

Datasheet for ABIN3134647

**Caspase 4 Protein (AA 81-266) (His tag)**[Go to Product page](#)**1** Image

## Overview

Quantity:	1 mg
Target:	Caspase 4 (CASP4)
Protein Characteristics:	AA 81-266
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This Caspase 4 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

## Product Details

Sequence:	<p>PGSHHG EANL EMEEP EESLN TLKLCSP EEF TRLCREKTQE IYPIKEANGR TRKALIICNT EFKHL SLRYG ANFDIIGMKG LLEDLGYDVV VKEELTAEGM ESEMKDFAAL SEHQTS DSTF LVLMSHGTLH GICGTMHSEK TPDVLQYDTI YQIFNNCHCP GLRDKPKVII VQACRGGNSG EMWIRE</p> <p><b>Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.</b></p>
Characteristics:	<ul style="list-style-type: none"><li>• Made in Germany - from design to production - by highly experienced protein experts.</li><li>• Mouse Casp4 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.</li><li>• State-of-the-art algorithm used for plasmid design (Gene synthesis).</li></ul> <p>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.</p>

## Product Details

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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.

Purification:	Two step purification of proteins expressed in baculovirus infected SF9 insect cells: <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:	Protein is endotoxin free.
Grade:	Crystallography grade

## Target Details

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Target:	Caspase 4 (CASP4)
Alternative Name:	Casp4 ( <a href="#">CASP4 Products</a> )
Background:	Proinflammatory caspase (PubMed:8702803, PubMed:9038361, PubMed:25119034). Essential effector of NLRP3 inflammasome-dependent CASP1 activation and IL1B and IL18 secretion in response to non-canonical activators, such as UVB radiation, cholera enterotoxin subunit B and

## Target Details

cytosolic LPS, as well as infection with Gram-negative bacteria (PubMed:22002608). Independently of NLRP3 inflammasome and CASP1, promotes pyroptosis, through GSDMD cleavage and activation, and IL1A, IL18 and HMGB1 release in response to non-canonical inflammasome activators (PubMed:22002608, PubMed:26320999, PubMed:26375003). Plays a crucial role in the restriction of Salmonella typhimurium replication in colonic epithelial cells during infection. In later stages of the infection (>3 days post infection), LPS from cytosolic Salmonella triggers CASP4 activation, which ultimately results in the pyroptosis of the infected cells and their extrusion into the gut lumen, as well as in IL18 secretion. Pyroptosis limits bacterial replication, while cytokine secretion promotes the recruitment and activation of immune cells and triggers mucosal inflammation (PubMed:25121752). Involved in LPS-induced IL6 secretion, this activity may not require caspase enzymatic activity (By similarity). Involved in cell death induced by endoplasmic reticulum stress (By similarity). Activated by direct binding to LPS without the need of an upstream sensor (PubMed:25119034). Does not directly process IL1B (PubMed:8702803, PubMed:9038361). {ECO:0000250|UniProtKB:P49662, ECO:0000269|PubMed:22002608, ECO:0000269|PubMed:25119034, ECO:0000269|PubMed:25121752, ECO:0000269|PubMed:26320999, ECO:0000269|PubMed:26375003, ECO:0000269|PubMed:8702803, ECO:0000269|PubMed:9038361}.

Molecular Weight: 21.9 kDa Including tag.

UniProt: [P70343](#)

Pathways: [Apoptosis](#), [Caspase Cascade in Apoptosis](#), [Positive Regulation of Endopeptidase Activity](#)

## Application Details

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: 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.

Restrictions: For Research Use only

## Handling

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



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