

ATG12 Antibody

ATG12 (NT): Autophagy protein 12, Autophagy related protein 12, APG12, APG12L, HAPG12

CATALOG NO.: 4421

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 (1,2). This process is negatively regulated by TOR (Target of rapamycin) through phosphorylation of autophagy protein APG1 (3). 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 (4). 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 (5). ATG12 has also been shown to interact with ATG10 in human embryonic kidney cells in the presence of ATG7 (6). At least two isoforms of ATG12 are known to exist.

SOURCE:

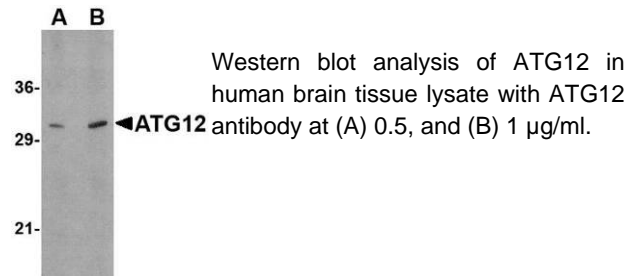
Rabbit polyclonal ATG12 antibody was raised against a 16 amino acid peptide from near the amino terminus of human ATG12 (Genbank accession No. EAW48955).

APPLICATION:

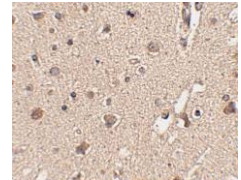
ATG12 antibody can be used for the detection of ATG12 by Western blot at 0.5 – 1 µg/ml. (Optimal dilution should be determined by user). Human brain tissue lysate can be used as positive control. ATG12 antibody is human, mouse and rat reactive. **This product is for research use only.**

STORAGE:

ATG12 antibody is supplied as immunoaffinity purified IgG in PBS containing 0.02% sodium azide. Store at 4°C, stable for one year.



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



RELATED PRODUCTS:

Blocking peptide, Catalog No. **4421P**.
Human Brain Tissue Lysate, Catalog No. **1303**.
ATG12 Antibody (IN), Catalog No. **4423**.
ATG5 Antibody, Catalog No. **4441**.
APG7 Antibody (CT), Catalog No. **3615**.
ATG10 Antibody, Catalog No. **4399**.
TOR Antibody, Catalog No. **3485**.
RIG-I Antibody, Catalog No. **3953**.
VISA Antibody (NT), Catalog No. **4053**.

REFERENCES:

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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.
5. Jounai N, Takeshita F, Kobiyama K, et al. The Atg5-Atg12 conjugate associates with innate antiviral immune responses. *Proc. Natl. Acad. Sci. USA* 2007; 104:14050-5.
6. Nemoto T, Tanida I, Tanida-Miyake E, et al. The mouse APG10 homologue, an E2-like enzyme for APG12p conjugation, facilitates MAP-LC3 modification. *J. Biol. Chem.* 2003; 278:39517-26. (08-01D)