Datasheet for ABIN7552441

ATG4B Protein (AA 1-393) (His tag)

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Overview

Quantity:	1 mg
Target:	ATG4B
Protein Characteristics:	AA 1-393
Origin:	Human
Source:	HEK-293 Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This ATG4B protein is labelled with His tag.

Product Details

Purpose:	Custom-made recombinant ATG4B Protein expressed in mammalian cells.
Sequence:	MDAATLTYDT LRFAEFEDFP ETSEPVWILG RKYSIFTEKD EILSDVASRL WFTYRKNFPA IGGTGPTSDT GWGCMLRCGQ MIFAQALVCR HLGRDWRWTQ RKRQPDSYFS VLNAFIDRKD SYYSIHQIAQ MGVGEGKSIG QWYGPNTVAQ VLKKLAVFDT WSSLAVHIAM DNTVVMEEIR RLCRTSVPCA GATAFPADSD RHCNGFPAGA EVTNRPSPWR PLVLLIPLRL GLTDINEAYV ETLKHCFMMP QSLGVIGGKP NSAHYFIGYV GEELIYLDPH TTQPAVEPTD GCFIPDESFH CQHPPCRMSI AELDPSIAVG FFCKTEDDFN DWCQQVKKLS LLGGALPMFE LVELQPSHLA CPDVLNLSLD SSDVERLERF FDSEDEDFEI LSL **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:	ATG4B
Alternative Name:	ATG4B (ATG4B Products)
Background:	Cysteine protease ATG4B (EC 3.4.22.-) (AUT-like 1 cysteine endopeptidase) (Autophagy-related cysteine endopeptidase 1) (Autophagin-1) (Autophagy-related protein 4 homolog B) (HsAPG4B) (hAPG4B),FUNCTION: Cysteine protease that plays a key role in autophagy by mediating both proteolytic activation and delipidation of ATG8 family proteins (PubMed:15169837, PubMed:15187094, PubMed:17347651, PubMed:19322194, PubMed:21177865, PubMed:26378241, PubMed:29232556, PubMed:28821708, PubMed:30443548, PubMed:30661429, PubMed:22302004, PubMed:27527864, PubMed:28633005, PubMed:30076329). Required for canonical autophagy (macroautophagy), non-canonical autophagy as well as for mitophagy (PubMed:33773106, PubMed:33909989). The protease activity is required for proteolytic activation of ATG8 family proteins: cleaves the C-terminal amino acid of ATG8 proteins MAP1LC3A, MAP1LC3B, MAP1LC3C, GABARAPL1, GABARAPL2 and GABARAP, to reveal a C-terminal glycine (PubMed:15169837, PubMed:15187094, PubMed:17347651, PubMed:20818167, PubMed:19322194, PubMed:21177865,

	PubMed:22302004, PubMed:27527864, PubMed:28633005, PubMed:29458288, PubMed:30661429, PubMed:28287329). 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:15187094, PubMed:17347651, PubMed:19322194, PubMed:21177865, 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:15187094, PubMed:28633005, PubMed:29458288, PubMed:32686895, PubMed:33909989, PubMed:19322194). Catalyzes delipidation of PE-conjugated forms of ATG8 proteins during macroautophagy (PubMed:15187094, PubMed:29458288, PubMed:32686895, PubMed:33909989, PubMed:19322194). Also involved in non-canonical autophagy, a parallel pathway involving conjugation of ATG8 proteins to single membranes at endolysosomal compartments, by catalyzing delipidation of ATG8 proteins conjugated to phosphatidylserine (PS) (PubMed:33909989). Compared to other members of the family (ATG4A, ATG4C or ATG4C), constitutes the major protein for proteolytic activation of ATG8 proteins, while it displays weaker delipidation activity than other ATG4 paralogs (PubMed:29458288, PubMed:30661429). 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:15169837, ECO:0000269|PubMed:15187094, ECO:0000269|PubMed:17347651, ECO:0000269|PubMed:19322194, ECO:0000269|PubMed:20818167, ECO:0000269|PubMed:21177865, ECO:0000269|PubMed:22302004, ECO:0000269|PubMed:26378241, ECO:0000269|PubMed:27527864, ECO:0000269|PubMed:28287329, ECO:0000269|PubMed:28633005, ECO:0000269|PubMed:28821708, ECO:0000269|PubMed:29232556, ECO:0000269|PubMed:29458288, ECO:0000269|PubMed:30076329, ECO:0000269|PubMed:30443548, ECO:0000269|PubMed:30661429, ECO:0000269|PubMed:31315929, ECO:0000269|PubMed:32686895, ECO:0000269|PubMed:33773106, ECO:0000269|PubMed:33909989}.
Molecular Weight:	44.3 kDa
UniProt:	Q9Y4P1
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.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months