

Anti-PI3 Kinase p110 beta Antibody [JE65-38]

HA722474



Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IHC-P, IF-Tissue
Molecular Wt:	Predicted band size: 110 kDa
Clone number:	JE65-38

Description: Phosphoinositide-3-kinase (PI3K) phosphorylates phosphatidylinositol derivatives at position 3 of the inositol ring to produce 3-phosphoinositides. Uses ATP 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. 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 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. Has also a protein kinase activity showing autophosphorylation.

Immunogen: Synthetic peptide within Human PI3 Kinase p110 beta aa 400-500.

Positive control: Jurkat cell lysate, K-562 cell lysate, HeLa cell lysate, MCF7 cell lysate, human brain tissue lysate, mouse brain tissue lysate, rat brain tissue lysate, mouse colon tissue, rat colon tissue.

Subcellular location: Cytoplasm. Nucleus.

Database links: SwissProt: P42338 Human | Q3U4Q1 Mouse | Q8BT19 Mouse | Q9Z1L0 Rat

Recommended Dilutions:

WB	1:1,000
IHC-P	1:200
IF-Tissue	1:50

Storage Buffer: 1*TBS (pH7.4), 0.05% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4°C. Store at +4°C short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20°C long term.

Purity: Protein A affinity purified.

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Orders:0086-571-88062880

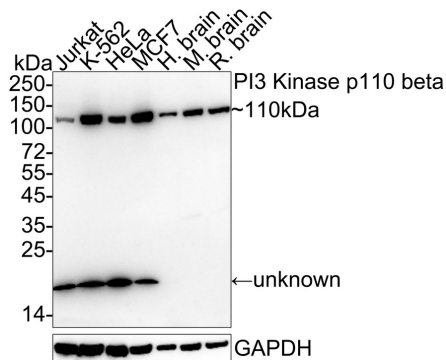
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Images

Fig1: Western blot analysis of PI3 Kinase p110 beta on different lysates with Rabbit anti-PI3 Kinase p110 beta antibody (HA722474) at 1/1,000 dilution.



Lane 1: Jurkat cell lysate
 Lane 2: K-562 cell lysate
 Lane 3: HeLa cell lysate
 Lane 4: MCF7 cell lysate
 Lane 5: Human brain tissue lysate
 Lane 6: Mouse brain tissue lysate
 Lane 7: Rat brain tissue lysate

Lysates/proteins at 20 µg/Lane.

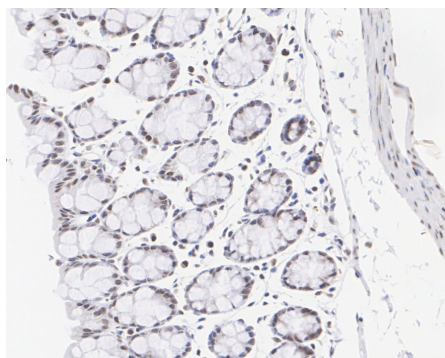
Predicted band size: 110 kDa
 Observed band size: 110 kDa

Exposure time: 2 minutes 30 seconds; ECL: K1801;

4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDm/TBST for 1 hour at room temperature. The primary antibody (HA722474) at 1/1,000 dilution was used in 5% NFDm/TBST at 4°C overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

Fig2: Immunohistochemical analysis of paraffin-embedded mouse colon tissue with Rabbit anti-PI3 Kinase p110 beta antibody (HA722474) at 1/200 dilution.



The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA722474) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

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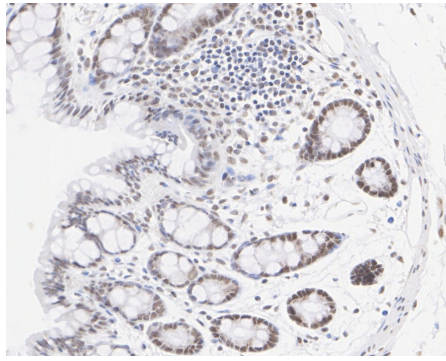


Fig3: Immunohistochemical analysis of paraffin-embedded rat colon tissue with Rabbit anti-PI3 Kinase p110 beta antibody (HA722474) at 1/200 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH₂O and PBS, and then probed with the primary antibody (HA722474) at 1/200 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

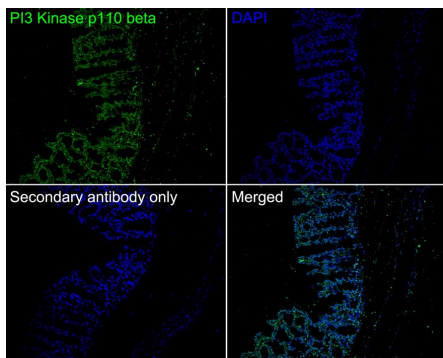


Fig4: Immunofluorescence analysis of paraffin-embedded mouse colon tissue labeling PI3 Kinase p110 beta with Rabbit anti-PI3 Kinase p110 beta antibody (HA722474) at 1/50 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (HA722474, green) at 1/50 dilution overnight at 4 °C, washed with PBS. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. Nuclei were counterstained with DAPI (blue).

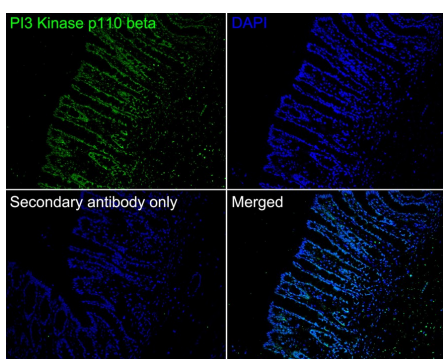


Fig5: Immunofluorescence analysis of paraffin-embedded rat colon tissue labeling PI3 Kinase p110 beta with Rabbit anti-PI3 Kinase p110 beta antibody (HA722474) at 1/50 dilution.

The section was pre-treated using heat mediated antigen retrieval with sodium citrate buffer (pH 6.0) (high pressure) for 2 minutes. The tissues were blocked in 10% negative goat serum for 1 hour at room temperature, washed with PBS, and then probed with the primary antibody (HA722474, green) at 1/50 dilution overnight at 4 °C, washed with PBS. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. Nuclei were counterstained with DAPI (blue).

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Meier T.I., Cook J.A., Thomas J.E., Radding J.A., Horn C., Lingaraj T., Smith M.C. Cloning, expression, purification, and characterization of the human Class Ia phosphoinositide 3-kinase isoforms. *Protein Expr. Purif.* 35:218-224 (2004)
2. Czupalla C., Culo M., Muller E.C., Brock C., Reusch H.P., Spicher K., Krause E., Nurnberg B. Identification and characterization of the autophosphorylation sites of phosphoinositide 3-kinase isoforms beta and gamma. *J. Biol. Chem.* 278:11536-11545 (2003)

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