

Datasheet for ABIN3092041

DAP Kinase 1 Protein (AA 1-1430) (Strep Tag)[Go to Product page](#)**1** Image

Overview

Quantity:	1 mg
Target:	DAP Kinase 1 (DAPK1)
Protein Characteristics:	AA 1-1430
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This DAP Kinase 1 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

Product Details

Sequence:	MTVFRQENV DYYDTGEELG SGQFAVKKC REKSTGLQYA AKFIKKRRTK SSRRGVSRED IEREVSILKE IQHPNVITLH EVYENKTDVI LILELVAGGE LFDFLAEKES LTEEEATEFL KQILNGVYYL HSLQIAHFDL KPENIMLLDR NVPKPRIKII DFGLAHKIDF GNEFKNIFGT PEFVAPEIVN YEPLGLEADM WSIGVITYIL LSGASPFLGD TKQETLANVS AVNYEFEDEY FSNTSALAKD FIRRLVKDP KKRMTIQDSL QHPWIKPKDT QQALSRKASA VNMEKFKKFA ARKKWKQSVR LISLCQRLSR SFLSRSNMSV ARSDDTLDEE DSFVMKAIH AINDDNV PGL QHLLGSLSNY DVNQPNKHGT PPLLIAAGCG NIQILQLLIK RGSRIDVQDK GGSNAVYWAA RHGHVDTLKF LSENKCPLDV KDKSGEMALH VAARYGHADV AQLLCSEFGSN PNIQDKEET PLHCAAWHGY YSVAKALCEA GCNVNIKNRE GETPLL TASA RGYHDIVECL AEHGADLNAC DKDGHIALHL AVRRCQMEVI KTLLSQGCFV DYQDRHGNTPLHVACKDGNM PIVVALCEAN CNLDISNKYG RTPLHLAANN GILDVVRYLC LMGASVEALT TDGKTAEDLA RSEQHEHVAG LLARLRK DTH RGLFIQQLRP TQNLQPRIKL KLFHSGSGK TTLVESLKCG LLRSFFRRRR PRLSSTNSSR
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FPPSPLASKP TVSVSINNLY PGCENVSVRS RSMMFEPGLT KGMLEVFVAP THHPHCSADD
QSTKAIDIQN AYLNQVGDFS VWEFSGNPVY FCCYDYFAAN DPTSIHVVF SLEEPYEIQL
NQVIFWLSFL KSLVPVEEPI AFGGKLNPL QVVLVATHAD IMNVPRPAGG EFGYDKDTSL
LKEIRNRFGN DLHISNKLKV LDAGASGSKD MKVLRNHLQE IRSQIVSVCP PMTHLCEKII
STLPSWRKLN GPNQLMSLQQ FVYDVQDQLN PLASEEDLRR IAQQLHSTGE INIMQSETVQ
DVLLLDPRWL CTNVLGKLLS VETPRALHHY RGRYTVEDIQ RLVPSDSVEE LLQILDAMDI
CARDLSSGTM VDVPAIKTD NLHRSWADEE DEVMVYGGVR IVPVEHLTPF PCGIFHKVQV
NLCRWIHQQS TEGDADIRLW VNGCKLANRG AELLVLLVNH GQGIEVQVRG LETEKIKCCL
LLDSVCSTIE NVMATTLPLG LTVKHLYSPQ QLREHHEPVM IYQPRDFFRA QTLKETSNTN
TMGGYKESFS SIMCFGCHDV YSQASLGMDI HASDLNLLTR RKLSRLLDPP DPLGKDWCLL
AMNLGLPDLV AKYNTSNGAP KDFLPSPLHA LLREWTTYPE STVGTLMASKL RELGRRDAAD
FLKASSVFK INLDGNGQEA YASSCNSGTS YNSISSVVS

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

Product Details

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:	DAP Kinase 1 (DA PK1)
Alternative Name:	DA PK1 (DA PK1 Products)
Background:	Death-associated protein kinase 1 (DAP kinase 1) (EC 2.7.11.1),FUNCTION: Calcium/calmodulin-dependent serine/threonine kinase involved in multiple cellular signaling pathways that trigger cell survival, apoptosis, and autophagy. Regulates both type I apoptotic and type II autophagic cell deaths signal, depending on the cellular setting. The former is caspase-dependent, while the latter is caspase-independent and is characterized by the accumulation of autophagic vesicles. Phosphorylates PIN1 resulting in inhibition of its catalytic activity, nuclear localization, and cellular function. Phosphorylates TPM1, enhancing stress fiber formation in endothelial cells. Phosphorylates STX1A and significantly decreases its binding to STXBP1. Phosphorylates PRKD1 and regulates JNK signaling by binding and activating PRKD1 under oxidative stress. Phosphorylates BECN1, reducing its interaction with BCL2 and BCL2L1

Target Details

and promoting the induction of autophagy. Phosphorylates TSC2, disrupting the TSC1-TSC2 complex and stimulating mTORC1 activity in a growth factor-dependent pathway. Phosphorylates RPS6, MYL9 and DAPK3. Acts as a signaling amplifier of NMDA receptors at extrasynaptic sites for mediating brain damage in stroke. Cerebral ischemia recruits DAPK1 into the NMDA receptor complex and it phosphorylates GRINB at Ser-1303 inducing injurious Ca(2+) influx through NMDA receptor channels, resulting in an irreversible neuronal death. Required together with DAPK3 for phosphorylation of RPL13A upon interferon-gamma activation which is causing RPL13A involvement in transcript-selective translation inhibition., FUNCTION: Isoform 2 cannot induce apoptosis but can induce membrane blebbing.

Molecular Weight: 160.0 kDa

UniProt: [P53355](#)

Pathways: [MAPK Signaling](#), [Interferon-gamma Pathway](#)

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

Handling Advice:	Avoid repeated freeze-thaw cycles.
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Storage:	-80 °C
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Storage Comment:	Store at -80°C.
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Expiry Date:	Unlimited (if stored properly)
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Images



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