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RPA32/RPA2 Antibody

Purified Mouse Monoclonal Antibody (Mab)
Catalog # AP52812

Product Information

Application	WB, ICC, IP
Primary Accession	P15927
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2b
Calculated MW	29247

Additional Information

Gene ID	6118
Other Names	60S acidic ribosomal protein P1;AA409079;AI325195;AU020965;HSSB;ik:tdsubc_2g1;M(2)21C; MGC137236;OTTHUMP00000004008;p32;p34;RCJMB04_6d17 replication protein A2, 32kDa;REPA 2; REPA1;REPA2;Replication factor A protein 2;Replication protein A 32 kDa subunit; Replication protein A 32kDa subunit;Replication protein A 34 kDa subunit;Replication protein A;replication protein A1 (70kD);Replication Protein A2 (32kDa);Replication protein A2 32kD;Replication protein A2 32kDa;Replication protein A2;Replication protein A2, 32kDa;RF A;RF-A protein 2;Rf-A2;RFA;RFA2_HUMAN;RP A;RP-A p32;RP-A p34;RP21C;RPA 2; RPA 32;RPA;RPA2;RPA32;RPA34;RPA70;RpLP1;RpP2;xx:tdsubc_2g1;zgc:109822.
Dilution	WB~~1:2000 ICC~~1:200 IP~~1:500
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide, pH 7.3.
Storage	Store at -20 °C.Stable for 12 months from date of receipt

Protein Information

Name	RPA2
Synonyms	REPA2, RPA32, RPA34
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. Also plays a role in base excision repair (BER) probably through interaction with UNG. Also recruits SMARCAL1/HARP, which is involved in replication fork restart, to sites of DNA damage. May also play a role in telomere maintenance. RPA stimulates 5'-3' helicase activity of BRIP1/FANCJ (PubMed:17596542).

Cellular Location Nucleus. Nucleus, PML body. Note=Redistributes to discrete nuclear foci upon DNA damage in an ATR-dependent manner

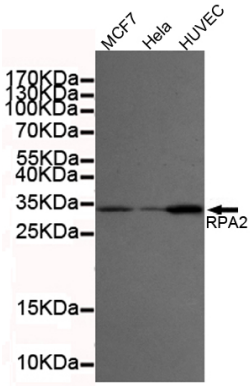
Background

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. 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.

References

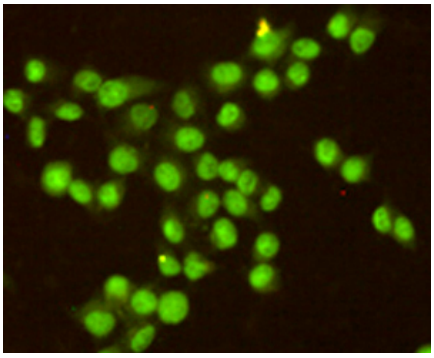
Erdile L.F.,et al.J. Biol. Chem. 265:3177-3182(1990).
Ebert L.,et al.Submitted (MAY-2004) to the EMBL/GenBank/DDBJ databases.
Gregory S.G.,et al.Nature 441:315-321(2006).
Din S.,et al.Genes Dev. 4:968-977(1990).
Dutta A.,et al.EMBO J. 11:2189-2199(1992).

Images

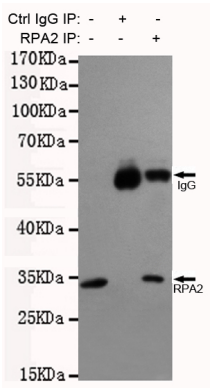


Western blot detection of RPA32/RPA2 in MCF7,Hela and HUVEC cell lysates using RPA32/RPA2 mouse mAb (1:2000 diluted).Predicted band size:32KDa.Observed band size:32KDa.Exposure time:20s.

Immunocytochemistry staining of HeLa cells fixed with



-20℃ Methanol and using anti-RPA32/RPA2 antibody (dilution 1:200).



Immunoprecipitation analysis of Hela cell lysates using RPA32/RPA2 mouse mAb.