

Datasheet for ABIN3131495 CHEK1 Protein (AA 1-476) (His tag)



[Go to Product page](#)

1 Image

Overview

Quantity:	1 mg
Target:	CHEK1
Protein Characteristics:	AA 1-476
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This CHEK1 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

Product Details

Sequence:	<p>MAVPFVEDWD LVQTLGEGAY GEVQLAVNRI TEEAVAVKIV DMKRAIDCPE NIKKEICINK MLSHENVVKF YGHRREGHIQ YLFLEYCSGG ELFDRIEPI GMPEQDAQRF FHQLMAGVVY LHGIGITHRD IKPENLLLDE RDNLKISDFG LATVFRHNNR ERLNKMCGT LPYVAPELLK RKEFHAEPVD VWSCGIVLTA MLAGELPWDQ PSDSCQEYSD WKEKKTYLNP WKKIDSAPLA LLHKILVETP SARITIPDIK KDRWYNKPLN RGAKRPRATS GGMSESSSGF SKHIHSNLDF SPVNNGSSEE TVKFSSSQPE PRTGLSLWDT GPSNVDKLQ GISFSQPTCP EHMLVNSQLL GTPGSSQNPW QRLVKRMTRF FTKLDADKSY QCLKETFEKL GYQWKKSCMN QVTVSTTDRR NNKLIFKINL VEMDEKILVD FRLSKGDGLE FKRHFLKIKG KLSDVVSSQK VWFPVT</p> <p>Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.</p>
Characteristics:	<ul style="list-style-type: none"> Made in Germany - from design to production - by highly experienced protein experts. Mouse Chek1 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: <ol style="list-style-type: none">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:	CHEK1
Alternative Name:	Chek1 (CHEK1 Products)

Target Details

Background:	<p>Serine/threonine-protein kinase which is required for checkpoint-mediated cell cycle arrest and activation of DNA repair in response to the presence of DNA damage or unreplicated DNA. May also negatively regulate cell cycle progression during unperturbed cell cycles. This regulation is achieved by a number of mechanisms that together help to preserve the integrity of the genome. Recognizes the substrate consensus sequence [R-X-X-S/T]. Binds to and phosphorylates CDC25A, CDC25B and CDC25C. This inhibits their activity through proteasomal degradation, nucleo-cytoplasmic shuttling and inhibition by proteins of the 13-3-3 family. Inhibition of CDC25 leads to increased inhibitory tyrosine phosphorylation of CDK-cyclin complexes and blocks cell cycle progression. Also phosphorylates NEK6. Binds to and phosphorylates RAD51 at 'Thr-309', which promotes the release of RAD51 from BRCA2 and enhances the association of RAD51 with chromatin, thereby promoting DNA repair by homologous recombination. Phosphorylates multiple sites within the C-terminus of TP53, which promotes activation of TP53 by acetylation and promotes cell cycle arrest and suppression of cellular proliferation. Also promotes repair of DNA cross-links through phosphorylation of FANCE. Binds to and phosphorylates TLK1, which prevents the TLK1-dependent phosphorylation of the chromatin assembly factor ASF1A. This may enhance chromatin assembly both in the presence or absence of DNA damage. May also play a role in replication fork maintenance through regulation of PCNA (By similarity). May regulate the transcription of genes that regulate cell-cycle progression through the phosphorylation of histones. Phosphorylates histone H3.1 (to form H3T11ph), which leads to epigenetic inhibition of a subset of genes. May also phosphorylate RB1 to promote its interaction with the E2F family of transcription factors and subsequent cell cycle arrest. {ECO:0000250, ECO:0000269 PubMed:10859163, ECO:0000269 PubMed:10859164, ECO:0000269 PubMed:15261141, ECO:0000269 PubMed:18243098}.</p>
-------------	---

Molecular Weight:	55.3 kDa Including tag.
-------------------	-------------------------

UniProt:	O35280
----------	------------------------

Pathways:	p53 Signaling , Apoptosis , Cell Division Cycle , DNA Damage Repair
-----------	---

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
----------	--

Application Details

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