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RPA1 / RPA70 (aa323-337) Antibody (internal region)

Peptide-affinity purified goat antibody
Catalog # AF3999a

Specification

RPA1 / RPA70 (aa323-337) Antibody (internal region) - Product Information

Application	**WB, E**
Primary Accession	P27694
Other Accession	NP_002936.1, 6117
Reactivity	**Human, Mouse**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**0.5 mg/ml**
Isotype	**IgG**
Calculated MW	**68138**

RPA1 / RPA70 (aa323-337) Antibody (internal region) - Additional Information

Gene ID 6117

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, Replication protein A 70 kDa DNA-binding subunit, N-terminally processed, RPA1, REPA1, RPA70

Dilution
WB~~1:1000
E~~N/A

Format
0.5 mg/ml in Tris saline, 0.02% sodium azide, pH7.3 with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
RPA1 / RPA70 (aa323-337) Antibody (internal region) is for research use only and not for use in diagnostic or therapeutic procedures.

RPA1 / RPA70 (aa323-337) Antibody (internal region) - 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

RPA1 / RPA70 (aa323-337) Antibody (internal region) - 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

RPA1 / RPA70 (aa323-337) Antibody (internal region) - Images

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AF3999a (0.3 µg/ml) staining of HeLa lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

AF3999a (0.5 µg/ml) staining of NIH3T3 (A), 3T3L1 (B), Mouse Lymph Node (C) and NSO (D) lysates (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

RPA1 / RPA70 (aa323-337) Antibody (internal region) - References

Replication protein A (RPA) hampers the processive action of APOBEC3G cytosine deaminase on single-stranded DNA. Lada AG, Waisertreiger IS, Grabow CE, Prakash A, Borgstahl GE, Rogozin IB, Pavlov YI. PLoS One. 2011;6(9):e24848. PMID: 21935481