

Datasheet for ABIN3135308 PLK3 Protein (AA 1-631) (His tag)



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Overview

Quantity:	1 mg
Target:	PLK3
Protein Characteristics:	AA 1-631
Origin:	Mouse
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This PLK3 protein is labelled with His tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB), Crystallization (Crys)

Product Details

Sequence: MEPAAGFLSP RPFRAAVPS APPAGPGPPA NASPRSEPEV LAGPRAPDPP GRLITDPLSG
 RTYTKGRLLG KGGFARCYEA TDTESGIAYA VKVIPQSRVA KPHQREKILN EIELHRDLQH
 RHIVRFSHHF EDADNIYIFL ELCSRKSLAH IWKARHTLLE PEVRYYLRLQI LSGLKYLHQR
 GILHRDLKLG NFFITDNMEL KVGDFGLAAR LEPPEQRKKT ICGTPNYVAP EVLLRQGHGP
 EADVWSLGCV MYTLICGSPF FETADLKETY RCIKQVHYTL PASLSLPAARQ LLAAILRASP
 RDRPSIEQIL RHDFFTKGYT PDRLPVSSCV TVPDLTPPNP ARSLFAKVTK SLFGRKKNKN
 KNHSEDQDNV SCLAPVVSQG APASLIETAA EDSSPRGTLA SSGDGFEGL TVATVVESAL
 CALRNCVAFM PPAEQNPAPL AQPEPLVWVS KWVDYSNKFV FGYQLSSRRV AVLFNDGTHM
 ALSANRKTIVH YNPTSTKHFS FSMGSVPRAL QPQLGILRYF ASYMEQHLMK GGDLPSEVEA
 EVPAAPLLLQ WVKTDQALLM LFSFGTVQVN FYGDHTKLIL SGWEPLLVTF VARNRSACTY
 LASHLRQLGC SPDLRQRLRY ALRLLRDQSP A

Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a

special request, please contact us.

Characteristics:

- Made in Germany - from design to production - by highly experienced protein experts.
- Mouse Plk3 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.
- 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.

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.

Purity:

>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

Sterility:

0.22 µm filtered

Endotoxin Level:

Protein is endotoxin free.

Grade:

Crystallography grade

Target Details

Target:	PLK3
Alternative Name:	Plk3 (PLK3 Products)
Background:	<p>Serine/threonine-protein kinase involved in cell cycle regulation, response to stress and Golgi disassembly. Polo-like kinases act by binding and phosphorylating proteins that are already phosphorylated on a specific motif recognized by the POLO box domains. Phosphorylates ATF2, BCL2L1, CDC25A, CDC25C, CHEK2, HIF1A, JUN, p53/TP53, p73/TP73, PTEN, TOP2A and VRK1. Involved in cell cycle regulation: required for entry into S phase and cytokinesis. Phosphorylates BCL2L1, leading to regulate the G2 checkpoint and progression to cytokinesis during mitosis. Plays a key role in response to stress: rapidly activated upon stress stimulation, such as ionizing radiation, reactive oxygen species (ROS), hyperosmotic stress, UV irradiation and hypoxia. Involved in DNA damage response and G1/S transition checkpoint by phosphorylating CDC25A, p53/TP53 and p73/TP73. Phosphorylates p53/TP53 in response to reactive oxygen species (ROS), thereby promoting p53/TP53-mediated apoptosis. Phosphorylates CHEK2 in response to DNA damage, promoting the G2/M transition checkpoint. Phosphorylates the transcription factor p73/TP73 in response to DNA damage, leading to inhibit p73/TP73-mediated transcriptional activation and pro-apoptotic functions. Phosphorylates HIF1A and JUN in response to hypoxia. Phosphorylates ATF2 following hyperosmotic stress in corneal epithelium. Also involved in Golgi disassembly during the cell cycle: part of a MEK1/MAP2K1-dependent pathway that induces Golgi fragmentation during mitosis by mediating phosphorylation of VRK1. May participate in endomitotic cell cycle, a form of mitosis in which both karyokinesis and cytokinesis are interrupted and is a hallmark of megakaryocyte differentiation, via its interaction with CIB1. {ECO:0000269 PubMed:20940307, ECO:0000269 PubMed:21376736, ECO:0000269 PubMed:9677325}.</p>
Molecular Weight:	71.0 kDa Including tag.
UniProt:	Q60806
Pathways:	Regulation of long-term Neuronal Synaptic Plasticity

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:	Protein has not been tested for activity yet. In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher

Application Details

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)

Images



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