

**Denatured ATG1 Antibody**  
**Purified Rabbit Polyclonal Antibody (Pab)**  
**Catalog # AP9117a****Specification**

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**Denatured ATG1 Antibody - Product Information**

Application	FC, WB, IHC-P,E
Primary Accession	<a href="#">075385</a>
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG

**Denatured ATG1 Antibody - Additional Information****Gene ID** 8408**Other Names**

Serine/threonine-protein kinase ULK1, Autophagy-related protein 1 homolog, ATG1, hATG1, Unc-51-like kinase 1, ULK1, KIAA0722

**Target/Specificity**

This denatured ATG1 antibody is generated from rabbits immunized with a denatured human ATG1 recombinant protein.

**Dilution**

FC~~1:10~50

WB~~1:1000

IHC-P~~1:50~100

E~~Use at an assay dependent concentration.

**Format**

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

**Storage**

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

**Precautions**

Denatured ATG1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**Denatured ATG1 Antibody - Protein Information****Name** ULK1 {ECO:0000303|PubMed:9693035, ECO:0000312|HGNC:HGNC:12558}**Function** Serine/threonine-protein kinase involved in autophagy in response to starvation

(PubMed:[18936157](#), PubMed:[21460634](#), PubMed:[21795849](#), PubMed:[23524951](#), PubMed:[25040165](#), PubMed:[29487085](#), PubMed:[31123703](#)). Acts upstream of phosphatidylinositol 3-kinase PIK3C3 to regulate the formation of autophagophores, the precursors of autophagosomes (PubMed:[18936157](#), PubMed:[21460634](#), PubMed:[21795849](#), PubMed:[25040165](#)). Part of regulatory feedback loops in autophagy: acts both as a downstream effector and negative regulator of mammalian target of rapamycin complex 1 (mTORC1) via interaction with RPTOR (PubMed:[21795849](#)). Activated via phosphorylation by AMPK and also acts as a regulator of AMPK by mediating phosphorylation of AMPK subunits PRKAA1, PRKAB2 and PRKAG1, leading to negatively regulate AMPK activity (PubMed:[21460634](#)). May phosphorylate ATG13/KIAA0652 and RPTOR; however such data need additional evidences (PubMed:[18936157](#)). Plays a role early in neuronal differentiation and is required for granule cell axon formation (PubMed:[11146101](#)). Also phosphorylates SESN2 and SQSTM1 to regulate autophagy (PubMed:[25040165](#), PubMed:[37306101](#)). Phosphorylates FLCN, promoting autophagy (PubMed:[25126726](#)). Phosphorylates AMBRA1 in response to autophagy induction, releasing AMBRA1 from the cytoskeletal docking site to induce autophagosome nucleation (PubMed:[20921139](#)). Phosphorylates ATG4B, leading to inhibit autophagy by decreasing both proteolytic activation and delipidation activities of ATG4B (PubMed:[28821708](#)).

#### **Cellular Location**

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

#### **Tissue Location**

Ubiquitously expressed. Detected in the following adult tissues: skeletal muscle, heart, pancreas, brain, placenta, liver, kidney, and lung

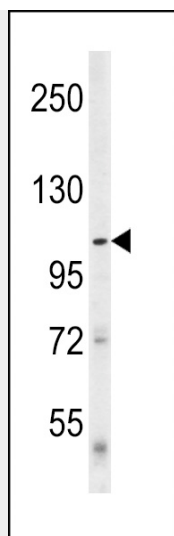
#### **Denatured ATG1 Antibody - Protocols**

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

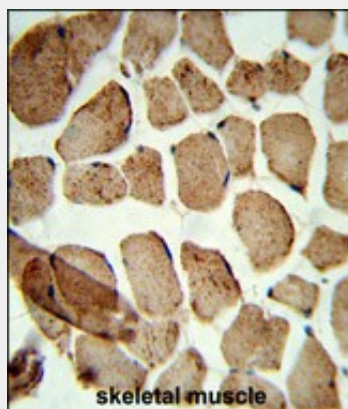
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### **Denatured ATG1 Antibody - Images**

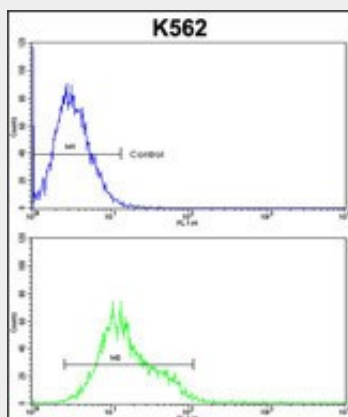




Western blot analysis of Denatured ATG1 (Cat. #AP9117a) in mouse cerebellum tissue lysates (35ug/lane). ATG1 (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human skeletal muscle reacted with Denatured ATG1 Antibody, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Denatured ATG1 Antibody(Cat. #AP9117a) flow cytometric analysis of k562 cells (bottom histogram) compared to a negative control(top histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

#### Denatured ATG1 Antibody - Background

ULK1 is involved in autophagy. It is required for autophagosome formation (By similarity). Target of the TOR kinase signaling pathway that regulates autophagy through the control of phosphorylation status of ATG13/KIAA0652 and ULK1, and the regulation of the ATG13-ULK1-RB1CC1 complex (By similarity). Phosphorylates ATG13/KIAA0652. It is involved in axon growth (By similarity) and plays an essential role in neurite extension of cerebellar granule cells (By similarity).

#### **Denatured ATG1 Antibody - References**

Greenman C., et.al., Nature 446:153-158(2007).