

**PI3K $\beta$  Antibody**  
**Purified Rabbit Polyclonal Antibody**  
**Catalog # ABV11504****Specification**

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**PI3K $\beta$  Antibody - Product Information**

Application	IHC, E
Primary Accession	<a href="#">P42338</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	122762

**PI3K $\beta$  Antibody - Additional Information****Gene ID** 5291**Other Names**

Phosphatidylinositol-4, 5-bisphosphate 3-kinase catalytic subunit beta form, PI3-kinase p110 subunit beta, PIK3CB

**Target/Specificity**PI3K $\beta$ **Formulation**100  $\mu$ g (0.25 mg/ml) purified rabbit Ig polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide.**Handling**

The antibody solution should be gently mixed before use.

**Background Descriptions****Precautions**PI3K $\beta$  Antibody is for research use only and not for use in diagnostic or therapeutic procedures.**PI3K $\beta$  Antibody - Protein Information****Name** PIK3CB**Synonyms** PIK3C1**Function**

Phosphoinositide-3-kinase (PI3K) phosphorylates phosphatidylinositol derivatives at position 3 of the inositol ring to produce 3-phosphoinositides (PubMed:&lt;a href="http://www.uniprot.org/citations/15135396" target="\_blank"&gt;15135396&lt;/a&gt;). Uses ATP

and PtdIns(4,5)P<sub>2</sub> (phosphatidylinositol 4,5-bisphosphate) to generate phosphatidylinositol 3,4,5-trisphosphate (PIP<sub>3</sub>) (PubMed:<a href="http://www.uniprot.org/citations/15135396" target="\_blank">15135396</a>). PIP<sub>3</sub> 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. Involved in the activation of AKT1 upon stimulation by G- protein coupled receptors (GPCRs) ligands such as CXCL12, sphingosine 1-phosphate, and lysophosphatidic acid. May also act downstream receptor tyrosine kinases. Required in different signaling pathways for stable platelet adhesion and aggregation. Plays a role in platelet activation signaling triggered by GPCRs, alpha-IIb/beta-3 integrins (ITGA2B/ ITGB3) and ITAM (immunoreceptor tyrosine-based activation motif)-bearing receptors such as GP6. Regulates the strength of adhesion of ITGA2B/ ITGB3 activated receptors necessary for the cellular transmission of contractile forces. Required for platelet aggregation induced by F2 (thrombin) and thromboxane A<sub>2</sub> (TXA<sub>2</sub>). Has a role in cell survival. May have a role in cell migration. Involved in the early stage of autophagosome formation. Modulates the intracellular level of PtdIns3P (phosphatidylinositol 3-phosphate) and activates PIK3C3 kinase activity. May act as a scaffold, independently of its lipid kinase activity to positively regulate autophagy. May have a role in insulin signaling as scaffolding protein in which the lipid kinase activity is not required. May have a kinase-independent function in regulating cell proliferation and in clathrin-mediated endocytosis. Mediator of oncogenic signal in cell lines lacking PTEN. The lipid kinase activity is necessary for its role in oncogenic transformation. Required for the growth of ERBB2 and RAS driven tumors. Also has a protein kinase activity showing autophosphorylation (PubMed:<a href="http://www.uniprot.org/citations/12502714" target="\_blank">12502714</a>).

**Cellular Location**

Cytoplasm. Nucleus. Note=Interaction with PIK3R2 is required for nuclear localization and export

**Tissue Location**

Expressed ubiquitously.

**PI3K $\beta$  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 Cytometry](#)
- [Cell Culture](#)

**PI3K $\beta$  Antibody - Images****PI3K $\beta$  Antibody - Background**

Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally the  $\gamma$  phosphate of ATP, onto an acceptor amino acid in a substrate protein. By this basic mechanism, protein kinases mediate most of the signal transduction in eukaryotic cells, regulating cellular metabolism, transcription, cell cycle progression, cytoskeletal rearrangement and cell movement, apoptosis, and differentiation. With more than 500 gene products, the protein kinase family is one of the largest families of proteins in eukaryotes. The family has been classified in 8 major groups based on sequence comparison of their tyrosine (PTK) or serine/threonine (STK) kinase catalytic domains.