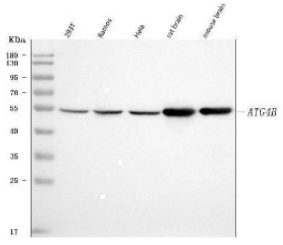
ATG4B Polyclonal Antibody / Autophagy-Related Cysteine Peptidase 4B Antibody (FY13685)

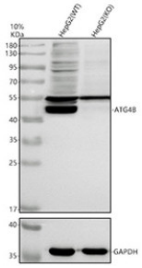
Catalog No.	Formulation	Size
FY13685	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

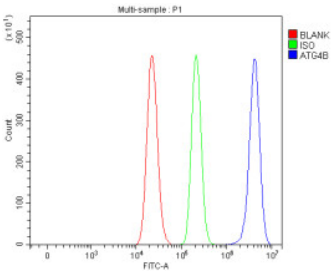
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	Q9Y4P1
Applications	Western blot: 1-2ug/ml Flow cytometry: 1-3ug/million cells Direct ELISA: 0.1-0.5ug/ml
Limitations	This ATG4B Polyclonal Antibody / Autophagy-Related Cysteine Peptidase 4B Antibody is available for research use only.



ATG4B Polyclonal Antibody WB Analysis of Human 293T, Ramos and HeLa Cells, Rat Brain and Mouse Brain. Western blot analysis of human 293T (lane 1), Ramos (lane 2), and HeLa (lane 3) whole-cell lysates, rat brain tissue lysate (lane 4), and mouse brain tissue lysate (lane 5) using Autophagy-Related Cysteine Peptidase 4B Antibody. A principal immunoreactive band is detected near 50 kDa in all five samples, compared with the calculated molecular weight of approximately 44.3 kDa for ATG4B. The observed migration is consistent with the 48-50 kDa range reported for this antibody.



ATG4B Polyclonal Antibody WB Analysis of Wild-Type and ATG4B Knockout Human HepG2 Cells. Western blot analysis of human HepG2 wild-type (WT, lane 1) and ATG4B knockout (KO, lane 2) whole-cell lysates using Autophagy-Related Cysteine Peptidase 4B Antibody. A prominent immunoreactive band near 48 kDa is detected in WT lysate and is absent in the KO sample at the displayed exposure, supporting target-dependent recognition of ATG4B. An additional band near 55 kDa remains detectable in both samples and has not been established as an ATG4B isoform. GAPDH serves as the loading control.



ATG4B Polyclonal Antibody FACS Analysis of Human RT4 Cells. Flow cytometry analysis of fixed and permeabilized human RT4 cells using Autophagy-Related Cysteine Peptidase 4B Antibody at 1 ug per million cells. The blue histogram represents antibody-stained cells, the green histogram represents the rabbit IgG isotype control, and the red histogram represents unstained cells. The antibody-stained population exhibits a pronounced rightward fluorescence shift relative to both controls, supporting intracellular detection of ATG4B under the tested conditions.

Description

ATG4B Polyclonal Antibody / Autophagy-Related Cysteine Peptidase 4B Antibody targets ATG4B, a cysteine protease that regulates the maturation and membrane association of ATG8-family proteins during macroautophagy. Also known as autophagin-1, ATG4B participates in the molecular machinery responsible for autophagosome formation and intracellular recycling. Its enzymatic activity influences the availability of processed ATG8 proteins and their distribution between cytosolic and membrane-associated pools.

ATG4B belongs to a family of autophagy-related cysteine proteases that includes ATG4A, ATG4C, and ATG4D. These enzymes exhibit overlapping but distinct substrate preferences toward members of the LC3 and GABARAP protein families. ATG4B is particularly important for processing MAP1LC3B, a widely studied marker of autophagic membranes. It removes the C-terminal extension of newly synthesized LC3B, exposing a conserved glycine residue required for subsequent conjugation to phosphatidylethanolamine.

Following this initial processing step, LC3B undergoes activation and conjugation reactions involving ATG7, ATG3, and the ATG12-ATG5-ATG16L1 complex. The resulting lipidated LC3B associates with developing autophagosomal membranes and contributes to interactions with cargo receptors and other autophagy-associated proteins. ATG4B can subsequently remove the lipid modification, allowing LC3B to return to its nonlipidated form. This reversible modification helps regulate the abundance and distribution of membrane-associated ATG8 proteins.

The activity of ATG4B is influenced by cellular redox conditions and post-translational regulatory mechanisms. Oxidative signaling can modulate ATG4 protease function, connecting autophagic membrane remodeling with cellular responses to metabolic and environmental stress. Regulation of ATG4B is important because excessive delipidation may interfere with autophagosome formation, while insufficient processing can limit the availability of functional ATG8-family substrates.

ATG4B has been investigated in disorders involving altered autophagy, including cancer and neurodegenerative disease. Its biological effects depend on cellular context and the balance between autophagosome formation, cargo delivery, and lysosomal degradation. Changes in LC3 lipidation must therefore be interpreted alongside measurements of autophagic flux rather than as direct evidence of increased or decreased degradation.

ATG4B Polyclonal Antibody supports investigations into autophagy-related proteolysis, LC3 maturation, membrane-associated protein recycling, and the mechanisms coordinating autophagosome development with cellular homeostasis.

For an alternative reagent with knockout-supported Western blot validation and extensive human and rat sample testing, explore our ATG4B Antibody (RQ6821).

Application Notes

Optimal dilution of the ATG4B Polyclonal Antibody / Autophagy-Related Cysteine Peptidase 4B Antibody should be determined by the researcher.

Immunogen

Recombinant human protein (amino acids M1-L392) was used as the immunogen for the ATG4B Polyclonal Antibody.

Storage

After reconstitution, the ATG4B Polyclonal Antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

Autophagin-1 antibody, Autophagy-related cysteine peptidase 4B antibody, Autophagy-related protein 4B antibody, Autophagy-related cysteine endopeptidase 4B antibody, ATG4 homolog B antibody, ATG4B cysteine protease antibody, Autophagy-related protease ATG4B antibody, ATG4B protein antibody, ATG4B autophagy regulator antibody, Cysteine protease ATG4B antibody

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