

Datasheet for ABIN3136922

## ATG5 Protein (AA 1-275) (His tag)



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### 1 Image

#### Overview

Quantity:	1 mg
Target:	ATG5
Protein Characteristics:	AA 1-275
Origin:	Mouse
Source:	Escherichia coli (E. coli)
Protein Type:	Recombinant
Purification tag / Conjugate:	This ATG5 protein is labelled with His tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS), Crystallization (Crys)

#### Product Details

Sequence: MTDDKDVLRD VWFGRIPTCF TLYQDEITER EAEPYLLLP RVSYLTLVTD KVKKHFQKVM  
RQEDVSEIWF EYEGTPLKWH YPIGLLFDLL ASSSALPWINI TVHFKSFPEK DLLHCPSKDA  
VEAHFMSCMK EADALKHKSQ VINEMQKKDH KQLWMGLQND RFDQFWAINR KLMEYPPEEN  
GFRYIPFRIY QTTTERPFIQ KLFRPVAADG QLHTLGDLLR EVCPSA VAPE DGEKRSQVMI  
HGIEPMLETP LQWLSEHLSY PDNFLHISIV PQPTD

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

- Characteristics:
- Made in Germany - from design to production - by highly experienced protein experts.
  - Mouse Atg5 Protein (raised in E. Coli) 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

## Product Details

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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 bacterial culture: <ol style="list-style-type: none"><li>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.</li><li>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.</li></ol>
Purity:	>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Sterility:	0.22 µm filtered
Endotoxin Level:	Endotoxin has not been removed. Please contact us if you require endotoxin removal.
Grade:	Crystallography grade

## Target Details

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Target:	ATG5
Alternative Name:	Atg5 ( <a href="#">ATG5 Products</a> )
Background:	Involved in autophagic vesicle formation. Conjugation with ATG12, through a ubiquitin-like conjugating system involving ATG7 as an E1-like activating enzyme and ATG10 as an E2-like

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## Target Details

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conjugating enzyme, is essential for its function. The ATG12-ATG5 conjugate acts as an E3-like enzyme which is required for lipidation of ATG8 family proteins and their association to the vesicle membranes. Involved in mitochondrial quality control after oxidative damage, and in subsequent cellular longevity. The ATG12-ATG5 conjugate also negatively regulates the innate antiviral immune response by blocking the type I IFN production pathway through direct association with RARRES3 and MAVS. Also plays a role in translation or delivery of incoming viral RNA to the translation apparatus. Plays a critical role in multiple aspects of lymphocyte development and is essential for both B and T lymphocyte survival and proliferation. Required for optimal processing and presentation of antigens for MHC II. Involved in the maintenance of axon morphology and membrane structures, as well as in normal adipocyte differentiation. Promotes primary ciliogenesis through removal of OFD1 from centriolar satellites and degradation of IFT20 via the autophagic pathway. {ECO:0000269|PubMed:11266458, ECO:0000269|PubMed:12890687, ECO:0000269|PubMed:17190837, ECO:0000269|PubMed:17912025, ECO:0000269|PubMed:18188005, ECO:0000269|PubMed:19844159, ECO:0000269|PubMed:20171125, ECO:0000269|PubMed:24089205, ECO:0000269|PubMed:24089209}. May play an important role in the apoptotic process, possibly within the modified cytoskeleton. Its expression is a relatively late event in the apoptotic process, occurring downstream of caspase activity. Plays a crucial role in IFN-gamma-induced autophagic cell death by interacting with FADD (By similarity). {ECO:0000250}.

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Molecular Weight: 33.4 kDa Including tag.

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UniProt: [Q99J83](#)

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Pathways: [Activation of Innate immune Response](#), [Production of Molecular Mediator of Immune Response](#), [Autophagy](#)

## 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.

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Comment: Protein has not been tested for activity yet. 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.

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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.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)

## Images

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**Image 1.** „Crystallography Grade“ protein due to multi-step, protein-specific purification process