

Datasheet for ABIN3094958
RPA1 Protein (AA 2-616) (His tag)



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Overview

Quantity:	1 mg
Target:	RPA1
Protein Characteristics:	AA 2-616
Origin:	Human
Source:	Insect Cells
Protein Type:	Recombinant
Purification tag / Conjugate:	This RPA1 protein is labelled with His tag.
Application:	Western Blotting (WB), SDS-PAGE (SDS), ELISA, Crystallization (Crys)

Product Details

Sequence: VGQLSEGAIA AIMQKGDNI KPILQVINIR PITTGNPPR YRLMSDGLN TLSSFMLATQ
 LNPLVEEEQL SSNCVCQIHR FIVNTLKDGR RVVILMELEV LKSAEAVGVK IGNPVPYNEG
 LGQPQVAPPA PAASPAASSR PQPQNGSSGM GSTVSKAYGA SKTFGKAAGP SLSHTSGGTQ
 SKVVPIASLT PYQSKWTICA RVTNKSQIRT WSNRGEGLK FSLELVDESG EIRATAFNEQ
 VDKFFPLIEV NKVYFSGKT LKIANQFTA VKNDYEMTFN NETSVMPCED DHHLPTVQFD
 FTGIDDLNENK SKDSLVDIIG ICKSYEDATK ITVRSNNREV AKRNIYLMGT SGKVVTTATLW
 GEDADKFDGS RQPVLAIKGA RVSDFGGRSL SVLSSTIIA NPDIEAYKL RGWFDAEGQA
 LDGVSISDLK SGGVGSNTN WKTLYEVKSE NLGQGDKPDY FSSVATVVYL RKENCMYQAC
 PTQDCNKKVI DQQNGLYRCE KCDTEFPNFK YRMILSVNIA DFQENQWVTC FQESAEAILG
 QNAAYLGELK DKNEQAFEEV FQANANFRSFI FRVRVKVETY NDESRIKATV MDVKPVDYRE
 YGRRLVMSIR RSALM

Sequence without tag. Tag location is at the discretion of the manufacturer. If you have a

special request, please contact us.

Characteristics:	<ul style="list-style-type: none">• Made in Germany - from design to production - by highly experienced protein experts.• Human RPA1 Protein (raised in Insect Cells) purified by multi-step, protein-specific process to ensure crystallization grade.• State-of-the-art algorithm used for plasmid design (Gene synthesis). <p>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.</p> <p>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.</p> <p>In the unlikely event that the protein cannot be expressed or purified we do not charge anything (other companies might charge you for any performed steps in the expression process for custom-made proteins, e.g. fees might apply for the expression plasmid, the first expression experiments or purification optimization).</p> <p>When you order this made-to-order protein you will only pay upon receipt of the correctly folded protein. With no financial risk on your end you can rest assured that our experienced protein experts will do everything to make sure that you receive the protein you ordered.</p> <p>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.</p> <p>The concentration of the protein is calculated using its specific absorption coefficient. We use the ExPASy's ProtParam tool to determine the absorption coefficient of each protein.</p>
Purification:	<p>Two step purification of proteins expressed in baculovirus infected SF9 insect cells:</p> <ol style="list-style-type: none">1. In a first purification step, the protein is purified from the cleared cell lysate using three different His-tag capture materials: high yield, EDTA resistant, or DTT resistant. 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:	>95 % as determined by SDS PAGE, Size Exclusion Chromatography and Western Blot.
Sterility:	0.22 µm filtered
Endotoxin Level:	Protein is endotoxin free.
Grade:	Crystallography grade

Target Details

Target:	RPA1
Alternative Name:	RPA1 (RPA1 Products)
Background:	<p>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 (PubMed:9430682). 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 (PubMed:24332808). It is required for the recruitment of the DNA double-strand break repair factors RAD51 and RAD52 to chromatin in response to DNA damage (PubMed:17765923). 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 (PubMed:7697716). Plays also a role in base excision repair (BER) probably through interaction with UNG (PubMed:9765279). Through RFW3 may activate CHEK1 and play a role in replication checkpoint control. Also recruits SMARCA1/HARP, which is involved in replication fork restart, to sites of DNA damage. May also play a role in telomere maintenance (PubMed:17959650). As part of the alternative replication protein A complex, aRPA, binds single-stranded DNA and probably plays a role in DNA repair. Compared to the RPA2-containing, canonical RPA complex, may not support chromosomal DNA replication and cell cycle progression through S-phase. The aRPA may not promote efficient priming by DNA polymerase alpha but could support DNA synthesis by polymerase delta in presence of PCNA and replication factor C (RFC), the dual incision/excision reaction of nucleotide excision repair and RAD51-dependent strand exchange (PubMed:19996105).</p> <p>{ECO:0000269 PubMed:12791985, ECO:0000269 PubMed:17765923, ECO:0000269 PubMed:17959650, ECO:0000269 PubMed:19116208, ECO:0000269 PubMed:19996105, ECO:0000269 PubMed:24332808, ECO:0000269 PubMed:7697716, ECO:0000269 PubMed:7700386, ECO:0000269 PubMed:9430682, ECO:0000269 PubMed:9765279}.</p>
Molecular Weight:	69.0 kDa Including tag.
UniProt:	P27694
Pathways:	Telomere Maintenance , DNA Damage Repair , Mitotic G1-G1/S Phases , DNA Replication , Chromatin Binding , Synthesis of DNA

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:	In cases in which it is highly likely that the recombinant protein with the default tag will be insoluble our protein lab may suggest a higher molecular weight tag (e.g. GST-tag) instead to increase solubility. We will discuss all possible options with you in detail to assure that you receive your protein of interest.
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Restrictions:	For Research Use only
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Handling

Format:	Liquid
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Buffer:	100 mM NaCl, 20 mM Hepes, 10% glycerol. pH value is at the discretion of the manufacturer.
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Handling Advice:	Avoid repeated freeze-thaw cycles.
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Storage:	-80 °C
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Storage Comment:	Store at -80°C.
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Expiry Date:	Unlimited (if stored properly)
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