

Datasheet for ABIN3095844

**TAO Kinase 1 (TAOK1) (AA 1-1001) protein (Strep Tag)**



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Overview

Quantity:	1 mg
Target:	TAO Kinase 1 (TAOK1)
Protein Characteristics:	AA 1-1001
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	Strep Tag
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence:	MPSTNRAGSL KDPEIAELFF KEDPEKLFTD LREIGHGSFG AVYFARDVRT NEVVAIKKMS YSGKQSTEKW QDIIKEVKFL QRIKHPNSIE YKGCYLREHT AWLVMEYCLG SASDLLEVHK KPLQEVEIAA ITHGALQGLA YLHSHTMIHR DIKAGNILLT EPGQVKLADF GSASMSPAN SFVGTPYWMA PEVILAMDEG QYDGKVDVWS LGITCIELAE RKPPLFNMNA MSALYHIAQN ESPTLQSNEW SDYFRNFVDS CLQKIPQDRP TSEELLKHIF VLRERPETVL IDLIQRTKDA VRELDNLQYR KMKKLLFQEA HNGPAVEAQE EEEQDHGVG RTGTVNSVGS NQSIPSMSIS ASSQSSSVNS LPDVSDDKSE LDMMEGDHTV MSNSSVIHLK PEEENYREEG DPRTRASDPQ SPPQVSRHKS HYRNREHFAT IRTASLVTRQ MQEHEQDSEL REQMSGYKRM RRQHQQQLMT LENKLKAEMD EHRLRLDKDL ETQRNNFAAE MEKLIKHHQA AMEKEAKVMS NEEKKFQQHI QAAQKKELNS FLESQKREYK LRKEQLKEEL NENQSTPKKE KQEWLSKQKE NIQHFQAEES ANLLRRQRQY LELECRRFKR RMLLGRHNLE QDLVREELNK RQTQKDLEHA MLLRQHESMQ ELEFRHLNTI QKMRCELIRL QHQTELTNQL EYNKRREREL RRKHVMEVRQ QPKSLKSKEL
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QIKKQFQDTC KIQTRQYKAL RNHLLETPK SEHKAVLKRL KEEQTRKLAI LAEQYDHSIN  
EMLSTQALRL DEAEAEQCV LKMQLQELE LLNAYQSKIK MQAEAQHDRE LRELEQRVSL  
RRALLEQKIE EEMALQNER TERIRSLER QAREIEAFDS ESMRLGFSNM VLSNLSPEAF  
SHSYPGASGW SHNPTGGPGP HWGHMGGPP QAWGHMGGG PQPWGHPSGP  
MQGVPRGSSM GVRNSPQALR RTASGGRTAQ GMSRSTSVTS QISNGSHMSY T

**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.**

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### 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

Product Details

- 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:	TAO Kinase 1 (TAOK1)
Alternative Name:	TAOK1 ( <a href="#">TAOK1 Products</a> )
Background:	Serine/threonine-protein kinase TAO1 (EC 2.7.11.1) (Kinase from chicken homolog B) (hKFC-B) (MARK Kinase) (MARKK) (Prostate-derived sterile 20-like kinase 2) (PSK-2) (PSK2) (Prostate-derived STE20-like kinase 2) (Thousand and one amino acid protein kinase 1) (TAOK1) (hTAOK1),FUNCTION: Serine/threonine-protein kinase involved in various processes such as p38/MAPK14 stress-activated MAPK cascade, DNA damage response and regulation of cytoskeleton stability. Phosphorylates MAP2K3, MAP2K6 and MARK2. Acts as an activator of the p38/MAPK14 stress-activated MAPK cascade by mediating phosphorylation and subsequent activation of the upstream MAP2K3 and MAP2K6 kinases. Involved in G-protein coupled receptor signaling to p38/MAPK14. In response to DNA damage, involved in the G2/M transition DNA damage checkpoint by activating the p38/MAPK14 stress-activated MAPK cascade, probably by mediating phosphorylation of MAP2K3 and MAP2K6. Acts as a regulator of cytoskeleton stability by phosphorylating 'Thr-208' of MARK2, leading to activate MARK2 kinase activity and subsequent phosphorylation and detachment of MAPT/TAU from microtubules. Also acts as a regulator of apoptosis: regulates apoptotic morphological changes, including cell contraction, membrane blebbing and apoptotic bodies formation via activation of the MAPK8/JNK cascade. Plays an essential role in the regulation of neuronal

## Target Details

development in the central nervous system (PubMed:33565190). Also plays a role in the regulation of neuronal migration to the cortical plate (By similarity).

{ECO:0000250|UniProtKB:Q5F2E8, ECO:0000269|PubMed:12665513, ECO:0000269|PubMed:13679851, ECO:0000269|PubMed:16407310, ECO:0000269|PubMed:17396146, ECO:0000269|PubMed:17900936, ECO:0000269|PubMed:33565190}.

Molecular Weight: 116.1 kDa

UniProt: [Q7L7X3](#)

## 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.

## Handling

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Expiry Date: Unlimited (if stored properly)

## Images

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