4,5-bisphosphate) to generate phosphatidylinositol 3,4,5-trisphosphate (PIP3) (PubMed:<a href="http://www.uniprot.org/citations/15135396" target="_blank">15135396</a>, PubMed:<a href="http://www.uniprot.org/citations/28676499" target="_blank">28676499</a>). 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:<a href="http://www.uniprot.org/citations/23936502" target="_blank">23936502</a>, PubMed:<a href="http://www.uniprot.org/citations/28676499" target="_blank">28676499</a>). Plays a role in the positive regulation of phagocytosis and pinocytosis (By similarity).

**Goat Anti-PIK3CA / P110alpha Antibody - Protocols**

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

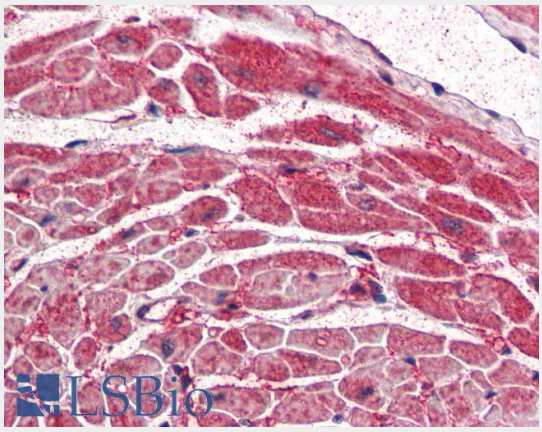
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

**Goat Anti-PIK3CA / P110alpha Antibody - Images**

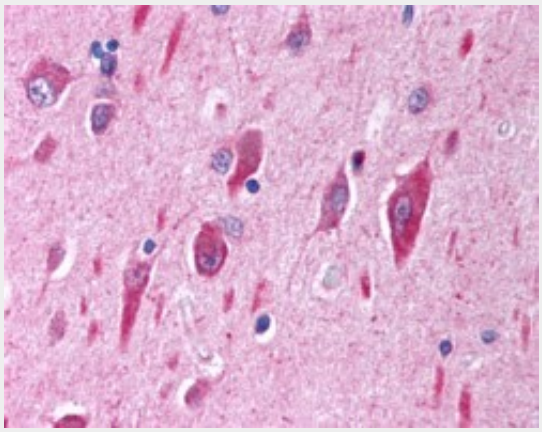


AF1827a (2.5 µg/ml) staining of paraffin embedded Human Brain (Cer Cortex). Steamed antigen

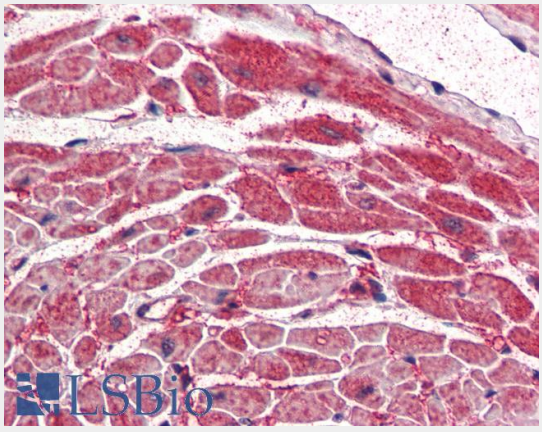
retrieval with citrate buffer pH 6, AP-staining.




AF1827a (5 µg/ml) staining of paraffin embedded Human Heart. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.



EB07512 (2.5µg/ml) staining of paraffin embedded Human Brain (Cerebellar Cortex). Steamed antigen retrieval with citrate buffer pH 6, AP-staining.




EB07512 (5µg/ml) staining of paraffin embedded Human Heart. Steamed antigen retrieval with citrate buffer pH 6, AP-staining.

**Goat Anti-PIK3CA / P110alpha Antibody - 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.

**Goat Anti-PIK3CA / P110alpha Antibody - References**

Mutational analyses of the BRAF, KRAS, and PIK3CA genes in oral squamous cell carcinoma. Bruckman KC, et al. Oral Surg Oral Med Oral Pathol Oral Radiol Endod, 2010 Aug 31. PMID 20813562.
NRAS mutations are rare in colorectal cancer. Irahara N, et al. Diagn Mol Pathol, 2010 Sep. PMID 20736745.
Gene mutations in epidermal growth factor receptor signaling network and their association with survival in Chinese patients with metastatic colorectal cancers. Liao W, et al. Anat Rec (Hoboken), 2010 Sep. PMID 20652941.
Variation at the NFATC2 Locus Increases the Risk of Thiazolinedinedione-Induced Edema in the Diabetes REduction Assessment with ramipril and rosiglitazone Medication (DREAM) Study. Bailey SD, et al. Diabetes Care, 2010 Jul 13. PMID 20628086.
Genetic variation in a metabolic signaling pathway and colon and rectal cancer risk: mTOR, PTEN, STK11, RPKAA1, PRKAG2, TSC1, TSC2, PI3K and Akt1. Slattery ML, et al. Carcinogenesis, 2010 Sep. PMID 20622004.