info@arigobio.com

ARG54148
anti-RPA2 / RPA32 antibody

Package: 100 µl
Store at: -20°C

Summary

Product Description	Mouse Monoclonal antibody recognizes RPA2 / RPA32
Tested Reactivity	Hu
Tested Application	ICC/IF, IP, WB
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2b
Target Name	RPA2 / RPA32
Species	Human
Immunogen	Purified recombinant human RPA2 / RPA32 protein fragments expressed in E.coli.
Conjugation	Un-conjugated
Alternate Names	RF-A protein 2; RPA32; RP-A p34; Replication protein A 34 kDa subunit; Replication factor A protein 2; Replication protein A 32 kDa subunit; REPA2; RP-A p32; RFA2

Application Instructions

Application table

Application	Dilution
ICC/IF	1:200
IP	Assay-dependent
WB	1:2000

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Observed Size: 32 kDa

Properties

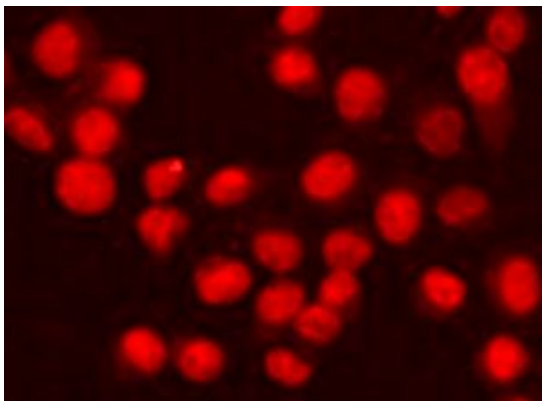
Form	Liquid
Purification	Affinity purified
Buffer	PBS (pH 7.4), 0.02% Sodium azide and 50% Glycerol
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Concentration	0.75 mg/ml
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

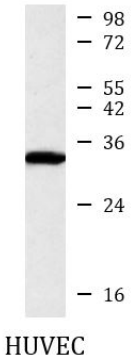
Database links	GeneID: 6118 Human Swiss-port # P15927 Human
Gene Symbol	RPA2
Gene Full Name	replication protein A2, 32kDa
Background	Required for DNA recombination,repair and replication.The activity of RP-A is mediated by single-stranded DNA binding and protein interactions.Required for the efficient recruitment of the DNA double-strand break repair factor RAD51 to chromatin in response to DNA damage.Functions as component of the alternative replication protein A complex (aRPA).aRPA binds single-stranded DNA and probably plays a role in DNA repair;it does not support chromosomal DNA replication and cell cycle progression through S-phase.In vitro,aRPA cannot promote efficient priming by DNA polymerase alpha but supports DNA polymerase delta synthesis in the presence of PCNA and replication factor C (RFC),the dual incision/excision reaction of nucleotide excision repair and RAD51-dependent strand exchange.
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. 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. [UniProt]
Research Area	Gene Regulation antibody
Calculated Mw	29 kDa
PTM	Differentially phosphorylated throughout the cell cycle, becoming phosphorylated at the G1-S transition and dephosphorylated in late mitosis. Mainly phosphorylated at Ser-23 and Ser-29, by cyclin A-CDK2 and cyclin B-CDK1, respectively during DNA replication and mitosis. Dephosphorylation may require the serine/threonine-protein phosphatase 4. Phosphorylation at Ser-23 and Ser-29 is a prerequisite for further phosphorylation. Becomes hyperphosphorylated on additional residues including Ser-4, Ser-8, Thr-21 and Ser-33 in response to DNA damage. Hyperphosphorylation is mediated by ATM, ATR and PRKDC. Primarily recruited to DNA repair nuclear foci as a hypophosphorylated form it undergoes subsequent hyperphosphorylation, catalyzed by ATR. Hyperphosphorylation is required for RAD51 recruitment to chromatin and efficient DNA repair. Phosphorylation at Thr-21 depends upon RFWD3 presence. DNA damage-induced 'Lys-63'-linked polyubiquitination by PRPF19 mediates ATRIP recruitment to the RPA complex at sites of DNA damage and activation of ATR.
Cellular Localization	Nucleus. Nucleus > PML body.

Images



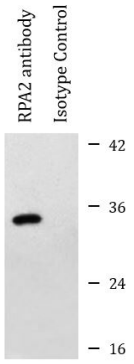
ARG54148 anti-RPA2 / RPA32 antibody ICC/IF image

Immunofluorescence: HeLa cells fixed with -20°C Methanol and stained with ARG54148 anti-RPA2 / RPA32 antibody at 1:200 dilution.



ARG54148 anti-RPA2 / RPA32 antibody WB image

Western blot: HUVEC cell lysate stained with ARG54148 anti-RPA2 / RPA32 antibody at 1:2000 dilution.



ARG54148 anti-RPA2 / RPA32 antibody IP image

Immunoprecipitation: HeLa cell lysates were immunoprecipitated and stained with ARG54148 anti-RPA2 / RPA32 antibody.