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Atg7 (D12B11) Rabbit mAb

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Entrez-Gene ID #10533
UniProt ID #O95352

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W, IP Endogenous	H, M, R, (Mk, B)	78 kDa	Rabbit IgG**

Background: Autophagy is a catabolic process for the autophagosomic-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, neurodegeneration, infection, and cancer (3). The molecular machinery of autophagy was largely discovered in yeast and referred to as **a**u**t**opha**g**y-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: Atg7 (D12B11) Rabbit mAb recognizes endogenous levels of total Atg7 protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human Atg7 protein.

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.

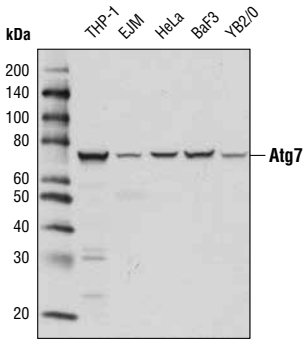
(4) Mizushima, N. et al. (1998) *J Biol Chem* 273, 33889-92.

(5) Mizushima, N. et al. (1998) *Nature* 395, 395-8.

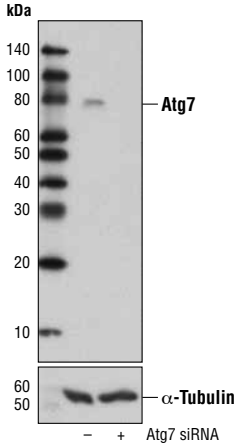
(6) Suzuki, K. et al. (2001) *EMBO J* 20, 5971-81.

(7) Tanida, I. et al. (1999) *Mol Biol Cell* 10, 1367-79.

(8) Shintani, T. et al. (1999) *EMBO J* 18, 5234-41.



Western blot analysis of extracts from various cell lines using Atg7 (D12B11) Rabbit mAb.



Western blot analysis of extracts from HeLa cells, transfected with 100 nM SignalSilence® Control siRNA (Unconjugated) #6568 (-) or SignalSilence® Atg7 siRNA I #6604 (+), using Atg7 (D12B11) Rabbit mAb (upper) or α-Tubulin (11H10) Rabbit mAb #2125 (lower). The Atg7 (D12B11) Rabbit mAb confirms silencing of Atg7 expression, while the α-Tubulin (11H10) Rabbit mAb is used as a loading control.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. 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	1:100

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit 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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Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.