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ATG9A Monoclonal Antibody (14F2 8B1)

Catalog Number **MA1-149**

Product data sheet

Details	
Size	100 µg
Host/Isotope	Armenian hamster / IgG
Class	Monoclonal
Type	Antibody
Clone	14F2 8B1
Immunogen	peptide sequence HPEPVPEEGSEDELPPQVHK of human ATG9A C-terminus
Conjugate	Unconjugated
Form	Liquid
Concentration	1 mg/mL
Purification	Protein A
Storage buffer	PBS with 1mg/mL BSA, 30% glycerol
Contains	0.05% sodium azide
Storage Conditions	-20°C

Species Reactivity	
Species reactivity	Human, Mouse, Rat
Published species	Human

Tested Applications	Dilution *
ELISA (ELISA)	Assay-dependent
Western Blot (WB)	1:500
Immunocytochemistry (ICC/IF)	1:50-1:100

Published Applications	
Western Blot (WB)	See 1 publications below
Immunocytochemistry (ICC/IF)	See 1 publications below

* Suggested working dilutions are given as a guide only. It is recommended that the user titrate the product for use in their own experiment using appropriate negative and positive controls.

Product specific information

MA1-149 was produced in Armenian hamster and detects ATG9 in human, rat and mouse samples. MA1-149 has been successfully used in Western Blot, Immunofluorescence, and ELISA procedures. Western Blot analysis with MA1-149 shows the detection of a double band at ~85-95 kDa in human ATG9 overerexpression lysates. MA1-149 also detects additional unknown bands at ~40 and ~60 kDa. In Immunofluorescence applications, MA1-149 shows accumulation and redestribution of ATG9 in response to starvation-induced autophagosome assembly.

Background/Target Information

Macroautophagy is the major inducible pathway for the general turnover of cytoplasmic constituents in eukaryotic cells, it is also responsible for the degradation of active cytoplasmic enzymes and organelles during nutrient starvation. Macroautophagy involves the formation of double-membrane bound autophagosomes which enclose the cytoplasmic constituent targeted for degradation in a membrane bound structure, which then fuse with the lysosome (or vacuole) releasing a single-membrane bound autophagic bodies which are then degraded within the lysosome (or vacuole). Apg9 plays a direct role in the formation of the cytoplasm to vacuole targeting and autophagic vesicles, possibly serving as a marker for a specialized compartment essential for these vesicle-mediated alternative targeting pathways.

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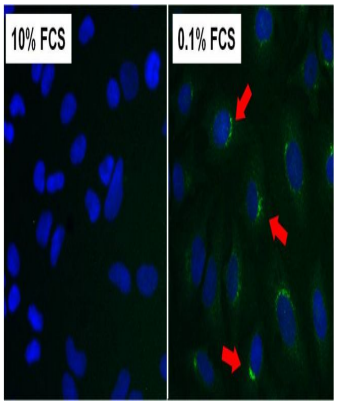
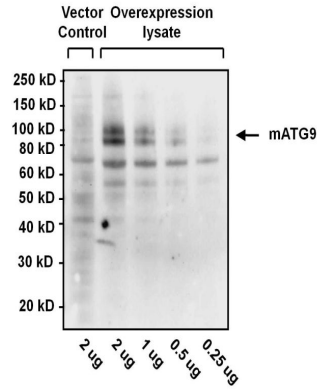
Product Images For ATG9A Monoclonal Antibody (14F2 8B1)



ATG9A Antibody (MA1-149) in ICC/IF

Immunofluorescent analysis of ATG9 (green) accumulation in HeLa cells in response to serum starvation (0.1% FCS, 16 hours). Formalin-fixed cells were permeabilized with 0.1% Triton X-100 in TBS and blocked with 1% Blocker BSA (Product # 37525) for 15 minutes at room temperature. Cells were probed with an ATG9 monoclonal antibody (Product # MA1-149) at a dilution of 1:50 for at least 1 hour at room temperature, washed with PBS, and incubated with a DyLight 488-conjugated goat anti-Armenian Hamster IgG secondary antibody. Images were taken on a Thermo Scientific ToxInsight Instrument at 20X magnification. Accumulation and redistribution (red arrows) of cytoplasmic ATG9 in response to starvation-induced autophagosome assembly is shown (right panel).



ATG9A Antibody (MA1-149) in WB

Western blot analysis of mammalian ATG9 (mATG9) was performed by loading the indicated amounts of control or human ATG9 overexpression lysates onto a 4-12% Bis-Tris polyacrylamide gel. Proteins were transferred to a nitrocellulose membrane and blocked with 5% BSA in TBST for at least 1 hour. Membranes were probed with an ATG9 monoclonal antibody (Product # MA1-149) at a dilution of 1:500 overnight at 4°C on a rocking platform, washed in TBST, and probed with an HRP-conjugated goat anti-hamster IgG secondary antibody (Product # PA1-29626) at a dilution of 1:20,000 for 1 hour. Chemiluminescent detection was performed using SuperSignal West Dura (Product # 34075).

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PubMed References For ATG9A Monoclonal Antibody (14F2 8B1)

1 Western Blot References

Species / Dilution	Summary
Human / Not Cited	MA1-149 was used in Western Blotting to identify several interfaces mediating ATG9A-2A interaction that would allow a direct transfer of lipids from ATG2A into the lipid-binding perpendicular branch of ATG9A. Mutational analyses combined with functional activity assays demonstrate their importance for autophagy, thereby shedding light on this protein complex at the heart of autophagy. Molecular cell (2022; 82: 4324) **"ATG9A and ATG2A form a heteromeric complex essential for autophagosome formation."** Author(s):van Vliet AR,Chiduza GN,Maslen SL,Pye VE,Joshi D,De Tito S,Jefferies HBJ,Christodoulou E,Roustan C, Punch E,Hervás JH,O'Reilly N,Skehel JM,Cherepanov P,Tooze SA PubMed Article URL:http://dx.doi.org/10.1016/j.molcel.2022.10.017

1 Immunocytochemistry References

Species / Dilution	Summary
Human / Not Cited	MA1-149 was used in Western Blotting to identify several interfaces mediating ATG9A-2A interaction that would allow a direct transfer of lipids from ATG2A into the lipid-binding perpendicular branch of ATG9A. Mutational analyses combined with functional activity assays demonstrate their importance for autophagy, thereby shedding light on this protein complex at the heart of autophagy. Molecular cell (2022; 82: 4324) **"ATG9A and ATG2A form a heteromeric complex essential for autophagosome formation."** Author(s):van Vliet AR,Chiduza GN,Maslen SL,Pye VE,Joshi D,De Tito S,Jefferies HBJ,Christodoulou E,Roustan C, Punch E,Hervás JH,O'Reilly N,Skehel JM,Cherepanov P,Tooze SA PubMed Article URL:http://dx.doi.org/10.1016/j.molcel.2022.10.017

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