

Datasheet for ABIN3088478

**Aconitase 1 Protein (AC01) (AA 1-889) (Strep Tag)**[Go to Product page](#)**1** Image

## Overview

Quantity:	1 mg
Target:	Aconitase 1 (AC01)
Protein Characteristics:	AA 1-889
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This Aconitase 1 protein is labelled with Strep Tag.
Application:	SDS-PAGE (SDS), Western Blotting (WB), ELISA

## Product Details

Sequence:	MSNPFAHLAE PLDPVQPGKK FFNLNKLEDS RYGRLPFSIR VLLEAAIRNC DEFLVKKQDI ENILHWNVTQ HKNIEVPFKP ARVILQDFTG VPAVVDFAAM RDAVKKLGGD PEKINPVCPA DLVIDHSIQV DFNRRADSLQ KNQDLEFERN RERFEFLKWG SQAFHNMRII PPGSGIIHQV NLEYLARVVF DQDGYYPDS LVGTDSHTTM IDGLGILGWG VGGIEAEAVM LGQPISMVLP QVIGYRLMGK PHPLVTSTDI VLTITKHLRQ VGVVGKFVEF FGPGVAQLSI ADRATIANMC PEYGATAAFF PVDEVSITYL VQTGRDEEKL KYIKKYLQAV GMFRDFNDPS QDPDFTQVVE LDLKTVPCC SGPKRPQDKV AVSDMKKDFE SCLGAKQGFK GFQVAPEHHN DHKTFIYDNT EFTLAHGSVV IAAITSCTNT SNPSVMLGAG LLAKKAVDAG LNVMPYIKTS LSPGSGVVTY YLQESGVMPY LSQLGFDVVG YGCMTICIGNS GPLPEPVVEA ITQGDLVAVG VLSGSRNFEG RVHPNTRANY LASPPLVIAY AIAGTIRIDF EKEPLGVNAK GQQVFLKDIW PTRDEIQAVE RQYVIPGMFK EVYQKIETVN ESWNALATPS DKLFFWNSKS TYIKSPFFFE NLTLDLQPPK SIVDAYVLLN LGDSVTTDHI SPAGNIARNS PAARYLTNRG LTPREFNSYG SRRGNDVMA
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RGTFANIRLL NRFLNKQAPQ TIHLPSGEIL DVFDAAERYQ QAGLPLIVLA GKEYGAGSSR  
DWAAGPFLG GIKAVLAESY ERIHRSNLVG MGVIPLEYLP GENADALGLT GQERYTIIP  
ENLKPQMKVQ VKLDTGKTFQ AVMRFDTDVE LTYFLNGGIL NYMIRKMAK

**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.

## Product Details

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.
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:	Aconitase 1 (ACO1)
Alternative Name:	ACO1 ( <a href="#">ACO1 Products</a> )
Background:	<p>Cytoplasmic aconitate hydratase (Aconitase) (EC 4.2.1.3) (Citrate hydro-lyase) (Ferritin repressor protein) (Iron regulatory protein 1) (IRP1) (Iron-responsive element-binding protein 1) (IRE-BP 1),FUNCTION: Bifunctional iron sensor that switches between 2 activities depending on iron availability (PubMed:1946430, PubMed:1281544, PubMed:8041788). Iron deprivation, promotes its mRNA binding activity through which it regulates the expression of genes involved in iron uptake, sequestration and utilization (PubMed:1946430, PubMed:1281544, PubMed:8041788, PubMed:23891004). Binds to iron-responsive elements (IRES) in the untranslated region of target mRNAs preventing for instance the translation of ferritin and aminolevulinic acid synthase and stabilizing the transferrin receptor mRNA (PubMed:1946430, PubMed:1281544, PubMed:8041788, PubMed:23891004). {ECO:0000269 PubMed:1281544, ECO:0000269 PubMed:1946430, ECO:0000269 PubMed:23891004, ECO:0000269 PubMed:8041788}., FUNCTION: Conversely, when cellular iron levels are high, binds a 4Fe-4S cluster which precludes RNA binding activity and promotes the aconitase activity, the isomerization of citrate to isocitrate via cis-aconitate. {ECO:0000269 PubMed:1281544, ECO:0000269 PubMed:1946430, ECO:0000269 PubMed:8041788}.</p>
Molecular Weight:	98.4 kDa
UniProt:	<a href="#">P21399</a>
Pathways:	<a href="#">Transition Metal Ion Homeostasis</a>

## 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.
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Comment:	<p>ALiCE®, our Almost Living Cell-Free Expression System is based on a lysate obtained from <i>Nicotiana tabacum</i> 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.</p> <p>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!</p>
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Restrictions:	For Research Use only
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## 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