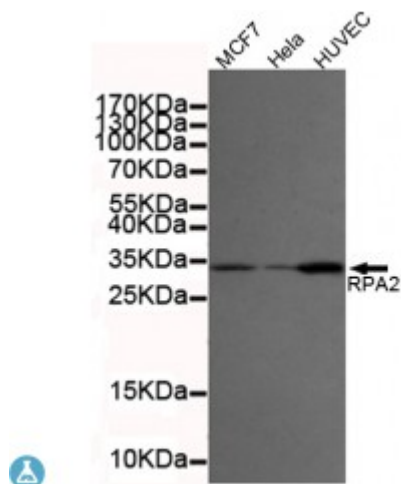


## Anti-RPA32/RPA2 antibody



<b>Description</b>	Mouse monoclonal to RPA32/RPA2.
<b>Model</b>	STJ99210
<b>Host</b>	Mouse
<b>Reactivity</b>	Human
<b>Applications</b>	ELISA, WB
<b>Immunogen</b>	Purified recombinant human RPA32/RPA2 protein fragments expressed in E.coli.
<b>Gene ID</b>	<a href="#">6118</a>
<b>Gene Symbol</b>	<a href="#">RPA2</a>
<b>Dilution range</b>	WB 1:500-2000ELISA 1:10000-20000
<b>Specificity</b>	This antibody detects endogenous levels of RPA32/RPA2 and does not cross-react with related proteins.
<b>Purification</b>	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
<b>Clone ID</b>	3E7-B5-F2
<b>Note</b>	For Research Use Only (RUO).
<b>Protein Name</b>	Replication protein A 32 kDa subunit RP-A p32 Replication factor A protein 2 RF-A protein 2 Replication protein A 34 kDa subunit RP-A p34
<b>Molecular Weight</b>	32kDa
<b>Clonality</b>	Monoclonal

<b>Conjugation</b>	Unconjugated
<b>Isotype</b>	IgG2b
<b>Formulation</b>	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
<b>Concentration</b>	1 mg/ml
<b>Storage Instruction</b>	Store at -20°C, and avoid repeat freeze-thaw cycles.
<b>Database Links</b>	<a href="#">HGNC:102900MIM:179836</a>
<b>Alternative Names</b>	Replication protein A 32 kDa subunit RP-A p32 Replication factor A protein 2 RF-A protein 2 Replication protein A 34 kDa subunit RP-A p34
<b>Function</b>	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. Plays also a role in base excision repair (BER) probably through interaction with UNG. 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.
<b>Cellular Localization</b>	Nucleus Nucleus, PML body. Redistributes to discrete nuclear foci upon DNA damage in an ATR-dependent manner.
<b>Post-translational Modifications</b>	Differentially phosphorylated throughout the cell cycle, becoming phosphorylated at the G1-S transition and dephosphorylated in late mitosis. Mainly phosphorylated at Ser-23 and Ser-29, by cyclin A-CDK2 and cyclin B-CDK1, respectively during DNA replication and mitosis. Dephosphorylation may require the serine/threonine-protein phosphatase 4. Phosphorylation at Ser-23 and Ser-29 is a prerequisite for further phosphorylation. Becomes hyperphosphorylated on additional residues including Ser-4, Ser-8, Thr-21 and Ser-33 in response to DNA damage. Hyperphosphorylation is mediated by ATM, ATR and PRKDC. Primarily recruited to DNA repair nuclear foci as a hypophosphorylated form it undergoes subsequent hyperphosphorylation, catalyzed by ATR. Hyperphosphorylation is required for RAD51 recruitment to chromatin and efficient DNA repair. Phosphorylation at Thr-21 depends upon RFW3 presence. 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.