

# Product Datasheet

## RPA2 [p Ser33] Antibody - BSA Free NB100-544

Unit Size: 100 ul

Store at 4C. Do not freeze.

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[technical@novusbio.com](mailto:technical@novusbio.com)

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**NB100-544**

RPA2 [p Ser33] Antibody - BSA Free

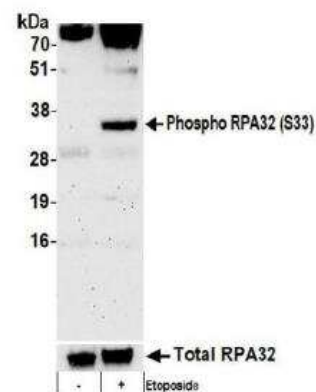
Product Information	
Unit Size	100 ul
Concentration	1.0 mg/ml
Storage	Store at 4C. Do not freeze.
Clonality	Polyclonal
Preservative	0.09% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	Tris-Citrate/Phosphate (pH 7.0 - 8.0)
Target Molecular Weight	32 kDa

Product Description	
Description	Novus Biologicals Rabbit RPA2 [p Ser33] Antibody - BSA Free (NB100-544) is a polyclonal antibody validated for use in WB, ICC/IF and Simple Western. Anti-RPA2 Antibody: Cited in 33 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Rabbit
Gene ID	6118
Gene Symbol	RPA2
Species	Human, Mouse
Reactivity Notes	Use in Mouse reported in scientific literature (PMID:33087072).
Specificity/Sensitivity	NB100-544 is specific for human RPA-32 pSer33 protein.
Immunogen	Immunogen was a phosphorylated synthetic peptide, which represented a portion of human replication protein A2, 32 kDa surrounding phosphorylated serine that corresponded to position 33 using the numbering given in entry NP_002937.1 (GeneID 6118).

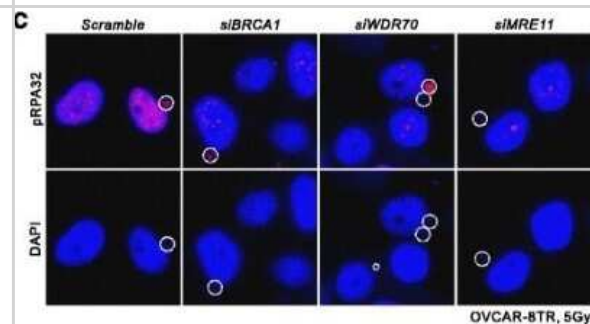
Product Application Details	
Applications	Western Blot, Simple Western, Immunocytochemistry/ Immunofluorescence
Recommended Dilutions	Western Blot 1:1000 - 1:5000, Simple Western 1:25, Immunocytochemistry/ Immunofluorescence 1:500 - 1:2500
Application Notes	Numerous bands representing proteins that migrate more slowly than 60 to 70 kDa have been observed during WB. Under some conditions, at least two of these may be more intense than the band that represents phospho RPA32-S33. ICC/IF reactivity reported in (PMID: 27723720). See <a href="#">Simple Western Antibody Database</a> for Simple Western validation: tested in Human squamous carcinoma cells; antibody dilution of 1:25; separated by charge

## Images

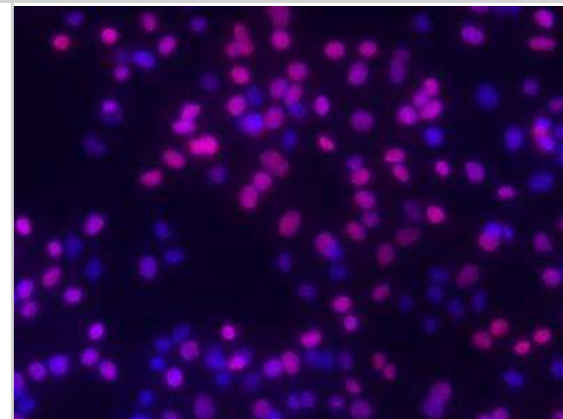
Western Blot: RPA2 [p Ser33] Antibody [NB100-544] - Whole cell lysate (50 ug) from HeLa cells treated with 100 uM etoposide for 16 hours (+) or mock treated (-) cells. Antibody: Affinity purified rabbit anti- Phospho RPA32 (S33) antibody used for WB at 0.4 ug/ml. Detection: Chemiluminescence with an exposure time of 3 minutes. Lower panel: Rabbit anti- RPS3 antibody.



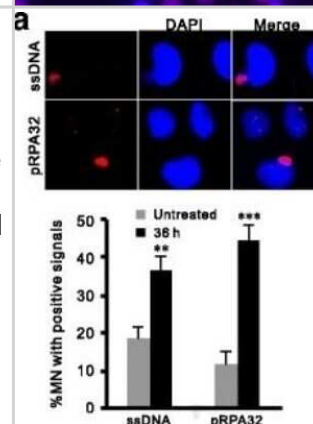
Immunocytochemistry/Immunofluorescence: RPA2 [p Ser33] Antibody [NB100-544] - Active DNA end processing in late micronuclei compartments. Representative images (Upper panel) and quantification of RPA signal in MN compartments (Lower left) or RPA foci in nuclei (lower right) of post-IR OVCAR-8 cells after indicated treatments. Pro-resection genes (MRE11, BRCA1 and WDR70) were knockdown by specific siRNA. Percentage of positive RPA2-pS33 MN population was calculated after 36 h of IR treatment Image collected and cropped by CiteAb from the following publication (<https://bmccancer.biomedcentral.com/articles/10.1186/s12885-018-4347-0>), licensed under a CC-BY license.



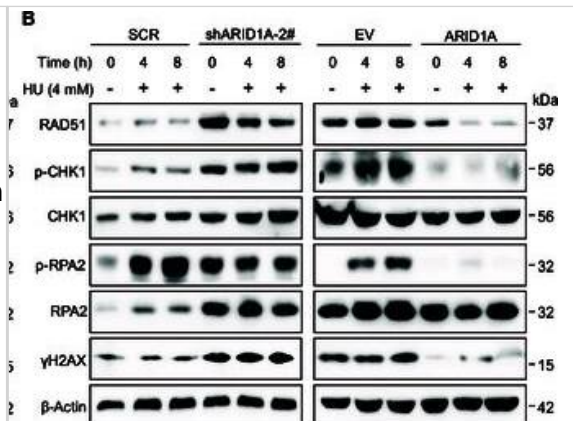
Immunocytochemistry/Immunofluorescence: RPA2 [p Ser33] Antibody [NB100-544] - L.36 PDAC cells were treated two hours using 5 mM hydroxyurea to induce RPA32 Ser33 phosphorylation. The antibody produces clear nuclear staining of treated cells. ICC/IF image submitted by a verified customer review.



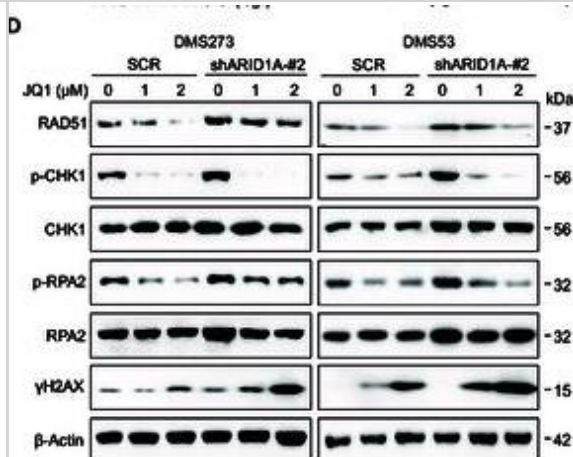
Immunocytochemistry/Immunofluorescence: RPA2 [p Ser33] Antibody [NB100-544] - Active DNA end processing in late micronuclei compartments. Detection and quantification of RPA2 phosphorylation (pSerine 33) and ssDNA by specific antibodies in MN compartments of OVCAR-8 cells 36 h after 2-Gy irradiation. Note the nuclear signals have reduced while those in MN were intense. n = 3 biological repeats. Error bars = s.d. \*\*P < 0.01; \*\*\*P < 0.005 (t-test). Image collected and cropped by CiteAb from the following publication (<https://bmccancer.biomedcentral.com/articles/10.1186/s12885-018-4347-0>), licensed under a CC-BY license.



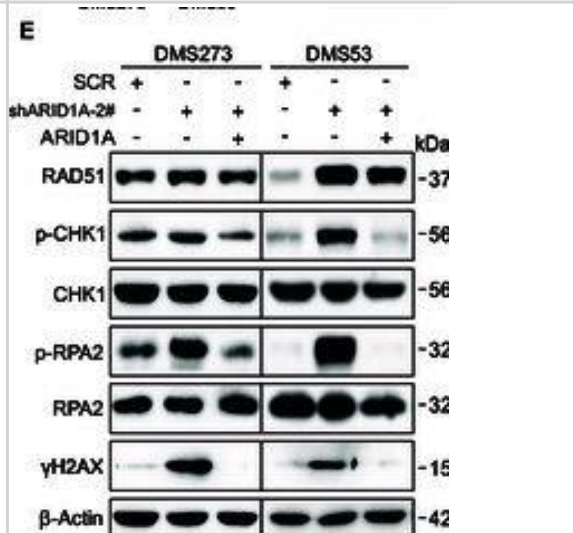
The effects of ARID1A on the response to replication stress and DSB induced by HU. (A and B) Western blot analysis of DDR-related genes following the exposure to 2 mM HU (A) and 4 mM HU (B) for the indicated times in ARID1A KD or OE DMS273 cells. (C to H) Cell viability (C and F) and clonal formation (D, E, G, and H) assays following 2 mM HU (C to E) and 4 mM HU (F to H) in ARID1A KD or OE DMS273 cells.  $n \geq 3$  independent experiments. Data are shown as the mean  $\pm$  SEM;  $n \geq 3$  independent experiments. Statistical analysis was performed using a one-way ANOVA. \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$ , \*\*\*\* $P < 0.0001$ . Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/41049615>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



ARID1A deficiency enhances JQ1 sensitivity and identifies BRD-K98645985 as a novel therapeutic candidate in SCLC. (A and B) Pearson correlation analysis of IC50 values of JQ1 from the GDSC1 dataset and the mRNA level of ARID1A (A) and MYC family gene (B). (C) Dose-response analysis of JQ1 treatment on cell viability upon ARID1A KD DMS273 and DMS53 cells. (D) Western blot analysis of DDR-related genes following the exposure to JQ1 at indicated concentrations in ARID1A KD DMS273 and DMS53 cells. (E) Tumor volume curves of DMS273 control cells (SCR) and ARID1A KD cells upon exposure to JQ1 in vivo. KD denotes shARID1A-2#. (F) Scatterplot representing tumor weights of DMS273 control cells (SCR) and ARID1A KD cells upon exposure to JQ1 at the endpoint of experiments in vivo. KD refers to shARID1A-2#. (G) Colony formation assays demonstrating the effect of BRD-K98645985 on the cytotoxicity of JQ1 in DMS273 cells. (H) Drug-response curves of BRD-K98645985 and JQ1 combination in DMS273 cells. Cells were treated with escalating doses for 72 h, with viability measured by CellTiter-Glo. (I) Bliss analysis (Combeneft software) showing synergistic effects. (J) Tumor growth curves in xenograft mice treated with JQ1, BRD-K98645985 (BRD), or their combination (JQ1 + BRD). (K) Scatterplot depicting tumor weights from xenograft mice at the endpoints of the experiments. (L) Representative images of xenograft tumors. Data are mean  $\pm$  SEM, and statistical analysis was performed using a one-way ANOVA. \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$ , \*\*\*\* $P < 0.0001$ . (M) Proposed model depicting the function of ARID1A to modulate cell proliferation and genome stability through c-MYC and PARP1. Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/41049615>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



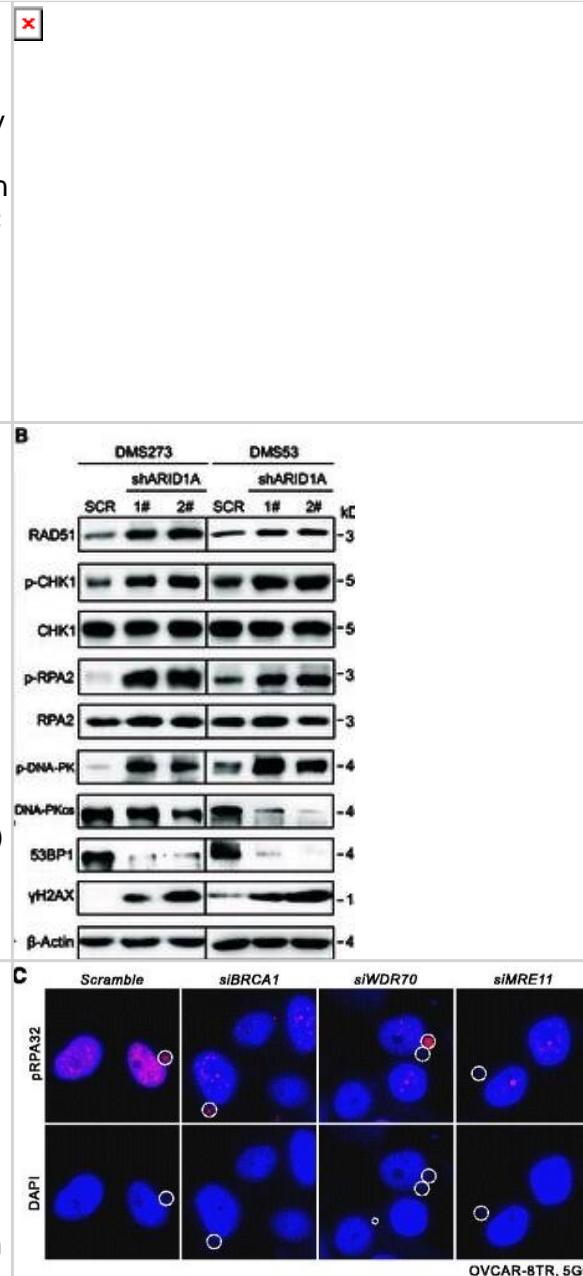
ARID1A participates in DDR in SCLC through the c-MYC/PARP axis. (A and B) Western blot analysis of DDR-related gene in DMS273 and DMS53 cells following ARID1A KD (A) or OE (B). (C and D) Representative images of immunofluorescence staining for γ-H2AX (C) and RAD51 (D) in DMS273 and DMS53 cells following ARID1A KD. Cells with more than 5 foci were considered positive. Quantification of γ-H2AX /RAD51 fluorescence intensities from 3 independent experiments was shown as mean  $\pm$  SD. Statistical analysis was performed using 2-tailed unpaired Student's t tests. \*\*\*\* $P < 0.0001$ . (E to G) Western blot analysis of the indicated proteins following ARID1A (E), c-MYC (F), or PARP1 (G) overexpression in ARID1A KD DMS273 and DMS53 cells. (H and I) Western blot analysis of PI3K downstream phospho-proteins in DMS273 and DMS53 cells following ARID1A KD (H) or OE (I). Image collected and cropped by CiteAb from the following open publication (<https://pubmed.ncbi.nlm.nih.gov/41049615>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



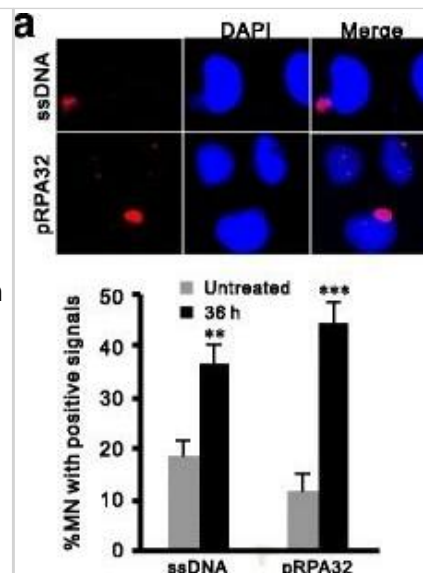
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## Publications

Ingham A, Vega I, Morlot L et al. CRAMP1-dependent histone H1 biogenesis is essential for topoisomerase II inhibitor tolerance. *Molecular cell* 2025-05-27 [PMID: 40516529]

Elsborg J, Munk S, Adelantado-Rubio A et al. PARP1 auto-modification promotes faithful Okazaki fragment processing and limits replication fork speed. *Molecular Cell* 2025-10-03 [PMID: 41043391]

Gustafsson NMS, Farnegardh K, Bonagas N et al. Targeting PFKFB3 radiosensitizes cancer cells and suppresses homologous recombination. *Nat Commun* 2018-09-24 [PMID: 30250201]

Venkatesan S, Angelova M, Puttick C et al. Induction of APOBEC3 Exacerbates DNA Replication Stress and Chromosomal Instability in Early Breast and Lung Cancer Evolution *Cancer Discovery* 2021-10-01 [PMID: 33947663]

Rasti G, Becker M, Vazquez BN et al. SIRT1 regulates DNA damage signaling through the PP4 phosphatase complex *Nucleic Acids Research* 2023-07-21 [PMID: 37309898]

Vaitsiankova A, Burdova K, Sobol M et al. PARP inhibition impedes the maturation of nascent DNA strands during DNA replication *Nature Structural & Molecular Biology* 2022-04-01 [PMID: 35332322]

Krishnamoorthy V, Foglizzo M, Dilley RL, Wu A et al. The SPATA5-SPATA5L1 ATPase complex directs replisome proteostasis to ensure genome integrity *Cell* 2024-03-30 [PMID: 38554706]

Feng L, Prabha S, Divya I et al. CHAMP1 binds to REV7/FANCV and promotes homologous recombination repair. *Cell Rep.* 2022-08-30 [PMID: 36044844]

Zeng M, Ren L, Mizuno K et al. CRL4(Wdr70) regulates H2B monoubiquitination and facilitates Exo1-dependent resection *Nat Commun* 2016-04-21 [PMID: 27098497]

Oleksak P, Rysanek D, Vancurova M et al. Discovery of a 6-Aminobenzo[b]thiophene 1,1-Dioxide Derivative (K2071) with a Signal Transducer and Activator of Transcription 3 Inhibitory, Antimitotic, and Senotherapeutic Activities *ACS Pharmacol Transl Sci* 2024-09-13 [PMID: 39296273]

Lee H, Niida H, Sung S et al. Haplotype-resolved de novo assembly revealed unique characteristics of alternative lengthening of telomeres in mouse embryonic stem cells *Nucleic Acids Res* 2024-11-11 [PMID: 39351882]

Tang, J;Weiser, NE;Wang, G;Chowdhry, S;Curtis, EJ;Zhao, Y;Wong, IT;Marinov, GK;Li, R;Hanoian, P;Tse, E;Mojica, SG;Hansen, R;Plum, J;Steffy, A;Milutinovic, S;Meyer, ST;Luebeck, J;Wang, Y;Zhang, S;Altemose, N;Curtis, C;Greenleaf, WJ;Bafna, V;Benkovic, SJ;Pinkerton, AB;Kasibhatla, S;Hassig, CA;Mischel, PS;Chang, HY; Enhancing transcription-replication conflict targets ecDNA-positive cancers *Nature* 2024-11-01 [PMID: 39506153]

More publications at <http://www.novusbio.com/NB100-544>



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NBL1-15489	RPA2 Overexpression Lysate
NBP2-33376H	Blue Marker Antibody (6F4-F6) [HRP]
HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control

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### **Limitations**

This product is for research use only and is not approved for use in humans or in clinical diagnosis. Primary Antibodies are guaranteed for 1 year from date of receipt.

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