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Datasheet for ABIN3094082
NFKB1 Protein (AA 1-968) (Strep Tag)

Overview

Quantity:	1 mg
Target:	NFKB1
Protein Characteristics:	AA 1-968
Origin:	Human
Source:	Tobacco (<i>Nicotiana tabacum</i>)
Protein Type:	Recombinant
Purification tag / Conjugate:	This NFKB1 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence: MAEDDPYLGR PEQMFHLDPS LTHTIFNPEV FQPQMALPTD GPYLQILEQP KQRGFRFRYV
CEGPSHGGLP GASSEKNKKS YPQVKICNYV GPAKVIVQLV TNGKNIHLHA HSLVGKHCED
GICTVTAGPK DMVVGANLG ILHVTKKKVF ETLEARMTEA CIRGYNPGLL VHPDLAYLQA
EGGGDRQLGD REKELIRQAA LQQTKEMDLS VVRLMFTAFL PDSTGSFTRR LEPVVSDAIY
DSKAPNASNL KIVRMDRTAG CVTGGEEIYL LCDKVQKDDI QIRFYEEEEEN GGVWEGFGDF
SPTDVHRQFA IVFKTPKYKD INITKPASVF VQLRRKSDLE TSEPKPFLYY PEIKDKEEVQ
RKRQKLMPNF SDSFGGGSGA GAGGGGMFGS GGGGGGTGST GPGYSFPHYG FPTYGGITFH
PGTTKSNAGM KHGTMDESK KDPEGCDKSD DKNTVNLFGK VIETTEQDQE PSEATVGNGE
VTLTYATGTK EESAGVQDNL FLEKAMQLAK RHANALFDYA VTGDVKMLLA VQRHLTAVQD
ENGDSVLHLA IHLHSQLVR DLLEVTSGLI SDDIINMRND LYQTPLHLAV ITKQEDVVED
LLRAGADLSL LDRLGNSVLH LAAKEGHDKV LSILLKHKKA ALLLDHPNGD GLNAIHLAMM
SNSLPCLLLL VAAGADVNAQ EQKSGRTALH LAVEHDNISL AGCLLLEGDA HVDSTTYDGT

TPLHIAAGRG STRLAALLKA AGADPLVENF EPLYDLDDSW ENAGEDEGVV PGTTPLDMAT
SWQVFDILNG KPYEPEFTSD DLLAQGDMKQ LAEDVKLQLY KLEIPDPDK NWATLAQKLG
LGILNNAFRL SPAPSKTLM NYEVSGGTVR ELVEALRQMG YTEAIEVIQA ASSPVKTTSQ
AHSPLSPAS TRQQIDELRD SDSVCDGVE TFRKLSFTE SLTSGASLLT LNKMPHDYGO
EGPLEGKI

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

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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 (ALiCE®): <ol style="list-style-type: none">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)
Grade:	Crystallography grade

Target Details

Target:	NFKB1
Alternative Name:	NFKB1 (NFKB1 Products)
Background:	<p>Nuclear factor NF-kappa-B p105 subunit (DNA-binding factor KBF1) (EBP-1) (Nuclear factor of kappa light polypeptide gene enhancer in B-cells 1) [Cleaved into: Nuclear factor NF-kappa-B p50 subunit],FUNCTION: NF-kappa-B is a pleiotropic transcription factor present in almost all cell types and is the endpoint of a series of signal transduction events that are initiated by a vast array of stimuli related to many biological processes such as inflammation, immunity, differentiation, cell growth, tumorigenesis and apoptosis. NF-kappa-B is a homo- or heterodimeric complex formed by the Rel-like domain-containing proteins RELA/p65, RELB, NFKB1/p105, NFKB1/p50, REL and NFKB2/p52 and the heterodimeric p65-p50 complex appears to be most abundant one. The dimers bind at kappa-B sites in the DNA of their target genes and the individual dimers have distinct preferences for different kappa-B sites that they can bind with distinguishable affinity and specificity. Different dimer combinations act as transcriptional activators or repressors, respectively. NF-kappa-B is controlled by various mechanisms of post-translational modification and subcellular compartmentalization as well as by interactions with other cofactors or corepressors. NF-kappa-B complexes are held in the cytoplasm in an inactive state complexed with members of the NF-kappa-B inhibitor (I-kappa-B) family. In a conventional activation pathway, I-kappa-B is phosphorylated by I-kappa-B kinases</p>

Target Details

(IKKs) in response to different activators, subsequently degraded thus liberating the active NF-kappa-B complex which translocates to the nucleus. NF-kappa-B heterodimeric p65-p50 and RelB-p50 complexes are transcriptional activators. The NF-kappa-B p50-p50 homodimer is a transcriptional repressor, but can act as a transcriptional activator when associated with BCL3. NFKB1 appears to have dual functions such as cytoplasmic retention of attached NF-kappa-B proteins by p105 and generation of p50 by a cotranslational processing. The proteasome-mediated process ensures the production of both p50 and p105 and preserves their independent function, although processing of NFKB1/p105 also appears to occur post-translationally. p50 binds to the kappa-B consensus sequence 5'-GGRNNYYCC-3', located in the enhancer region of genes involved in immune response and acute phase reactions. In a complex with MAP3K8, NFKB1/p105 represses MAP3K8-induced MAPK signaling, active MAP3K8 is released by proteasome-dependent degradation of NFKB1/p105.

{ECO:0000269|PubMed:15485931, ECO:0000269|PubMed:1740106,

ECO:0000269|PubMed:2203531, ECO:0000269|PubMed:2234062,

ECO:0000269|PubMed:7830764}, FUNCTION: [Nuclear factor NF-kappa-B p105 subunit]: P105

is the precursor of the active p50 subunit (Nuclear factor NF-kappa-B p50 subunit) of the nuclear factor NF-kappa-B (PubMed:1423592). Acts as a cytoplasmic retention of attached NF-

kappa-B proteins by p105 (PubMed:1423592). {ECO:0000269|PubMed:1423592}, FUNCTION:

[Nuclear factor NF-kappa-B p50 subunit]: Constitutes the active form, which associates with RELA/p65 to form the NF-kappa-B p65-p50 complex to form a transcription factor

(PubMed:1740106, PubMed:7830764). Together with RELA/p65, binds to the kappa-B

consensus sequence 5'-GGRNNYYCC-3', located in the enhancer region of genes involved in immune response and acute phase reactions (PubMed:1740106, PubMed:7830764).

{ECO:0000269|PubMed:1740106, ECO:0000269|PubMed:7830764}.

Molecular Weight: 105.4 kDa

UniProt: [P19838](#)

Pathways: [p53 Signaling](#), [NF-kappaB Signaling](#), [RTK Signaling](#), [TCR Signaling](#), [TLR Signaling](#), [Fc-epsilon Receptor Signaling Pathway](#), [Neurotrophin Signaling Pathway](#), [Activation of Innate immune Response](#), [Myometrial Relaxation and Contraction](#), [Regulation of Carbohydrate Metabolic Process](#), [Hepatitis C](#), [Toll-Like Receptors Cascades](#), [BCR Signaling](#), [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

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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)