

Atg4a (E-12): sc-131433

BACKGROUND

Autophagy, a process that results in the lysosomal-dependent degradation of cytosolic compartments, is carried out by the autophagosome, which is a double-membrane vesicle whose formation is catalyzed by several autophagy-related gene (Atg) proteins. Atg4a (ATG4 autophagy related 4 homolog A), also known as APG4A or AURL2, is a 398 amino acid protein that localizes to the cytoplasm and belongs to the peptidase C54 family. Expressed in a variety of tissues, including brain, skeletal muscle and fetal liver, Atg4a functions as a cysteine protease that cleaves the C-terminal part of target proteins, such as GABARAP and MAP1LC3, and plays an essential role in autophagy. Atg4a exists as multiple alternatively spliced isoforms and is functionally inhibited by N-ethylmaleimide.

REFERENCES

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- Kabeya, Y., et al. 2004. LC3, GABARAP and GATE-16 localize to autophagosomal membrane depending on form-II formation. *J. Cell Sci.* 117: 2805-2812.
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CHROMOSOMAL LOCATION

Genetic locus: ATG4A (human) mapping to Xq22.3; Atg4a (mouse) mapping to X F1.

SOURCE

Atg4a (E-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Atg4a 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.

Blocking peptide available for competition studies, sc-131433 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

RESEARCH USE

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

APPLICATIONS

Atg4a (E-12) is recommended for detection of Atg4a isoforms 1, 2, 3 and 5 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with Atg4a isoform 4.

Atg4a (E-12) is also recommended for detection of Atg4a isoforms 1, 2, 3 and 5 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Atg4a siRNA (h): sc-91197, Atg4a siRNA (m): sc-141323, Atg4a shRNA Plasmid (h): sc-91197-SH, Atg4a shRNA Plasmid (m): sc-141323-SH, Atg4a shRNA (h) Lentiviral Particles: sc-91197-V and Atg4a shRNA (m) Lentiviral Particles: sc-141323-V.

Molecular Weight of Atg4a: 45 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.