

ATG101 Antibody

Catalog # ASC11146

Product Information

Application	WB, IF, E, IHC-P
Primary Accession	Q9BSB4
Other Accession	NP_001092143 , 149158714
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	25003
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	ATG101 antibody can be used for detection of ATG101 by Western blot at 1 - 2 μ g/mL. Antibody can also be used for immunohistochemistry starting at 5 μ g/mL. For immunofluorescence start at 20 μ g/mL.

Additional Information

Gene ID	60673
Other Names	Autophagy-related protein 101, ATG101, C12orf44
Target/Specificity	C12orf44;
Reconstitution & Storage	ATG101 antibody can be stored at 4°C for three months and -20°C, 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	ATG101 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ATG101
Synonyms	C12orf44
Function	Autophagy factor required for autophagosome formation. Stabilizes ATG13, protecting it from proteasomal degradation.
Cellular Location	Cytoplasm. Preautophagosomal structure. Note=Under starvation conditions, it is localized to punctate structures primarily representing the isolation membrane; the isolation membrane sequesters a portion of the cytoplasm resulting in autophagosome formation

Background

ATG101 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. ATG101 is a recently discovered protein that stabilizes ATG13, another autophagy protein that forms a complex with the mammalian homologs of ATG1, ULK1 and ULK2, 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. ATG101 also interacts with ULK1 and is essential for autophagy.

References

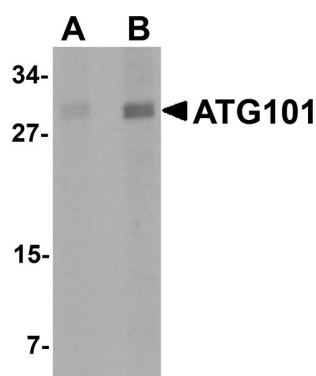
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Kisen GO, Tessitore L, Costelli P, et al. Reduced autophagic activity in primary rat hepatocellular carcinoma and ascites hepatoma cells. *Carcinogenesis*1993; 14:2501-5.

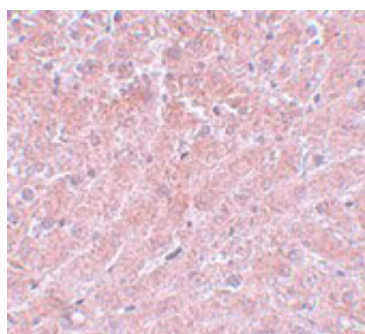
Kamada Y, Funakoshi T, Shintani T, et al. Tor-mediated induction of autophagy via Apg1 protein kinase complex. *J. Cell. Biol.*2000; 150:1507-13.

Mercar CA, Kaliappan A, and Dennis PB. A novel, human Atg13 binding protein, Atg101, interacts with ULK1 and is essential for macroautophagy. *Autophagy*2009; 5:649-62.

Images

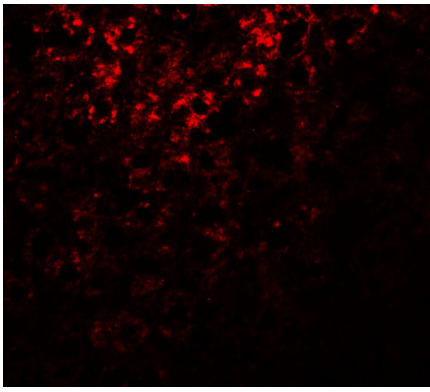


Western blot analysis of ATG101 in human liver tissue lysate with ATG101 antibody at (A) 1 and (B) 2 $\mu\text{g/mL}$.



Immunohistochemistry of ATG101 in mouse liver with ATG101 antibody at 5 $\mu\text{g/mL}$.

Immunofluorescence of ATG101 in mouse liver tissue with ATG101 antibody at 20 $\mu\text{g/mL}$.



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