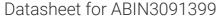
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CDK12 Protein (AA 1-1490) (Strep Tag)



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 GSDRSDRLHK HRHHQHRRSR
DLLKAKQTEK EKSQEVSSKS GSMKDRISGS SKRSNEETDD YGKAQVAKSS SKESRSSKLH
KEKTRKEREL KSGHKDRSKS HRKRETPKSY KTVDSPKRRS RSPHRKWSDS SKQDDSPSGA
SYGQDYDLSP SRSHTSSNYD SYKKSPGSTS RRQSVSPPYK EPSAYQSSTR SPSPYSRRQR
SVSPYSRRRS SSYERSGSYS GRSPSPYGRR RSSSPFLSKR SLSRSPLPSR KSMKSRSRSP
AYSRHSSSHS KKKRSSSRSR HSSISPVRLP LNSSLGAELS RKKKERAAAA AAAKMDGKES
KGSPVFLPRK ENSSVEAKDS GLESKKLPRS VKLEKSAPDT ELVNVTHLNT EVKNSSDTGK
VKLDENSEKH LVKDLKAQGT RDSKPIALKE EIVTPKETET SEKETPPPLP TIASPPPPLP
TTTPPPQTPP LPPLPPIPAL PQQPPLPPSQ PAFSQVPASS TSTLPPSTHS KTSAVSSQAN
SQPPVQVSVK TQVSVTAAIP HLKTSTLPPL PLPPLLPGDD DMDSPKETLP SKPVKKEKEQ
RTRHLLTDLP LPPELPGGDL SPPDSPEPKA ITPPQQPYKK RPKICCPRYG ERRQTESDWG

KRCVDKFDII GIIGEGTYGQ VYKAKDKDTG ELVALKKVRL DNEKEGFPIT AIREIKILRQ
LIHRSVVNMK EIVTDKQDAL DFKKDKGAFY LVFEYMDHDL MGLLESGLVH FSEDHIKSFM
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 NLLQSQTDLS IPQMAQLLNI
HSNPEMQQQL EALNQSISAL TEATSQQQDS ETMAPEESLK EAPSAPVILP SAEQTTLEAS
STPADMQNIL AVLLSQLMKT QEPAGSLEEN NSDKNSGPQG PRRTPTMPQE EAAACPPHIL
PPEKRPPEPP GPPPPPPPP LVEGDLSSAP QELNPAVTAA LLQLLSQPEA EPPGHLPHEH
QALRPMEYST RPRPNRTYGN TDGPETGFSA IDTDERNSGP ALTESLVQTL VKNRTFSGSL
SHLGESSSYQ GTGSVQFPGD QDLRFARVPL ALHPVVGQPF LKAEGSSNSV VHAETKLQNY
GELGPGTTGA SSSGAGLHWG GPTQSSAYGK LYRGPTRVPP RGGRGRGVPY

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 posttranslational 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.
- 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 (CRKRS Products)
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

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

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	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)

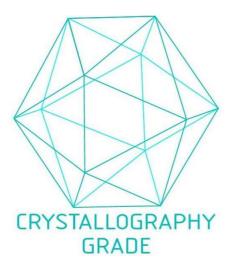


Image 1. "Crystallography Grade" protein due to multi-step, protein-specific purification process