

# Atg9a (L-18): sc-70141

## 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., Carson, A.R., Caniggia, I., Umabayashi, K., Yoshimori, T., Nakabayashi, K. and Scherer, S.W. 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., Chan, E.Y., Hu, X.W., Köchl, R., Crawshaw, S.G., High, S., Hailey, D.W., Lippincott-Schwartz, J. and Tooze, S.A. 2006. Starvation and ULK1-dependent cycling of mammalian Atg9 between the TGN and endosomes. *J. Cell Sci.* 119: 3888-3900.
3. Webber, J.L., Young, A.R. and Tooze, S.A. 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.

## CHROMOSOMAL LOCATION

Genetic locus: ATG9A (human) mapping to 2q35; Atg9a (mouse) mapping to 1 C3.

## SOURCE

Atg9a (L-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Atg9a 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-70141 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.

## RESEARCH USE

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

## APPLICATIONS

Atg9a (L-18) is recommended for detection of Atg9a 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Atg9a (L-18) is also recommended for detection of Atg9a in additional species, including equine, bovine, porcine and avian.

Suitable for use as control antibody for Atg9a siRNA (h): sc-72586, Atg9a siRNA (m): sc-72587, Atg9a shRNA Plasmid (h): sc-72586-SH, Atg9a shRNA Plasmid (m): sc-72587-SH, Atg9a shRNA (h) Lentiviral Particles: sc-72586-V and Atg9a shRNA (m) Lentiviral Particles: sc-72587-V.

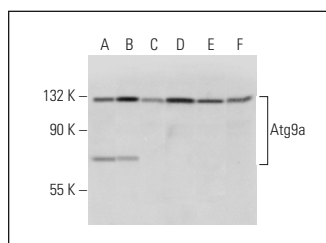
Molecular Weight of Atg9a isoform 1: 95 kDa.

Molecular Weight of Atg9a isoform 2: 87 kDa.

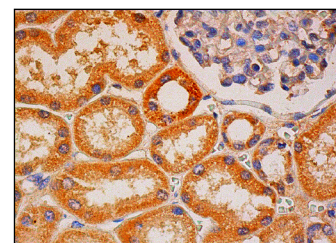
Molecular Weight of Atg9a isoform 3: 61 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or HEK293 whole cell lysate: sc-45136.

## DATA



Atg9a (L-18): sc-70141. Western blot analysis of Atg9a expression in NIH/3T3 (A), F9 (B), Hep G2 (C), HEK293 (D), A375 (E) and HeLa (F) whole cell lysates.



Atg9a (L-18): sc-70141. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules.

## SELECT PRODUCT CITATIONS

1. Fonseca, M.B., Sola, S., Xavier, J.M., Dionisio, P.A. and Rodrigues, C.M. 2013. Amyloid  $\beta$  peptides promote autophagy-dependent differentiation of mouse neural stem cells: A $\beta$ -mediated neural differentiation. *Mol. Neurobiol.* 48: 829-840.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.