

Datasheet for ABIN3091483  
**CDK7 Protein (AA 2-346) (His tag)**



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## Overview

Quantity:	1 mg
Target:	CDK7
Protein Characteristics:	AA 2-346
Origin:	Human
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This CDK7 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

## Product Details

Sequence:	<p>ALDVKSRAKR YEKLDFLGEG QFATVYKARD KNTNQIVAIK KIKLGHRSEA KGINRTALR  EIKLLQELSH PNIIGLLDAF GHKSNISLVF DFMETDLEVI IKDNSLVLTTP SHIKAYMLMT  LQGLEYLHQH WILHRDLKPN NLLLDENGVL KLADFGLAKS FGSPNRAYTH QVVTRWYRAP  ELLFGARMYG VGVDMWAVGC ILAELLRVP FLPGDSLDQ LTRIFETLGT PTEEQWPDMC  SLPDYVTFKS FPGIPLHHIF SAAGDLDL IQGLFLNPN ARITATQALK MKYFSNRPGP  TPGCQLPRPN CPVETLKEQS NPALAIKRKR TEALEQGGLP KKLIF</p> <p><b>Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.</b></p>
Characteristics:	<ul style="list-style-type: none"> <li>• Made in Germany - from design to production - by highly experienced protein experts.</li> <li>• Human CDK7 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.</li> <li>• State-of-the-art algorithm used for plasmid design (Gene synthesis).</li> </ul>

## Product Details

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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.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

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.

The concentration of the protein is calculated using its specific absorption coefficient. We use the Expasy's protparam tool to determine the absorption coefficient of each protein.

Purification:	Two step purification of proteins expressed in baculovirus infected SF9 insect cells:  1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. 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.
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Purity:	>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
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Sterility:	0.22 µm filtered
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Endotoxin Level:	Protein is endotoxin free.
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Grade:	Crystallography grade
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## Target Details

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Target:	CDK7
Alternative Name:	CDK7 ( <a href="#">CDK7 Products</a> )
Background:	Serine/threonine kinase involved in cell cycle control and in RNA polymerase II-mediated RNA

transcription. Cyclin-dependent kinases (CDKs) are activated by the binding to a cyclin and mediate the progression through the cell cycle. Each different complex controls a specific transition between 2 subsequent phases in the cell cycle. Required for both activation and complex formation of CDK1/cyclin-B during G2-M transition, and for activation of CDK2/cyclins during G1-S transition (but not complex formation). CDK7 is the catalytic subunit of the CDK-activating kinase (CAK) complex. Phosphorylates SPT5/SUPT5H, SF1/NR5A1, POLR2A, p53/TP53, CDK1, CDK2, CDK4, CDK6 and CDK11B/CDK11. CAK activates the cyclin-associated kinases CDK1, CDK2, CDK4 and CDK6 by threonine phosphorylation, thus regulating cell cycle progression. CAK complexed to the core-TFIIF basal transcription factor activates RNA polymerase II by serine phosphorylation of the repetitive C-terminal domain (CTD) of its large subunit (POLR2A), allowing its escape from the promoter and elongation of the transcripts. Phosphorylation of POLR2A in complex with DNA promotes transcription initiation by triggering dissociation from DNA. Its expression and activity are constant throughout the cell cycle. Upon DNA damage, triggers p53/TP53 activation by phosphorylation, but is inactivated in turn by p53/TP53, this feedback loop may lead to an arrest of the cell cycle and of the transcription, helping in cell recovery, or to apoptosis. Required for DNA-bound peptides-mediated transcription and cellular growth inhibition. {ECO:0000269|PubMed:10024882, ECO:0000269|PubMed:11113184, ECO:0000269|PubMed:16327805, ECO:0000269|PubMed:17373709, ECO:0000269|PubMed:17386261, ECO:0000269|PubMed:17901130, ECO:0000269|PubMed:19015234, ECO:0000269|PubMed:19071173, ECO:0000269|PubMed:19136461, ECO:0000269|PubMed:19450536, ECO:0000269|PubMed:19667075, ECO:0000269|PubMed:20360007, ECO:0000269|PubMed:9372954, ECO:0000269|PubMed:9840937}.

Molecular Weight:	39.9 kDa Including tag.
UniProt:	<a href="#">P50613</a>
Pathways:	<a href="#">Cell Division Cycle</a> , <a href="#">DNA Damage Repair</a> , <a href="#">Intracellular Steroid Hormone Receptor Signaling Pathway</a> , <a href="#">Mitotic G1-G1/S Phases</a> , <a href="#">M Phase</a>

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:	In cases in which it is highly likely that the recombinant protein with the default tag will be

## Application Details

insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.

Restrictions: For Research Use only

## Handling

Format:	Liquid
Buffer:	100 mM NaCL, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	Unlimited (if stored properly)