

Atg4C (T-13): sc-163708

BACKGROUND

Atg4C (ATG4 autophagy related 4 homolog C), also known as AUTL1 (AUT-like 1, cysteine endopeptidase), AUTL3 (AUT-like 3 cysteine endopeptidase), APG4-C, autophagin-3 or cysteine protease ATG4C, is a 458 amino acid tumor suppressor protein belonging to the peptidase C54 family. Encoded by a gene that maps to human chromosome 1p31.3, Atg4C is conserved in chimpanzee, canine, bovine, mouse, rat, chicken and zebrafish. Atg4C is highly expressed in skeletal muscle, heart, liver and testis, and localizes to cytoplasm. Functioning as a cysteine protease, which is necessary for autophagy, Atg4C cleaves the C-terminal region of either MAP1LC3, GABARAPL2 or GABARAP. Atg4C is also inhibited by N-ethylmaleimide.

REFERENCES

- Mariño, G., et al. 2007. Tissue-specific autophagy alterations and increased tumorigenesis in mice deficient in Atg4C/autophagin-3. *J. Biol. Chem.* 282: 18573-18583.
- Apel, A., et al. 2008. Blocked autophagy sensitizes resistant carcinoma cells to radiation therapy. *Cancer Res.* 68: 1485-1494.
- Morselli, E., et al. 2008. Mutant p53 protein localized in the cytoplasm inhibits autophagy. *Cell Cycle* 7: 3056-3061.
- Fujita, N., et al. 2008. An Atg4B mutant hampers the lipidation of LC3 paralogues and causes defects in autophagosome closure. *Mol. Biol. Cell* 19: 4651-4659.
- Kusama, Y., et al. 2009. Comprehensive analysis of expression pattern and promoter regulation of human autophagy-related genes. *Apoptosis* 14: 1165-1175.
- Maiuri, M.C., et al. 2009. Control of autophagy by oncogenes and tumor suppressor genes. *Cell Death Differ.* 16: 87-93.
- Betin, V.M., et al. 2009. Caspase cleavage of Atg4D stimulates GABARAP-L1 processing and triggers mitochondrial targeting and apoptosis. *J. Cell Sci.* 122: 2554-2566.

CHROMOSOMAL LOCATION

Genetic locus: ATG4C (human) mapping to 1p31.3; Atg4c (mouse) mapping to 4 C6.

SOURCE

Atg4C (T-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Atg4C 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-163708 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

Atg4C (T-13) is recommended for detection of Atg4C 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other Atg4 family members.

Atg4C (T-13) is also recommended for detection of Atg4C in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Atg4C siRNA (h): sc-78773, Atg4C siRNA (m): sc-141324, Atg4C shRNA Plasmid (h): sc-78773-SH, Atg4C shRNA Plasmid (m): sc-141324-SH, Atg4C shRNA (h) Lentiviral Particles: sc-78773-V and Atg4C shRNA (m) Lentiviral Particles: sc-141324-V.

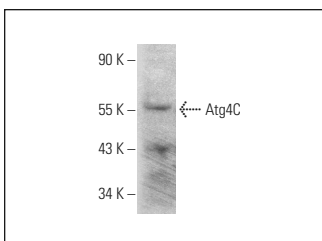
Molecular Weight of Atg4C: 52 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



Atg4C (T-13): sc-163708. Western blot analysis of Atg4C expression in Jurkat whole cell lysate.

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.