

**PI3KCD Antibody (C-term)**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP8020a**

### Specification

#### PI3KCD Antibody (C-term) - Product Information

Application	IF, WB, IHC-P-Leica,E
Primary Accession	<a href="#">O00329</a>
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	687-717

#### PI3KCD Antibody (C-term) - Additional Information

##### Gene ID 5293

##### Other Names

Phosphatidylinositol 4, 5-bisphosphate 3-kinase catalytic subunit delta isoform, PI3-kinase subunit delta, PI3K-delta, PI3Kdelta, PtdIns-3-kinase subunit delta, Phosphatidylinositol 4, 5-bisphosphate 3-kinase 110 kDa catalytic subunit delta, PtdIns-3-kinase subunit p110-delta, p110delta, PIK3CD

##### Target/Specificity

This PI3KCD antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 687-717 amino acids from the C-terminal region of human PI3KCD.

##### Dilution

IF~~~1:10~50  
WB~~~1:1000  
IHC-P-Leica~~~1:500  
E~~~Use at an assay dependent concentration.

##### Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

##### Storage

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

##### Precautions

PI3KCD Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

#### PI3KCD Antibody (C-term) - Protein Information

##### Name PIK3CD

**Function** Phosphoinositide-3-kinase (PI3K) phosphorylates phosphatidylinositol (PI) and its phosphorylated derivatives at position 3 of the inositol ring to produce 3-phosphoinositides (PubMed:[9235916](#)). 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 PDPK1, activating signaling cascades involved in cell growth, survival, proliferation, motility and morphology. Mediates immune responses. Plays a role in B-cell development, proliferation, migration, and function. Required for B-cell receptor (BCR) signaling. Mediates B-cell proliferation response to anti-IgM, anti-CD40 and IL4 stimulation. Promotes cytokine production in response to TLR4 and TLR9. Required for antibody class switch mediated by TLR9. Involved in the antigen presentation function of B-cells. Involved in B-cell chemotaxis in response to CXCL13 and sphingosine 1-phosphate (S1P). Required for proliferation, signaling and cytokine production of naive, effector and memory T-cells. Required for T-cell receptor (TCR) signaling. Mediates TCR signaling events at the immune synapse. Activation by TCR leads to antigen-dependent memory T-cell migration and retention to antigenic tissues. Together with PIK3CG participates in T-cell development. Contributes to T-helper cell expansion and differentiation. Required for T-cell migration mediated by homing receptors SELL/CD62L, CCR7 and S1PR1 and antigen dependent recruitment of T-cells. Together with PIK3CG is involved in natural killer (NK) cell development and migration towards the sites of inflammation. Participates in NK cell receptor activation. Plays a role in NK cell maturation and cytokine production. Together with PIK3CG is involved in neutrophil chemotaxis and extravasation. Together with PIK3CG participates in neutrophil respiratory burst. Plays important roles in mast-cell development and mast cell mediated allergic response. Involved in stem cell factor (SCF)-mediated proliferation, adhesion and migration. Required for allergen-IgE-induced degranulation and cytokine release. The lipid kinase activity is required for its biological function. Isoform 2 may be involved in stabilizing total RAS levels, resulting in increased ERK phosphorylation and increased PI3K activity.

#### Cellular Location

Cytoplasm.

#### Tissue Location

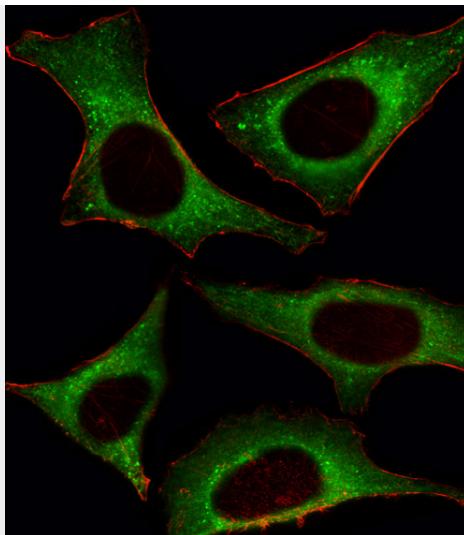
In humans, the highest levels of expression are seen in peripheral blood mononuclear cells, spleen, and thymus, and low levels of expression in testes, uterus, colon, and small intestine but not in other tissues examined including prostate, heart, brain, and liver (PubMed:[9235916](#)). Isoform 2 is expressed in normal thymus, lung and spleen tissues, and is detected at low levels in normal lysates from colon and ovarian biopsies, at elevated levels in lysates from colorectal tumors and is abundantly expressed in some ovarian tumors (at protein level). Both isoform 1 and isoform 2 are widely expressed Isoform 1 is expressed predominantly in leukocytes

#### PI3KCD Antibody (C-term) - Protocols

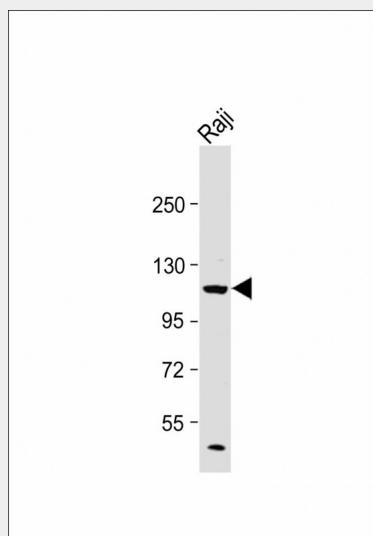
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

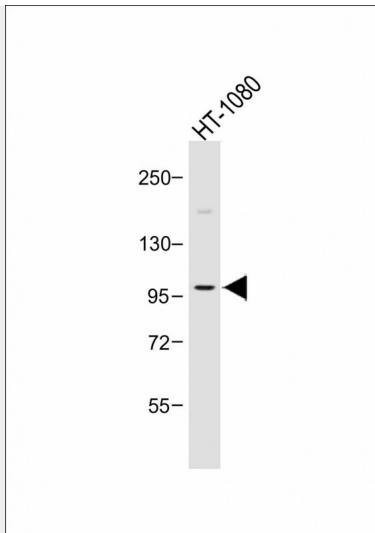
#### PI3KCD Antibody (C-term) - Images



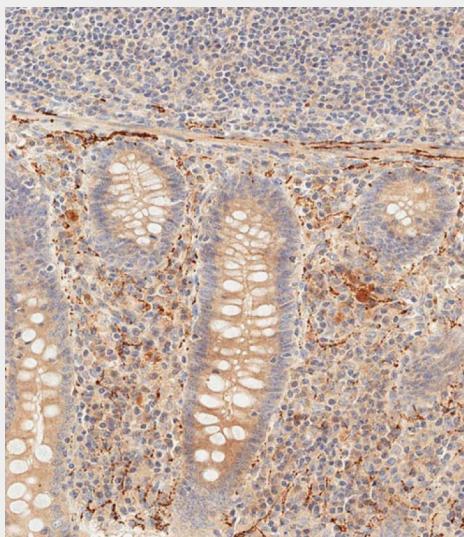
Fluorescent image of HeLa cell stained with PI3KCD Antibody (C-term)(Cat#AP8020a). HeLa cells were fixed with 4% PFA (20 min), permeabilized with Triton X-100 (0.1%, 10 min), then incubated with PI3KCD primary antibody (1:25, 1 h at 37°C). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37°C). Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37°C). PI3KCD immunoreactivity is localized to Cytoplasm significantly.



Anti-PI3KCD Antibody (C-term) at 1:2000 dilution + Raji whole cell lysate Lysates/proteins at 20  $\mu$ g per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 119 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Anti-PI3KCD Antibody (C-term) at 1:1000 dilution + HT-1080 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 119 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Immunohistochemical analysis of paraffin-embedded human epityphlon tissue using AP8020a performed on the Leica® BOND RXm. Samples were incubated with primary antibody(1/500) for 1 hours at room temperature. A undiluted biotinylated CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.

#### **PI3KCD Antibody (C-term) - Background**

Protein kinases are enzymes that transfer a phosphate group from a phosphate donor, generally the g 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.

#### **PI3KCD Antibody (C-term) - References**

Vanhaesebroeck, B., et al., Proc. Natl. Acad. Sci. U.S.A. 94(9):4330-4335 (1997).  
Chantry, D., et al., J. Biol. Chem. 272(31):19236-19241 (1997).