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Datasheet for ABIN3134825
NF-kB p65 Protein (AA 1-549) (Strep Tag)

Overview

Quantity:	1 mg
Target:	NF-kB p65 (NFkBp65)
Protein Characteristics:	AA 1-549
Origin:	Mouse
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This NF-kB p65 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence: MDDLFLIFP SEPAQASGPY VEIIEQPKQR GMRFYKCEG RSAGSIPGER STDTTKTHPT
 IKINGYTGPG TVRISLVTKD PPHRPHPEL VGKDCRDGYY EADLCPDRSI HSFQNLGIQC
 VKKRDLEQAI SQRIQTNNNP FHVPIEEQRG DYDLNAVRLC FQVTVRDPAG RPLLLTPVLS
 HPIFDNRAPN TAEKICRVN RNSGSCLGGD EIFLLCDKVQ KEDIEVYFTG PGWEARGSFS
 QADVHRQVAI VFRTPPYADP SLQAPVRVSM QLRRPSDREL SEPMEFQYLP DTDDRHRREE
 KRKRTYETFK SIMKKSPFNG PTEPRPPTRR IAVPTRNSTS VPKPAPQPYT FPASLSTINF
 DEFSPMLLPS GQISNQALAL APSSAPVLAQ TMVPSSAMVP LAQPPAPAPV LTPGPPQSL
 APVPKSTQAG ECTLSEALLH LQFDAEDELG ALLGNSTDPG VFTDLASVDN SEFQQLLNQG
 VSMHSTAEP MLMEYPEAIT RLVTGSQRPP DPAPTPLGTS GLPNGLSGDE DFSSIAD MDF
 SALLSQISS

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 (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.

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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: $\geq 80\%$ 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: NF-kB p65 (NFkBp65)

Alternative Name: RelA ([NFkBp65 Products](#))

Background: Transcription factor p65 (Nuclear factor NF-kappa-B p65 subunit) (Nuclear factor of kappa light polypeptide gene enhancer in B-cells 3),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. The heterodimeric RELA-NFKB1 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. The NF-kappa-B heterodimeric RELA-NFKB1 and RELA-REL complexes, for instance, function as transcriptional activators. 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 (IKKs) in response to different activators, subsequently degraded thus liberating the active NF-kappa-B complex which translocates to the nucleus. The inhibitory effect of I-kappa-B on NF-kappa-B through retention in the cytoplasm is exerted primarily through the interaction with RELA. RELA shows a weak DNA-binding site which could contribute directly to DNA binding in the NF-kappa-B complex. Beside its activity as a direct transcriptional activator, it is also able to modulate promoters accessibility to transcription factors and thereby indirectly regulate gene expression (PubMed:29813070). Associates with chromatin at the NF-kappa-B promoter region via association with DDX1. Essential for cytokine gene expression in T-cells (By similarity). The NF-

Target Details

kappa-B homodimeric RELA-RELA complex appears to be involved in invasin-mediated activation of IL-8 expression (By similarity). {ECO:0000250|UniProtKB:Q04206, ECO:0000269|PubMed:21131967, ECO:0000269|PubMed:22244329, ECO:0000269|PubMed:29813070}.

Molecular Weight: 60.2 kDa

UniProt: [Q04207](#)

Pathways: [NF-kappaB Signaling](#), [RTK Signaling](#), [TCR Signaling](#), [TLR Signaling](#), [Fc-epsilon Receptor Signaling Pathway](#), [Neurotrophin Signaling Pathway](#), [Activation of Innate immune Response](#), [Cellular Response to Molecule of Bacterial Origin](#), [Hepatitis C](#), [Toll-Like Receptors Cascades](#), [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.

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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.

Handling

Storage: -80 °C

Storage Comment: Store at -80°C.

Expiry Date: Unlimited (if stored properly)