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RPA70 Antibody
Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP52807

Specification

RPA70 Antibody - Product Information

Application	**WB, ICC, IP**
Primary Accession	P27694
Reactivity	**Human, Mouse**
Host	**Mouse**
Clonality	**Monoclonal**
Isotype	**IgG2a**
Calculated MW	**70 KDa**

RPA70 Antibody - Additional Information

Gene ID 6117

Other Names
Dmrpa1;Drosophila Replication Protein A;DRPA;DSSB;HSSB;Human single stranded DNA binding protein;MST075;MSTP075;p70;REPA 1;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 (70kD);Replication protein A1 (70kD); Replication protein A1 70kDa;Replication protein A1;RF A;RF-A protein 1;RFA;RFA1_HUMAN; RP A;RP-A p70;RPA 1;RPA 70;RPA;RPA1;Single stranded binding protein 70;Single stranded DNA binding protein;Single-stranded DNA-binding protein;Ssb70.

Dilution
WB~~1:1000
ICC~~1:100
IP~~1:500

Format
Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide, pH 7.3.

Storage
Store at 4°C short term. Aliquot and store at -20°C long term. Avoid freeze/thaw cycles.

RPA70 Antibody - 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

RPA70 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

RPA70 Antibody - Images

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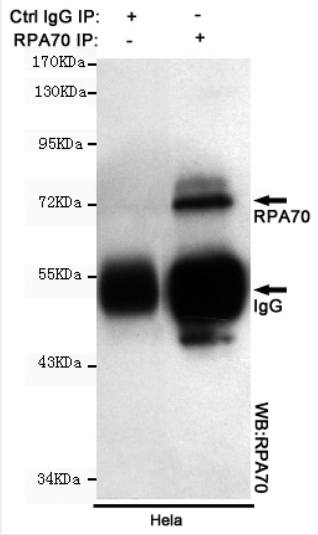
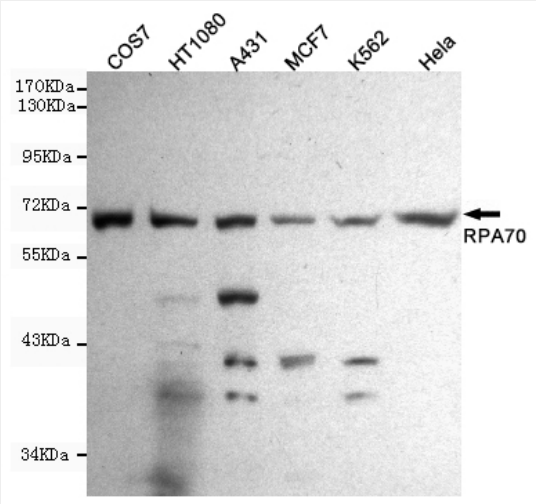
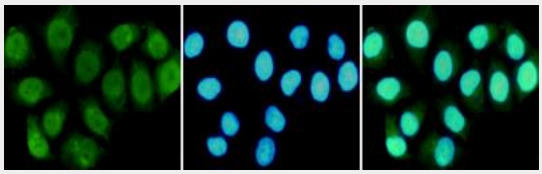


Immunoprecipitation analysis of Hela cell lysates using RPA70 mouse mAb.



Western blot detection of RPA70 in Hela,A431,MCF7,COS7,HT1080 and K562 cell lysates using RPA70 mouse mAb (1:1000 diluted).Predicted band size:70KDa.Observed band size:70KDa.



Immunocytochemistry staining of HeLa cells fixed in 1% Paraformaldehyde and using RPA70 mouse mAb (dilution 1:100).

RPA70 Antibody - Background

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 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 (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).

RPA70 Antibody - References

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