

# PI3KC3 Antibody (C-term E785)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP1851b

## Product Information

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<b>Application</b>	IHC-P, WB, E
<b>Primary Accession</b>	<a href="#">Q8NEB9</a>
<b>Other Accession</b>	<a href="#">O88763</a> , <a href="#">Q5D891</a> , <a href="#">Q6PF93</a>
<b>Reactivity</b>	Human
<b>Predicted</b>	Mouse, Pig, Rat
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	Rabbit IgG
<b>Clone Names</b>	RB10857
<b>Calculated MW</b>	101549
<b>Antigen Region</b>	770-801

## Additional Information

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<b>Gene ID</b>	5289
<b>Other Names</b>	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
<b>Target/Specificity</b>	This PI3KC3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 770-801 amino acids from the C-terminal region of human PI3KC3.
<b>Dilution</b>	IHC-P~~1:100~500 WB~~1:1000 E~~Use at an assay dependent concentration.
<b>Format</b>	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
<b>Storage</b>	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.
<b>Precautions</b>	PI3KC3 Antibody (C-term E785) is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	PIK3C3 ( <a href="#">HGNC:8974</a> )
<b>Synonyms</b>	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.

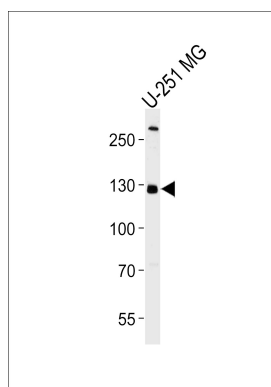
## Background

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.

## References

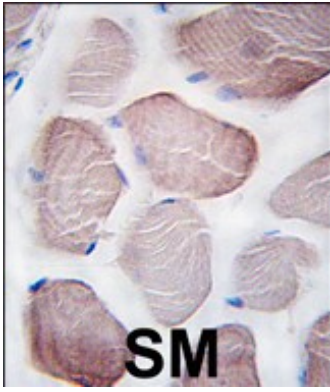
Vergne, I., et al., J. Exp. Med. 198(4):653-659 (2003).  
Volinia, S., et al., EMBO J. 14(14):3339-3348 (1995).

## Images



Western blot analysis of lysate from U-251 MG cell line, using hPI3KC3 (C-term)(Cat. #AP1851b). AP1851b was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:5000 dilution was used as the secondary antibody. Lysate at 35ug per lane.

Formalin-fixed and paraffin-embedded human skeletal



muscle tissue reacted with hPI3KC3 (C-term) (Cat.#AP1851b), 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.

## Citations

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- [Haploinsufficiency networks identify targetable patterns of allelic deficiency in low mutation ovarian cancer.](#)
- [Phosphatidylinositol 3-Kinase Promotes Activation and Vacuolar Acidification and Delays Methyl Jasmonate-Induced Leaf Senescence.](#)

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