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Anti-Apg3 Picoband Antibody

Catalog # ABO12961

Product Information

Application	WB
Primary Accession	Q9NT62
Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Format	Lyophilized
Description	Rabbit IgG polyclonal antibody for Ubiquitin-like-conjugating enzyme ATG3(ATG3) detection. Tested with WB in Human.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	64422
Other Names	Ubiquitin-like-conjugating enzyme ATG3, 6.3.2.-, Autophagy-related protein 3, APG3-like, hApg3, Protein PC3-96, ATG3, APG3, APG3L
Calculated MW	35864
Application Details	Western blot, 0.1-0.5 □g/ml, Human
Subcellular Localization	Cytoplasm .
Tissue Specificity	Widely expressed, with a highest expression in heart, skeletal muscle, kidney, liver and placenta. .
Source	Eukaryota
Contents	Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Immunogen	E.coli-derived human Apg3 recombinant protein (Position: M1-T244). Human Apg3 shares 96.7% and 96.3% amino acid (aa) sequence identity with mouse and rat Apg3, respectively.
Purification	Immunogen affinity purified.
Cross Reactivity	No cross reactivity with other proteins.
Storage	At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time. Avoid repeated freezing and thawing.

Protein Information

Name	ATG3 (HGNC:20962)
Synonyms	APG3, APG3L
Function	E2 conjugating enzyme that catalyzes the covalent conjugation of the C-terminal Gly of ATG8-like proteins (GABARAP, GABARAPL1, GABARAPL2 or MAP1LC3A) to the amino group of phosphatidylethanolamine (PE)-containing lipids in the membrane resulting in membrane-bound ATG8-like proteins which is one of the key steps in the development of autophagic isolation membranes during autophagosome formation (PubMed:24191030, PubMed:33446636, PubMed:37252361). Cycles back and forth between binding to ATG7 for loading with the ATG8-like proteins and binding to E3 enzyme, composed of ATG12, ATG5 and ATG16L1 to promote ATG8-like proteins lipidation (PubMed:11825910, PubMed:12207896, PubMed:12890687, PubMed:16704426, PubMed:24186333). Also plays a role as a membrane curvature sensor that facilitates LC3/GABARAP lipidation by sensing local membrane stress associated with lipid-packing defects as occurs with high molar proportions of conical lipids or strident membrane curvature (By similarity). Interacts with negatively-charged membranes promoting membrane tethering and enhancing LC3/GABARAP lipidation (PubMed:29142222). Also acts as an autocatalytic E2-like enzyme by catalyzing the conjugation of ATG12 to itself in an ATG7-dependent manner, this complex thus formed, plays a role in mitochondrial homeostasis but not in autophagy (By similarity). ATG12- ATG3 conjugation promotes late endosome to lysosome trafficking and basal autophagosome maturation via its interaction with PDCD6IP (By similarity). ATG12-ATG3 conjugate is also formed upon viccina virus infection, leading to the disruption the cellular autophagy which is not necessary for vaccinia survival and proliferation (By similarity). Promotes primary ciliogenesis by removing OFD1 from centriolar satellites via the autophagic pathway (By similarity).
Cellular Location	Cytoplasm.
Tissue Location	Widely expressed, with a highest expression in heart, skeletal muscle, kidney, liver and placenta

Background

This ATG3 gene encodes a ubiquitin-like-conjugating enzyme and is a component of ubiquitination-like systems involved in autophagy, the process of degradation, turnover and recycling of cytoplasmic constituents in eukaryotic cells. And the protein is known to play a role in regulation of autophagy during cell death. A pseudogene of this gene is located on chromosome 20. Alternative splicing results in multiple transcript variants encoding different isoforms.

Images

Figure 1. Western blot analysis of Apg3 using anti-Apg3 antibody (ABO12961).



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