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PIK3C3 Antibody

Catalog # ASC11822

Product Information

Application	WB, E
Primary Accession	Q8NEB9
Other Accession	NP_002638, 34761064
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	101549
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	PIK3C3 antibody can be used for detection of PIK3C3 by Western blot at 1 - 2 g/ml.

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, 2.7.1.137, Phosphatidylinositol 3-kinase p100 subunit, Phosphoinositide-3-kinase class 3, hVps34, PIK3C3, VPS34
Target/Specificity	PIK3C3; PIK3C3 antibody is human, mouse and rat reactive.
Reconstitution & Storage	PIK3C3 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	PIK3C3 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

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.

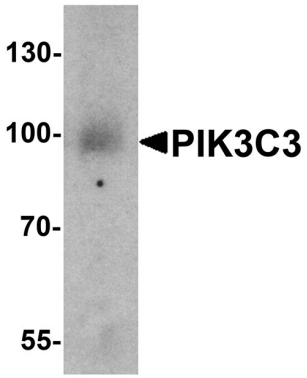
Background

PI 3-kinase p100 (phosphoinositide-3-kinase p100 subunit), also known as hVps34 or PIK3C3 (phosphoinositide-3-kinase class III), is a member of the PI3/PI4-kinase family (1). It is a catalytic subunit of the PI3K complex that mediates formation of phosphatidylinositol 3-phosphate and ubiquitously expressed with a highest expression in skeletal muscle (1,2). PIK3C3 is involved in the endosome to lysosome transport and plays important roles in intracellular membrane trafficking and autophagy (3-5).

References

Stopkova P, Saito T, Papolos DF, et al. Identification of PIK3C3 promoter variant associated with bipolar disorder and schizophrenia. Biol. Psychiatry 2004; 55:981-8.
Hal BS, Gabernet-Castello C, Voak A, et al. TbVps34, the trypanosome orthologue of Vps34, is required for Golgi complex segregation. J. Biol. Chem. 2006; 281:27600-12.
Backer JM. The regulation and function of class III PI3Ks: novel roles for Vps34. Biochem. J. 2008; 410:1-17.
Jaber N, Dou Z, Lin RZ, et al. Mammalian PIK3C3/VPS34: the key to autophagic processing in liver and heart. Autophagy 2012; 8:707-8.

Images



Western blot analysis of PIK3C3 in mouse small intestine tissue lysate with PIK3C3 antibody at 1 µg/ml.

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