

Atg12 (FL-140): sc-68884

BACKGROUND

Atg12 (autophagy-related protein 12), also known as APG12, APG12L, FBR93 or HAPG12, is a 140 amino acid protein that is ubiquitously expressed and belongs to the Atg12 family of proteins. Atg12 is a homolog of the yeast protein Apg12 that participates in autophagy. Autophagy is a membrane trafficking mechanism that delivers cytoplasmic cargo to the vacuole/lysosome for degradation and recycling. In yeast, autophagy requires a protein conjugation system consisting of Apg12 covalently bound at the carboxy-terminal glycine to lysine 149 of Apg5. Similarly in humans, Atg12 is essential for autophagy and localizes to the cytoplasm where it is covalently bound to APG5, a conjugation reaction that requires APG7, Atg10 and ATP. The Atg12-APG5 conjugate functions as an important regulator of the auto-phagic process and is required for the change in membrane morphology and development of autophagosomes. Due to alternative splicing events, two Atg12 isoforms exist.

CHROMOSOMAL LOCATION

Genetic locus: ATG12 (human) mapping to 5q22.3; Atg12 (mouse) mapping to 18 C.

SOURCE

Atg12 (FL-140) is a rabbit polyclonal antibody raised against amino acids 1-140 representing full length Atg12 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

Atg12 (FL-140) is recommended for detection of Atg12 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Atg12 (FL-140) is also recommended for detection of Atg12 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Atg12 siRNA (h): sc-72578, Atg12 siRNA (m): sc-72579, Atg12 shRNA Plasmid (h): sc-72578-SH, Atg12 shRNA Plasmid (m): sc-72579-SH, Atg12 shRNA (h) Lentiviral Particles: sc-72578-V and Atg12 shRNA (m) Lentiviral Particles: sc-72579-V.

Molecular Weight of Atg12 monomer: 21 kDa.

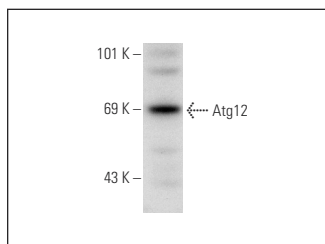
Molecular Weight of Atg12-APG5 conjugate: 60 kDa.

Positive Controls: Hep G2 whole cell lysate: sc-2227.

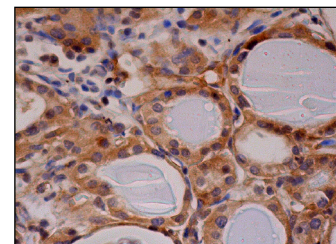
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



Atg12 (FL-140): sc-68884. Western blot analysis of Atg12 expression in Hep G2 whole cell lysate.



Atg12 (FL-140): sc-68884. Immunoperoxidase staining of formalin fixed, paraffin-embedded human thyroid gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Zheng, X., et al. 2012. Effect of p62 on tau hyperphosphorylation in a rat model of Alzheimer's disease. *Neural Regen. Res.* 7: 1304-1311.
- Su, J., et al. 2013. Suppression of chloride channel 3 expression facilitates sensitivity of human glioma U251 cells to cisplatin through concomitant inhibition of Akt and autophagy. *Anat. Rec.* 296: 595-603.
- Fang, L., et al. 2013. Autophagy attenuates diabetic glomerular damage through protection of hyperglycemia-induced podocyte injury. *PLoS ONE* 8: e60546.
- Wu, G., et al. 2014. Inhibition of autophagy by autophagic inhibitors enhances apoptosis induced by bortezomib in non-small cell lung cancer cells. *Biotechnol. Lett.* 36: 1171-1178.

RESEARCH USE

For research use only, not for use in diagnostic procedures.


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Try **Atg12 (C-6): sc-271688**, our highly recommended monoclonal alternative to Atg12 (FL-140).