

Datasheet for ABIN3094643

PLK4 Protein (AA 1-970) (Strep Tag)[Go to Product page](#)**1** Image

Overview

Quantity:	1 mg
Target:	PLK4
Protein Characteristics:	AA 1-970
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This PLK4 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence:	MATCIGEKIE DFKVGNLLGK GSFAGVYRAE SIHTGLEVAI KMIDKKAMYK AGMVQRVQNE VKIHCQLKHP SILELYNYFE DSNVYVLVLE MCHNGEMNRY LKNRVKPFSE NEARHFMHQI ITGMLYLHSH GILHRDLTLS NLLLTRNMNI KIADFGLATQ LKMPHEKHYT LCGTPNYISP EIATRSAHGL ESDVWSLGCM FYTLLIGRPP FDTDTVKNTL NKVVLADYEM PSFLSIEAKD LIHQLLRRNP ADRLSLSSVL DHPFMSRNSS TSKDLGTVE DSIDSGHATI STAITASSST SISGSLFDKR RLLIGQPLPN KMTVFPKNKS STDFSSSGDG NSFYTQWGNQ ETSNSGRGRV IQDAEERPHS RYLRRAYSSD RSGTSNSQSQ AKTYTMERCH SAEMLSVSKR SGGGENEERY SPTDNNANIF NFFKEKTSSS SGSFERPDNN QALSNHLCPG KTPFPFADPT PQTETVQQWF GNLQINAHLR KTTEYDSISP NRDFQGHPLD QKDTSKNAWT DTKVKKNSDA SDNAHSVKQQ NTMKYMTALH SKPEIIQEC VFGSDPLSEQ SKTRGMEPPW GYQNRTRLRSI TSPLVAHRLK PIRQKTKKAV VSILDSEEVV VELVKEYASQ EYVKEVLQIS SDGNTITIYY PNGGRGFPLA DRPPSPTDNI SRYSDNLPE KYWRKYQYAS RFVQLVRSKS PKITYFTRYA KCILMENSPG
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ADFEVWFYDG VKIHKTEDFI QVIEKTGKSY TLKSESEVNS LKEEIKMYMD HANEGHRICL
ALESIISEEE RKTRSAPFFP IIGRKPGST SSPKALSPPP SVDSNYPTRE RASFNRMMVMH
SAASPTQAPI LNPSMVTNEG LGLTTTASGT DISSNSLKDC LPKSAQLLKS VFKNVGWAT
QLTSGAVVVQ FNDGSQLVVQ AGVSSISYTS PNGQTTRYGE NEKLDPYIKQ KLQCLSSILL
MFSNPTPNFH

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 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

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- 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:	PLK4
Alternative Name:	PLK4 (PLK4 Products)
Target Type:	Phage Protein
Background:	Serine/threonine-protein kinase PLK4 (EC 2.7.11.21) (Polo-like kinase 4) (PLK-4) (Serine/threonine-protein kinase 18) (Serine/threonine-protein kinase Sak),FUNCTION: Serine/threonine-protein kinase that plays a central role in centriole duplication. Able to trigger procentriole formation on the surface of the parental centriole cylinder, leading to the recruitment of centriole biogenesis proteins such as SASS6, CENPJ/CPAP, CCP110, CEP135 and gamma-tubulin. When overexpressed, it is able to induce centrosome amplification through the simultaneous generation of multiple procentrioles adjoining each parental centriole during S phase. Phosphorylates 'Ser-151' of FBXW5 during the G1/S transition, leading to inhibit FBXW5 ability to ubiquitinate SASS6. Its central role in centriole replication suggests a possible role in tumorigenesis, centrosome aberrations being frequently observed in tumors. Also involved in deuterosome-mediated centriole amplification in multiciliated that can generate more than 100 centrioles. Also involved in trophoblast differentiation by phosphorylating HAND1, leading to disrupt the interaction between HAND1 and MDFIC and activate HAND1. Phosphorylates CDC25C and CHEK2. Required for the recruitment of STIL to the centriole and for STIL-mediated centriole amplification (PubMed:22020124). Phosphorylates CEP131 at 'Ser-78' and

Target Details

PCM1 at 'Ser-372' which is essential for proper organization and integrity of centriolar satellites (PubMed:30804208). {ECO:0000269|PubMed:16244668, ECO:0000269|PubMed:16326102, ECO:0000269|PubMed:17681131, ECO:0000269|PubMed:18239451, ECO:0000269|PubMed:19164942, ECO:0000269|PubMed:21725316, ECO:0000269|PubMed:22020124, ECO:0000269|PubMed:27796307, ECO:0000269|PubMed:30804208}.

Molecular Weight: 109.0 kDa

UniProt: [O00444](#)

Pathways: [M Phase](#)

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

Handling

Storage Comment: Store at -80°C.

Expiry Date: Unlimited (if stored properly)

Images



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