

APG3 Antibody Blocking Peptide
Synthetic peptide
Catalog # BP9818a**Specification**

APG3 Antibody Blocking Peptide - Product InformationPrimary Accession [Q9NT62](#)**APG3 Antibody Blocking Peptide - Additional Information****Gene ID** 64422**Other Names**

Ubiquitin-like-conjugating enzyme ATG3, 632-, Autophagy-related protein 3, APG3-like, hAp3, Protein PC3-96, ATG3, APG3, APG3L

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

APG3 Antibody Blocking Peptide - 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:37252361, PubMed:33446636). 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:12207896, PubMed:24186333, PubMed:11825910, PubMed:12890687, PubMed:16704426).

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 vaccinia 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

APG3 Antibody Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

APG3 Antibody Blocking Peptide - Images**APG3 Antibody Blocking Peptide - Background**

Autophagy is a process of bulk degradation of cytoplasmic components by the lysosome or vacuole. Human ATG3 displays the same enzymatic characteristics in vitro as yeast Apg3, a protein-conjugating enzyme essential for autophagy.

APG3 Antibody Blocking Peptide - References

Ewing, R.M., et al. Mol. Syst. Biol. 3, 89 (2007) :Tanida, I., et al. FEBS J. 273(11):2553-2562(2006)Rush, J., et al. Nat. Biotechnol. 23(1):94-101(2005)Tanida, I., et al. J. Biol. Chem. 279(46):47704-47710(2004)Brill, L.M., et al. Anal. Chem. 76(10):2763-2772(2004)