



MONOCLONAL ANTIBODY

For research use only. Not for clinical diagnosis.

Catalog No. CTB-AT7-M01

Anti Atg7 (Clone: ATG7 · 2)

BACKGROUND

Autophagy is an evolutionally conserved machinery, in which autophagosome fuses with lysosome and degrades bulk cytoplasmic contents¹. Autophagy is involved in many physiological processes such as development, infection, cancer, and neurodegenerative diseases². ATG (autophagy-related) genes were identified by genetic screening in yeast³. Atg7 acts as an E1-like enzyme in both Atg12 and Atg8 ubiquitin-like conjugation systems. Atg7 transfers Atg12 to an E2-like enzyme Atg10, and conjugates Atg12 to Atg5. In the other hand, Atg7 transfers Atg8 to another E2-like enzyme Atg3, and conjugates Atg8 to phosphatidylethanolamine⁴. Many of these ATG genes are conserved also in mammals. Atg7 deficient neonates die soon after birth as they cannot endure perineonatal starvation⁵. Conditional deletion of Atg7 in nerves system results in neurodegeneration with ubiquitin containing aggregates⁶.

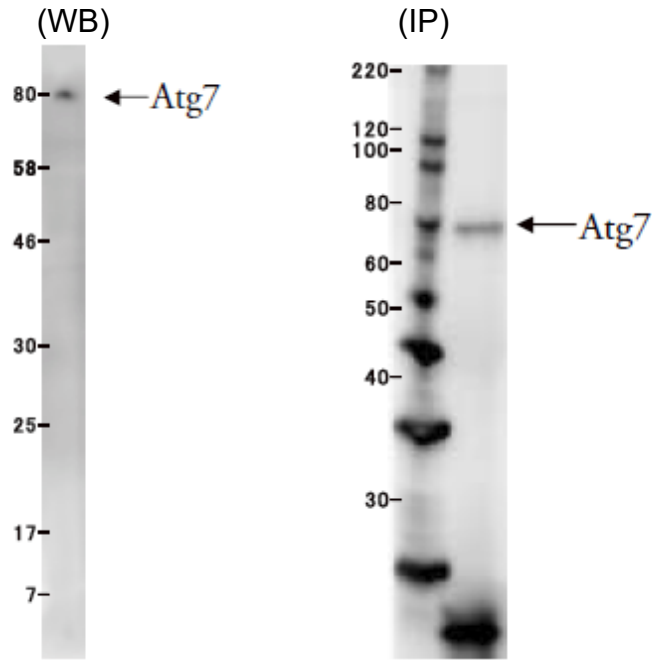
Product type	Primary Antibodies
Host	Mouse
Form	Liquid
	Protein G Purified
	PBS (pH7.4) with 1% BSA and less than 0.1% NaN ₃ as preservative
Volume	500 µl
Concentration	0.1 mg/ml
Genebank Info	AAH00091.1 (Homo sapiens)
Other Names	GSA7, APG7L, APG7-LIKE, DKFZp434N0735, ATG7
Antigen	Recombinant Human Atg7
Clone	ATG7 · 2
Cross reactivity	HU
Isotype	IgG2b

Application notes	Recommended dilution <ul style="list-style-type: none">• Western Blot: 1/10 - 1/500• Immunoprecipitation : 1/10 Optimum dilution rate should be determined by end user.
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Storage	Store below -20°C (below -70°C for prolonged storage).
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References	<ol style="list-style-type: none">1) Klionsky DJ, Emr SD, (2000) Autophagy as a regulated pathway of cellular degradation. <i>Science</i>. 290: 1717-21. PMID: 110994042) Mizushima N, <i>et al.</i>, (2008) Autophagy fights disease through cellular self-digestion. <i>Nature</i>. 451: 1069-75. PMID: 183055383) Tsukada M, Ohsumi Y, (1993) Isolation and characterization of autophagy-defective mutants of <i>Saccharomyces cerevisiae</i>. <i>FEBS Lett</i>. 333: 169-74. PMID: 82241604) Mizushima N, <i>et al.</i>, (1998) A protein conjugation system essential for autophagy. <i>Nature</i>. 395: 395-8. PMID: 97597315) Komatsu M, <i>et al.</i>, (2005) Impairment of starvation-induced and constitutive autophagy in Atg7-deficient mice. <i>J Cell Biol</i>. 169: 425-34. PMID: 158668876) Komatsu M, <i>et al.</i>, (2006) Loss of autophagy in the central nervous system causes neurodegeneration in mice. <i>Nature</i>. 441: 880-4. PMID: 16625205
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Example Assay Data



Sample : Lysate of HeLa Cells

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