

Datasheet for ABIN3093899

MICU1 Protein (AA 53-476) (His tag)



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1 Image

Overview

Quantity:	1 mg
Target:	MICU1
Protein Characteristics:	AA 53-476
Origin:	Human
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This MICU1 protein is labelled with His tag.
Application:	ELISA, Western Blotting (WB), Crystallization (Crys), SDS-PAGE (SDS)

Product Details

Sequence: KRAHAESPPC VDNLKSDIGD KGKNKDEGDV CNHEKKTADL APHPPEEKKKK RSGFRDRKVM
EYENRIRAYS TPDKIFRYFA TLKWISEPGE AEVFMTPEDF VRSITPNEKQ PEHLGLDQYI
IKRFDGKKIS QEREKFADEG SIFYTLGECG LISFSDYIFL TTVLSTPQRN FEIAFKMFDL
NGDGEVDMEE FEQVQSIIRS QTSMGMRHRD RPTTGNTLKS GLCSALTTFY FGADLK GKLT
IKNFLEFQRK LQHDVLKLEF ERHDPVDGRI TERQFGGMLL AYSGVQSKKL TAMQRQLKKH
FKEGKGLTFQ EVENFFTLK NINDVDTALS FYHMAGASLD KVTMQQVART VAKVELSDHV
CDVVFALFDC DNGELSNKE FVSIMKQRLM RGLEKPKDMG FTRLMQAMWK CAQETAWDFA
LPKQ

Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a special request, please contact us.

- Characteristics:
- Made in Germany - from design to production - by highly experienced protein experts.
 - Human MICU1 Protein (raised in Insect Cells) purified by multi-step, protein-specific process

to ensure crystallization grade.

- 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.

In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).

When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.

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.

The concentration of the protein is calculated using its specific absorption coefficient. We use the ExPASy's protparam tool to determine the absorption coefficient of each protein.

Purification:	Two step purification of proteins expressed in baculovirus infected SF9 insect cells: <ol style="list-style-type: none">1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. 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.
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Purity:	>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
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Sterility:	0.22 µm filtered
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Endotoxin Level:	Protein is endotoxin free.
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Grade:	Crystallography grade
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Target Details

Target:	MICU1
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Alternative Name:	MICU1 (MICU1 Products)
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Target Details

Background: Key regulator of mitochondrial calcium uniporter (MCU) required to increase calcium uptake by MCU when cytoplasmic calcium is high. MICU1 and MICU2 form a disulfide-linked heterodimer that stimulate and inhibit MCU activity, respectively. MICU1 acts as a stimulator of MCU that senses calcium level via its EF-hand domains: enhances MCU opening at high Ca(2+) concentration, allowing a rapid response of mitochondria to Ca(2+) signals generated in the cytoplasm. Regulates glucose-dependent insulin secretion in pancreatic beta-cells by regulating mitochondrial calcium uptake. Induces T-helper 1-mediated autoreactivity, which is accompanied by the release of IFNG. {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}.

Molecular Weight: 49.6 kDa Including tag.

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 guarantee though.

Comment: In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.

Restrictions: For Research Use only

Handling

Format: Liquid

Buffer: 100 mM NaCl, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.

Handling Advice: Avoid repeated freeze-thaw cycles.

Storage: -80 °C

Storage Comment: Store at -80°C.

Handling

Expiry Date: Unlimited (if stored properly)

Images



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