Datasheet for ABIN3091285

CHEK2 Protein (AA 1-543) (Strep Tag)

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Overview

Quantity:	1 mg
Target:	CHEK2
Protein Characteristics:	AA 1-543
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This CHEK2 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence:	MSRESDVEAQ QSHGSSACSQ PHGSVTQSQG SSSQSQGISS SSTSTMPNSS QSSHSSSGTL SSLETVSTQE LYSIPEDQEP EDQEPEEPTP APWARLWALQ DGFANLECVN DNYWFGRDKS CEYCFDEPLL KRTDKYRTYS KKHFRIFREV GPKNSYIAYI EDHSGNGTFV NTELVGKGKR RPLNNNSEIA LSLSRNKVFV FFDLTVDDQS VYPKALRDEY IMSKTLGSGA CGEVKLAFER KTCKKVAIKI ISKRKFAIGS AREADPALNV ETEIEILKKL NHPCIIKIKN FFDAEDYYIV LELMEGGELF DKVVGNKRLK EATCKLYFYQ MLLAVQYLHE NGIIHRDLKP ENVLLSSQEE DCLIKITDFG HSKILGETSL MRTLCGTPTY LAPEVLVSVG TAGYNRAVDC WSLGVILFIC LSGYPPFSEH RTQVSLKDQI TSGKYNFIPE VWAEVSEKAL DLVKKLLVVD PKARFTTEEA LRHPWLQDED MKRKFQDLLS EENESTALPQ VLAQPSTSRK RPREGEAEGA ETTKRPAVCA AVL **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.**

Product Details

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.
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

Product Details

	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:	CHEK2
Alternative Name:	CHEK2 (CHEK2 Products)
Background:	Serine/threonine-protein kinase Chk2 (EC 2.7.11.1) (CHK2 checkpoint homolog) (Cds1 homolog) (Hucds1) (hCds1) (Checkpoint kinase 2),FUNCTION: Serine/threonine-protein kinase which is required for checkpoint-mediated cell cycle arrest, activation of DNA repair and apoptosis in response to the presence of DNA double-strand breaks. May also negatively regulate cell cycle progression during unperturbed cell cycles. Following activation, phosphorylates numerous effectors preferentially at the consensus sequence [L-X-R-X-X-S/T]. Regulates cell cycle checkpoint arrest through phosphorylation of CDC25A, CDC25B and CDC25C, inhibiting their activity. Inhibition of CDC25 phosphatase activity leads to increased inhibitory tyrosine phosphorylation of CDK-cyclin complexes and blocks cell cycle progression. May also phosphorylate NEK6 which is involved in G2/M cell cycle arrest. Regulates DNA repair through phosphorylation of BRCA2, enhancing the association of RAD51 with chromatin which promotes DNA repair by homologous recombination. Also stimulates the transcription of genes involved in DNA repair (including BRCA2) through the phosphorylation and activation of the transcription factor FOXM1. Regulates apoptosis through the phosphorylation of p53/TP53, MDM4 and PML. Phosphorylation of p53/TP53 at 'Ser-20' by CHEK2 may alleviate inhibition by MDM2, leading to accumulation of active p53/TP53. Phosphorylation of MDM4 may also reduce degradation of p53/TP53. Also controls the transcription of pro-apoptotic genes through phosphorylation of the transcription factor E2F1. Tumor suppressor, it may also have a DNA damage-independent function in mitotic spindle assembly by phosphorylating BRCA1. Its absence may be a cause of the chromosomal instability observed in some cancer cells. Promotes the CCAR2-SIRT1 association and is required for CCAR2-mediated SIRT1 inhibition (PubMed:25361978). {ECO:0000250|UniProtKB:Q9Z265, ECO:0000269|PubMed:10097108, ECO:0000269|PubMed:10724175, ECO:0000269|PubMed:11298456, ECO:0000269|PubMed:12402044, ECO:0000269|PubMed:12607004, ECO:0000269|PubMed:12717439, ECO:0000269|PubMed:12810724, ECO:0000269|PubMed:16163388, ECO:0000269|PubMed:17101782,

Target Details

	ECO:0000269|PubMed:17380128, ECO:0000269|PubMed:17715138, ECO:0000269|PubMed:18317453, ECO:0000269|PubMed:18644861, ECO:0000269|PubMed:18728393, ECO:0000269|PubMed:20364141, ECO:0000269|PubMed:25361978, ECO:0000269|PubMed:25619829, ECO:0000269|PubMed:9836640, ECO:0000269|PubMed:9889122}., FUNCTION: (Microbial infection) Phosphorylates herpes simplex virus 1/HHV-1 protein ICP0 and thus activates its SUMO-targeted ubiquitin ligase activity. {ECO:0000269|PubMed:32001251}.
Molecular Weight:	60.9 kDa
UniProt:	O96017
Pathways:	p53 Signaling, Apoptosis, Cell Division Cycle

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. 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!
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)

