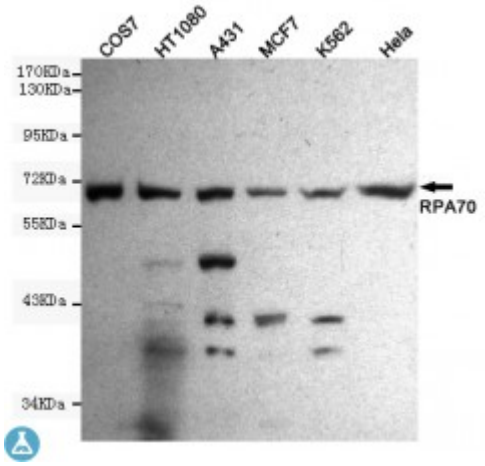
Anti-RPA70 antibody



Description	Mouse monoclonal to RPA70.

Model	STJ99205
Host	Mouse
Reactivity	Human, Mouse, Rat, Simian
Applications	ELISA, WB
Immunogen	Purified recombinant human RPA70 protein fragments expressed in E.coli.
Gene ID	6117
Gene Symbol	RPA1
Dilution range	WB 1:500-2000ELISA 1:10000-20000
Specificity	This antibody detects endogenous levels of RPA70 and does not cross-react with related proteins.
Purification	The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.
Clone ID	8C3-D12-H10
Note	For Research Use Only (RUO).
Protein Name	Replication protein A 70 kDa DNA-binding subunit RP-A p70 Replication factor A protein 1 RF-A protein 1 Single-stranded DNA-binding protein Replication protein A 70 kDa DNA-binding subunit, N-terminally processed
Molecular Weight	70kDa
Clonality	Monoclonal

Conjugation	Unconjugated
Isotype	IgG2a
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.
Concentration	1 mg/ml
Storage Instruction	Store at -20°C, and avoid repeat freeze-thaw cycles.
Database Links	HGNC:10289OMIM:179835
Alternative Names	Replication protein A 70 kDa DNA-binding subunit RP-A p70 Replication factor A protein 1 RF-A protein 1 Single-stranded DNA-binding protein Replication protein A 70 kDa DNA-binding subunit, N-terminally processed
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 . Plays also a role in base excision repair (BER) probably through interaction with UNG . Through RFWD3 may activate CHEK1 and play a role in replication checkpoint control. Also recruits SMARCAL1/HARP, which is involved in replication fork restart, to sites of DNA damage. May also play a role in telomere maintenance . 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 .
Cellular Localization	Nucleus Nucleus, PML body. Enriched in PML bodies in cells displaying alternative lengthening of their telomeres.
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. 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.