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KD-Validated Anti-Atg16L1 Rabbit Monoclonal Antibody

Rabbit monoclonal antibody
Catalog # AGI1364

Specification

KD-Validated Anti-Atg16L1 Rabbit Monoclonal Antibody - Product Information

Application	**WB, FC, ICC**
Primary Accession	Q676U5
Clonality	**Monoclonal**
Isotype	**Rabbit IgG**
Calculated MW	**Predicted, 68 kDa , observed, 68 kDa KDa**
Gene Name	**ATG16L1**
Aliases	**ATG16L1; Autophagy Related 16 Like 1; ATG16A; APG16L; WDR30; Autophagy-Related Protein 16-1; FLJ10035; ATG16L; ATG16 Autophagy Related 16-Like 1 (S. Cerevisiae); ATG16 Autophagy Related 16-Like (S. Cerevisiae); APG16 Autophagy 16-Like (S. Cerevisiae); ATG16 Autophagy Related 16-Like 1; WD Repeat Domain 30; APG16-Like 1; APG16L Beta; IBD104C, Cysteine Peptidase; ATG4 Autophagy Related 4 Homolog C; AUT-Like 1, Cysteine; Endopeptidase; APG4 Autophagy 4 Homolog C; EC 3.4.22.-; EC 3.4.22; APG4-C**
Immunogen	**A synthesized peptide derived from human ATG16L1**

KD-Validated Anti-Atg16L1 Rabbit Monoclonal Antibody - Additional Information

Gene ID	**55054**

Other Names
Autophagy-related protein 16-1, APG16-like 1, ATG16L1 {ECO:0000303|PubMed:17200669, ECO:0000312|HGNC:HGNC:21498}

KD-Validated Anti-Atg16L1 Rabbit Monoclonal Antibody - Protein Information

Name ATG16L1 {ECO:0000303|PubMed:17200669, ECO:0000312|HGNC:HGNC:21498}

Function
Plays an essential role in both canonical and non-canonical autophagy: interacts with ATG12-ATG5 to mediate the lipidation to ATG8 family proteins (MAP1LC3A, MAP1LC3B, MAP1LC3C, GABARAPL1, GABARAPL2 and GABARAP) (PubMed:23376921, PubMed:23392225, PubMed:24553140, PubMed:24954904, PubMed:<a href="http://www.uniprot.org/citations/27273576"

target="_blank">27273576, PubMed:29317426, PubMed:30778222, PubMed:33909989). Acts as a molecular hub, coordinating autophagy pathways via distinct domains that support either canonical or non- canonical signaling (PubMed:29317426, PubMed:30778222). During canonical autophagy, interacts with ATG12-ATG5 to mediate the conjugation of phosphatidylethanolamine (PE) to ATG8 proteins, to produce a membrane-bound activated form of ATG8 (PubMed:23376921, PubMed:23392225, PubMed:24553140, PubMed:24954904, PubMed:27273576). Thereby, controls the elongation of the nascent autophagosomal membrane (PubMed:23376921, PubMed:23392225, PubMed:24553140, PubMed:24954904, PubMed:27273576). As part of the ATG8 conjugation system with ATG5 and ATG12, required for recruitment of LRRK2 to stressed lysosomes and induction of LRRK2 kinase activity in response to lysosomal stress (By similarity). Also involved in non-canonical autophagy, a parallel pathway involving conjugation of ATG8 proteins to single membranes at endolysosomal compartments, probably by catalyzing conjugation of phosphatidylserine (PS) to ATG8 (PubMed:33909989). Non-canonical autophagy plays a key role in epithelial cells to limit lethal infection by influenza A (IAV) virus (By similarity). Regulates mitochondrial antiviral signaling (MAVS)-dependent type I interferon (IFN-I) production (PubMed:22749352, PubMed:25645662). Negatively regulates NOD1- and NOD2-driven inflammatory cytokine response (PubMed:24238340). Instead, promotes an autophagy-dependent antibacterial pathway together with NOD1 or NOD2 (PubMed:20637199). Plays a role in regulating morphology and function of Paneth cell (PubMed:18849966).

Cellular Location
Cytoplasm. Preautophagosomal structure membrane; Peripheral membrane protein. Endosome membrane; Peripheral membrane protein. Lysosome membrane; Peripheral membrane protein. Note=Recruited to omegasomes membranes by WIPI2 (By similarity). Omegasomes are endoplasmic reticulum connected strutures at the origin of preautophagosomal structures (By similarity). Localized to preautophagosomal structure (PAS) where it is involved in the membrane targeting of ATG5 (By similarity). Also localizes to discrete punctae along the ciliary axoneme (By similarity). Upon activation of non-canonical autophagy, recruited to single-membrane endolysosomal compartments (PubMed:29317426). Under starved conditions, the ATG12-ATG5-ATG16L1 complex is translocated to phagophores driven by RAB33B (PubMed:32960676). {ECO:0000250|UniProtKB:Q8C0J2, ECO:0000269|PubMed:29317426, ECO:0000269|PubMed:32960676}

KD-Validated Anti-Atg16L1 Rabbit Monoclonal Antibody - Protocols

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

- Western Blot

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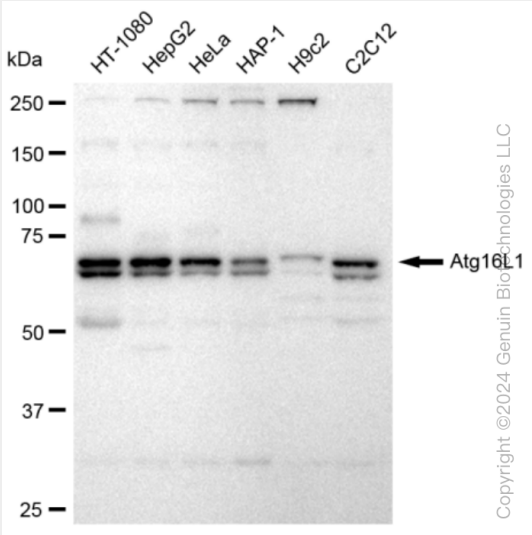
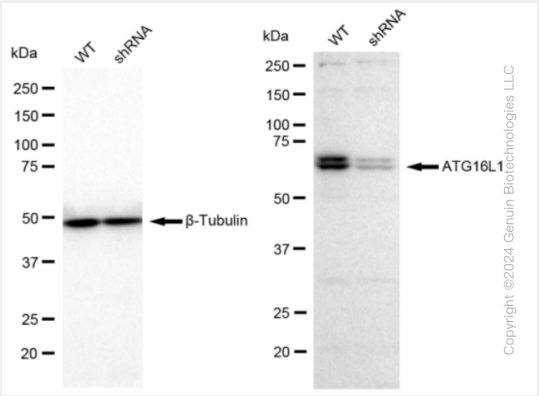
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

KD-Validated Anti-Atg16L1 Rabbit Monoclonal Antibody - Images



Western blotting analysis using anti-Atg16L1 antibody (Cat#AGI1364). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-Atg16L1 antibody (Cat#AGI1364, 1:5,000) and HRP-conjugated goat anti rabbit secondary antibody respectively.



Western blotting analysis using anti-Atg16L1 antibody (Cat#AGI1364). Atg16L1 expression in wild type (WT) and Atg16L1 shRNA knockdown (KD) 293T cells with 30 µg of Total cell lysates. β-Tubulin serves as a loading control. The blot was incubated with anti-Atg16L1 antibody (Cat#AGI1364,1:5,000) and HRP-conjugated goat anti rabbit secondary antibody respectively.

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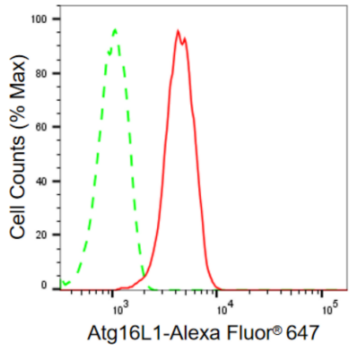
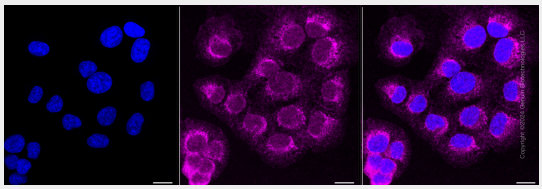


Flow cytometric analysis of Atg16L1 expression in HT-1080 cells using Atg16L1 antibody (Cat#AGI1364, 1:2,000). Green, isotype control; red, Atg16L1.



Immunocytochemical staining of HT-1080 cells with Atg16L1 antibody (Cat#AGI1364, 1:1,000). Nuclei were stained blue with DAPI; Atg16L1 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar: 20 µm.