

Datasheet for ABIN3093898

MICU1 Protein (AA 1-476) (Strep Tag)[Go to Product page](#)**1** Image

Overview

Quantity:	1 mg
Target:	MICU1
Protein Characteristics:	AA 1-476
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This MICU1 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence:	<p>MFRLNSLSAL AELAVGSRWY HGGSQPIQIR RRLMMVAFLG ASAVTASTGL LWKRAHAESP PCVDNLKSDI GDKGKNKDEG DVCNHEKTA DLAPHPEEK KKRSGFRDRK VMEYENRIRA YSTPDKIFRY FATLKVISEP GAEVFMTPE DFVRSITPNE KQPEHLGLDQ YIIKRFDGKK ISQEREKFAD EGSIFYTLGE CGLISFSDYI FLTTVLSTPQ RNFEIAFKMF DLNGDGEVDM EEFEQVQSII RSQTSMGMRH RDRPTTGNTL KSGLCALTT YFFGADLK GK LTIKNFLEFQ RKLQHDVLKL EFERHDPVDG RITERQFGGM LLAYSGVQSK KLTAMQRQLK KHFKEGKGLT FQEVENFFTF LKNINDVDTA LSFYHMAGAS LDKVTMQQVA RTVAKVELSD HVCDVVFALF DCDGNGLSN KEFVSIMKQR LMRGLEPKD MGFTRLMQAM WKCAQETAWD FALPKQ</p> <p>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.</p>
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.

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

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:	MICU1
Alternative Name:	MICU1 (MICU1 Products)
Background:	<p>Calcium uptake protein 1, mitochondrial (Atopy-related autoantigen CALC) (ara CALC) (Calcium-binding atopy-related autoantigen 1) (allergen Hom s 4),FUNCTION: Key regulator of mitochondrial calcium uniporter (MCU) that senses calcium level via its EF-hand domains (PubMed:20693986, PubMed:23101630, PubMed:23747253, PubMed:24313810, PubMed:24332854, PubMed:24503055, PubMed:24560927, PubMed:26341627, PubMed:26903221, PubMed:27099988). MICU1 and MICU2 form a disulfide-linked heterodimer that stimulates and inhibits MCU activity, depending on the concentration of calcium. MICU1 acts both as an activator or inhibitor of mitochondrial calcium uptake (PubMed:26903221). Acts as a gatekeeper of MCU at low concentration of calcium, preventing channel opening (PubMed:26903221). Enhances MCU opening at high calcium concentration, allowing a rapid response of mitochondria to calcium signals generated in the cytoplasm (PubMed:24560927, PubMed:26903221). Regulates glucose-dependent insulin secretion in pancreatic beta-cells by regulating mitochondrial calcium uptake (PubMed:22904319). Induces T-helper 1-mediated autoreactivity, which is accompanied by the release of IFNG (PubMed:16002733).</p> <p>{ECO:0000269 PubMed:16002733, ECO:0000269 PubMed:20693986, ECO:0000269 PubMed:22904319, ECO:0000269 PubMed:23101630, ECO:0000269 PubMed:23747253, ECO:0000269 PubMed:24313810, ECO:0000269 PubMed:24332854, ECO:0000269 PubMed:24503055, ECO:0000269 PubMed:24560927, ECO:0000269 PubMed:26341627, ECO:0000269 PubMed:26903221, ECO:0000269 PubMed:27099988}.</p>
Molecular Weight:	54.4 kDa
UniProt:	Q9BPX6

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
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Application Details

guarantee though.

Comment:

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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.

Expiry Date:

Unlimited (if stored properly)



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