

Rabbit RPA1 Polyclonal Antibody | anti-RPA1 antibody

RPA1 Antibody

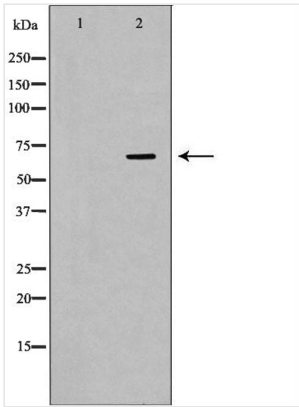
CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA325954	Rabbit	Human, Mouse, Rat	ELISA, Immunohistochemistry, Western Blot

PRODUCT SYNONYMS

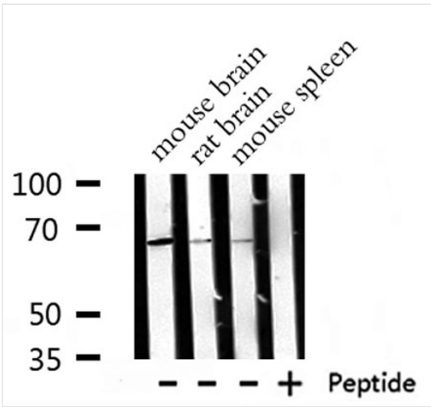
RPA1; Polyclonal Antibody; RPA1 Antibody; Dmrrp1; Drosophila Replication Protein A; DRPA; HSSB; Human single stranded DNA binding protein; MST075; MSTP075; p70; REPA1; Replication factor A; Replication factor A protein 1; Replication protein A 70 kDa DNA-binding subunit; Replication protein A 70kDa DNA binding subunit; Replication protein A1 70kDa; Replication protein A1; RF A; RF-A protein 1; RFA; RFA1_HUMAN; RP A; RP-A p70; RPA 70; RPA; rpa1; Single stranded binding protein 70; Single-stranded DNA-binding protein; anti-RPA1 antibody

PRODUCT SPECIFICATIONS

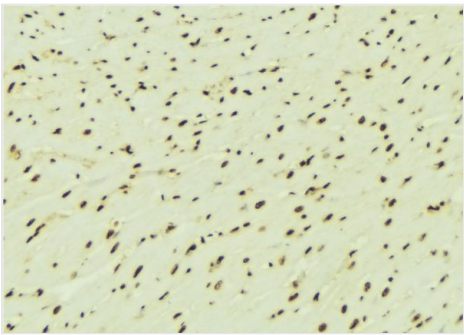
Host	Rabbit
Reactivity	Human, Mouse, Rat
Clonality	Polyclonal
Isotype	IgG
Specificity	RPA1 antibody detects endogenous levels of total RPA1
Purity/Purification	The antiserum was purified by peptide affinity chromatography using SulfoLink Coupling Resin.
Form/Format	Liquid Phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Sequence Length	616
Applicable Applications for anti-RPA1 antibody	ELISA, IHC (Immunohistochemistry), WB (Western Blot)
Immunogen	A synthesized peptide derived from human RPA1
Subcellular Location	Nucleus.
Predicted Cross Reactivity	Pig, Bovine, Horse, Sheep, Rabbit, Dog, Chicken, Xenopus
Similarity	Pig (92%), Bovine (92%), Horse (85%), Sheep (92%), Rabbit (92%), Dog (85%), Chicken (85%), Xenopus (92%)
Conjugation	Unconjugated
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.



WB (Western Blot)
Western blot analysis of A431 lysate using RPA1 antibody. The lane on the left is treated with the antigen-specific peptide.



WB (Western Blot)
Western blot analysis of RPA1 expression in various lysates



IHC (Immunohistochemistry)
AAA325954 at 1/100 staining Mouse brain tissue by IHC-P. The sample was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The sample was then blocked and incubated with the antibody for 1.5 hours at 22 degree C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.

ADDITIONAL INFORMATION

Related Product Information for anti-RPA1 antibody	Description: RPA70 (HSSB, REPA1, RF-A, RP-A, p70) is a component of a heterotrimeric complex, composed of 70, 32/30 and 14 kDa subunits, collectively known as RPA. RPA is a single stranded DNA binding protein, whose DNA binding activity is believed to reside entirely in the 70 kDa subunit. The complex is required for almost all aspects of cellular DNA metabolism such as DNA replication (1-3), recombination, cell cycle and DNA damage checkpoints, and all major types of DNA repair including nucleotide excision, base excision, mismatch and double-strand break repairs (4-7). In response to genotoxic stress in eukaryotic cells, RPA has been shown to associate with the Rad9/Rad1/Hus1 (9-1-1) checkpoint complex (8). RPA is hyperphosphorylated upon DNA damage or replication stress by checkpoint kinases including ataxia telangiectasia mutated (ATM), ATM and Rad3-related (ATR), and DNA-dependent protein kinase (DNA-PK) (9-11). Hyperphosphorylation may alter RPA-DNA and RPA-protein interactions. In addition to the checkpoint partners, RPA interacts with a wide variety of protein partners, including proteins required for normal replication such as RCF, PCNA and Pol alpha, and also proteins involved in SV40 replication, such as DNA polymerase I and SV40 large T antigen (10, 12). 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 (PubMed:27723720, PubMed:27723717). 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). Also recruits SMARCAL1/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). Subunit Structure: Component of the canonical replication protein A complex (RPA), an heterotrimer composed of RPA1, RPA2 and RPA3 (PubMed:27723720, PubMed:27723717). Also component of the aRPA, the alternative replication protein A complex, a trimeric complex similar to the replication protein A complex/RPA but where RPA1 and RPA3 are associated with RPA4 instead of RPA2 (PubMed:7760808, PubMed:19116208). The DNA-binding activity may reside exclusively on the RPA1 subunit. Interacts with PRPF19; the PRP19-CDC5L complex is recruited to the sites of DNA repair where it ubiquitinates the replication protein A complex (RPA) (PubMed:24332808). Interacts with RIPK1 (PubMed:16135809). Interacts with the polymerase alpha subunit POLA1/p180; this interaction stabilizes the replicative complex and reduces the misincorporation rate of DNA polymerase alpha by acting as a fidelity clamp (PubMed:9214288). Interacts with RAD51 and SENP6 to regulate DNA repair (PubMed:20705237). Interacts with HELB; this interaction promotes HELB recruitment to chromatin following DNA damage (PubMed:22194613, PubMed:26774285). Interacts with PRIMPOL (PubMed:24126761). Interacts with XPA; the interaction is direct and associates XPA with the RPA complex (PubMed:7700386, PubMed:9699634, PubMed:10563794). Interacts with ETAA1; the interaction is direct and promotes ETAA1 recruitment at stalled replication forks (PubMed:27601467, PubMed:27723720, PubMed:27723717). Post-translational Modifications: DNA damage-induced 'Lys-63'-linked polyubiquitination by PRPF19 mediates ATRIP recruitment to the RPA complex at sites of DNA damage and activation of ATR (PubMed:24332808). Ubiquitinated by RFWD3 at stalled replication forks in response to DNA damage: ubiquitination by RFWD3 does not lead to degradation by the proteasome and promotes removal of the RPA complex from stalled replication forks, promoting homologous recombination (PubMed:26474068). Sumoylated on lysine residues Lys-449 and Lys-577, with Lys-449 being the major site. Sumoylation promotes recruitment of RAD51 to the DNA damage foci to initiate DNA repair through homologous recombination. Desumoylated by SENP6. Similarity: Belongs to the replication factor A protein 1 family.
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NCBI AND UNIPROT INFORMATION

NCBI GI #	4506583
NCBI GeneID	6117
NCBI Accession #	NP_002936.1

NCBI GenBank Nucleotide #	NM_002945.4
UniProt Accession #	P27694 ; Q59ES9 ; A8K0Y9
Molecular Weight	Observed: 68 kDa Predicted: 69 kDa
NCBI Official Full Name	replication protein A 70 kDa DNA-binding subunit isoform 1
NCBI Official Synonym Full Names	replication protein A1
NCBI Official Symbol	RPA1
NCBI Official Synonym Symbols	HSSB; RF-A; RP-A; REPA1; RPA70; MST075
NCBI Protein Information	replication protein A 70 kDa DNA-binding subunit
UniProt Protein Name	Replication protein A 70 kDa DNA-binding subunit
UniProt Gene Name	RPA1
UniProt Synonym Gene Names	REPA1; RPA70; RP-A p70; RF-A protein 1

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/rpa1-antibody-immunohistochemistry-western-blot-elisa/325954>