

Datasheet for ABIN3073985

## THAP4 Protein (AA 1-577) (Strep Tag)



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### 1 Image

#### Overview

Quantity:	1 mg
Target:	THAP4
Protein Characteristics:	AA 1-577
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This THAP4 protein is labelled with Strep Tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB)

#### Product Details

Sequence: MVICCAAVNC SNRQKGKEKR AVSFHRFPLK DSKRLIQWLK AVQRDNWTPT KYSFLCSEHF  
 TKDSFSKRLE DQHRLLKPTA VPSIFHLTEK KRGAGGHGRT RRDASKATG GVRGHSSAAT  
 SRGAAGWSPS SSGNPMAPKE SRRLKQAAALQ GEATPRAAQE AASQEQAQQA LERTPGDGLA  
 TMVAGSQGKA EASATDAGDE SATSSIEGGV TDKSGISMDD FTTPPGSGACK FIGSLHSYSF  
 SSKHTRERPS VPREPIDRKR LKKDVEPSCS GSSLGPKGL AQSPSSSLT ATPQKPSQSP  
 SAPPADVTPK PATEAVQSEH SDASPMISINE VILSASGACK LIDSLHSYCF SSRQNKSQVC  
 CLREQVEKKN GELKSLRQRV SRSDSQVRKL QEKLDLRRV SVPYPSSLLS PSREPPKMNP  
 VVEPLSWMLG TWLSDPPGAG TYPTLQPFQY LEEVHISHVG QPMLNFSFNS FHPDTRKPMH  
 RECGFIRLKP DTNKVAFVSA QNTGVVEVEE GEVNGQELCI ASHSIARISF AKEPHVEQIT  
 RKFRLNSEGK LEQTVSMATT TQPMTQHLHV TYKKVTP

**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 specific reference buffer.
- We use the Expasy's ProtParam tool to determine the absorption coefficient of each protein.

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#### 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.

## Product Details

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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

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Target: THAP4

Alternative Name: THAP4 ([THAP4 Products](#))

Background: Peroxynitrite isomerase THAP4 (EC 5.99.-.) (Ferric Homo sapiens nitrobindin) (Hs-Nb(III)) (THAP domain-containing protein 4),FUNCTION: Heme-binding protein able to scavenge peroxynitrite and to protect free L-tyrosine against peroxynitrite-mediated nitration, by acting as a peroxynitrite isomerase that converts peroxynitrite to nitrate. Therefore, this protein likely plays a role in peroxynitrite sensing and in the detoxification of reactive nitrogen and oxygen species (RNS and ROS, respectively). Is able to bind nitric oxide (NO) in vitro, but may act as a sensor of peroxynitrite levels in vivo, possibly modulating the transcriptional activity residing in the N-terminal region. {ECO:0000269|PubMed:30524950, ECO:0000269|PubMed:32295384}.

Molecular Weight: 62.9 kDa

UniProt: [Q8WY91](#)

## Application Details

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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

## Application Details

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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

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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.

Expiry Date: Unlimited (if stored properly)

## Images

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