

**Phospho-ATG4C(S166) Antibody Blocking peptide**  
**Synthetic peptide**  
**Catalog # BP3456a****Specification**

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**Phospho-ATG4C(S166) Antibody Blocking peptide - Product Information**Primary Accession [Q96DT6](#)**Phospho-ATG4C(S166) Antibody Blocking peptide - Additional Information**

Gene ID 84938

**Other Names**

Cysteine protease ATG4C, 3422-, AUT-like 3 cysteine endopeptidase, Autophagin-3, Autophagy-related cysteine endopeptidase 3, Autophagy-related protein 4 homolog C, ATG4C, APG4C, AUTL1, AUTL3

**Target/Specificity**

The synthetic peptide sequence used to generate the antibody [AP3456a](/products/AP3456a) was selected from the region of human Phospho-APG4C-S166. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

**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.

**Phospho-ATG4C(S166) Antibody Blocking peptide - Protein Information****Name** ATG4C {ECO:0000303|PubMed:21177865, ECO:0000312|HGNC:HGNC:16040}**Function**

Cysteine protease that plays a key role in autophagy by mediating both proteolytic activation and delipidation of ATG8 family proteins (PubMed:[21177865](http://www.uniprot.org/citations/21177865), PubMed:[29458288](http://www.uniprot.org/citations/29458288), PubMed:[30661429](http://www.uniprot.org/citations/30661429)). The protease activity is required for proteolytic activation of ATG8 family proteins: cleaves the C-terminal amino acid of ATG8 proteins MAP1LC3 and GABARAPL2, to reveal a C-terminal glycine (PubMed:[21177865](http://www.uniprot.org/citations/21177865)). Exposure of the glycine at the C-terminus is essential for ATG8 proteins conjugation to phosphatidylethanolamine (PE) and insertion to membranes, which is necessary for autophagy (By

similarity). In addition to the protease activity, also mediates delipidation of ATG8 family proteins (PubMed:<a href="http://www.uniprot.org/citations/29458288" target="\_blank">29458288</a>, PubMed:<a href="http://www.uniprot.org/citations/33909989" target="\_blank">33909989</a>). Catalyzes delipidation of PE-conjugated forms of ATG8 proteins during macroautophagy (PubMed:<a href="http://www.uniprot.org/citations/29458288" target="\_blank">29458288</a>, PubMed:<a href="http://www.uniprot.org/citations/33909989" target="\_blank">33909989</a>). Compared to ATG4B, the major protein for proteolytic activation of ATG8 proteins, shows weaker ability to cleave the C-terminal amino acid of ATG8 proteins, while it displays stronger delipidation activity (PubMed:<a href="http://www.uniprot.org/citations/29458288" target="\_blank">29458288</a>). In contrast to other members of the family, weakly or not involved in phagophore growth during mitophagy (PubMed:<a href="http://www.uniprot.org/citations/33773106" target="\_blank">33773106</a>).

#### **Cellular Location**

Cytoplasm {ECO:0000250|UniProtKB:Q8BGE6}.

### **Phospho-ATG4C(S166) Antibody Blocking peptide - Protocols**

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

- [Blocking Peptides](#)

### **Phospho-ATG4C(S166) Antibody Blocking peptide - Images**

### **Phospho-ATG4C(S166) Antibody Blocking peptide - Background**

Autophagy is the process by which endogenous proteins and damaged organelles are destroyed intracellularly. Autophagy is postulated to be essential for cell homeostasis and cell remodeling during differentiation, metamorphosis, non-apoptotic cell death, and aging. Reduced levels of autophagy have been described in some malignant tumors, and a role for autophagy in controlling the unregulated cell growth linked to cancer has been proposed. This protein is a member of the autophagin protein family and is also designated as a member of the C-54 family of cysteine proteases. A splice variants, encoding the same protein, have been characterized. APG4 is a cysteine protease required for autophagy, which cleaves the C-terminal part of either MAP1LC3, GABARAPL2 or GABARAP, allowing the liberation of form I. A subpopulation of form I is subsequently converted to a smaller form (form II). Form II, with a revealed C-terminal glycine, is considered to be the phosphatidylethanolamine (PE)-conjugated form, and has the capacity for the binding to autophagosomes.

### **Phospho-ATG4C(S166) Antibody Blocking peptide - References**

Marino G., J. Biol. Chem. 278:3671-3678(2003). Ota T., Nat. Genet. 36:40-45(2004). The MGC Project Team, Genome Res. 14:2121-2127(2004).