

Anti-PIK3CB Picoband Antibody

Catalog # ABO10151

Product Information

Application	WB, IHC-P
Primary Accession	P42338
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Phosphatidylinositol 4,5-bisphosphate 3-kinase catalytic subunit beta isoform(PIK3CB) detection. Tested with WB, IHC-P in Human;Mouse;Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	5291
Other Names	Phosphatidylinositol 4, 5-bisphosphate 3-kinase catalytic subunit beta isoform, PI3-kinase subunit beta, PI3K-beta, PI3Kbeta, PtdIns-3-kinase subunit beta, 2.7.1.153, Phosphatidylinositol 4, 5-bisphosphate 3-kinase 110 kDa catalytic subunit beta, PtdIns-3-kinase subunit p110-beta, p110beta, PIK3CB, PIK3C1
Calculated MW	122762
Application Details	Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, By Heat Western blot, 0.1-0.5 µg/ml, Human, Mouse, Rat
Subcellular Localization	Cytoplasm . Nucleus . Interaction with PIK3R2 is required for nuclear localization and export.
Tissue Specificity	Expressed ubiquitously.
Source	Eukaryota
Protein Name	Phosphatidylinositol 4,5-bisphosphate 3-kinase catalytic subunit beta isoform
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	A synthetic peptide corresponding to a sequence in the middle region of human PIK3CB (556-598aa DLIWTLRQDCREIFPQSLPKLLLSIKWNKLEDVAQLQALLQIW), different from the

related mouse and rat sequences by one amino acid.

Purification

Immunogen affinity purified.

Cross Reactivity

No cross reactivity with other proteins

Storage

At -20 °C for one year. After r ° Constitution, at 4 °C for one month. It ° Can also be aliquotted and stored frozen at -20 °C for a longer time. Avoid repeated freezing and thawing.

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:[15135396](#)). Uses ATP and PtdIns(4,5)P2 (phosphatidylinositol 4,5-bisphosphate) to generate phosphatidylinositol 3,4,5-trisphosphate (PIP3) (PubMed:[15135396](#)). 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. Involved in the activation of AKT1 upon stimulation by G protein-coupled receptor (GPCR) 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 A2 (TXA2). 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:[12502714](#)).

Cellular Location

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

Tissue Location

Expressed ubiquitously.

Background

Phosphatidylinositol-4,5-bisphosphate 3-kinase catalytic subunit beta isoform is an enzyme that in humans is encoded by the PIK3CB gene. This gene encodes an isoform of the catalytic subunit of phosphoinositide 3-kinase (PI3K). These kinases are important in signaling pathways involving receptors on the outer membrane of eukaryotic cells and are named for their catalytic subunit. The encoded protein is the catalytic subunit for PI3Kbeta (PI3KB). PI3KB has been shown to be part of the activation pathway in neutrophils

which have bound immune complexes at sites of injury or infection. Alternative splicing results in multiple transcript variants.

Images

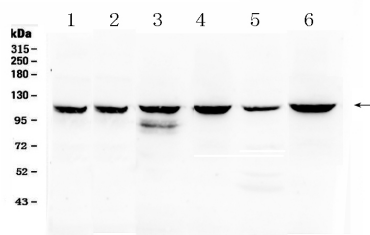


Figure 1. Western blot analysis of PIK3CB using anti-PIK3CB antibody (ABO10151). Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions. Lane 1: rat liver tissue lysates, Lane 2: rat kidney tissue lysates, Lane 3: mouse spleen tissue lysates, Lane 4: mouse thymus tissue lysates, Lane 5: MCF-7 whole Cell lysates, Lane 6: K562 whole cell lysates. After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti- PIK3CB antigen affinity purified polyclonal antibody (Catalog # ABO10151) at 0.5 μ g/mL overnight at 4 $^{\circ}$ C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit with Tanon 5200 system. A specific band was detected for PIK3CB at approximately 110KD. The expected band size for PIK3CB is at 123KD.

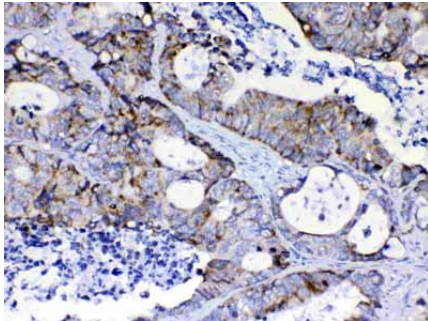


Figure 3. IHC analysis of PIK3CB using anti- PIK3CB antibody (ABO10151).PIK3CB was detected in paraffin-embedded section of human lung cancer tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μ g/ml rabbit anti- PIK3CB Antibody (ABO10151) overnight at 4 $^{\circ}$ C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 $^{\circ}$ C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

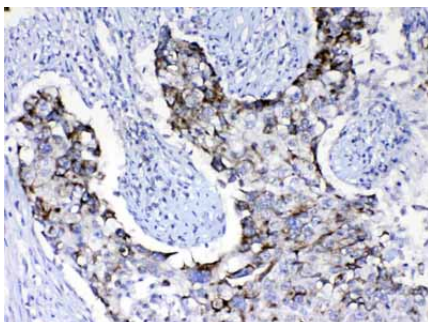


Figure 2. IHC analysis of PIK3CB using anti- PIK3CB antibody (ABO10151).PIK3CB was detected in paraffin-embedded section of human intestinal cancer tissues. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 1 μ g/ml rabbit anti- PIK3CB Antibody (ABO10151) overnight at 4 $^{\circ}$ C. Biotinylated goat anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37 $^{\circ}$ C. The tissue section was developed using Streptavidin-Biotin-Complex (SABC) with DAB as the chromogen.

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