

Atg2A (E-16): sc-138140

BACKGROUND

Atg2A (TG2 autophagy related 2 homolog A) is a 1,938 amino acid protein that belongs to the ATG2 family and may play a role in vesicle assembly. Encoded by a gene that maps to human chromosome 11q13.1, Atg2A is conserved in chimpanzee, canine, bovine, mouse and rat, and exists as four alternatively spliced isoforms. Undetected in adult tissues, including heart, brain, placenta, lung, liver and skeletal muscle, Atg2A regulation may act as a distinct indicator of autophagic programmed cell death. Atg2A is upregulated in both etoposide- and doxorubicin-induced apoptosis of HeLa cells, suggesting that Atg2A functions as a novel biomarker of topoisomerase II inhibitor-mediated apoptosis. Atg2A associates with Atg2B, indicating that these two related proteins also functionally interact. Atg2A frameshift mutations are linked to gastric and colorectal carcinomas with high microsatellite instability and may contribute to cancer development by deregulating the autophagy process.

REFERENCES

1. Van't Hof, A.E., et al. 2007. Evolutionary dynamics of multilocus microsatellite arrangements in the genome of the butterfly *Bicyclus annana*, with implications for other *Lepidoptera*. *Heredity* 98: 320-328.
2. Melendez, A., et al. 2008. The cell biology of autophagy in metazoans: a developing story. *Development* 135: 2347-2360.
3. Kusama, Y., et al. 2009. Comprehensive analysis of expression pattern and promoter regulation of human autophagy-related genes. *Apoptosis* 14: 1165-1175.
4. Kang, M.R., et al. 2009. Frameshift mutations of autophagy-related genes ATG2B, ATG5, ATG9B and ATG12 in gastric and colorectal cancers with microsatellite instability. *J. Pathol.* 217: 702-706.
5. Behrends, C., et al. 2010. Network organization of the human autophagy system. *Nature* 466: 68-76.

CHROMOSOMAL LOCATION

Genetic locus: ATG2A (human) mapping to 11q13.1; Atg2a (mouse) mapping to 19 A.

SOURCE

Atg2A (E-16) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping near the C-terminus of Atg2A of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-138140 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

Atg2A (E-16) is recommended for detection of Atg2A of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with Atg2B.

Atg2A (E-16) is also recommended for detection of Atg2A in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Atg2A siRNA (h): sc-96345, Atg2A siRNA (m): sc-141321, Atg2A shRNA Plasmid (h): sc-96345-SH, Atg2A shRNA Plasmid (m): sc-141321-SH, Atg2A shRNA (h) Lentiviral Particles: sc-96345-V and Atg2A shRNA (m) Lentiviral Particles: sc-141321-V.

Molecular Weight of Atg2A isoforms 1/2/3/4: 213/213/35/14 kDa.

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) 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.

RESEARCH USE

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

PROTOCOLS

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



Try **Atg2A (G-1): sc-514207**, our highly recommended monoclonal alternative to Atg2A (E-16).