

Datasheet for ABIN3093833

## METTL14 Protein (AA 1-456) (Strep Tag)



[Go to Product page](#)

### 1 Image

#### Overview

Quantity:	1 mg
Target:	METTL14
Protein Characteristics:	AA 1-456
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This METTL14 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

#### Product Details

Sequence: MDSRLQEIRE RQKLRRQLLA QQLGAESADS IGAVLNSKDE QREIAETRET CRASYDTSAP  
NAKRKYLDEG ETDEDKMEYY KDELEMQQDE ENLPYEEIY KDSSTFLKGT QSLNPHNDYC  
QHFVDTGHRP QNFIRDVGLA DRFEEYPKLR ELIRLKDELI AKSNTPPMYL QADIEAFDIR  
ELTPKFDVIL LEPPLEYYR ETGITANEKC WTWDDIMKLE IDEIAAPRSF IFLWCGSGEG  
LDLGRVCLRK WGYRRCEDIC WIKTNKNNPG KTKTLDPKAV FQRTKEHCLM GIKGTVKRST  
DGDFIHANVD IDLIITEEPE IGNIKPVEI FHIIHFCLG RRRLHLFGRD STIRPGWLTV  
GPTLTNSNYN AETYASYFSA PNSYLTGCTE EIERLRPKSP PPKSKSDRGG GAPRGGGRGG  
TSAGRGRERN RSNFRGERGG FRGGRGGAHR GGFPPR

**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.
- We use the Exspasy'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.
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.

## Product Details

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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:	METTL14
Alternative Name:	METTL14 ( <a href="#">METTL14 Products</a> )
Background:	<p>N6-adenosine-methyltransferase non-catalytic subunit (Methyltransferase-like protein 14) (hMETTL14),FUNCTION: The METTL3-METTL14 heterodimer forms a N6-methyltransferase complex that methylates adenosine residues at the N(6) position of some mRNAs and regulates the circadian clock, differentiation of embryonic stem cells and cortical neurogenesis (PubMed:24316715, PubMed:24407421, PubMed:25719671, PubMed:29348140, PubMed:27373337, PubMed:27281194). In the heterodimer formed with METTL3, METTL14 constitutes the RNA-binding scaffold that recognizes the substrate rather than the catalytic core (PubMed:27627798, PubMed:27373337, PubMed:27281194, PubMed:29348140). N6-methyladenosine (m6A), which takes place at the 5'-[AG]GAC-3' consensus sites of some mRNAs, plays a role in mRNA stability and processing (PubMed:24316715, PubMed:24407421, PubMed:25719671). M6A acts as a key regulator of mRNA stability by promoting mRNA destabilization and degradation (By similarity). In embryonic stem cells (ESCs), m6A methylation of mRNAs encoding key naive pluripotency-promoting transcripts results in transcript destabilization (By similarity). M6A regulates spermatogonial differentiation and meiosis and is essential for male fertility and spermatogenesis (By similarity). M6A also regulates cortical neurogenesis: m6A methylation of transcripts related to transcription factors, neural stem cells, the cell cycle and neuronal differentiation during brain development promotes their destabilization and decay, promoting differentiation of radial glial cells (By similarity). {ECO:0000250 UniProtKB:Q3UIK4, ECO:0000269 PubMed:24316715, ECO:0000269 PubMed:24407421, ECO:0000269 PubMed:25719671, ECO:0000269 PubMed:27281194, ECO:0000269 PubMed:27373337, ECO:0000269 PubMed:27627798, ECO:0000269 PubMed:29348140}.</p>
Molecular Weight:	52.2 kDa
UniProt:	<a href="#">Q9HCE5</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 as well. As the protein has not been tested for functional studies yet we cannot offer a guarantee though.

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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!

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**Restrictions:** For Research Use only

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## Handling

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**Format:** Liquid

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**Buffer:** The buffer composition is at the discretion of the manufacturer. If you have a special request, please contact us.

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