

# PRODUCT INFORMATION



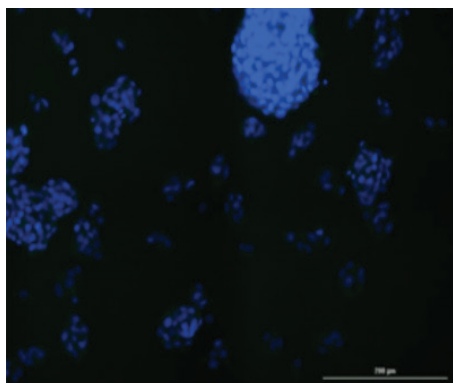
## ATG5 Monoclonal Antibody (Clone 1F8)

Item No. 28812

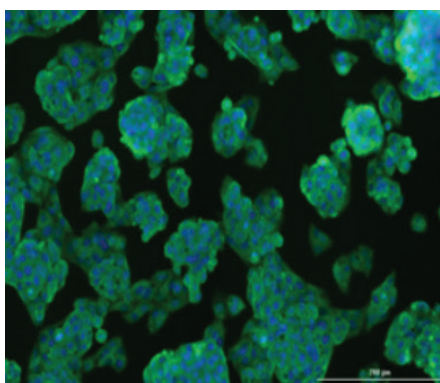
### Overview and Properties

<b>Contents:</b>	This vial contains 100 µg of Protein G-purified monoclonal antibody.
<b>Synonyms:</b>	APG5-like, hAPG5, Apoptosis-specific Protein, Autophagy Protein 5, Autophagy-related 5
<b>Immunogen:</b>	Full-length human recombinant ATG5 protein
<b>Cross Reactivity:</b>	(-) ATG8
<b>Species Reactivity:</b>	(+) Human; other species not tested
<b>Uniprot No.:</b>	Q9H1Y0
<b>Form:</b>	Liquid
<b>Storage:</b>	-20°C (as supplied)
<b>Stability:</b>	≥3 years
<b>Storage Buffer:</b>	PBS, pH 7.2, with 50% glycerol and 0.02% sodium azide
<b>Clone:</b>	1F8
<b>Host:</b>	Mouse
<b>Isotype:</b>	IgG1
<b>Applications:</b>	ELISA and immunofluorescence (IF); the recommended starting dilution for ELISA is 1:1,000 and 1:200 for IF. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

### Image



A



B

Immunofluorescence staining of HepG2 cells. Cells were fixed with 4% PFA, permeabilized, and blocked with 1% fetal bovine serum. Cells were probed with the indicated antibodies and counterstained with DAPI. **Panel A:** No primary antibody control with Cayman's Goat Anti-Mouse (IgG+IgM) FITC secondary antibody (Item No. 10006617) at 1:100. **Panel B:** ATG5 Monoclonal Antibody (Clone 1F8) (Item No. 28812) at 1:400 followed by Cayman's Goat Anti-Mouse (IgG+IgM) FITC secondary antibody at 1:100.

**WARNING**  
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

**SAFETY DATA**  
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

**WARRANTY AND LIMITATION OF REMEDY**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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## Description

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Autophagy related 5 (ATG5), formerly known as apoptosis-specific protein (ASP), is a protein that is essential to autophagosome elongation.<sup>1-3</sup> ATG5 is covalently conjugated to the C-terminal glycine residue of ATG12 (ATG12-ATG5) and forms a non-covalent complex with ATG16 (ATG12-ATG5-ATG16), which functions as an E3 ubiquitin ligase-like enzyme to facilitate LC3 transfer from ATG3 to phosphatidylethanolamine in canonical autophagy. ATG12-ATG5 also binds to the ATG12-ATG5-interaction region of the lysosomally localized protein TECPR1, freeing the TECPR1 pleckstrin homology domain to interact with phosphatidylinositol 3-phosphate components in the autophagosome membrane, promoting autophagosome-lysosome fusion.<sup>3</sup> Polymorphisms in ATG5 have been associated with various autoimmune diseases, including lupus nephritis and Behçet's disease, gastrointestinal and colorectal cancers, as well as sporadic Parkinson's disease and childhood asthma. Cayman's ATG5 Monoclonal Antibody (Clone 1F8) can be used for ELISA and immunofluorescence applications.

## References

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1. Otomo, C., Metlagel, Z., Takaesu, G., *et al.* Structure of the human ATG12~ATG5 conjugate required for LC3 lipidation in autophagy. *Nat. Struct. Mol. Biol.* **20(1)**, 59-66 (2013).
2. Kim, J.H., Hong, S.B., Lee, J.K., *et al.* Insights into autophagosome maturation revealed by the structures of ATG5 with its interacting partners. *Autophagy* **11(1)**, 75-87 (2015).
3. Ye, X., Zhou, X.J., and Zhang, H. Exploring the role of autophagy-related gene 5 (ATG5) yields important insights into autophagy in autoimmune/autoinflammatory diseases. *Front. Immunol.* **9**, 2334 (2018).

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