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KIAA0652/ATG13 Rabbit mAb

Catalog # AP74851

Product Information

Application	WB, FC, IP
Primary Accession	O75143
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Monoclonal Antibody
Isotype	IgG
Conjugate	Unconjugated
Purification	Affinity Purified
Calculated MW	56572

Additional Information

Gene ID	9776
Other Names	ATG13
Dilution	WB~~1:500-1:1000 FC~~1:50-1:100 IP~~1:20-1:50
Format	Liquid in 50mM Tris-Glycine(pH 7.4), 0.15M NaCl, 40%Glycerol, 0.01% sodium azide and 0.05% BSA.
Storage	Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

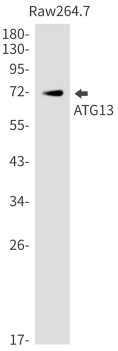
Protein Information

Name	ATG13
Synonyms	KIAA0652
Function	Autophagy factor required for autophagosome formation and mitophagy. Target of the TOR kinase signaling pathway that regulates autophagy through the control of the phosphorylation status of ATG13 and ULK1, and the regulation of the ATG13-ULK1-RB1CC1 complex. Through its regulation of ULK1 activity, plays a role in the regulation of the kinase activity of mTORC1 and cell proliferation.
Cellular Location	Cytoplasm, cytosol. Preautophagosomal structure. Note=Under starvation conditions, is localized to puncate structures primarily representing the isolation membrane; the isolation membrane sequesters a portion of the cytoplasm resulting in autophagosome formation

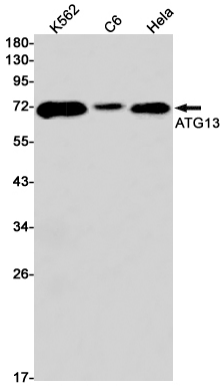
Background

ATG13 is a protein kinase required for autophagy. Overexpression of Atg1 suppresses the defects in autophagy observed in Atg13 mutants. Autophagy requires a direct association between Atg1 and Atg13, and is inhibited by TOR-dependent phosphorylation of Atg13 under high-nutrient conditions. Similarly, mammalian Atg13 forms a complex with the Atg1 homologues ULK1/2, along with FIP200, which localizes to autophagic isolation membranes and regulates autophagosome biogenesis. mTOR phosphorylates both Atg13 and ULK1, suppressing ULK1 kinase activity and autophagy. ULK1 can directly phosphorylate Atg13 at a yet unidentified site, presumably to promote autophagy. Additional studies suggest that Atg13 and FIP200 can function independently of ULK1 and ULK2 to induce autophagy through an unknown mechanism.

Images



Western blot analysis of ATG13 in Raw264.7 lysates using ATG13 antibody.



Western blot analysis of ATG13 in K562, C6, Hela lysates using ATG13 antibody.