

Datasheet for ABIN3091399

**CDK12 Protein (AA 1-1490) (Strep Tag)****1** Image[Go to Product page](#)

## Overview

Quantity:	1 mg
Target:	CDK12 (CRKRS)
Protein Characteristics:	AA 1-1490
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This CDK12 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

## Product Details

Sequence:	MPNSERHGGK KDGSGGASGT LQPSSGGGSS NSRERHRLVS KHKRHKSKHS KDMGLVTPEA ASLGTVIKPL VEYDDISSDS DTFSDDMAFK LDRRENDERR GSDRSDDLHK HRHHQHRRSR DLLKAKQTEK EKSQEVSSKS GSMKDRISGS SKRSNEETDD YGKAQVAKSS SKESRSSLKH KEKTRKEREL KSGHKDRSKS HRKRETPKSY KTVDSPKRRS RSPHRKWSDS SKQDDSPSGA SYGQDYDLSP SRSHTSSNYD SYKKSPGSTS RRQSVPPYK EPSAYQSSTR SPSPYSRRQR SVSPYSRRRS SSYERSGSYS GRSPSPYGRR RSSPFLSKR SLRSPLPSR KSMKSRSRSP AYSRHSSSHS KKKRSSRSR HSSISPVRLP LNSSLGAELS RKKKRAAAA AAKMDGKES KGSPVFLPRK ENSSVEAKDS GLESKKLPRS VKLEKSAPDT ELVNVTHLNT EVKNSSDTGK VKLDENSEKH LVKDLKAQGT RDSKPIALKE EIVTPKETET SEKETPPPLP TIASPPPLP TTTTPPQTPP LPPLPIPAL PQQPPLPPSQ PAFSQVPASS TSTLPPSTHS KTSAVSSQAN SQPPVQVSVK TQVSVTAAIP HLKTSTLPL PLPPLPGDD DMDSPKETLP SKPVKKEKEQ RTRHLLTDLP LPPELPGGDL SPPDSPEPKA ITPPQQPYKK RPKICCPRYG ERRQTESDWG
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KRCVDKFDII GIIGEGTYGQ VYKAKDKDTG ELVALKKVRL DNEKEGFPIT AIREIKILRQ  
LIHRSVVNMK EIVTDKQDAL DFKKDKGAFY LVFEYMDHDL MGLLESGLVH FSEDHIKSF  
KQLMEGLEYC HKKNFLHRDI KCSNILLNNS GQIKLADFGL ARLYNSEESR PYTNKVITLW  
YRPPELLLGE ERYTPAIDVW SCGCILGELF TKKPIFQANL ELAQLELISR LCGSPCPAVW  
PDVIKLPYFN TMKPKKQYRR RLREEFSFIP SAALDLLDHM LTLDPSKRCT AEQTLQSDFL  
KDVELSKMAP PDLPHWQDCH ELWSKKRRRQ RQSGVVVEEP PPSKTSRKET TSGTSTEPVK  
NSSPAPPQPA PGKVESGAGD AIGLADITQQ LNQSELAVLL NLLQSQTDL IPQMAQLLNI  
HSNPQMQL EALNQSISAL TEATSQQQDS ETMAPEESLK EAPSAPVILP SAEQTTLEAS  
STPADMQNIL AVLLSQLMKT QEPAGSLEEN NSDKNSGPQG PRRTPTMPQE EAAACPPHIL  
PPEKRPPEPP GPPPPPPPPP LVEGDLSSAP QELNPAVTAA LLQLLSQPEA EPPGHLPEH  
QALRPMEYST RPRPNRTYGN TDGPETGFSA IDTDERNSGP ALTESLVQTL VKNRTFSGSL  
SHLGESSSYQ GTGSVQFPGD QDLRFARVPL ALHPVVGQPF LKAEGSSNSV VHAETKLQNY  
GELGPGTTGA SSSGAGLHWG GPTQSSAYGK LYRGPTRVPP RGGRGRGVPI

**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

## Product Details

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 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:	CDK12 (CRKRS)
Alternative Name:	CDK12 ( <a href="#">CRKRS Products</a> )
Background:	Cyclin-dependent kinase 12 (EC 2.7.11.22) (EC 2.7.11.23) (Cdc2-related kinase, arginine/serine-rich) (CrkRS) (Cell division cycle 2-related protein kinase 7) (CDC2-related protein kinase 7) (Cell division protein kinase 12) (hCDK12),FUNCTION: Cyclin-dependent kinase that phosphorylates the C-terminal domain (CTD) of the large subunit of RNA polymerase II (POLR2A), thereby acting as a key regulator of transcription elongation. Regulates the expression of genes involved in DNA repair and is required for the maintenance of genomic stability. Preferentially phosphorylates 'Ser-5' in CTD repeats that are already phosphorylated at 'Ser-7', but can also phosphorylate 'Ser-2'. Required for RNA splicing, possibly by phosphorylating SRSF1/SF2.

## Target Details

Involved in regulation of MAP kinase activity, possibly leading to affect the response to estrogen inhibitors. {ECO:0000269|PubMed:11683387, ECO:0000269|PubMed:19651820, ECO:0000269|PubMed:20952539, ECO:0000269|PubMed:22012619, ECO:0000269|PubMed:24662513}.

Molecular Weight: 164.2 kDa

UniProt: [Q9NYV4](#)

## 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.

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