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PI3KC3 Antibody (N-term)
Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP8014a

Specification

PI3KC3 Antibody (N-term) - Product Information

Application	**WB, IF, IHC-P,E**
Primary Accession	Q8NEB9
Other Accession	Q6AZN6, O88763, Q5D891, Q6PF93
Reactivity	**Human**
Predicted	**Mouse, Pig, Rat, Xenopus**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**Rabbit IgG**
Antigen Region	**24-53**

PI3KC3 Antibody (N-term) - Additional Information

Gene ID 5289

Other Names
Phosphatidylinositol 3-kinase catalytic subunit type 3, PI3-kinase type 3, PI3K type 3, PtdIns-3-kinase type 3, Phosphatidylinositol 3-kinase p100 subunit, Phosphoinositide-3-kinase class 3, hVps34, PIK3C3, VPS34

Target/Specificity
This PI3KC3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 24-53 amino acids from the N-terminal region of human PI3KC3.

Dilution
WB~~1:1000
IF~~1:10~50
IHC-P~~1:50~100
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 G column, followed by dialysis against PBS.

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
PI3KC3 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

PI3KC3 Antibody (N-term) - Protein Information

Name PIK3C3 (HGNC:8974)

Synonyms VPS34 {ECO:0000305}

Function Catalytic subunit of the PI3K complex that mediates formation of phosphatidylinositol 3-phosphate; different complex forms are believed to play a role in multiple membrane trafficking pathways: PI3KC3-C1 is involved in initiation of autophagosomes and PI3KC3-C2 in maturation of autophagosomes and endocytosis (PubMed:14617358, PubMed:33637724, PubMed:7628435). As part of PI3KC3-C1, promotes endoplasmic reticulum membrane curvature formation prior to vesicle budding (PubMed:32690950). Involved in regulation of degradative endocytic trafficking and required for the abscission step in cytokinesis, probably in the context of PI3KC3-C2 (PubMed:20208530, PubMed:20643123). Involved in the transport of lysosomal enzyme precursors to lysosomes (By similarity). Required for transport from early to late endosomes (By similarity).

Cellular Location
Midbody. Late endosome. Cytoplasmic vesicle, autophagosome. Note=As component of the PI3K complex I localized to pre-autophagosome structures. As component of the PI3K complex II localized predominantly to endosomes (PubMed:14617358). Also localizes to discrete punctae along the ciliary axoneme and to the base of the ciliary axoneme (By similarity) {ECO:0000250|UniProtKB:Q6PF93, ECO:0000305|PubMed:14617358}

Tissue Location
Ubiquitously expressed, with a highest expression in skeletal muscle.

PI3KC3 Antibody (N-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 Cytomety
- Cell Culture

PI3KC3 Antibody (N-term) - Images

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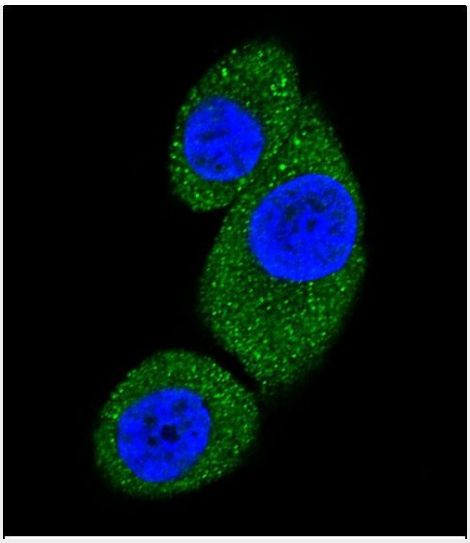
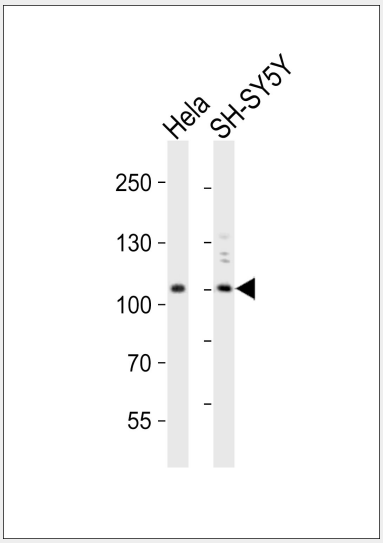
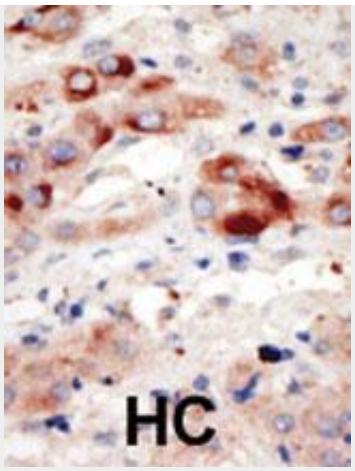


Confocal immunofluorescent analysis of PI3KC3 Antibody (N-term)(Cat#AP8014a) with Hela cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green).DAPI was used to stain the cell nuclear (blue).



Western blot analysis of lysates from Hela, SH-SY5Y cell line (from left to right), using PI3KC3 Antibody (N-term)(Cat. #AP8014A). AP8014A was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody. Lysates at 20ug per lane.



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

PI3KC3 Antibody (N-term) - Background

PI3KC3 is a catalytic subunit of the PI3K complex involved in the transport of lysosomal enzyme precursors to lysosomes. This enzyme acts catalytically to convert 1-phosphatidyl-1D-myo-inositol to 1-phosphatidyl-1D-myo-inositol 3-phosphate. Macroautophagy is the major inducible pathway for the general turnover of cytoplasmic constituents in eukaryotic cells, it is also responsible for the degradation of active cytoplasmic enzymes and organelles during nutrient starvation. Macroautophagy involves the formation of double-membrane bound autophagosomes which enclose the cytoplasmic constituent targeted for degradation in a membrane bound structure, which then fuse with the lysosome (or vacuole) releasing a single-membrane bound autophagic bodies which are then degraded within the lysosome (or vacuole). The regulation of the Beclin 1-PI3KC3 complex lipid kinase activity is a critical element in the autophagy signaling pathway.

PI3KC3 Antibody (N-term) - References

Vergne, I., et al., J. Exp. Med. 198(4):653-659 (2003). Volinia, S., et al., EMBO J. 14(14):3339-3348 (1995).

PI3KC3 Antibody (N-term) - Citations

- A truncating mutation in the autophagy gene UVRAG drives inflammation and tumorigenesis in mice
- HOTAIR/miR-326/FUT6 axis facilitates colorectal cancer progression through regulating fucosylation of CD44 via PI3K/AKT/mTOR pathway.
- ARD1 contributes to IKKβ-mediated breast cancer tumorigenesis.
- The Class I PI3K inhibitor S14161 induces autophagy in malignant blood cells by modulating the Beclin 1/Vps34 complex.
- Capsaicin Induces Autophagy and Apoptosis in Human Nasopharyngeal Carcinoma Cells by Downregulating the PI3K/AKT/mTOR Pathway.
- Autophagy Mediates Cytotoxicity of Human Colorectal Cancer Cells Treated with Garcinielliptone FC.
- Induction of autophagy is essential for monocyte-macrophage differentiation.
- The class III kinase Vps34 promotes T lymphocyte survival through regulating IL-7Rα surface expression.
- Deletion of PIK3C3/Vps34 in sensory neurons causes rapid neurodegeneration by disrupting the endosomal but not the autophagic pathway.
- A non-canonical MEK/ERK signaling pathway regulates autophagy via regulating Beclin 1.
- Is autophagy rather than apoptosis the regression driver in imatinib-treated gastrointestinal

stromal tumors?
- Autophagic and tumour suppressor activity of a novel Beclin1-binding protein UVRAG.