

AP20048PU-N**Polyclonal Antibody to ATG12 / APG12 (Center) - Aff - Purified****Alternate names:**

APG12-like, APG12L, Autophagy-related protein 12, Ubiquitin-like protein ATG12

Quantity:

0.1 mg

Background:

Autophagy, the process of bulk degradation of cellular proteins through an autophagosomic-lysosomal pathway is important for normal growth control and may be defective in tumor cells. It is involved in the preservation of cellular nutrients under starvation conditions as well as the normal turnover of cytosolic components. This process is negatively regulated by TOR (Target of rapamycin) through phosphorylation of autophagy protein APG1. ATG12, another member of the autophagy protein family, forms a conjugate with ATG5; this conjugate has a ubiquitin-protein ligase (E3)-like activity for protein lipidation in autophagy. This conjugate also associates with innate immune response proteins such as RIG-I and VISA (also known as IPS-1), inhibiting type I interferon production and permitting viral replication in host cells. ATG12 has also been shown to interact with ATG10 in human embryonic kidney cells in the presence of ATG7. At least two isoforms of ATG12 are known to exist.

Uniprot ID:[O94817](#)**NCBI:**[NP_004698](#)**GeneID:**[9140](#)**Host / Isotype:**

Rabbit / IgG

Immunogen:

A 15 amino acid peptide from near the center of Human ATG12

Format:**State:** Liquid purified IgG fraction**Purification:** Affinity Chromatography purified via peptide column**Buffer System:** PBS containing 0.02% Sodium Azide as preservative**Applications:****ELISA.****Western blot:** ATG12 antibody can be used for the detection of ATG10 at 0.5–1 µg/ml.**Immunohistochemistry on Paraffin Sections.****Positive Control:** Mouse Heart Tissue Lysate.**Immunofluorescence:** 10 µg/ml.

Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:

Recognizes APG12/ATG12.

Species Reactivity:**Tested:** Human, Mouse and Rat**Storage:**

Store the antibody undiluted at 2-8°C.

Antibodies should not be exposed to prolonged high temperatures.

Shelf life: one year from despatch.

General Readings:1. Gozuacik D, Kimchi A. Autophagy as a cell death and tumor suppressor mechanism. *Oncogene*. 2004 Apr 12;23(16):2891-906. PubMed PMID: 15077152.

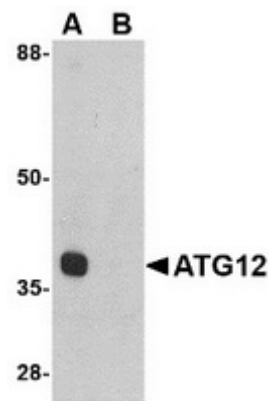
2. Kisen GO, Tessitore L, Costelli P, Gordon PB, Schwarze PE, Baccino FM, et al.

Reduced autophagic activity in primary rat hepatocellular carcinoma and ascites

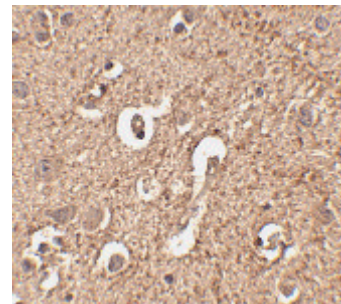
hepatoma cells. *Carcinogenesis*. 1993 Dec;14(12):2501-5. PubMed PMID: 8269618.
 3. Kamada Y, Funakoshi T, Shintani T, et al. Tor-mediated induction of autophagy via Apg1 protein kinase complex. *J. Cell. Biol.* 2000; 150:1507-13. 4. Hanada T, Noda NN, Satomi Y, et al. The Atg12-Atg5 conjugate has a novel E3-like activity for protein lipidation in autophagy. *J. Biol. Chem.* 2007; 282:37298-302.
 4. Jounai N, Takeshita F, Kobiyama K, Sawano A, Miyawaki A, Xin KQ, et al. The Atg5 Atg12 conjugate associates with innate antiviral immune responses. *Proc Natl Acad Sci U S A.* 2007 Aug 28;104(35):14050-5. Epub 2007 Aug 20. PubMed PMID: 17709747.
 5. Nemoto T, Tanida I, Tanida-Miyake E, Minematsu-Ikeguchi N, Yokota M, Ohsumi M, et al. The mouse APG10 homologue, an E2-like enzyme for Apg12p conjugation, facilitates MAP-LC3 modification. *J Biol Chem.* 2003 Oct 10;278(41):39517-26. Epub 2003 Jul 30. PubMed PMID: 12890687.

Pictures:

Western blot analysis of ATG12 in mouse heart tissue lysate with ATG12 antibody at 1 ug/ml in (A) the absence and (B) the presence of blocking peptide.



Immunohistochemistry of ATG12 in human brain tissue with ATG12 antibody at 2.5 ug/ml.



Immunofluorescence of ATG12 in Human
Brain cells with ATG12 antibody at 20
ug/mL.

