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Anti-RPA70 Antibody (8C3-D12-H10)

Mouse Monoclonal Antibody
Catalog # ABV12048

Product Information

Application	WB, IF, IP
Primary Accession	P27694
Reactivity	Human, Mouse, Rat, Monkey
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse IgG2a
Clone Names	8C3-D12-H10
Calculated MW	68138

Additional Information

Gene ID	6117
Application & Usage	WB: Hela, 293T, C6, 3T3 and K562 cell lysates; WB: Hela, A431, MCF7, COS7, HT1080 and K562 cell lysates; IP: HeLa cell lysates; IF: HeLa cells
Other 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, RPA1
Target/Specificity	RPA70
Antibody Form	Liquid
Appearance	Colorless liquid
Formulation	In PBS (pH 7.4) containing with 0.02% sodium azide and 50%
Handling	The antibody solution should be gently mixed before use.
Reconstitution & Storage	-20 °C
Background Descriptions	
Precautions	Anti-RPA70 Antibody (8C3-D12-H10) is for research use only and not for use in diagnostic or therapeutic procedures.

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).

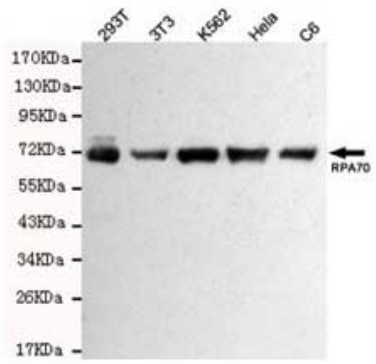
Cellular Location

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

Background

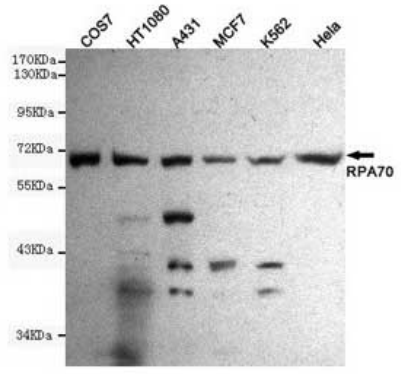
Replication protein A 70 kDa DNA-binding subunit plays an essential role both in DNA replication and the cellular response to DNA damage. In the cellular response to DNA damage, the RPA complex controls DNA repair and DNA damage checkpoint activation. Through recruitment of ATRIP activates the ATR kinase 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.

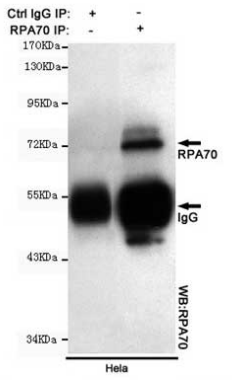
Images



Western blot detection of RPA70 in Hela, 293T, C6, 3T3 and K562 cell lysates using RPA70 mouse mAb

Western blot detection of RPA70 in Hela, A431, MCF7, COS7, HT1080 and K562 ceil lysates using RPA70 mouse mAb





Immunoprecipitation analysis of HeLa cell lysates using RPA70 mouse mAb

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.