

Datasheet for ABIN3091975

**CSNK2A1/CK II alpha Protein (AA 1-391) (Strep Tag)**[Go to Product page](#)**1** Image

## Overview

Quantity:	1 mg
Target:	CSNK2A1/CK II alpha (CSNK2A1)
Protein Characteristics:	AA 1-391
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This CSNK2A1/CK II alpha protein is labelled with Strep Tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB)

## Product Details

Sequence:	<p>MSGPVPSRAR VYTDVNTHRP REYWDYESHV VEWGNQDDYQ LVRKLGRGKY SEVF EAINIT NNEKVVVKIL KPVKKKKIKR EIKILENLRG GPNIITLADI VKDPVSRTPA LVFEHVNNTD FKQLYQTLTD YDIRFYMYEI LKALDYCHSM GIMHRDVKPH NVMIDHEHRK LRLIDWGLAE FYHPGQEYNV RVASRYFKGP ELLVDYQMYD YSLDMWSLGC MLASMIFRKE PFFHGHNDNYD QLVRIAKVLG TEDLYDYIDK YNIELDPRFN DILGRHSRKR WERFVHSENG HLVSP EALDF LDKLLRYDHQ SRLTAREAME HPYFYTVVKD QARMGSSSMP GGSTPVSSAN MMSGISSVPT PSPLGPLAGS PVIAAANPLG MPVPAAAGAQ Q</p> <p><b>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.</b></p>
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.

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### 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 Western blot.

## Product Details

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:	CSNK2A1/CK II alpha (CSNK2A1)
Alternative Name:	CSNK2A1 ( <a href="#">CSNK2A1 Products</a> )
Background:	<p>Casein kinase II subunit alpha (CK II alpha) (EC 2.7.11.1),FUNCTION: Catalytic subunit of a constitutively active serine/threonine-protein kinase complex that phosphorylates a large number of substrates containing acidic residues C-terminal to the phosphorylated serine or threonine (PubMed:11239457, PubMed:11704824, PubMed:16193064, PubMed:19188443, PubMed:20545769, PubMed:20625391, PubMed:22017874, PubMed:22406621, PubMed:24962073, PubMed:30898438, PubMed:31439799). Regulates numerous cellular processes, such as cell cycle progression, apoptosis and transcription, as well as viral infection (PubMed:12631575, PubMed:19387552, PubMed:19387551). May act as a regulatory node which integrates and coordinates numerous signals leading to an appropriate cellular response (PubMed:12631575, PubMed:19387552, PubMed:19387551). During mitosis, functions as a component of the p53/TP53-dependent spindle assembly checkpoint (SAC) that maintains cyclin-B-CDK1 activity and G2 arrest in response to spindle damage (PubMed:11704824, PubMed:19188443). Also required for p53/TP53-mediated apoptosis, phosphorylating 'Ser-392' of p53/TP53 following UV irradiation (PubMed:11239457). Phosphorylates a number of DNA repair proteins in response to DNA damage, such as MDC1, RAD9A, RAD51 and HTATSF1, promoting their recruitment to DNA damage sites (PubMed:20545769, PubMed:21482717, PubMed:22325354, PubMed:26811421, PubMed:30898438, PubMed:35597237). Can also negatively regulate apoptosis (PubMed:16193064, PubMed:22184066). Phosphorylates the caspases CASP9 and CASP2 and the apoptotic regulator NOL3 (PubMed:16193064). Phosphorylation protects CASP9 from cleavage and activation by CASP8, and inhibits the dimerization of CASP2 and activation of CASP8 (PubMed:16193064). Phosphorylates YY1, protecting YY1 from cleavage by CASP7 during apoptosis (PubMed:22184066). Regulates transcription by direct phosphorylation of RNA polymerases I, II, III and IV (PubMed:19387550, PubMed:12631575, PubMed:19387552, PubMed:19387551, PubMed:23123191). Also phosphorylates and regulates numerous transcription factors including NF-kappa-B, STAT1, CREB1, IRF1, IRF2, ATF1, ATF4, SRF, MAX, JUN, FOS, MYC and MYB (PubMed:19387550, PubMed:12631575, PubMed:19387552, PubMed:19387551, PubMed:23123191).</p>

Target Details

Phosphorylates Hsp90 and its co-chaperones FKBP4 and CDC37, which is essential for chaperone function (PubMed:19387550). Mediates sequential phosphorylation of FNIP1, promoting its gradual interaction with Hsp90, leading to activate both kinase and non-kinase client proteins of Hsp90 (PubMed:30699359). Regulates Wnt signaling by phosphorylating CTNNB1 and the transcription factor LEF1 (PubMed:19387549). Acts as an ectokinase that phosphorylates several extracellular proteins (PubMed:19387550, PubMed:12631575, PubMed:19387552, PubMed:19387551). During viral infection, phosphorylates various proteins involved in the viral life cycles of EBV, HSV, HBV, HCV, HIV, CMV and HPV (PubMed:19387550, PubMed:12631575, PubMed:19387552, PubMed:19387551). Phosphorylates PML at 'Ser-565' and primes it for ubiquitin-mediated degradation (PubMed:20625391, PubMed:22406621). Plays an important role in the circadian clock function by phosphorylating BMAL1 at 'Ser-90' which is pivotal for its interaction with CLOCK and which controls CLOCK nuclear entry (By similarity). Phosphorylates CCAR2 at 'Thr-454' in gastric carcinoma tissue (PubMed:24962073). Phosphorylates FMR1, promoting FMR1-dependent formation of a membraneless compartment (PubMed:30765518, PubMed:31439799). {ECO:0000250|UniProtKB:P19139, ECO:0000269|PubMed:11239457, ECO:0000269|PubMed:11704824, ECO:0000269|PubMed:16193064, ECO:0000269|PubMed:19188443, ECO:0000269|PubMed:20545769, ECO:0000269|PubMed:20625391, ECO:0000269|PubMed:21482717, ECO:0000269|PubMed:22017874, ECO:0000269|PubMed:22184066, ECO:0000269|PubMed:22325354, ECO:0000269|PubMed:22406621, ECO:0000269|PubMed:23123191, ECO:0000269|PubMed:24962073, ECO:0000269|PubMed:26811421, ECO:0000269|PubMed:30699359, ECO:0000269|PubMed:30765518, ECO:0000269|PubMed:30898438, ECO:0000269|PubMed:31439799, ECO:0000269|PubMed:35597237, ECO:0000303|PubMed:12631575, ECO:0000303|PubMed:19387549, ECO:0000303|PubMed:19387550, ECO:0000303|PubMed:19387551, ECO:0000303|PubMed:19387552}.

Molecular Weight: 45.1 kDa

UniProt: [P68400](#)

Pathways: [SARS-CoV-2 Protein Interactome](#)

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

Application Details

	guarantee though.
Comment:	<p>ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from <i>Nicotiana tabacum</i> 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.</p> <p>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!</p>
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)



**Image 1.** „Crystallography Grade“ protein due to multi-step, protein-specific purification process