

Atg16 (D-15): sc-70134

BACKGROUND

WD-repeats are motifs that are found in a variety of proteins and are characterized by a conserved core of 40-60 amino acids that commonly form a tertiary propeller structure. While proteins that contain WD-repeats participate in a wide range of cellular functions, they are generally involved in regulatory mechanisms concerning chromatin assembly, cell cycle control, signal transduction, RNA processing, apoptosis and vesicular trafficking. Atg16, also known as ATG16L1, IBD10 or WDR30, is a 607 amino acid protein that localizes to both the cytoplasm and the peripheral membrane and contains 7 WD-repeats. Existing as a homooligomer, Atg16 interacts with APG5 and plays a crucial role in autophagy, the major intracellular degradation system that delivers cytoplasmic proteins to lysosomes for destruction. Genetic variations in the gene encoding Atg16 are associated with susceptibility to inflammatory bowel disease type 10 (IBD10), a chronic relapsing intestinal inflammation. Multiple isoforms of Atg16 exist due to alternative splicing events.

REFERENCES

1. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 6107678. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
2. Mizushima, N., et al. 2003. Mouse Apg16L, a novel WD-repeat protein, targets to the autophagic isolation membrane with the Apg12-Apg5 conjugate. *J. Cell Sci.* 116: 1679-1688.
3. Zheng, H., et al. 2004. Cloning and analysis of human Apg16L. *DNA Seq.* 15: 303-305.
4. Massey, D.C., et al. 2007. Genome-wide association scanning highlights two autophagy genes, ATG16L1 and IRGM, as being significantly associated with Crohn's disease. *Autophagy* 3: 649-651.
5. Lakatos, P.L., et al. 2008. ATG16L1 and IL23 receptor (IL23R) genes are associated with disease susceptibility in Hungarian CD patients. *Dig. Liver Dis.* 40: 867-873.
6. Okazaki, T., et al. 2008. Contributions of IBD5, IL23R, ATG16L1, and NOD2 to Crohn's disease risk in a population-based case-control study: evidence of gene-gene interactions. *Inflamm. Bowel Dis.* 14: 1528-1541.
7. Amre, D.K., et al. 2008. Autophagy gene ATG16L1 but not IRGM is associated with Crohn's disease in Canadian children. *Inflamm. Bowel Dis.* 15: 501-507.
8. Cadwell, K., et al. 2008. A key role for autophagy and the autophagy gene Atg16L1 in mouse and human intestinal Paneth cells. *Nature* 456: 259-263.
9. Latiano, A., et al. 2008. Replication of interleukin 23 receptor and autophagy-related 16-like 1 association in adult- and pediatric-onset inflammatory bowel disease in Italy. *World J. Gastroenterol.* 14: 4643-4651.

CHROMOSOMAL LOCATION

Genetic locus: ATG16L1 (human) mapping to 2q37.1; Atg16L1 (mouse) mapping to 1 D.

RESEARCH USE

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

SOURCE

Atg16 (D-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Atg16 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-70134 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Atg16 (D-15) is recommended for detection of Atg16 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).

Atg16 (D-15) is also recommended for detection of Atg16 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Atg16 siRNA (h): sc-72580, Atg16 siRNA (m): sc-72581, Atg16 shRNA Plasmid (h): sc-72580-SH, Atg16 shRNA Plasmid (m): sc-72581-SH, Atg16 shRNA (h) Lentiviral Particles: sc-72580-V and Atg16 shRNA (m) Lentiviral Particles: sc-72581-V.

Molecular Weight of Atg16 isoforms: 63/71 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.



Try **Atg16 (E-10): sc-393274**, our highly recommended monoclonal alternative to Atg16 (D-15).