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RPA70 Antibody

Rabbit mAb
Catalog # AP91627

Product Information

Application	WB, IHC, IF, FC, ICC, IP, IHF
Primary Accession	P27694
Reactivity	Human
Clonality	Monoclonal
Other Names	RPA1; HSSB; MST075; REPA1; RF-A; RP-A; RPA70;
Isotype	Rabbit IgG
Host	Rabbit
Calculated MW	68138

Additional Information

Dilution	WB 1:500~1:1000 IHC 1:50~1:200 ICC/IF 1:50~1:200 IP 1:20 FC 1:60
Purification	Affinity-chromatography
Immunogen	A synthesized peptide derived from human RPA70
Description	Plays an essential role in several cellular processes in DNA metabolism including replication, recombination and DNA repair. Binds and subsequently stabilizes single-stranded DNA intermediates and thus prevents complementary DNA from reannealing.
Storage Condition and Buffer	Rabbit IgG in phosphate buffered saline , pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol. Store at +4°C short term. Store at -20°C long term. Avoid freeze / thaw cycle.

Protein Information

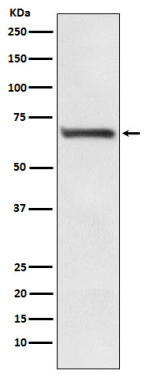
Name	RPA1
Synonyms	REPA1, RPA70
Function	As part of the heterotrimeric replication protein A complex (RPA/RP-A), binds and stabilizes single-stranded DNA intermediates that form during DNA replication or upon DNA stress. It prevents their reannealing and in parallel, recruits and activates different proteins and complexes involved in DNA metabolism (PubMed:17596542, PubMed:27723717, PubMed:27723720). 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). Also plays 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. Plays a role in telomere maintenance (PubMed:17959650, PubMed:34767620). 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). RPA stimulates 5'-3' helicase activity of the BRIP1/FANCJ (PubMed:17596542).

Cellular Location

Nucleus. Nucleus, PML body. Note=Enriched in PML bodies in cells displaying alternative lengthening of their telomeres

Images



Western blot analysis of RPA70 expression in HEK293 cell lysate.