

## Datasheet for ABIN3133899 BTK Protein (AA 2-659) (His tag)



[Go to Product page](#)

### 1 Image

#### Overview

Quantity:	1 mg
Target:	BTK
Protein Characteristics:	AA 2-659
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This BTK protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

#### Product Details

Sequence: AAVILESIFL KRSQQKKKTS PLNFKKRLFL LTVHKLSYYE YDFERGRRGS KKGSIDVEKI  
 TCVETVIPEK NPPPERQIPR RGEESSEMEQ ISIIERFPYP FQVVYDEGPL YVFSPTIELR  
 KRWIHQLKNV IRYNSDLVQK YHPCFWIDGQ YLCCSQTAQN AMGQCILENR NGSLKPGSSH  
 RKTKKPLPPT PEEDQILKKP LPPEPTAAPI STTELKKVVA LYDYMPMNAN DLQLRKGEY  
 FILEESNLPW WRARDKNGQE GYIPSNYITE AEDSIEMYEW YSKHMTRSQA EQLLKQEGKE  
 GGFIVRDSSK AGKYTVSVFA KSTGEPQGVY RHYVVCSTPQ SQYYLAEKHL FSTIPELINY  
 HQHNSAGLIS RLKYPVSKQN KNAPSTAGLG YGSWEIDPKD LTFLKELGTG QFGVVKYGKW  
 RGQYDVAIKM IREGSMSEDE FIEEAKVMMN LSHEKLVQLY GVCTKQRPIF IITEYMANGC  
 LLNYLREMRH RFQTQQLLEM CKDVCEAMEY LESKQFLHRD LAARNCLVND QGVVKVSDFG  
 LSRVLDDEY TSSVGSKFPV RWSPPEVLMY SKFSSKSDIW AFGVLMWEIY SLGKMPYERF  
 TNSETAEHIA QGLRLYRPHL ASERVYTIMY SCWHEKADER PSFKILLSNI LDVMDEES

**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 Btk 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.

#### 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.

#### 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

Target:	BTK
Alternative Name:	Btk ( <a href="#">BTK Products</a> )
Background:	<p>Non-receptor tyrosine kinase indispensable for B lymphocyte development, differentiation and signaling. Binding of antigen to the B-cell antigen receptor (BCR) triggers signaling that ultimately leads to B-cell activation. After BCR engagement and activation at the plasma membrane, phosphorylates PLCG2 at several sites, igniting the downstream signaling pathway through calcium mobilization, followed by activation of the protein kinase C (PKC) family members. PLCG2 phosphorylation is performed in close cooperation with the adapter protein B-cell linker protein BLNK. BTK acts as a platform to bring together a diverse array of signaling proteins and is implicated in cytokine receptor signaling pathways. Plays an important role in the function of immune cells of innate as well as adaptive immunity, as a component of the Toll-like receptors (TLR) pathway. The TLR pathway acts as a primary surveillance system for the detection of pathogens and are crucial to the activation of host defense. Especially, is a critical molecule in regulating TLR9 activation in splenic B-cells. Within the TLR pathway, induces tyrosine phosphorylation of TIRAP which leads to TIRAP degradation. BTK plays also a critical role in transcription regulation. Induces the activity of NF-kappa-B, which is involved in regulating the expression of hundreds of genes. BTK is involved on the signaling pathway linking TLR8 and TLR9 to NF-kappa-B. Transiently phosphorylates transcription factor GTF2I on tyrosine residues in response to BCR. GTF2I then translocates to the nucleus to bind regulatory enhancer elements to modulate gene expression. ARID3A and NFAT are other transcriptional target of BTK. BTK is required for the formation of functional ARID3A DNA-binding complexes. There is however no evidence that BTK itself binds directly to DNA. BTK has a dual role in the regulation of apoptosis. {ECO:0000269 PubMed:10852954, ECO:0000269 PubMed:11120822, ECO:0000269 PubMed:16738337, ECO:0000269 PubMed:17725607, ECO:0000269 PubMed:7538439, ECO:0000269 PubMed:8629002}.</p>
Molecular Weight:	77.3 kDa Including tag.
UniProt:	<a href="#">P35991</a>
Pathways:	<a href="#">Fc-epsilon Receptor Signaling Pathway</a> , <a href="#">Hormone Transport</a> , <a href="#">Activation of Innate immune Response</a> , <a href="#">Regulation of Leukocyte Mediated Immunity</a> , <a href="#">Production of Molecular Mediator of Immune Response</a> , <a href="#">Toll-Like Receptors Cascades</a> , <a href="#">BCR Signaling</a>

## Application Details

Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies
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## Application Details

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