Datasheet for ABIN3081508

C3orf37 Protein (AA 1-354) (Strep Tag)

1 Image

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Overview

Quantity:	1 mg
Target:	C3orf37 (C3ORF37)
Protein Characteristics:	AA 1-354
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This C3orf37 protein is labelled with Strep Tag.
Application:	ELISA, SDS-PAGE (SDS), Western Blotting (WB)

Product Details

Sequence:	MCGRTSCHLP RDVLTRACAY QDRRGQQRLP EWRDPDKYCP SYNKSPQSNS PVLLSRLHFE KDADSSERII APMRWGLVPS WFKESDPSKL QFNTTNCRSD TVMEKRSFKV PLGKGRRCVV LADGFYEWQR CQGTNQRQPY FIYFPQIKTE KSGSIGAADS PENWEKVWDN WRLLTMAGIF DCWEPPEGGD VLYSYTIITV DSCKGLSDIH HRMPAILDGE EAVSKWLDFG EVSTQEALKL IHPTENITFH AVSSVVNNSR NNTPECLAPV DLVVKKELRA SGSSQRMLQW LATKSPKKED SKTPQKEESD VPQWSSQFLQ KSPLPTKRGT AGLLEQWLKR EKEEEPVAKR PYSQ **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 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.
Purity:	>80 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.

Product Details

Endotoxin Level:	Low Endotoxin less than 1 EU/mg (< 0.1 ng/mg)
Grade:	Crystallography grade

Target Details

Target:	C3orf37 (C3ORF37)
Alternative Name:	HMCES (C3ORF37 Products)
Background:	Abasic site processing protein HMCES (EC 4.-.-.-) (Embryonic stem cell-specific 5-hydroxymethylcytosine-binding protein) (ES cell-specific 5hmC-binding protein) (Peptidase HMCES) (EC 3.4.-.-) (SRAP domain-containing protein 1),FUNCTION: Sensor of abasic sites in single-stranded DNA (ssDNA) required to preserve genome integrity by promoting error-free repair of abasic sites (PubMed:30554877, PubMed:32492421, PubMed:32307824, PubMed:31235913, PubMed:31235915). Acts as an enzyme that recognizes and binds abasic sites in ssDNA at replication forks and chemically modifies the lesion by forming a covalent cross-link with DNA: forms a stable thiazolidine linkage between a ring-opened abasic site and the alpha-amino and sulfhydryl substituents of its N-terminal catalytic cysteine residue (PubMed:30554877, PubMed:31235913). Promotes error-free repair by protecting abasic sites from translesion synthesis (TLS) polymerases and endonucleases that are error-prone and would generate mutations and double-strand breaks (PubMed:30554877). The HMCES DNA-protein cross-link is then either reversed or degraded (PubMed:30554877, PubMed:37950866, PubMed:37519246, PubMed:36608669). HMCES is able to catalyze the reversal of its thiazolidine cross-link and cycle between a cross-link and a non-cross-linked state depending on DNA context: mediates self-reversal of the thiazolidine cross-link in double stranded DNA, allowing APEX1 to initiate downstream repair of abasic sites (PubMed:37950866, PubMed:37519246). The HMCES DNA-protein cross-link can also be degraded by the SPRTN metalloprotease following unfolding by the BRIP1/FANCJ helicase (PubMed:36608669). Has preference for ssDNA, but can also accommodate double-stranded DNA with 3' or 5' overhang (dsDNA), and dsDNA-ssDNA 3' junction (PubMed:31235915, PubMed:31806351). Plays a protective role during somatic hypermutation of immunoglobulin genes in B-cells: acts via its ability to form covalent cross-links with abasic sites, thereby limiting the accumulation of deletions in somatic hypermutation target regions (PubMed:35450882). Also involved in class switch recombination (CSR) in B-cells independently of the formation of a DNA-protein cross-link: acts by binding and protecting ssDNA overhangs to promote DNA double-strand break repair through the microhomology-mediated alternative-end-joining (Alt-EJ) pathway (By similarity). Acts as a protease: mediates autocatalytic processing of its N-terminal methionine

Target Details

	in order to expose the catalytic cysteine (By similarity). {ECO:0000250|UniProtKB:Q8R1M0, ECO:0000269|PubMed:30554877, ECO:0000269|PubMed:31235913, ECO:0000269|PubMed:31235915, ECO:0000269|PubMed:31806351, ECO:0000269|PubMed:32307824, ECO:0000269|PubMed:32492421, ECO:0000269|PubMed:35450882, ECO:0000269|PubMed:36608669, ECO:0000269|PubMed:37519246, ECO:0000269|PubMed:37950866}.
Molecular Weight:	40.6 kDa
UniProt:	Q96FZ2

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:	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!
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.

Handling

Expiry Date:	Unlimited (if stored properly)

Images

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