Datasheet for ABIN7552440

ATG4A Protein (AA 1-398) (His tag)

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Overview

Quantity:	1 mg
Target:	ATG4A
Protein Characteristics:	AA 1-398
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This ATG4A protein is labelled with His tag.

Product Details

Purpose:	Custom-made recombinant ATG4A Protein expressed in mammalian cells.
Sequence:	MESVLSKYED QITIFTDYLE EYPDTDELVW ILGKQHLLKT EKSKLLSDIS ARLWFTYRRK FSPIGGTGPS SDAGWGCMLR CGQMMLAQAL ICRHLGRDWS WEKQKEQPKE YQRILQCFLD RKDCCYSIHQ MAQMGVGEGK SIGEWFGPNT VAQVLKKLAL FDEWNSLAVY VSMDNTVVIE DIKKMCRVLP LSADTAGDRP PDSLTASNQS KGTSAYCSAW KPLLLIVPLR LGINQINPVY VDAFKECFKM PQSLGALGGK PNNAYYFIGF LGDELIFLDP HTTQTFVDTE ENGTVNDQTF HCLQSPQRMN ILNLDPSVAL GFFCKEEKDF DNWCSLVQKE ILKENLRMFE LVQKHPSHWP PFVPPAKPEV TTTGAEFIDS TEQLEEFDLE EDFEILSV **Sequence without tag. The proposed Purification-Tag is based on experiences with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.**
Specificity:	If you are looking for a specific domain and are interested in a partial protein or a different isoform, please contact us regarding an individual offer.

Product Details

Characteristics:	Key Benefits: • Made to order protein - from design to production - by highly experienced protein experts. • Protein expressed in mammalian cells and purified in one-step affinity chromatography • The optimized expression system ensures reliability for intracellular, secreted and transmembrane proteins. • State-of-the-art algorithm used for plasmid design (Gene synthesis). This protein is a made-to-order protein and will be made for the first time for your order. Our experts in the lab try to ensure that you receive soluble protein. If you are not interested in a full length protein, please contact us for individual protein fragments. The big advantage of ordering our made-to-order proteins in comparison to ordering custom made proteins from other companies is that there is no financial obligation in case the protein cannot be expressed or purified.
Purity:	> 90 % as determined by Bis-Tris PAGE, anti-tag ELISA, Western Blot and analytical SEC (HPLC)
Grade:	custom-made

Target Details

Target:	ATG4A
Alternative Name:	ATG4A (ATG4A Products)
Background:	Cysteine protease ATG4A (EC 3.4.22.-) (AUT-like 2 cysteine endopeptidase) (Autophagy-related cysteine endopeptidase 2) (Autophagin-2) (Autophagy-related protein 4 homolog A) (HsAPG4A) (hAPG4A),FUNCTION: Cysteine protease that plays a key role in autophagy by mediating both proteolytic activation and delipidation of ATG8 family proteins (PubMed:15169837, PubMed:12473658, PubMed:17347651, PubMed:21177865, PubMed:21245471, PubMed:22302004, PubMed:32732290). The protease activity is required for proteolytic activation of ATG8 family proteins: cleaves the C-terminal amino acid of ATG8 proteins to reveal a C-terminal glycine (PubMed:15169837, PubMed:12473658, PubMed:17347651, PubMed:21177865, PubMed:21245471, PubMed:22302004). 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 (PubMed:15169837, PubMed:12473658, PubMed:17347651, PubMed:21177865, PubMed:21245471, PubMed:22302004). Preferred substrate is GABARAPL2 followed by MAP1LC3A and GABARAP

Target Details

	(PubMed:15169837, PubMed:12473658, PubMed:17347651, PubMed:21177865, PubMed:21245471, PubMed:22302004). Protease activity is also required to counteract formation of high-molecular weight conjugates of ATG8 proteins (ATG8ylation): acts as a deubiquitinating-like enzyme that removes ATG8 conjugated to other proteins, such as ATG3 (PubMed:31315929, PubMed:33773106). In addition to the protease activity, also mediates delipidation of ATG8 family proteins (PubMed:29458288, PubMed:33909989). Catalyzes delipidation of PE-conjugated forms of ATG8 proteins during macroautophagy (PubMed:29458288, PubMed:33909989). 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:29458288). Involved in phagophore growth during mitophagy independently of its protease activity and of ATG8 proteins: acts by regulating ATG9A trafficking to mitochondria and promoting phagophore-endoplasmic reticulum contacts during the lipid transfer phase of mitophagy (PubMed:33773106). {ECO:0000269|PubMed:12473658, ECO:0000269|PubMed:15169837, ECO:0000269|PubMed:17347651, ECO:0000269|PubMed:21177865, ECO:0000269|PubMed:21245471, ECO:0000269|PubMed:22302004, ECO:0000269|PubMed:29458288, ECO:0000269|PubMed:31315929, ECO:0000269|PubMed:32732290, ECO:0000269|PubMed:33773106, ECO:0000269|PubMed:33909989}.
Molecular Weight:	45.4 kDa
UniProt:	Q8WYN0
Pathways:	Autophagy

Application Details

Application Notes:	We expect the protein to work for functional studies. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Restrictions:	For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.

Handling

Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months