

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

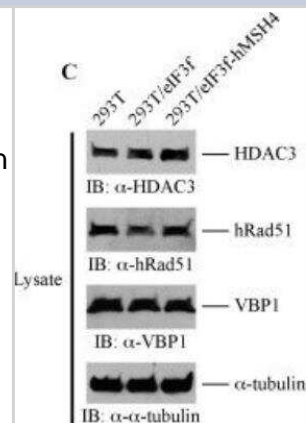
Product Information	
Unit Size	100 ul
Concentration	Concentrations vary lot to lot. See vial label for concentration. If unlisted please contact technical services.
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	14B4
Preservative	No Preservative
Isotype	IgG2b
Purity	Antigen Affinity-purified
Buffer	PBS, 20% Glycerol (pH7)
Target Molecular Weight	37 kDa

Product Description	
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.

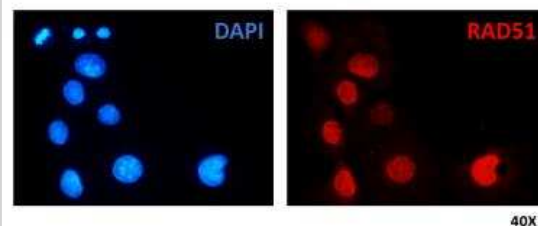
Product Application Details	
Applications	Western Blot, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Frozen, Immunohistochemistry-Paraffin, In vitro assay, Immunoprecipitation, Proximity Ligation Assay, Chromatin Immunoprecipitation (ChIP), Knockdown Validated
Recommended 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

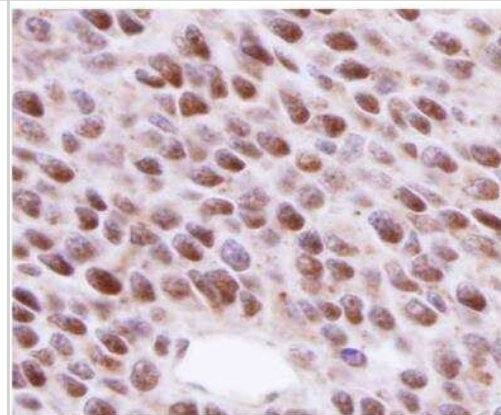
Western Blot: Rad51 Antibody (14B4) [NB100-148] - eIF3f facilitates hMSH4 stabilization. Western blotting analysis of the levels of HDAC3, hRad51, and VBP1 expression in 293T, 293T/eIF3f, and 293T/eIF3f-hMSH4 cells. 293T/eIF3f-hMSH4 cells treated with 1 or 10 Gy IR were fractionated at 6 hrs post-treatment 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.



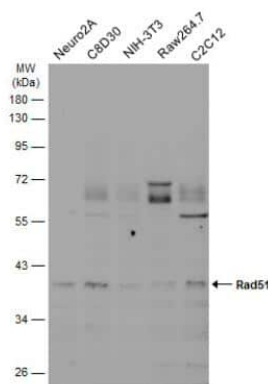
Immunocytochemistry/Immunofluorescence: Rad51 Antibody (14B4) [NB100-148] - HCC1937 (human immortalized breast cancer) cells treated with PARPi for 96 h. Nuclei are stained in blue (DAPI) and RAD51 in red. ICC/IF image submitted by a verified customer review.



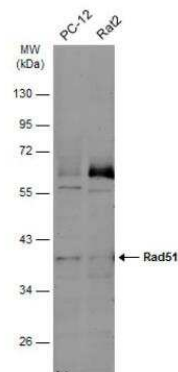
Immunohistochemistry-Paraffin: Rad51 Antibody (14B4) [NB100-148] - BT483 xenograft. RAD51 antibody 14B4 dilution at 1:200. Antigen Retrieval: Trilogy(TM) (EDTA based, pH 8.0) buffer, 15 min.



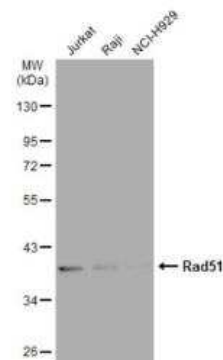
Western Blot: Rad51 Antibody (14B4) [NB100-148] - Various whole cell extracts (30 ug) were separated by 10% SDS-PAGE, and the membrane was blotted with Rad51 antibody [14B4] diluted at 1:500. The HRP-conjugated anti-mouse IgG antibody (NBP2-19382) was used to detect the primary antibody, and the signal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



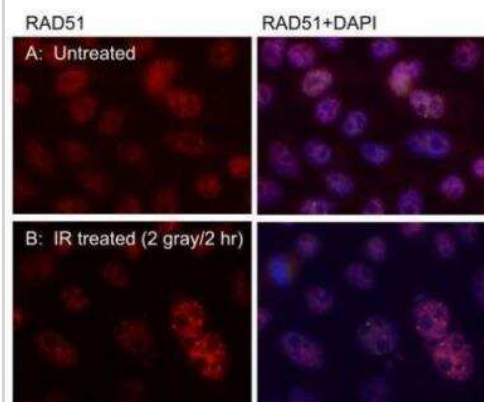
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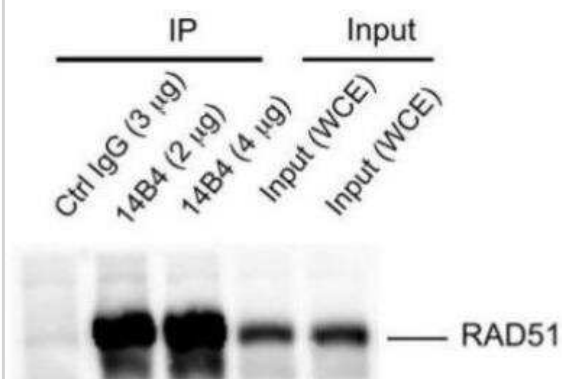
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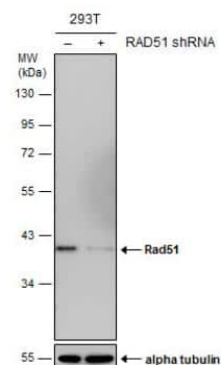
Immunocytochemistry/Immunofluorescence: Rad51 Antibody (14B4) [NB100-148] - Staining of RAD51 nuclear foci in U2OS cells using RAD51 14B4 antibody. Cells were pre-extracted with CSK buffer before fixation with 4% PFA. RAD51 14B4 was used at 1:1000 dilution. DAPI was used to counterstain the nucleus.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



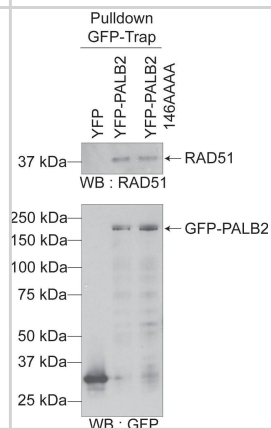
Immunoprecipitation: Rad51 Antibody (14B4) [NB100-148] - HeLa whole cell extract prepared with lysis 180 buffer (40 mM Tris-HCl pH8.0, 180 mM NaCl, 1 mM EDTA, 0.5% NP-40). Rabbit anti-RAD51 antibody was used for subsequent WB detection of immunoprecipitated RAD51.



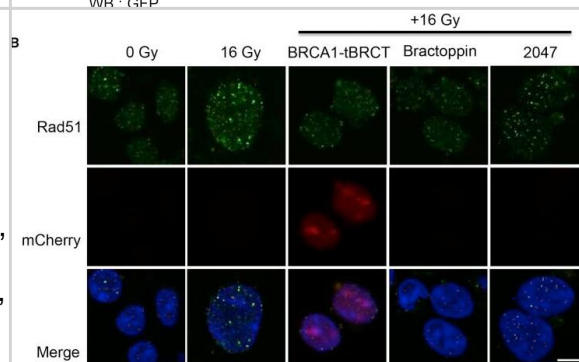
Western Blot: Rad51 Antibody (14B4) [NB100-148] - Non-transfected (-) and transfected (+) 293T whole cell extracts (30 ug) were separated by 10% SDS-PAGE, and the membrane was blotted with Rad51 antibody [14B4].



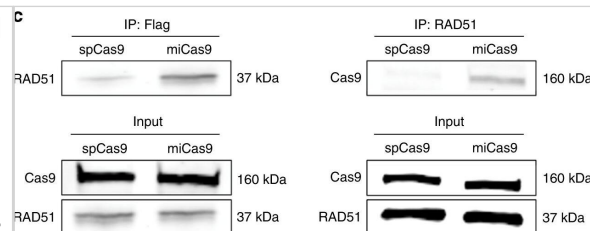
Western Blot: Rad51 Antibody (14B4) [NB100-148] - YFP-PALB2 & YFP-PALB2 146AAAA binds RAD51 equally. Lysates from HEK293T cells expressing the indicated constructs were subjected to GFP-Trap pulldown & immunoblotting against YFP or RAD51. YFP alone was used as a negative control. Image collected & cropped 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.



Publications

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]

Garcia-Muse T, Galindo-Diaz U, Garcia-Rubio M et al. A Meiotic Checkpoint Alters Repair Partner Bias to Permit Inter-sister Repair of Persistent DSBs. *Cell Rep* 2019-01-15 [PMID: 30650366]

Shin N, Cuenca L, Karthikraj R et al. Assessing effects of germline exposure to environmental toxicants by high-throughput screening in *C. elegans* *PLoS Genet.* 2019-02-01 [PMID: 30763314]

Nadarajan S, Lambert TJ, Altendorfer E et al. Polo-like kinase-dependent phosphorylation of the synaptonemal complex protein SYP-4 regulates double-strand break formation through a negative feedback loop. *Elife.* 2017-03-27 [PMID: 28346135]

Pinedo-Carpio E, Dessapt J, Beneyton A et al. FIRR1 cooperates with FIGL1 to promote RAD51 disassembly during DNA repair *Science advances* 2023-08-09 [PMID: 37556550] (Immunoprecipitation, Human)

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]

Davies B, Zhang G, Moralli D et al. Characterization of meiotic recombination intermediates through gene knockouts in founder hybrid mice *Genome research* 2023-11-17 [PMID: 37977820]

Details:

Sample type: Testis

Ito M, Furukohri A, Matsuzaki K et al. FIGL1 AAA+ ATPase remodels RAD51 and DMC1 filaments in pre-meiotic DNA replication and meiotic recombination *Nature communications* 2023-10-27 [PMID: 37891173] (ChIP, Mouse)

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



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NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
NBP2-27231	Mouse IgG2b Isotype Control (MPC-11)

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