SANTA CRUZ BIOTECHNOLOGY, INC.

Atg16 (E-10): sc-393274

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 seven 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.

CHROMOSOMAL LOCATION

Genetic locus: ATG16L1 (human) mapping to 2q37.1; Atg16l1 (mouse) mapping to 1 D.

SOURCE

Atg16 (E-10) is a mouse monoclonal antibody raised against amino acids 15-70 mapping near the N-terminus of Atg16 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Atg16 (E-10) is available conjugated to agarose (sc-393274 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393274 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393274 PE), fluorescein (sc-393274 FITC), Alexa Fluor® 488 (sc-393274 AF488), Alexa Fluor® 546 (sc-393274 AF546), Alexa Fluor® 594 (sc-393274 AF594) or Alexa Fluor® 647 (sc-393274 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393274 AF680) or Alexa Fluor® 790 (sc-393274 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

Atg16 (E-10) is recommended for detection of Atg16 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

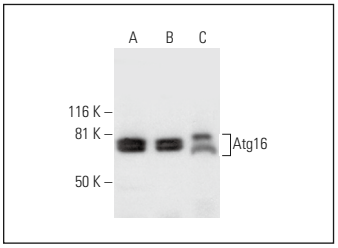
Molecular Weight of Atg16 isoforms: 63/71 kDa.

Positive Controls: A549 cell lysate: sc-2413, HeLa whole cell lysate: sc-2200 or human skeletal muscle extract: sc-363776.

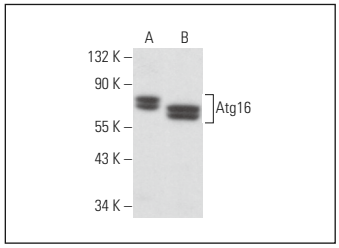
STORAGE

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

DATA



Atg16 (E-10): sc-393274. Western blot analysis of Atg16 expression in A549 (**A**) and HeLa (**B**) whole cell lysates and human skeletal muscle tissue extract (**C**).



Atg16 (E-10): sc-393274. Western blot analysis of Atg16 expression in A549 (**A**) and NIH/3T3 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Wang, W., et al. 2018. TRIM37 deficiency induces autophagy through deregulating the MTORC1-TFEB axis. Autophagy 14: 1574-1585.
2. Liu, X., et al. 2019. DHH1 promotes autophagy-related protein translation during nitrogen starvation. PLoS Biol. 17: e3000219.
3. Zha, Z., et al. 2020. An orally administered butyrate-releasing xylan derivative reduces inflammation in dextran sulphate sodium-induced murine colitis. Int. J. Biol. Macromol. 156: 1217-1233.
4. Mohamud, Y., et al. 2020. Coxsackievirus infection induces a non-canonical autophagy independent of the ULK and PI3K complexes. Sci. Rep. 10: 19068.
5. Burbidge, K., et al. 2022. LGALS3 (galectin 3) mediates an unconventional secretion of SNCA/α-synuclein in response to lysosomal membrane damage by the autophagic-lysosomal pathway in human midbrain dopamine neurons. Autophagy 18: 1020-1048.
6. Kallergi, E., et al. 2022. Dendritic autophagy degrades postsynaptic proteins and is required for long-term synaptic depression in mice. Nat. Commun. 13: 680.
7. Ma, Z., et al. 2022. Manganese-induced α-synuclein overexpression promotes the accumulation of dysfunctional synaptic vesicles and hippocampal synaptotoxicity by suppressing Rab26-dependent autophagy in presynaptic neurons. Sci. Total Environ. 858: 159753.
8. Cao, J., et al. 2022. Hsp70 inhibits the replication of fowl adenovirus serotype 4 by suppressing viral hexon with the assistance of DnaJC7. J. Virol. 96: e0080722.
9. Lee, S.K., et al. 2023. Autophagy enhancers regulate cholesterol-induced cytokine secretion and cytotoxicity in macrophages. J. Lipid Atheroscler. 12: 189-200.

RESEARCH USE

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