

Datasheet for ABIN3074924

TTC5 Protein (AA 1-440) (Strep Tag)**1** Image[Go to Product page](#)

Overview

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|-------------------------------|---|
| Quantity: | 1 mg |
| Target: | TTC5 |
| Protein Characteristics: | AA 1-440 |
| Origin: | Human |
| Source: | Tobacco (Nicotiana tabacum) |
| Protein Type: | Recombinant |
| Purification tag / Conjugate: | This TTC5 protein is labelled with Strep Tag. |
| Application: | ELISA, Western Blotting (WB), SDS-PAGE (SDS) |

Product Details

Sequence: MMADEEEVK PILQKLQELV DQLYSFRDCY FETHSVEDAG RKQQDVQKEM ECTLQQMEEV
VGSVQGKAQV LMLTGKALNV TPDYSPKAAE LLSKAVKLEP ELVEAWNQLG EVYWKKGDVA
AAHTCFSGAL THCRNKVSLQ NLSMVLRLR TDTEDEHSHH VMDSVRQAKL AVQMDVHDGR
SWYILGNSYL SLYFSTGQNP KISQQALSAY AQAQKVDKKA SSNPDLHLNR ATLHKYEESY
GEALEGFSRA AALDPAWPEP RQREQQLLEF LDRLTSLLES KGKVKTKKLQ SMLGSLRPAH
LGPCSDGHYQ SASGQKVTLE LKPLSTLQPG VNSGAVILGK VVFSLTTEEK VPFTFGLVDS
DGPCYAVMVY NIVQSWGVLV GDSVAIPEPN LRLHRIQHKG KDYSFSSVRV ETPLLLVNG
KPDGSSSQAV ATVASRPQCE

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: |
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- 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

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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: | TTC5 |
| Alternative Name: | TTC5 (TTC5 Products) |
| Background: | <p>Tetratricopeptide repeat protein 5 (TPR repeat protein 5) (Stress-responsive activator of p300) (Protein Strap),FUNCTION: Cofactor involved in the regulation of various cellular mechanisms such as actin regulation, autophagy, chromatin regulation and DNA repair (PubMed:18451878, PubMed:31727855). In non-stress conditions, interacts with cofactor JMY in the cytoplasm which prevents JMY's actin nucleation activity and ability to activate the Arp2/3 complex. Acts as a negative regulator of nutrient stress-induced autophagy by preventing JMY's interaction with MAP1LC3B, thereby preventing autophagosome formation (By similarity). Involves in tubulin autoregulation by promoting its degradation in response to excess soluble tubulin (PubMed:31727855). To do so, associates with the active ribosome near the ribosome exit tunnel and with nascent tubulin polypeptides early during their translation, triggering tubulin mRNA-targeted degradation (PubMed:31727855). Following DNA damage, phosphorylated by DNA damage responsive protein kinases ATM and CHEK2, leading to its nuclear accumulation and stability. Nuclear TTC5/STRAP promotes the assembly of a stress-responsive p53/TP53 coactivator complex, which includes the coactivators JMY and p300, thereby increasing p53/TP53-dependent transcription and apoptosis. Also recruits arginine methyltransferase PRMT5 to p53/TP53 when DNA is damaged, allowing PRMT5 to methylate p53/TP53. In DNA stress conditions, also prevents p53/TP53 degradation by E3 ubiquitin ligase MDM2 (By similarity). Upon heat-shock stress, forms a chromatin-associated complex with heat-shock factor 1 HSF1 and p300/EP300 to stimulate heat-shock-responsive transcription, thereby increasing cell survival (PubMed:18451878). Mitochondrial TTC5/STRAP interacts with ATP synthase subunit beta ATP5F1B which decreased ATP synthase activity and lowers mitochondrial ATP production, thereby regulating cellular respiration and mitochondrial-dependent apoptosis. Mitochondrial TTC5/STRAP also regulates p53/TP53-mediated apoptosis (By similarity). {ECO:0000250 UniProtKB:Q99LG4, ECO:0000269 PubMed:18451878, ECO:0000269 PubMed:31727855}.</p> |
| Molecular Weight: | 48.9 kDa |

Target Details

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| UniProt: | Q8N0Z6 |
| Pathways: | Chromatin Binding |

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. |
| 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> |
| 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) |



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