

Datasheet for ABIN3136733

## RPA1 Protein (AA 1-623) (Strep Tag)



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### Overview

Quantity:	250 µg
Target:	RPA1
Protein Characteristics:	AA 1-623
Origin:	Mouse
Source:	Cell-free protein synthesis (CFPS)
Protein Type:	Recombinant
Purification tag / Conjugate:	This RPA1 protein is labelled with Strep Tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA

### Product Details

Brand:	AliCE®
Sequence:	<p>MVGHLSEGAIEVMIQQENTS IKPILQVINI RPISTGNRSP RYRLLMSDGL NTLSSFMLAT</p> <p>QLNTLVEGGQ LASNCVCQVH KFIVNTLKDG RKVVVLM DLE VMKSAEDVGL KIGNPVPYNE</p> <p>GYGQQQQQQQ QQQQAVPSP ASAATPPASK PQQPQNGSLGM GSTAAKAYGA SKPFGKPAGT</p> <p>GLLQPSGGTQ SKVVP IASLT PYQSKWTICA RVTNKSQIRT WSNSRGEGKL FSLELVDESG</p> <p>EIRATAFNEQ VDKFFPLIEV NKVYYFSKGA LKIANKQFSA VKNDYEMTFN NETSVLPCE</p> <p>GHHLP TVQFD FTGIGDLESK AKDALVDIIG ICKSYEDSIK ITVKSNNREV AKRNIYLM DM</p> <p>SGKVVT TTTLW GEDADKFDGS RQPVMAIKGA RVSDFGGRSL SVLSSSTVIV NPDIP EAYKL</p> <p>RGWFDSEGQA LDGVSISDHR SGGAGGGNTN WKT LHEAKSE NLGQGD KADY FSTVA AVVFL</p> <p>RKENCMYQAC PTQDCNKKVI DQQNGLYRCE KCDREFPNFK YRMILSANIA DFQENQWVTC</p> <p>FQESAEAILG QNTMYLGELK EKNEQAFEEV FQNaNFRSFT FRIRVKLETY NDESRIKATV</p> <p>MDVKPVDFRD YGRRLIANIR KNM</p>

**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 in one-step affinity chromatography
- 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 try to ensure that you receive soluble 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 against its specific reference buffer.
- We use the ExPASy's ProtParam tool to determine the absorption coefficient of each protein.

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### Purification:

One-step Strep-tag purification of proteins expressed in Almost Living Cell-Free Expression System (ALiCE®).

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### Purity:

> 70-80 % as determined by SDS PAGE, Western Blot and analytical SEC (HPLC).

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## Product Details

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Grade: custom-made

## Target Details

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Target: RPA1

Alternative Name: Rpa1 ([RPA1 Products](#))

Background: Replication protein A 70 kDa DNA-binding subunit (RP-A p70) (Replication factor A protein 1) (RF-A protein 1),FUNCTION: As part of the heterotrimeric replication protein A complex (RPA/RP-A), binds and stabilizes single-stranded DNA intermediates, that form during DNA replication or upon DNA stress. It prevents their reannealing and in parallel, recruits and activates different proteins and complexes involved in DNA metabolism. Thereby, it plays an essential role both in DNA replication and the cellular response to DNA damage. In the cellular response to DNA damage, the RPA complex controls DNA repair and DNA damage checkpoint activation. Through recruitment of ATRIP activates the ATR kinase a master regulator of the DNA damage response. It is required for the recruitment of the DNA double-strand break repair factors RAD51 and RAD52 to chromatin in response to DNA damage. Also recruits to sites of DNA damage proteins like XPA and XPG that are involved in nucleotide excision repair and is required for this mechanism of DNA repair. Also plays a role in base excision repair (BER) probably through interaction with UNG. Also recruits SMARCAL1/HARP, which is involved in replication fork restart, to sites of DNA damage. May also play a role in telomere maintenance. {ECO:0000250|UniProtKB:P27694}.

Molecular Weight: 69.0 kDa

UniProt: [Q8VEE4](#)

Pathways: [Telomere Maintenance](#), [DNA Damage Repair](#), [Mitotic G1-G1/S Phases](#), [DNA Replication](#), [Chromatin Binding](#), [Synthesis of DNA](#)

## 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: 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.

## Application Details

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. Standard Storage Buffer: PBS pH 7.4, 10 % Glycerol <b>Might differ depending on protein.</b>
Handling Advice:	Avoid repeated freeze-thaw cycles.
Storage:	-80 °C
Storage Comment:	Store at -80°C.
Expiry Date:	12 months