10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

ATG13 Antibody
Catalog # ASC11145

Specification

ATG13 Antibody - Product Information

Application	**WB, IHC, IF**
Primary Accession	O75143
Other Accession	NP_001136145, 218082953
Reactivity	**Human, Mouse, Rat**
Host	**Rabbit**
Clonality	**Polyclonal**
Isotype	**IgG**
Calculated MW	**Predicted: 44, 53, 57, 61 kDa** **Observed: 49 kDa KDa**
Application Notes	**ATG13 antibody can be used for detection of ATG13 by Western blot at 1 µg/mL. Antibody can also be used for immunohistochemistry starting at 5 µg/mL. For immunofluorescence start at 20 µg/mL.**

ATG13 Antibody - Additional Information

Gene ID	**9776**

Target/Specificity
ATG13;

Reconstitution & Storage
ATG13 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions
ATG13 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

ATG13 Antibody - 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.

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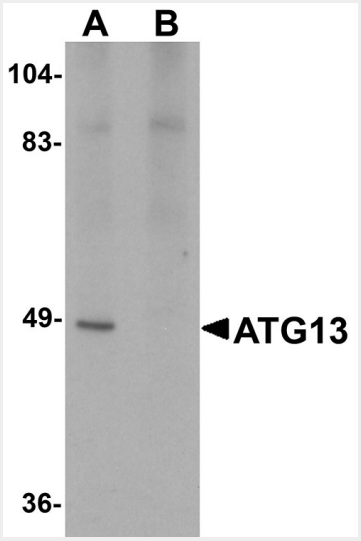
Cellular Location
Cytoplasm, cytosol. Preautophagosomal structure. Note=Under starvation conditions, is localized to puncate structures primarily representing the isolation membrane; the isolation membrane sequesters a portion of the cytoplasm resulting in autophagosome formation

ATG13 Antibody - Protocols

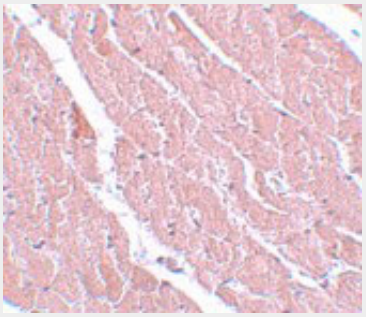
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

ATG13 Antibody - Images



Western blot analysis of ATG13 in rat heart tissue lysate with ATG13 antibody at 1 µg/mL in (A) the absence and (B) the presence of blocking peptide.



Immunohistochemistry of ATG13 in mouse heart with ATG13 antibody at 5 µg/mL.

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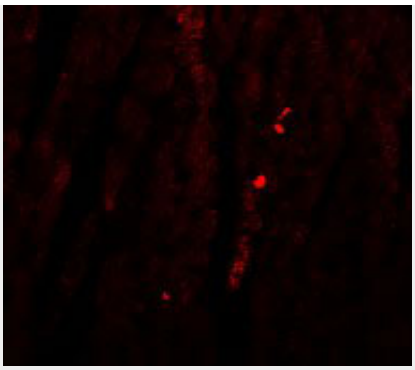

Immunofluorescence of ATG13 in Mouse Heart tissue with ATG13 antibody at 20 µg/mL.

ATG13 Antibody - Background

ATG13 Antibody: Autophagy, the process of bulk degradation of cellular proteins through an autophagosomic-lysosomal pathway is important for normal growth control and may be defective in tumor cells. It is involved in the preservation of cellular nutrients under starvation conditions as well as the normal turnover of cytosolic components. This process is negatively regulated by TOR (Target of rapamycin) through phosphorylation of autophagy protein ATG1. ATG13 forms a complex with ULK1 and ULK2, the mammalian homologs of ATG1, and with FIP200. This complex is a target of TOR phosphorylation under normal conditions; inhibition of TOR by rapamycin or leucine deprivation leads to dephosphorylation of ATG13, ULK1 and ULK2, which then leads to autophagy. Knockdown of ATG13 inhibits autophagosome formation.

ATG13 Antibody - References

Gozuacik D and Kimchi A. Autophagy as a cell death and tumor suppressor mechanism. Oncogene 2004; 23:2891-906.
Kisen GO, Tessitore L, Costelli P, et al. Reduced autophagic activity in primary rat hepatocellular carcinoma and ascites hepatoma cells. Carcinogenesis 1993; 14:2501-5.
Kamada Y, Funakoshi T, Shintani T, et al. Tor-mediated induction of autophagy via Apg1 protein kinase complex. J. Cell. Biol. 2000; 150:1507-13.
Jung CH, Jun CB, Ro SH, et al. ULK-Atg13-FIP200 complexes mediate mTOR signaling to the autophagy machinery. Mol. Biol. Cell 2009; 20:1992-2003.