abcam

Product datasheet

Anti-ATG7 antibody ab223380

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Overview

Product name	Anti-ATG7 antibody
Description	Rabbit polyclonal to ATG7
Host species	Rabbit
Tested applications	**Suitable for:** ICC/IF, WB
Species reactivity	**Reacts with:** Rat, Human
Immunogen	Synthetic peptide corresponding to Human ATG7 (N terminal). Database link: **O95352**
Positive control	WB: Rat brain cell lysate; HeLa whole cell lysate. ICC/IF: RKO cells.
General notes	The Life Science industry has been in the grips of a reproducibility crisis for a number of years. Abcam is leading the way in addressing this with our range of recombinant monoclonal antibodies and knockout edited cell lines for gold-standard validation. Please check that this product meets your needs before purchasing. If you have any questions, special requirements or concerns, please send us an inquiry and/or contact our Support team ahead of purchase. Recommended alternatives for this product can be found below, along with publications, customer reviews and Q&As

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	Preservative: 0.09% Sodium azide Constituents: 50% Glycerol (glycerin, glycerine), PBS
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

The Abpromise guarantee	Our **Abpromise guarantee** covers the use of ab223380 in the following tested applications.

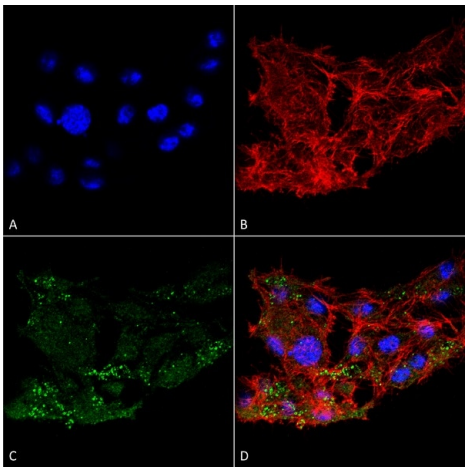
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF		1/100.
WB		1/1000. Detects a band of approximately 78 kDa (predicted molecular weight: 69,75,78 kDa).

Target

Function	E1-like activating enzyme involved in the 2 ubiquitin-like systems required for cytoplasm to vacuole transport (Cvt) and autophagy. Activates ATG12 for its conjugation with ATG5 as well as the ATG8 family proteins for their conjugation with phosphatidylethanolamine. Both systems are needed for the ATG8 association to Cvt vesicles and autophagosomes membranes. Required for autophagic death induced by caspase-8 inhibition. Required for mitophagy which contributes to regulate mitochondrial quantity and quality by eliminating the mitochondria to a basal level to fulfill cellular energy requirements and preventing excess ROS production. Modulates p53/TP53 activity to regulate cell cycle and survival during metabolic stress. Plays also a key role in the maintenance of axonal homeostasis, the prevention of axonal degeneration, the maintenance of hematopoietic stem cells, the formation of Paneth cell granules, as well as in adipose differentiation.
Tissue specificity	Widely expressed, especially in kidney, liver, lymph nodes and bone marrow.
Sequence similarities	Belongs to the ATG7 family.
Domain	The C-terminal part of the protein is essential for the dimerization and interaction with ATG3 and ATG12. The N-terminal FAP motif (residues 15 to 17) is essential for the formation of the ATG89-PE and ATG5-ATG12 conjugates.
Post-translational modifications	Acetylated by EP300.
Cellular localization	Cytoplasm. Preautophagosomal structure. Localizes also to discrete punctae along the ciliary axoneme and to the base of the ciliary axoneme.

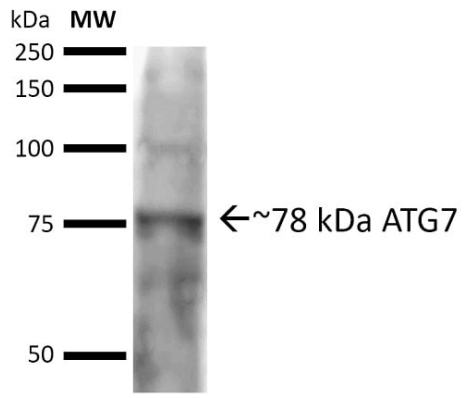
Images



Immunocytochemistry/ Immunofluorescence - Anti-ATG7 antibody (ab223380)

4% formaldehyde-fixed RKO cells stained for ATG7 (green) using ab223380 at 1/100 dilution in ICC/IF. Secondary Antibody: Goat Anti-Rabbit ATTO 488 at 1/100 for 60 min at RT. Counterstain: Phalloidin Texas Red F-Actin stain; DAPI (blue) nuclear stain at 1/1000, 1/5000 for 60 min at RT, 5 min at RT.

(A) DAPI nuclear stain (B) Phalloidin Texas Red F-Actin stain (C) ab223380 (D) Merge.



Western blot - Anti-ATG7 antibody (ab223380)

Anti-ATG7 antibody (ab223380) at 1/1000 dilution + Rat brain cell lysate at 20 µg

Secondary

Goat Anti-Rabbit IgG HRP at 1/2000 dilution

Developed using the ECL technique.

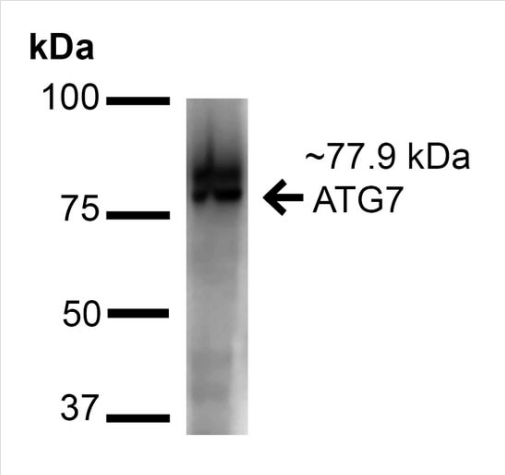
Predicted band size: 69,75,78 kDa

Observed band size: 78 kDa

Exposure time: 6 minutes

Blocking buffer: 2% BSA and 2% skim milk in TBST.

Primary antibody was incubated for 16 hours at 4°C, the secondary for 1 hour at RT.



Western blot - Anti-ATG7 antibody (ab223380)

Anti-ATG7 antibody (ab223380) at 1/1000 dilution + HeLa (human epithelial cell line from cervix adenocarcinoma) whole cell lysate at 15 µg

Secondary
Goat Anti-Rabbit IgG HRP at 1/2000 dilution

Developed using the ECL technique.

Predicted band size: 69,75,78 kDa
Observed band size: 78 kDa

Exposure time: 6 minutes

Blocking buffer: 5% skim milk in TBST.

Primary and secondary antibodies were incubated for 1 hour at RT.

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