

Product Datasheet

Rad51 Antibody (14B4) - Azide and BSA Free NB100-148

Unit Size: 100 ul

Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

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NB100-148

Rad51 Antibody (14B4) - Azide and BSA Free

Product Information	
Unit Size	100 ul
Concentration	Concentrations vary lot to lot. See vial label for concentration. If unlisted please contact technical services.
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	14B4
Preservative	No Preservative
Isotype	IgG2b
Purity	Antigen Affinity-purified
Buffer	PBS
Target Molecular Weight	37 kDa

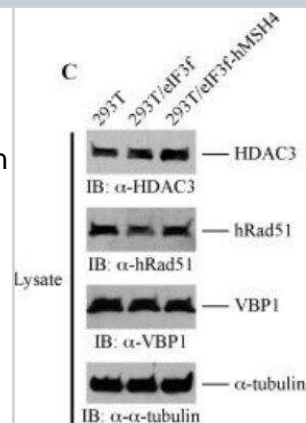
Product Description	
Description	Novus Biologicals Mouse Rad51 Antibody (14B4) - Azide and BSA Free (NB100-148) is a monoclonal antibody validated for use in IHC, WB, ICC/IF, IP and ChIP. Anti-Rad51 Antibody: Cited in 68 publications. All Novus Biologicals antibodies are covered by our 100% guarantee.
Host	Mouse
Gene ID	5888
Gene Symbol	RAD51
Species	Human, Mouse, Rat, Chicken
Reactivity Notes	C. elegans reactivity reported in scientific literature (PMID: 23942865). Please note that this antibody is reactive to Mouse and derived from the same host, Mouse. Mouse-On-Mouse blocking reagent may be needed for IHC and ICC experiments to reduce high background signal. You can find these reagents under catalog numbers PK-2200-NB and MP-2400-NB. Please contact Technical Support if you have any questions.
Immunogen	Full length (amino acids 1-338) Rad51 expressed in E. coli.

Product Application Details	
Applications	Western Blot, Immunohistochemistry-Paraffin, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, In vitro assay, Immunoprecipitation, Proximity Ligation Assay, Chromatin Immunoprecipitation (ChIP), Knockdown Validated
Recommended Dilutions	Western Blot 1:500 - 1:3000, Immunohistochemistry 1:100 - 1:1000, Immunocytochemistry/ Immunofluorescence 1:100 - 1:1000, Immunoprecipitation, Immunohistochemistry-Paraffin 1:100 - 1:1000, Immunohistochemistry-Frozen, In vitro assay, Proximity Ligation Assay, Chromatin Immunoprecipitation (ChIP), Knockdown Validated
Application Notes	ChIP usage reported in scientific literature (PMID: 24023853). Rad51 antibody validated for IHC-Fr, ICC/IF from verified customer reviews. Use in In vitro assay reported in scientific literature (PMID: 27815389). PLA-Assay dependent.

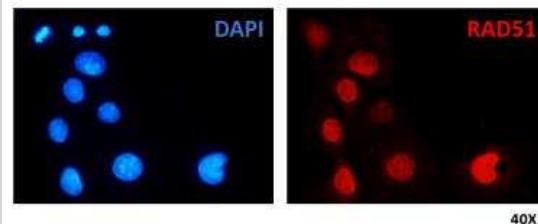


Images

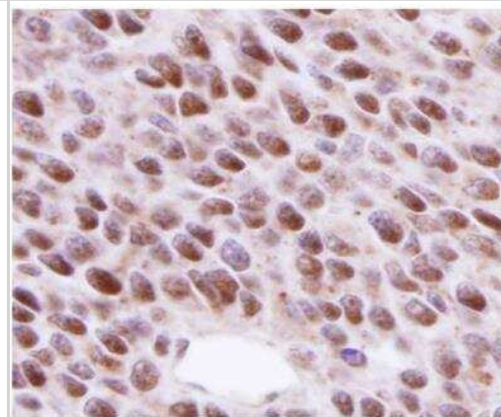
Western Blot: Rad51 Antibody (14B4) [NB100-148] - eIF3f facilitates hMSH4 stabilization. Western blotting analysis of the levels of HDAC3, hRad51, and VBP1 expression in 293T, 293T/eIF3f, and 293T/eIF3f-hMSH4 cells. 293T/eIF3f-hMSH4 cells treated with 1 or 10 Gy IR were fractionated at 6 hrs post-treatment and the levels of hMSH4 and eIF3f in the nuclear and cytoplasmic fractions were determined by immunoblotting. Alpha-tubulin was used as a marker for the cytoplasmic fraction. Image collected and cropped by CiteAb from the following publication (<https://molecular-cancer.biomedcentral.com/articles/10.1186/1476-4598-12-51>) licensed under a CC-BY license.



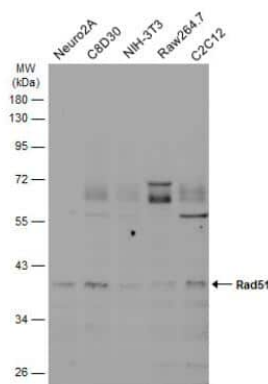
Immunocytochemistry/Immunofluorescence: Rad51 Antibody (14B4) [NB100-148] - HCC1937 (human immortalized breast cancer) cells treated with PARPi for 96 h. Nuclei are stained in blue (DAPI) and RAD51 in red. ICC/IF image submitted by a verified customer review.



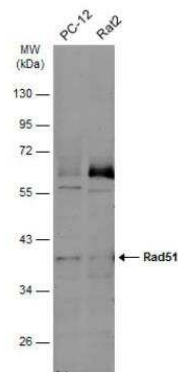
Immunohistochemistry-Paraffin: Rad51 Antibody (14B4) [NB100-148] - BT483 xenograft. RAD51 antibody 14B4 dilution at 1:200. Antigen Retrieval: Trilogy(TM) (EDTA based, pH 8.0) buffer, 15 min.



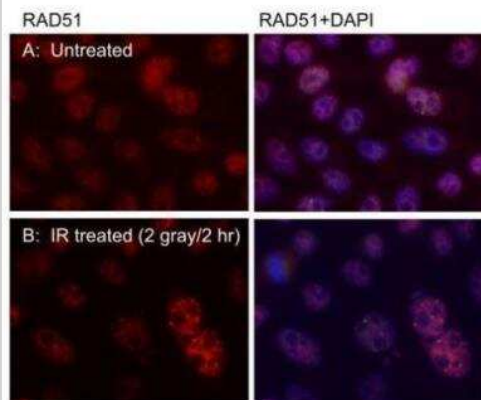
Western Blot: Rad51 Antibody (14B4) [NB100-148] - Various whole cell extracts (30 ug) were separated by 10% SDS-PAGE, and the membrane was blotted with Rad51 antibody [14B4] diluted at 1:500. The HRP-conjugated anti-mouse IgG antibody (NBP2-19382) was used to detect the primary antibody, and the signal was developed with Trident ECL plus-Enhanced.



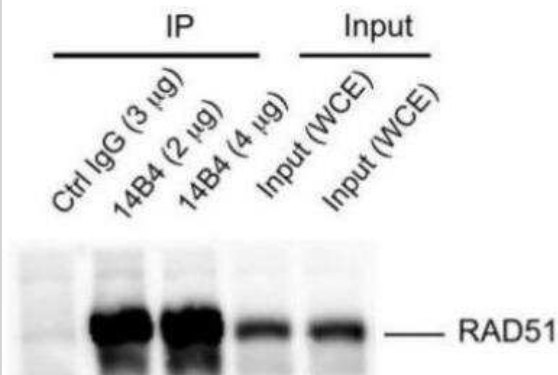
Western Blot: Rad51 Antibody (14B4) [NB100-148] - Various whole cell extracts (30 ug) were separated by 10% SDS-PAGE, and the membrane was blotted with Rad51 antibody [14B4] diluted at 1:500. The HRP-conjugated anti-mouse IgG antibody (NBP2-19382) was used to detect the primary antibody, and the signal was developed with Trident ECL plus-Enhanced.



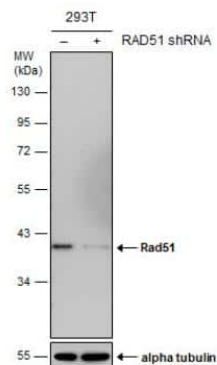
Immunocytochemistry/Immunofluorescence: Rad51 Antibody (14B4) [NB100-148] - Staining of RAD51 nuclear foci in U2OS cells using RAD51 14B4 antibody. Cells were pre-extracted with CSK buffer before fixation with 4% PFA. RAD51 14B4 was used at 1:1000 dilution. DAPI was used to counterstain the nucleus. Scale bar, 10 micrometer.



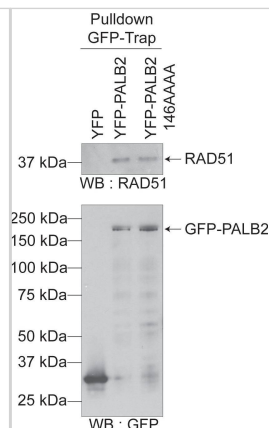
Immunoprecipitation: Rad51 Antibody (14B4) [NB100-148] - HeLa whole cell extract prepared with lysis 180 buffer (40 mM Tris-HCl pH8.0, 180 mM NaCl, 1 mM EDTA, 0.5% NP-40). Rabbit anti-RAD51 antibody was used for subsequent WB detection of immunoprecipitated RAD51.



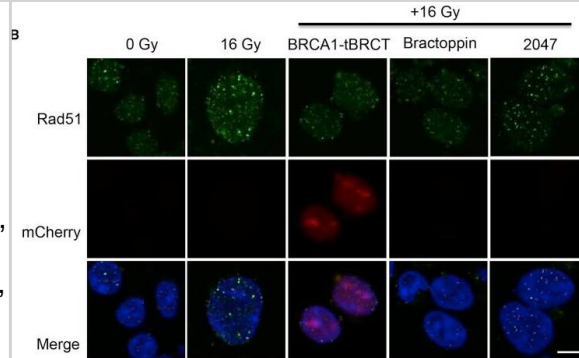
Western Blot: Rad51 Antibody (14B4) [NB100-148] - Non-transfected (-) and transfected (+) 293T whole cell extracts (30 ug) were separated by 10% SDS-PAGE, and the membrane was blotted with Rad51 antibody [14B4].



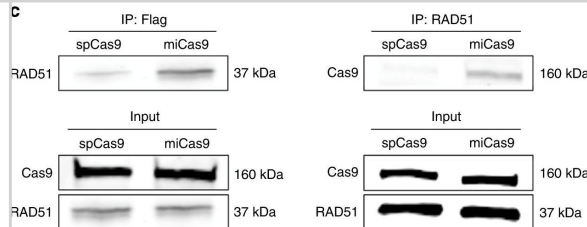
Western Blot: Rad51 Antibody (14B4) [NB100-148] - YFP-PALB2 & YFP-PALB2 146AAAA binds RAD51 equally. Lysates from HEK293T cells expressing the indicated constructs were subjected to GFP-Trap pulldown & immunoblotting against YFP or RAD51. YFP alone was used as a negative control. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/31017574>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



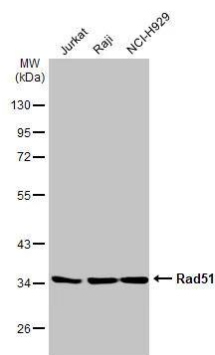
Immunocytochemistry/ Immunofluorescence: Rad51 Antibody (14B4) [NB100-148] - Bractoppin Selectively Interrupts BRCA1-Dependent Steps in DNA Repair by Homologous Recombination (A) Confocal images depicting at high magnification the recruitment of the RPA32 protein into nuclear foci after the indicated treatments. Experiments were carried out as described as in Figure 5A. Staining in the upper row is for RPA32 (green), middle row, for mCherry-BRCA1 tBRCT (red); lower row, merged red & green staining, with DNA staining (DAPI) in blue. Scale bar represents 10 μ m. (B) Recruitment of RAD51 protein into nuclear foci, measured & depicted as described in (A). Scale bar represents 10 μ m. (C) Percentage of cells positive for radiation-induced nuclear RPA32 foci (mean \pm SD; n = 5,300, 0 Gy; 3,200, 16 Gy; 3,600, BRCA1 tBRCT; 3,400, Bractoppin; 3,500, CCBT2047) enumerated by high-content imaging (see the STAR Methods). Statistical significance was performed using an unpaired two-tailed t test. *** $p \leq 0.001$. Similar results were observed in three independent repeats. (D) Percentage of cells containing nuclear RAD51 foci enumerated & depicted as described in (B). *** $p \leq 0.001$. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/29606576>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: Rad51 Antibody (14B4) [NB100-148] - MiCas9's beneficial effects are Brex27 & RAD51 dependent. a Indel rates by spCas9, miCas9, & miCas9-mutant at the on-target site for sg-AAVS1 & the off-target site 1 for sg-EMX1. b Indel rates estimated by T7E1 assay by spCas9 & miCas9 with or without the use of RAD51 inhibitor, B02. c Co-IP results by using anti-flag (left) or anti-RAD51 (right) antibodies followed western blot for RAD51 or Cas9. d ChIP assay results with anti-RAD51 antibody at the proximal region of the sg-AAVS1 target locus. Sp: spCas9, Mi: miCas9, Mi-mut: miCas9-mutant. #Reads: Average amplicon reads per sample. Three independent experiments were performed for each condition. Data are presented as mean \pm standard error of means (SEM). Unpaired t-test (two tailed) was used to compare data using GraphPad Prism 8 software (GraphPad Software, Inc., San Diego, CA). Source data are available in the Source Data file. Image collected & cropped by CiteAb from the following publication (<https://pubmed.ncbi.nlm.nih.gov/33247137>), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Various whole cell extracts (30 ug) were separated by 10% SDS-PAGE, and the membrane was blotted with Rad51 antibody [14B4] (NB100-148) diluted at 1:500. The HRP-conjugated anti-rabbit IgG antibody was used to detect the primary antibody, and the signal was developed with Trident femto Western HRP Substrate.



Publications

Peng M, Lee S, Nair H et al. RAD51 is chromatin enriched and targetable in BRCA1-deficient cells. *Molecular Cell* 2025-09-10 [PMID: 40934926]

Lahiri S, Hamilton G, Moore G et al. BRCA2 prevents PARPi-mediated PARP1 retention to protect RAD51 filaments *Nature* 2025-04-01 [PMID: 40140565]

Mukherjee S, Garda C, Boffa L et al. Tumor-associated neutrophil precursors impair homologous DNA repair and promote sensitivity to PARP inhibition. *Nature Communications* 2025-07-30 [PMID: 40738898]

Kim S, Yamada S, Li T et al. Mouse MRE11-RAD50-NBS1 is needed to start and extend meiotic DNA end resection *Nature Communications* 2025-04-16 [PMID: 40240347]

Mazzarotti G, Cuomo M, Ragosta M et al. Oleanolic Acid Modulates DNA Damage Response to Camptothecin Increasing Cancer Cell Death. *International Journal of Molecular Sciences* 2025-01-08 [PMID: 39769237]

Alfano P, Rocha F, Dille A et al. Inhibition of both SWI/SNF ATPases by BRM014 impairs homologous recombination, sensitizes cells to DNA damage and PARP inhibitors, and activates the cGAS/STING response. *DNA repair* 2025-08-22 [PMID: 40784137]

Vugic D, Dumoulin I, Martin C et al. Replication Gap Suppression Depends on the Double-Strand DNA Binding Activity of BRCA2 SSRN *Electronic Journal* 2022-04-15 [PMID: 36707518]

Jimenez-Sainz J, Mathew J, Moore G, Lahiri S et al. BRCA2 BRC missense variants disrupt RAD51-dependent DNA repair *Elife* 2022-09-13 [PMID: 36098506]

Bai Y, Wang W, Li S et al. C1QBP Promotes Homologous Recombination by Stabilizing MRE11 and Controlling the Assembly and Activation of MRE11/RAD50/NBS1 Complex *Mol. Cell* 2019-07-09 [PMID: 31353207]

Mauro S, Bolognesi MM, Villa N, Capitoli G et al. A DNA damage response-like phenotype defines a third of colon cancers at onset *FASEB J* 2023-06-21 [PMID: 37342943]

McMahon KA, Stroud DA, Gambin Y et al. Cavin3 released from caveolae interacts with BRCA1 to regulate the cellular stress response *eLife* 2021-06-18 [PMID: 34142659]

Moeed, A;Thilmany, N;Beck, F;Puthussery, BK;Ortmann, N;Haimovici, A;Badr, MT;Haghighi, EB;Boerries, M;Öllinger, R;Rad, R;Kirschnek, S;Gentle, IE;Donakonda, S;Petric, PP;Hummel, JF;Pfaffendorf, E;Zanetta, P;Schell, C;Schwemmle, M;Weber, A;Häcker, G; The Caspase-Activated DNase drives inflammation and contributes to defense against viral infection *Cell death and differentiation* 2024-06-07 [PMID: 38849575]

More publications at <http://www.novusbio.com/NB100-148>



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Products Related to NB100-148

NBL1-15117	Rad51 Overexpression Lysate
NBP2-33376H	Blue Marker Antibody (6F4-F6) [HRP]
HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB7539	Goat anti-Mouse IgG (H+L) Secondary Antibody [HRP]
NBP2-27231	Mouse IgG2b Isotype Control (MPC-11)

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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