

Datasheet for ABIN3135286

IKK alpha Protein (AA 1-745) (His tag)



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1 Image

Overview

Quantity:	1 mg
Target:	IKK alpha (CHUK)
Protein Characteristics:	AA 1-745
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This IKK alpha protein is labelled with His tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS), Crystallization (Crys)

Product Details

Sequence:	<p>MERPPGLRPG AGGPWEMRER LGTGGFGNVS LYQHRELDLK IAIKSCRLEL SSKNRERWCH</p> <p>EIQIMKKLDH ANVVKACDVP EELNFLINDV PLLAMEYCSG GDLRKLLNKP ENCCGLKESQ</p> <p>ILSLLSDIGS GIRYLHENKI IHRDLKPENI VLQDVGGKTI HKIIDLGYAK DVDQGSGLCTS</p> <p>FVGTLQYLAP ELFENKPYTA TVDYWSFGTM VFECIAGYRP FLHHLQPFTW HEKIKKKDKPK</p> <p>CIFACEEMTG EVRFSSHLPQ PNSLCSLIVE PMESWLQLML NWDPQQRGGP IDLTLKQPRC</p> <p>FALMDHILNL KIVHILNMTS AKIISFLLPC DESLHSLQSR IERETGINTG SQELLSETGI</p> <p>SLDPRKPASQ CVLDGVRGCD SYMVYLFDKS KTVYEGPFAS RSLSDCVNYI VQDSKIQLPI</p> <p>IQLRKVWAEA VHYVSGLKED YSRLFQQRA AMLSLLRYNA NLTKMKNTLI SASQQLKAKL</p> <p>EFFRKSQILD LERYSEQMTY GISSEKMLKA WKEMEEKAIH YSEVGVIGYL EDQIMSLHTE</p> <p>IMELQKSPYG RRQGDLMESL EQRAIDLYKQ LKHRPPDHLY SDSTEMVKII VHTVQSQDRV</p> <p>LKELFGHLSK LLGCKQKIID LLPKVEVALS NIKEADNTVM FMQGKRQKEI WHLLKIACTQ</p> <p>SSARSLVGSS LEGTVTPPVS AWLPPTLADR EHPLTCVVTP QDGETLAQMI EENLNCLGHL</p>
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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 Chuk 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.

Product Details

Grade: Crystallography grade

Target Details

Target: IKK alpha (CHUK)

Alternative Name: Chuk ([CHUK Products](#))

Background: Serine kinase that plays an essential role in the NF-kappa-B signaling pathway which is activated by multiple stimuli such as inflammatory cytokines, bacterial or viral products, DNA damages or other cellular stresses. Acts as part of the canonical IKK complex in the conventional pathway of NF-kappa-B activation and phosphorylates inhibitors of NF-kappa-B on serine residues. These modifications allow polyubiquitination of the inhibitors and subsequent degradation by the proteasome. In turn, free NF-kappa-B is translocated into the nucleus and activates the transcription of hundreds of genes involved in immune response, growth control, or protection against apoptosis. Negatively regulates the pathway by phosphorylating the scaffold protein TAXBP1 and thus promoting the assembly of the A20/TNFAIP3 ubiquitin-editing complex (composed of A20/TNFAIP3, TAX1BP1, and the E3 ligases ITCH and RNF11). Therefore, CHUK plays a key role in the negative feedback of NF-kappa-B canonical signaling to limit inflammatory gene activation. As part of the non-canonical pathway of NF-kappa-B activation, the MAP3K14-activated CHUK/IKKA homodimer phosphorylates NFKB2/p100 associated with RelB, inducing its proteolytic processing to NFKB2/p52 and the formation of NF-kappa-B RelB-p52 complexes. In turn, these complexes regulate genes encoding molecules involved in B-cell survival and lymphoid organogenesis. Participates also in the negative feedback of the non-canonical NF-kappa-B signaling pathway by phosphorylating and destabilizing MAP3K14/NIK. Within the nucleus, phosphorylates CREBBP and consequently increases both its transcriptional and histone acetyltransferase activities. Modulates chromatin accessibility at NF-kappa-B-responsive promoters by phosphorylating histones H3 at 'Ser-10' that are subsequently acetylated at 'Lys-14' by CREBBP. Additionally, phosphorylates the CREBBP-interacting protein NCOA3. Also phosphorylates FOXO3 and may regulate this pro-apoptotic transcription factor. {ECO:0000250|UniProtKB:O15111, ECO:0000269|PubMed:12789342}.

Molecular Weight: 85.7 kDa Including tag.

UniProt: [Q60680](#)

Pathways: [PI3K-Akt Signaling](#), [NF-kappaB Signaling](#), [RTK Signaling](#), [TCR Signaling](#), [TLR Signaling](#), [Fc-epsilon Receptor Signaling Pathway](#), [EGFR Signaling Pathway](#), [Neurotrophin Signaling Pathway](#), [Activation of Innate immune Response](#), [Hepatitis C](#), [Toll-Like Receptors Cascades](#), [BCR](#)

Target Details

Signaling, Ubiquitin Proteasome Pathway, S100 Proteins

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