Product Name: **KD-Validated Replication Protein A1 Recombinant Rabbit Monoclonal Antibody**

Catalog #: **KVAb01165**

For research use only.

Summary

Description	KO&KD-Validated antibody
Host	Rabbit
Application	WB,FCM,ICC,IHC-P
Reactivity	Human,Rat
Conjugation	Unconjugated
Modification	Unmodified
Isotype	Rabbit IgG
Clonality	Rabbit mAb
Form	Liquid
Storage	Aliquot and store at -20°C (valid for 12 months). Avoid freeze/thaw cycles.
Shipping	Ice bags
Buffer	Supplied in PBS (pH 7.4) containing 50% glycerol, and 0.02% sodium azide.
Purification	Affinity purification

Application

Dilution Ratio	WB 1:1,000-1:5,000; FC 1:200-1:2,000; ICC 1:100-1:1,000; IHC-P 1:100-1:200
Molecular Weight	Calculated MW: 68.1kDa

Antigen Information

Gene Name	RPA1
Alternative Names	RPA1; Replication Protein A1; REPA1; RPA70; HSSB; RF-A; RP-A; Replication Protein A 70 KDa DNA-Binding Subunit; Single-Stranded DNA-Binding Protein; Replication Factor A Protein 1; Replication Protein A1, 70kDa; RF-A Protein 1; RP-A P70; Replication Protein A1 (70kD); PFBMFT6; MSTP075; MST075
Gene ID	6117.0
SwissProt ID	P27694
Immunogen	A synthesized peptide derived from human RPA70

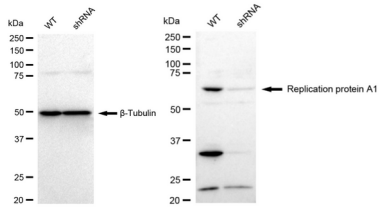
Background

This gene encodes the largest subunit of the heterotrimeric Replication Protein A (RPA) complex, which binds to single-stranded DNA (ssDNA), forming a nucleoprotein complex that plays an important role in DNA metabolism, being involved in DNA replication, repair, recombination, telomere maintenance, and co-ordinating the cellular response to DNA damage through activation of the ataxia telangiectasia and Rad3-related protein (ATR) kinase. The nucleoprotein complex protects the single-stranded DNA from nucleases, prevents formation of secondary structures that would interfere with repair, and co-ordinates the recruitment and departure of different genome maintenance factors. This subunit contains four oligonucleotide/oligosaccharide-binding (OB) domains, though the majority of ssDNA binding occurs in two of these domains. The heterotrimeric complex has two different modes of ssDNA binding, a low-affinity and high-affinity mode, determined by which ssDNA binding domains are utilized. The different binding modes differ in the length of DNA bound and in the proteins with which it interacts, thereby playing a role in regulating different genomic maintenance pathways. [provided by RefSeq, Sep 2017]

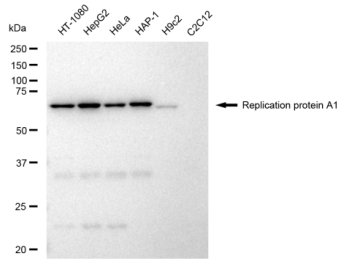
Research Area

Epigenetics and Nuclear Signaling

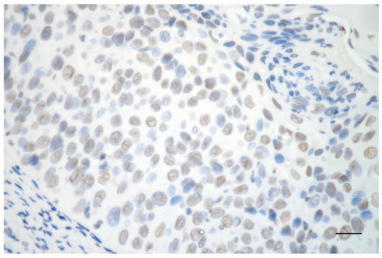
Image Data



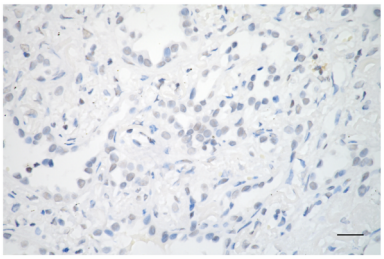
Western blotting analysis using Replication protein A1 antibody (KVAb01165). Replication protein A1 expression in wild type (WT) and Replication protein A1 shRNA knockdown (KD) HeLa cells with 30 µg of total cell lysates. β-Tubulin serves as a loading control. The blot was incubated with Replication protein A1 antibody (KVAb01165, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



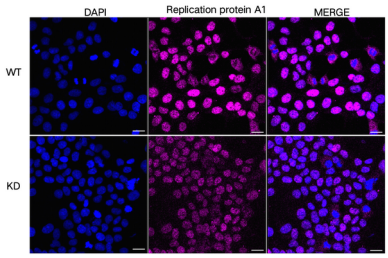
Western blotting analysis using Replication protein A1 antibody (KVAb01165). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with Replication protein A1 antibody (KVAb01165, 1:5,000) and HRP-conjugated goat anti-rabbit secondary antibody (APS0635, 1:10,000) respectively.



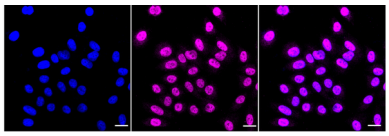
Immunohistochemistry was performed on paraffin-embedded human cervical carcinoma using replication protein A1 antibody (KVAb01165, 1:200). Antigen retrieval was done in sodium citrate buffer (pH 6.0). DAB was used for detection, with hematoxylin counterstaining. Images were acquired using a Nikon Ci-L Plus microscope (40× objective). Scale bar: 25 µm.



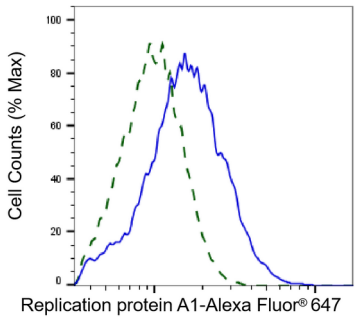
Immunohistochemistry was performed on paraffin-embedded human lung adenocarcinoma using replication protein A1 antibody (KVAb01165, 1:200). Antigen retrieval was done in sodium citrate buffer (pH 6.0). DAB was used for detection, with hematoxylin counterstaining. Images were acquired using a Nikon Ci-L Plus microscope (40× objective). Scale bar: 25 μm.



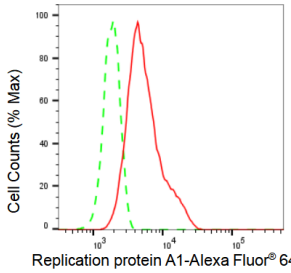
Immunocytochemical staining of HeLa cells using Replication protein A1 antibody (KVAb01165, 1:1,000), Top panel: wild-type (WT); Bottom panal: Replication protein A1 shRNA knockdown (KD). Nuclei were stained blue with DAPI; Replication protein A1 was stained magenta with Alexa Fluor® 647. Scale bar, 20 μm.



Immunocytochemical staining of HepG2 cells with Replication protein A1 antibody (KVAb01165, 1:1,000) . Nuclei were stained blue with DAPI; Replication protein A1 was stained magenta with Alexa Fluor® 647. Images were taken using Leica stellaris 5. Protein abundance based on laser Intensity and smart gain: Medium. Scale bar, 20 μm.



Validation of Replication protein A1 knockdown using flow cytometry. Wild-type(WT, Blue) and knockdown(KD, Green) HeLa cells were stained with Replication protein A1 antibody (KVAb01165, 1:2,000) and analyzed using BD flow cytometer.



Flow cytometric analysis of Replication protein A1 expression in HepG2 cells using Replication protein A1 antibody (KVAb01165, 1:2,000). Green, isotype control; red, Replication protein A1.