



[Go to Product page](#)

Datasheet for ABIN3089598  
**ATG7 Protein (AA 2-703) (His tag)**

### Overview

Quantity:	1 mg
Target:	ATG7
Protein Characteristics:	AA 2-703
Origin:	Human
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This ATG7 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

### Product Details

Sequence: AAATGDPGLS KLQFAPFSSA LDVGFWEHLELT QKKLNEYRLD EAPKDIKGY YNGDSAGLPA  
RLTLEFSAFD MSAPTPARCC PAIGTLYNTN TLESFKTADK KLLLEQAANE IWESIKSGTA  
LENPVLLNKF LLLTFADLKK YHFYYWFCYP ALCLPESLPL IQGPVGLDQR FSLKQIEALE  
CAYDNLCQTE GVTALPYFLI KYDENMVLVS LLKHYSDFEQ GQRTKITIGV YDPCNLAQYP  
GWPLRNFLVL AAHRWSSSFQ SVEVVCFRDR TMQGARDVAH SIIFEVKLPE MAFSPDCPKA  
VGWEKNQKGG MGPRMVNLSE CMDPKRLAES SVDLNLKLMC WRLVPTLDLD KVVSVKCLLL  
GAGTLGCNVA RTLMGWGVRH ITFVDNAKIS YSNPVRQPLY EFEDCLGGGK PKALAAADR  
L QKIFPGVNAR GFNMSIPMPG HPVNFSSVTL EQARRDVEQL EQLIESHDV FLLMDTRESR  
WLPVAVIAASK RKLVINAAALG FDTFVVMRHG LKKPKQQGAG DLCPNHPVAS ADLLGSSLFA  
NIPGYKLG CY FCNDVVAPGD STRDRTLDDQ CTVSRPGLAV IAGALAVELM VSVLQHPEGG  
YAIASSSDDR MNEPPTSLGL VPHQIRGFLS RFDNVLPVSL AFDKCTACSS KVL DQYEREG  
FNFLAKVFNS SHSFLEDLTG LTLHQETQA AEIWDMSDDE TI

**Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.**

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Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Human ATG7 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.
- 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 will ensure that you receive a correctly folded protein.

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.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

The concentration of our recombinant proteins is measured using the absorbance at 280nm. The protein's absorbance will be measured in several dilutions and is measured against its specific reference buffer.

The concentration of the protein is calculated using its specific absorption coefficient. We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

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Purification:

Two step purification of proteins expressed in baculovirus infected SF9 insect cells:

1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. Eluate fractions are analyzed by SDS-PAGE.
  2. Protein containing fractions of the best purification are subjected to second purification step through size exclusion chromatography. Eluate fractions are analyzed by SDS-PAGE and Western blot.
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Purity:

>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

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Sterility:

0.22 µm filtered

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Endotoxin Level:

Protein is endotoxin free.

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Grade:

Crystallography grade

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## Target Details

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Target:	ATG7
Alternative Name:	ATG7 ( <a href="#">ATG7 Products</a> )
Background:	<p>E1-like activating enzyme involved in the 2 ubiquitin-like systems required for cytoplasm to vacuole transport (Cvt) and autophagy. Activates ATG12 for its conjugation with ATG5 as well as the ATG8 family proteins for their conjugation with phosphatidylethanolamine. Both systems are needed for the ATG8 association to Cvt vesicles and autophagosomes membranes.</p> <p>Required for autophagic death induced by caspase-8 inhibition. Required for mitophagy which contributes to regulate mitochondrial quantity and quality by eliminating the mitochondria to a basal level to fulfill cellular energy requirements and preventing excess ROS production.</p> <p>Modulates p53/TP53 activity to regulate cell cycle and survival during metabolic stress. Plays also a key role in the maintenance of axonal homeostasis, the prevention of axonal degeneration, the maintenance of hematopoietic stem cells, the formation of Paneth cell granules, as well as in adipose differentiation. {ECO:0000269 PubMed:11096062, ECO:0000269 PubMed:16303767, ECO:0000269 PubMed:22170151}.</p>
Molecular Weight:	78.8 kDa Including tag.
UniProt:	<a href="#">O95352</a>
Pathways:	<a href="#">Response to Water Deprivation, Autophagy</a>

## Application Details

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Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.
Comment:	In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.
Restrictions:	For Research Use only

## Handling

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Format:	Liquid
Buffer:	100 mM NaCl, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.

## Handling

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Storage: -80 °C

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Storage Comment: Store at -80°C.

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Expiry Date: Unlimited (if stored properly)