

# Atg12 Antibody (Human Specific)

✓ 100 µl  
(10 western blots)

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rev. 06/08/11

This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP, IF-IC Endogenous	H	16, 55 kDa	Rabbit**

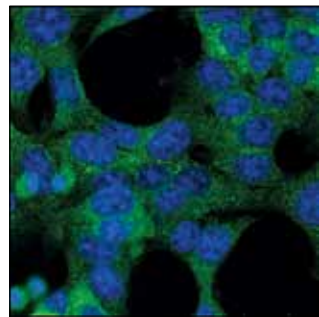
**Background:** Autophagy is a catabolic process for the autophagosomal-lysosomal degradation of bulk cytoplasmic contents (1,2). Autophagy is generally activated by conditions of nutrient deprivation but has also been associated with a number of physiological processes including development, differentiation, neurodegenerative diseases, infection and cancer (3). The molecular machinery of autophagy was largely discovered in yeast and referred to as **autophagy-related** (Atg) genes. Formation of the autophagosome involves a ubiquitin-like conjugation system in which Atg12 is covalently bound to Atg5 and targeted to autophagosome vesicles (4-6). This conjugation reaction is mediated by the ubiquitin-E1-like enzyme Atg7 and the E2-like enzyme Atg10 (7,8).

**Specificity/Sensitivity:** Atg12 Antibody (Human Specific) detects endogenous levels of total free and Atg5 bound Atg12 protein.

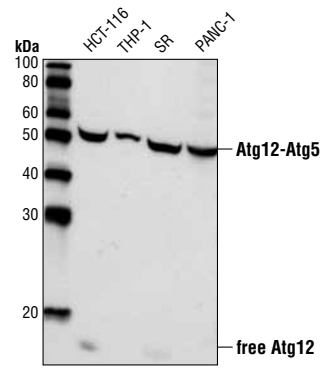
**Source/Purification:** Polyclonal antibodies are produced by immunizing animals with a synthetic peptide (KLH-coupled) corresponding to residues near the amino terminus of human Atg12. Antibodies are purified by peptide affinity chromatography.

**Background References:**

- (1) Reggiori, F. and Klionsky, D.J. (2002) *Eukaryot Cell* 1, 11-21.
- (2) Codogno, P. and Meijer, A.J. (2005) *Cell Death Differ* 12 Suppl 2, 1509-18.
- (3) Levine, B. and Yuan, J. (2005) *J Clin Invest* 115, 2679-88.
- (4) Mizushima, N. et al. (1998) *J Biol Chem* 273, 33889-92.
- (5) Mizushima, N. et al. (1998) *Nature* 395, 395-8.
- (6) Suzuki, K. et al. (2001) *EMBO J* 20, 5971-81.
- (7) Tanida, I. et al. (1999) *Mol Biol Cell* 10, 1367-79.
- (8) Shintani, T. et al. (1999) *EMBO J* 18, 5234-41.



Confocal immunofluorescent analysis of HCT-116 cells, untreated (upper) or chloroquine-treated (lower), using Atg12 Antibody (Human Specific) (green). Blue pseudocolor = DRAQ5® #4084 (fluorescent DNA dye).



Western blot analysis of extracts from various cell lines using Atg12 Antibody (Human Specific).

Entrez-Gene ID #9140  
Swiss-Prot Acc. #O94817

**Storage:** Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at -20°C. Do not aliquot the antibody.

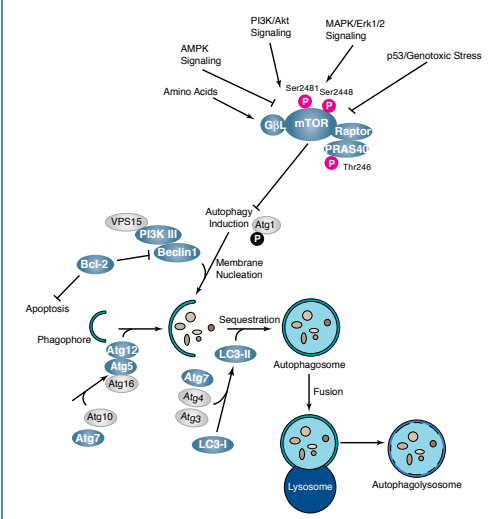
**\*Species cross-reactivity is determined by western blot.**  
**\*\*Anti-rabbit secondary antibodies must be used to detect this antibody.**

**Recommended Antibody Dilutions:**

Western blotting	1:1000
Immunoprecipitation	1:25
Immunofluorescence (IF-IC)	1:100

For application specific protocols please see the web page for this product at [www.cellsignal.com](http://www.cellsignal.com).

Please visit [www.cellsignal.com](http://www.cellsignal.com) for a complete listing of recommended companion products.



**IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.**

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