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Datasheet for ABIN3127695  
**MTHFD1 Protein (AA 1-935) (Strep Tag)**

### Overview

Quantity:	1 mg
Target:	MTHFD1
Protein Characteristics:	AA 1-935
Origin:	Mouse
Source:	Tobacco ( <i>Nicotiana tabacum</i> )
Protein Type:	Recombinant
Purification tag / Conjugate:	This MTHFD1 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

### Product Details

Sequence: MAPAGILNGK LVSAQIRDRL KNQVTRMQEQ VPGFTPLAI LQVGDRDDSN LYINVKLKAA  
EEIGIKATHI KLPRTSESE VLKYVISLNE DASVHGFIQ LPLDSENSIN TEAVINAIAP EKDVDGLTSV  
SAGKLARGDL NDCFIPCTPK GCLELIKEAG VQIAGRHAVV VGRSKIVGAP MHDLLLWNNA  
TVTTCHSKTA NLDKEVNKGD ILVVATGQPE MVKGEWIKPG AVVIDCGINY VPDDTKPNGR  
KVVGDVAYDE AKERASFITP VPGGVGPM TV AMLMQSTVES AQRFLQKFKP GKWTIQYNKL  
NLKTPVPSDI AISRSCKPKL IGNLAREIGL LTEEVELYGE TKAKVLLSAL DRLKHQPDGK  
YVVVTGITPT PLGEGKSTTT IGLVQALGAH LRQNVFACVR QPSQGPTFGI KGG AAGGYS  
QVIPMEEFNL HLTGDIHAIT AANNLVAAA DARIFHELTQ TDKALFNRLV PSVNGIRKFS  
DIQIRRLRRL GIEKTDPTTL TDDEINRFAR LDIDPETITW QRVLDTNDRF LRKITIGQSP  
TEKGHTRTAQ FDISVASEIM AVLALTSSLE DMRERLGRMV VASSKKGEPI SCEDLGVSGA  
LTVLMKDAIK PNLMQTLEGT PVFVHAGPFA NIAHGNSSII ADRIALKLVG PEGFVWTEAG  
FGADIGMEKF FNIKCRYSL QPHVVVLVAT VRALKMHGGG PTVTAGLPLP KAYTEEDLDL

VEKGFNSLRK QIENARMFGV PVVAVNVFK TDTDAELDLV SRLSREHGAF DAVKCTHWAE  
GGQGALALAQ AVQRASQAPS SFQLLYDLKL SIEDKIRIIA QRIYGADDIE LLPEAQNKAE  
IYTKQGFNL PICMAKTHLS LSHNPEQKGV PTGFVLPIRD IRASVGAGFL YPLVGTMSTM  
PGLPTRPCFY DIDLDPETEQ VNGLF

**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 specific reference buffer.

## Product Details

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- 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®): <ol style="list-style-type: none"><li>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.</li><li>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.</li></ol>
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)

## Target Details

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Target:	MTHFD1
Alternative Name:	Mthfd1 ( <a href="#">MTHFD1 Products</a> )
Background:	C-1-tetrahydrofolate synthase, cytoplasmic (C1-THF synthase) [Cleaved into: C-1-tetrahydrofolate synthase, cytoplasmic, N-terminally processed] [Includes: Methylenetetrahydrofolate dehydrogenase (EC 1.5.1.5), Methenyltetrahydrofolate cyclohydrolase (EC 3.5.4.9), Formyltetrahydrofolate synthetase (EC 6.3.4.3)],FUNCTION: Trifunctional enzyme that catalyzes the interconversion of three forms of one-carbon-substituted tetrahydrofolate: (6R)-5,10-methylene-5,6,7,8-tetrahydrofolate, 5,10-methenyltetrahydrofolate and (6S)-10-formyltetrahydrofolate. These derivatives of tetrahydrofolate are differentially required in nucleotide and amino acid biosynthesis, (6S)-10-formyltetrahydrofolate being required for purine biosynthesis while (6R)-5,10-methylene-5,6,7,8-tetrahydrofolate is used for serine and methionine biosynthesis for instance. {ECO:0000269 PubMed:15611115}.
Molecular Weight:	101.2 kDa
UniProt:	<a href="#">Q922D8</a>
Pathways:	<a href="#">Methionine Biosynthetic Process</a>

## Application Details

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Application Notes:	In addition to the applications listed above we expect the protein to work for functional studies
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## Application Details

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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

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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)