

Atg9a (F-3): sc-518179

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. Atg9a (autophagy-related protein 9A), also known as APG9-like 1, is a 839 amino acid, multi-pass membrane protein that localizes to the pre-autophagosomal structure (PAS). Isolation membranes are suggested to originate from the PAS, enwrapping cytoplasmic components to form a double membrane autophagosome, which then fuses with the vacuole. Ubiquitously expressed in human adult tissues, Atg9a cycles between the Golgi and endosomes and, with the autophagosome-specific marker LC3, plays a critical role in starvation-induced autophagosome formation. Three isoforms of Atg9a exist as a result of alternative splicing events.

REFERENCES

1. Yamada, T., et al. 2005. Endothelial nitric-oxide synthase antisense (NOS3AS) gene encodes an autophagy-related protein (APG9-like2) highly expressed in trophoblast. *J. Biol. Chem.* 280: 18283-18290.
2. Young, A.R., et al. 2006. Starvation and ULK1-dependent cycling of mammalian Atg9 between the TGN and endosomes. *J. Cell Sci.* 119: 3888-3900.
3. Webber, J.L., et al. 2007. Atg9 trafficking in Mammalian cells. *Autophagy* 3: 54-56.
4. He, C. and Klionsky, D.J. 2007. Atg9 trafficking in autophagy-related pathways. *Autophagy* 3: 271-274.
5. Legakis, J.E., et al. 2007. A cycling protein complex required for selective autophagy. *Autophagy* 3: 422-432.

CHROMOSOMAL LOCATION

Genetic locus: ATG9A (human) mapping to 2q35.

SOURCE

Atg9a (F-3) is a mouse monoclonal antibody raised against amino acids 561-839 mapping at the C-terminus of Atg9a of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Atg9a (F-3) is available conjugated to agarose (sc-518179 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-518179 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518179 PE), fluorescein (sc-518179 FITC), Alexa Fluor[®] 488 (sc-518179 AF488), Alexa Fluor[®] 546 (sc-518179 AF546), Alexa Fluor[®] 594 (sc-518179 AF594) or Alexa Fluor[®] 647 (sc-518179 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-518179 AF680) or Alexa Fluor[®] 790 (sc-518179 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

Atg9a (F-3) is recommended for detection of Atg9a of 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 Atg9a siRNA (h): sc-72586, Atg9a shRNA Plasmid (h): sc-72586-SH and Atg9a shRNA (h) Lentiviral Particles: sc-72586-V.

Molecular Weight of Atg9a isoform 1: 95 kDa.

Molecular Weight of Atg9a isoform 2: 87 kDa.

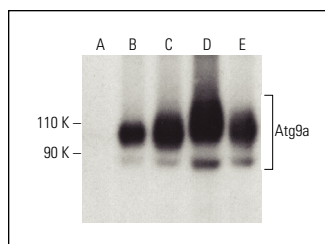
Molecular Weight of Atg9a isoform 3: 61 kDa.

Positive Controls: Atg9a (h2): 293T Lysate: sc-128061, MCF7 whole cell lysate: sc-2206 or DU 145 cell lysate: sc-2268.

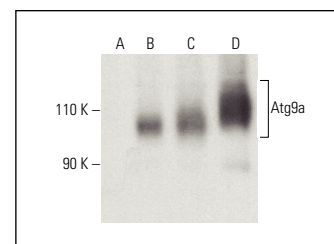
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz[®] Mounting Medium: sc-24941 or UltraCruz[®] Hard-set Mounting Medium: sc-359850.

DATA



Atg9a (F-3): sc-518179. Western blot analysis of Atg9a expression in non-transfected 293T: sc-117752 (A), human Atg9a transfected 293T: sc-128061 (B), MCF7 (C), Hep G2 (D) and DU 145 (E) whole cell lysates. Detection reagent used: m-IgG₁ BP-HRP: sc-525408.



Atg9a (F-3): sc-518179. Western blot analysis of Atg9a expression in non-transfected 293T: sc-117752 (A), human Atg9a transfected 293T: sc-128061 (B), MCF7 (C) and Hep G2 (D) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.

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 for detailed protocols and support products.