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Datasheet for ABIN3093093
IKBKB Protein (AA 1-756) (Strep Tag)

Overview

Quantity:	1 mg
Target:	IKBKB
Protein Characteristics:	AA 1-756
Origin:	Human
Source:	Tobacco (<i>Nicotiana tabacum</i>)
Protein Type:	Recombinant
Purification tag / Conjugate:	This IKBKB protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence: MSWSPSLTTQ TCGAWEMKER LGTGGFGNVI RWHNQETGEQ IAIKQCRQEL SPRNRERWCL
EIQIMRRLTH PNVVAARDVP EGMQNLAPND LPLLAMEYCQ GGDLRKYLNQ FENCCGLREG
AILTLLSDIA SALRYLHENR IIHRDLKPEN IVLQQGEQRL IHKIIDLGYA KELDQGSCLT SFVGTLLQYLA
PELLEQQKYT VTVDYWSFGT LAFECITGFR PFLPNWQPVQ WSKVRQKSE VDIVVSEDLN
GTVKFSSSLP YPNNLNSVLA ERLEKWLQLM LMWHPRQRGT DPTYGPNGCF KALDDILNLK
LVHILNMVTG TIHTYPVTED ESLQSLKARI QQDTGIPEED QELLQEAGLA LIPDKPATQC
ISDGKLNESH TLDMDLVFLF DNSKITYETQ ISPRQPESV SCILQEPKRN LAFFQLRKVW
GQVWHSIQTL KEDCNRLQQG QRAAMNLLR NNSCLSKMKN SMASMSQQLK AKLDFFKTSI
QIDLEKYSEQ TEFGITSKLL LLAWREMEQA VELCGRENEV KLLVERMMAL QTDIVDLQRS
PMGRKQGGTL DDLEEQAREL YRRLREKPRD QRTEGDSQEM VRRLLQAIQS FEKKVRVIYT
QLSKTVVCKQ KALELLPKVE EVVSLMNEDE KTVVRLQEKR QKELWNLLKI ACSKVRGPVS
GSPDSMNASR LSQPGQLMSQ PSTASNSLPE PAKKSEELVA EAHNLCTLLE NAIQDTVREQ

DQSFTALDWS WLQTEEEEHS CLEQAS

Sequence without tag. The proposed Strep-Tag is based on experience s with the expression system, a different complexity of the protein could make another tag necessary. In case you have a special request, please contact us.

Characteristics:

Key Benefits:

- Made in Germany - from design to production - by highly experienced protein experts.
- Protein expressed with ALiCE® and purified by multi-step, protein-specific process to ensure correct folding and modification.
- These proteins are normally active (enzymatically functional) as our customers have reported (not tested by us and not guaranteed).
- 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.

Expression System:

- ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from *Nicotiana tabacum* c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.
- During lysate production, the cell wall and other cellular components that are not required for protein production are removed, leaving only the protein production machinery and the mitochondria to drive the reaction. During our lysate completion steps, the additional components needed for protein production (amino acids, cofactors, etc.) are added to produce something that functions like a cell, but without the constraints of a living system - all that's needed is the DNA that codes for the desired protein!

Concentration:

- 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.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

Purification:

Two step purification of proteins expressed in Almost Living Cell-Free Expression System

Product Details

(ALiCE®):

1. In a first purification step, the protein is purified from the cleared cell lysate using StrepTag capture material. 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: >80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

Endotoxin Level: Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)

Target Details

Target: IKBKB

Alternative Name: IKBKB ([IKBKB Products](#))

Background: Inhibitor of nuclear factor kappa-B kinase subunit beta (I-kappa-B-kinase beta) (IKK-B) (IKK-beta) (Ikbkb) (EC 2.7.11.10) (I-kappa-B kinase 2) (IKK-2) (IKK2) (Nuclear factor NF-kappa-B inhibitor kinase beta) (NFKBKB) (Serine/threonine protein kinase IKBKB) (EC 2.7.11.1),FUNCTION: 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 (PubMed:20434986, PubMed:20797629, PubMed:21138416, PubMed:9346484, PubMed:30337470). Acts as a part of the canonical IKK complex in the conventional pathway of NF-kappa-B activation (PubMed:9346484). Phosphorylates inhibitors of NF-kappa-B on 2 critical serine residues (PubMed:9346484, PubMed:20434986, PubMed:20797629, PubMed:21138416). These modifications allow polyubiquitination of the inhibitors and subsequent degradation by the proteasome (PubMed:9346484, PubMed:20434986, PubMed:20797629, PubMed:21138416). 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 (PubMed:9346484, PubMed:20434986, PubMed:20797629, PubMed:21138416). In addition to the NF-kappa-B inhibitors, phosphorylates several other components of the signaling pathway including NEMO/IKBKG, NF-kappa-B subunits RELA and NFKB1, as well as IKK-related kinases TBK1 and IKBKE (PubMed:11297557, PubMed:14673179, PubMed:20410276, PubMed:21138416). IKK-related kinase phosphorylations may prevent the overproduction of inflammatory mediators since they exert a negative regulation on canonical IKKs (PubMed:11297557, PubMed:20410276, PubMed:21138416). Phosphorylates FOXO3, mediating the TNF-dependent inactivation of this pro-apoptotic transcription factor

Target Details

(PubMed:15084260). Also phosphorylates other substrates including NAA10, NCOA3, BCL10 and IRS1 (PubMed:19716809, PubMed:17213322). Phosphorylates RIPK1 at 'Ser-25' which represses its kinase activity and consequently prevents TNF-mediated RIPK1-dependent cell death (By similarity). Phosphorylates the C-terminus of IRF5, stimulating IRF5 homodimerization and translocation into the nucleus (PubMed:25326418).

{ECO:0000250|UniProtKB:O88351, ECO:0000269|PubMed:11297557, ECO:0000269|PubMed:14673179, ECO:0000269|PubMed:15084260, ECO:0000269|PubMed:17213322, ECO:0000269|PubMed:19716809, ECO:0000269|PubMed:20410276, ECO:0000269|PubMed:20434986, ECO:0000269|PubMed:20797629, ECO:0000269|PubMed:21138416, ECO:0000269|PubMed:25326418, ECO:0000269|PubMed:30337470, ECO:0000269|PubMed:9346484}.

Molecular Weight: 86.6 kDa

UniProt: [O14920](#)

Pathways: [NF-kappaB Signaling](#), [RTK Signaling](#), [TCR Signaling](#), [TLR Signaling](#), [Fc-epsilon Receptor Signaling Pathway](#), [Neurotrophin Signaling Pathway](#), [Activation of Innate immune Response](#), [Production of Molecular Mediator of Immune Response](#), [Hepatitis C](#), [Toll-Like Receptors Cascades](#), [BCR 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: ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from *Nicotiana tabacum* c.v.. This contains all the protein expression machinery needed to produce even the most difficult-to-express proteins, including those that require post-translational modifications.

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Restrictions: For Research Use only

Handling

Format:	Liquid
Buffer:	The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)