

## LAMTOR1 Antibody

Catalog # ASC11767

### Specification

#### LAMTOR1 Antibody - Product Information

Application **WB, IHC, IF**  
 Primary Accession [Q6IAA8](#)  
 Other Accession [NP\\_060377](#),  
[8923579](#)  
 Reactivity **Human, Mouse, Rat**  
 Host **Rabbit**  
 Clonality **Polyclonal**  
 Isotype **IgG**  
 Calculated MW **Predicted: 18 kDa**

#### Application Notes

**Observed: 18 kDa**  
**KDa**  
**LAMTOR1**  
**antibody can be**  
**used for**  
**detection of**  
**LAMTOR1 by**  
**Western blot at 1**  
**- 2 µg/ml.**  
**Antibody can also**  
**be used for Immu**  
**nohistochemistry**  
**starting at 5**  
**µg/mL. For immun**  
**ofluorescence**  
**start at 20 µg/mL.**

#### LAMTOR1 Antibody - Additional Information

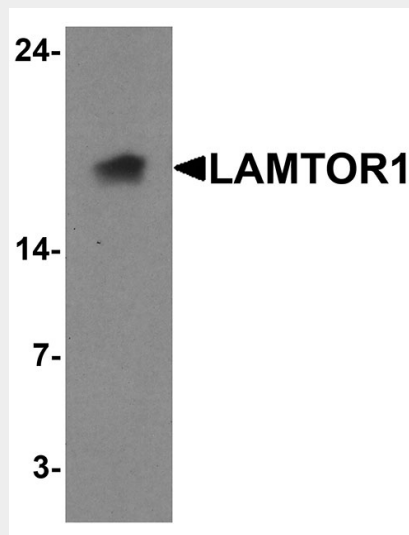
Gene ID **55004**  
**Target/Specificity**  
 LAMTOR1; LAMTOR1 antibody is human, mouse and rat specific. LAMTOR1 antibody is predicted to not cross-react with other LAMTOR family proteins.

#### Reconstitution & Storage

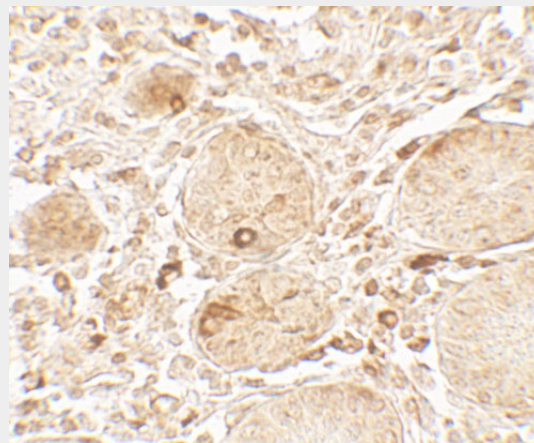
LAMTOR1 antibody can be stored at 4°C for three months and -20°C, stable for up to one year.

#### Precautions

LAMTOR1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.



Western blot analysis of LAMTOR1 in A431 cell lysate with LAMTOR1 antibody at 1 µg/ml.



Immunohistochemistry of LAMTOR1 in human small intestine tissue with LAMTOR1 antibody at 5 µg/mL.

## LAMTOR1 Antibody - Protein Information

**Name** LAMTOR1

**Synonyms** C11orf59, PDRO

### Function

As part of the Ragulator complex it is involved in amino acid sensing and activation of mTORC1, a signaling complex promoting cell growth in response to growth factors, energy levels, and amino acids. Activated by amino acids through a mechanism involving the lysosomal V-ATPase, the Ragulator functions as a guanine nucleotide exchange factor activating the small GTPases Rag. Activated Ragulator and Rag GTPases function as a scaffold recruiting mTORC1 to lysosomes where it is in turn activated. LAMTOR1 is directly responsible for anchoring the Ragulator complex to membranes. Also required for late endosomes/lysosomes biogenesis it may regulate both the recycling of receptors through endosomes and the MAPK signaling pathway through recruitment of some of its components to late endosomes. May be involved in cholesterol homeostasis regulating LDL uptake and cholesterol release from late endosomes/lysosomes. May also play a role in RHOA activation.

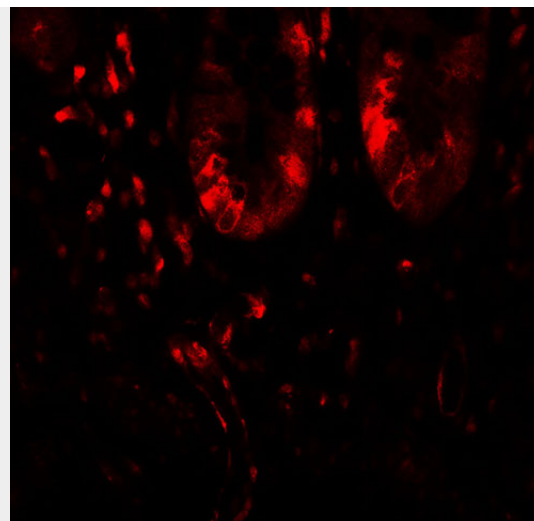
### Cellular Location

Late endosome membrane; Lipid-anchor; Cytoplasmic side. Lysosome membrane; Lipid-anchor; Cytoplasmic side. Cell membrane

## LAMTOR1 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 Cytometry](#)
- [Cell Culture](#)



Immunofluorescence of LAMTOR1 in human small intestine tissue with LAMTOR1 antibody at 20 µg/mL.

## LAMTOR1 Antibody - Background

LAMTOR1 is a 161 amino acid membrane protein belonging to the LAMTOR family. It has been identified to interact with and recruit the four Rag GTPases (Rag A-D) to the surface of lysosomes (1). The mTORC1 kinase complex is a critical component in the regulation of cell growth (2). As part of the ragulator complex, LAMTOR1 recruits the Rag GTPases and the mTORC1 complex to lysosomes, a key step in activation of the TOR signaling cascade by amino acids (3). LAMTOR1 may be involved in cholesterol homeostasis regulating LDL uptake and cholesterol release from late endosomes / lysosomes (4).

## LAMTOR1 Antibody - References

- Sancak Y, Bar-Peled L, Zoncu R, et al. Ragulator-Rag complex targets mTORC1 to the lysosomal surface and is necessary for its activation by amino acids. *Cell* 2010; 141:290-303.
- Kim E, Goraksha-Hicks P, Li L, et al. Regulation of TORC1 by Rag GTPases in nutrient response. *Nat. Cell Biol.* 2008; 10:935-45.
- Wullschlegel S, Loewith R, and Hall MN. TOR signaling in growth and metabolism. *Cell* 2006; 124:471-84.
- Soma-Nagae T, Nada S, Kitagawa M, et al. The lysosomal signaling anchor p18/LAMTOR1 controls epidermal development by regulating lysosome-mediated catabolic processes. *J. Cell*

Sci. 2013; 126:3575-84.