Datasheet for ABIN3086467

PRIM1 Protein (AA 1-420) (Strep Tag)

1 Image

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Overview

Quantity:	1 mg
Target:	PRIM1
Protein Characteristics:	AA 1-420
Origin:	Human
Source:	Tobacco (Nicotiana tabacum)
Protein Type:	Recombinant
Purification tag / Conjugate:	This PRIM1 protein is labelled with Strep Tag.
Application:	ELISA, Western Blotting (WB), SDS-PAGE (SDS)

Product Details

Sequence:	METFDPTELP ELLKLYYRRL FPYSQYYRWL NYGGVIKNYF QHREFSFTLK DDIYIRYQSF NNQSDLEKEM QKMNPYKIDI GAVYSHRPNQ HNTVKLGAFQ AQEKELVFDI DMTDYDDVRR CCSSADICPK CWTLMTMAIR IIDRALKEDF GFKHRLWVYS GRRGVHCWVC DESVRKLSSA VRSGIVEYLS LVKGGQDVKK KVHLSEKIHP FIRKSINIIK KYFEEYALVN QDILENKESW DKILALVPET IHDELQQSFQ KSHNSLQRWE HLKKVASRYQ NNIKNDKYGP WLEWEIMLQY CFPRLDINVS KGINHLLKSP FSVHPKTGRI SVPIDLQKVD QFDPFTVPTI SFICRELDAI STNEEEKEEN EAESDVKHRT RDYKKTSLAP YVKVFEHFLE NLDKSRKGEL LKKSDLQKDF **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.

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:	PRIM1
Alternative Name:	PRIM1 (PRIM1 Products)
Background:	DNA primase small subunit (EC 2.7.7.102) (DNA primase 49 kDa subunit) (p49),FUNCTION: Catalytic subunit of the DNA primase complex and component of the DNA polymerase alpha complex (also known as the alpha DNA polymerase-primase complex - primosome/replisome) which play an essential role in the initiation of DNA synthesis (PubMed:9268648, PubMed:9705292, PubMed:17893144, PubMed:24043831, PubMed:26975377, PubMed:25550159, PubMed:31479243, PubMed:33060134). During the S phase of the cell cycle, the DNA polymerase alpha complex (composed of a catalytic subunit POLA1, an accessory subunit POLA2 and two primase subunits, the catalytic subunit PRIM1 and the regulatory subunit PRIM2) is recruited to DNA at the replicative forks via direct interactions with MCM10 and WDHD1 (By similarity). The primase subunit of the polymerase alpha complex initiates DNA synthesis by oligomerising short RNA primers on both leading and lagging strands (PubMed:17893144). These primers are initially extended by the polymerase alpha catalytic subunit and subsequently transferred to polymerase delta and polymerase epsilon for processive synthesis on the lagging and leading strand, respectively (By similarity). In the primase complex, both subunits are necessary for the initial di-nucleotide formation, but the extension of the primer depends only on the catalytic subunit (PubMed:17893144). Synthesizes 9-mer RNA primers (also known as the 'unit length' RNA primers). Incorporates only ribonucleotides in the presence of ribo- and deoxy-nucleotide triphosphates (rNTPs, dNTPs) (PubMed:26975377). Requires template thymine or cytidine to start the RNA primer synthesis, with an adenine or guanine at its 5'-end (PubMed:25550159, PubMed:26975377). Binds single stranded DNA (By similarity). {ECO:0000250|UniProtKB:P09884, ECO:0000250|UniProtKB:P20664, ECO:0000269|PubMed:17893144, ECO:0000269|PubMed:25550159, ECO:0000269|PubMed:26975377, ECO:0000269|PubMed:33060134, ECO:0000269|PubMed:9268648, ECO:0000269|PubMed:9705292}.
Molecular Weight:	49.9 kDa

Target Details

UniProt:	P49642
Pathways:	Telomere Maintenance, Mitotic G1-G1/S Phases, DNA Replication, Synthesis of DNA, SARS-CoV-2 Protein Interactome

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.
Expiry Date:	Unlimited (if stored properly)

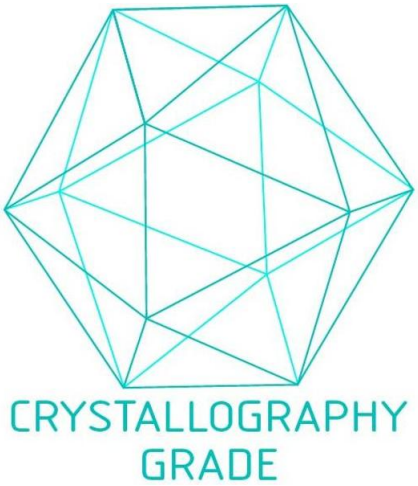

Image 1. „Crystallography Grade“ protein due to multi-step, protein-specific purification process