Product Datasheet

Rad51C Antibody (2H11/6) - BSA Free
NB100-177

Unit Size: 0.1 ml

Store at 4C. Do not freeze.

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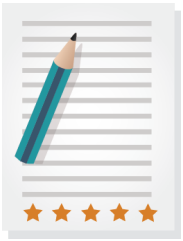
Updated 4/13/2025 v.20.1



NB100-177

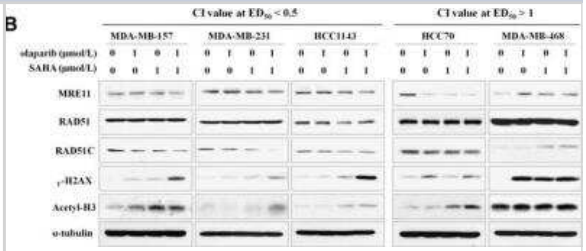
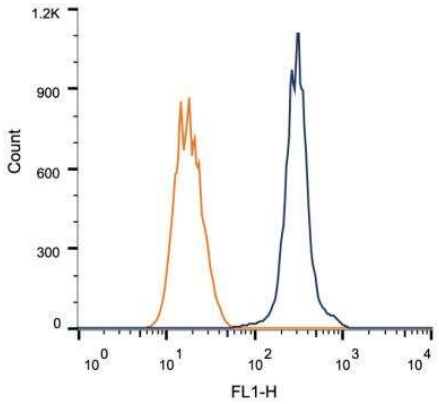
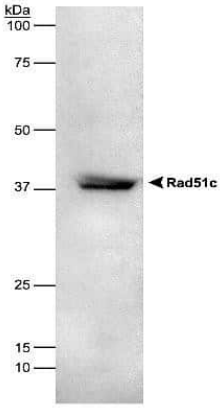
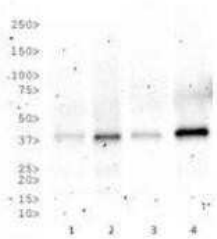
Rad51C Antibody (2H11/6) - BSA Free

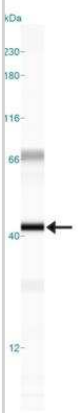
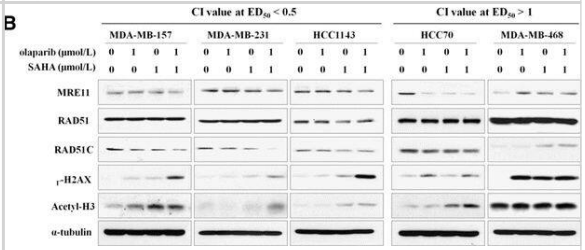
Product Information	
Unit Size	0.1 ml
Concentration	1 mg/ml
Storage	Store at 4C. Do not freeze.
Clonality	Monoclonal
Clone	2H11/6
Preservative	0.02% Sodium Azide
Isotype	IgG1 Kappa
Purity	Protein G purified
Buffer	PBS (pH 7.4)
Target Molecular Weight	40 kDa

Product Description	
Host	Mouse
Gene ID	5889
Gene Symbol	RAD51C
Species	Human, Mouse, Primate, Yeast
Specificity/Sensitivity	Does not cross-react with Rad51B, Rad51D, Rad51, XRCC2, or XRCC3 in Western analysis.
Immunogen	His-tagged human Rad51C, over-expressed in E. coli. [UniProt# O43502]

Product Application Details	
Applications	Western Blot, Simple Western, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin, Immunoprecipitation, CyTOF-ready
Recommended Dilutions	Western Blot 1:1000, Simple Western 1:100, Flow Cytometry 1 ug per million cells, Immunohistochemistry, Immunocytochemistry/ Immunofluorescence, Immunoprecipitation, Immunohistochemistry-Paraffin reported in scientific literature (PMID 23512992), CyTOF-ready
Application Notes	In WB, a band can be seen at approx. 40 kDa. Preliminary feedback has been negative for Immunofluorescence on 4% PFA-fixed human cell lines (H1299 and MCF7). In Simple Western only 10 - 15 ul of the recommended dilution is used per data point. See Simple Western Antibody Database for Simple Western validation: Tested in HepG2 lysate 0.5 mg/mL, separated by Size, antibody dilution of 1:100, apparent MW was 43 kDa. Separated by Size-Wes, Sally Sue/Peggy Sue. The observed molecular weight of the protein may vary from the listed predicted molecular weight due to post translational modifications, post translation cleavages, relative charges, and other experimental factors. This antibody is CyTOF ready.

Images

Western Blot: Rad51C Antibody (2H11/6) - BSA Free [NB100-177] - The expression of DNA damage-responsive proteins was measured by western blot analysis following treatment with olaparib and SAHA alone or in combination. Image collected and cropped by CiteAb from the following publication (//pubmed.ncbi.nlm.nih.gov/25888415/) licensed under a CC-BY license.	
Flow Cytometry: Rad51C Antibody (2H11/6) [NB100-177] - Intracellular flow cytometric staining of 1 x 10^6 HeLa cells using Rad51C antibody (dark blue). Isotype control shown in orange. An antibody concentration of 1 ug/1x10^6 cells was used.	
Western Blot: Rad51C Antibody (2H11/6) [NB100-177] - Rad51C detected in HEK293 lysate using NB 100-177. Photo courtesy of B.T. Bennett & K. Knight, University of Massachusetts Medical School.	
Western Blot: Rad51C Antibody (2H11/6) [NB100-177] - Analysis of RAD51c in 1) Hela WCE 2) HepG2 WCE 3) Cos-7 WCE 4) Hek293 WCE.	

Simple Western: Rad51C Antibody (2H11/6) [NB100-177] - Lane view shows a specific band for Rad51C in 0.5 mg/ml of HepG2 lysate. This experiment was performed under reducing conditions using the 12-230 kDa separation system.	
Histone deacetylase (HDAC) inhibition enhances olaparib-induced DNA damage accumulation. (B) The expression of DNA damage-responsive proteins was measured by western blot analysis following treatment with olaparib and SAHA alone or in combination.	

Publications

N Wu, XN Nguyen, L Wang, R Appourchau, C Zhang, B Panthu, H Gruffat, C Journo, S Alais, J Qin, N Zhang, K Tartour, F Catez, R Mahieux, T Ohlmann, M Liu, B Du, A Cimarelli The interferon stimulated gene 20 protein (ISG20) is an innate defense antiviral factor that discriminates self versus non-self translation PLoS Pathog., 2019-10-10;15 (10):e1008093. 2019-10-10 [PMID: 31600344]

Malik AM, Miguez RA, Li X et al. Matrin 3-dependent neurotoxicity is modified by nucleic acid binding and nucleocytoplasmic localization Elife. 2018-07-16 [PMID: 30015619]

Grindheim AK, Hollas H, Raddum AM et al. Reactive oxygen species exert opposite effects on Tyr23 phosphorylation of the nuclear and cortical pools of Annexin A2. J. Cell. Sci. 2015-12-07 [PMID: 26644180]

Kanakkanthara A, Hou X, Ekstrom TL et al. Repurposing Ceritinib Induces DNA Damage and Enhances PARP Inhibitor Responses in High-Grade Serous Ovarian Carcinoma Cancer Research 2022-01-15 [PMID: 34810199] (Western Blot)

Jamal K, Galbiati A, Armenia J et al. Drug-gene Interaction Screens Coupled to Tumor Data Analyses Identify the Most Clinically Relevant Cancer Vulnerabilities Driving Sensitivity to PARP Inhibition Cancer Research Communications 2022-10-21 [PMID: 36969741] (Western Blot, Block/Neutralize)

Tomaszowski KH, Roy S, Guerrero C et al. Hypomorphic Brca2 and Rad51c double mutant mice display Fanconi anemia, cancer and polygenic replication stress Nature communications 2023-03-11 [PMID: 36906610] (WB, Mouse)

Longo MA, Roy S, Chen Y et al. RAD51C-XRCC3 structure and cancer patient mutations define DNA replication roles Nature communications 2023-07-24 [PMID: 37488098] (IP)

Matsuzaki K, Kumatoriya K, Tando M et al. Polyphenols from persimmon fruit attenuate acetaldehyde-induced DNA double-strand breaks by scavenging acetaldehyde Scientific reports 2022-06-18 [PMID: 35717470]

Kusi M, Zand M, Lin LL et al. 2-Hydroxyglutarate destabilizes chromatin regulatory landscape and lineage fidelity to promote cellular heterogeneity Cell reports 2022-01-11 [PMID: 35021081] (WB)

Hurley Rm, Mcgehee Cd, Nesic K Et Al. Characterization of a RAD51C-silenced high-grade serous ovarian cancer model during development of PARP inhibitor resistance NAR cancer 2021-09-01 [PMID: 34316715]

Min A, Im S A et al. Histone deacetylase inhibitor, suberoylanilide hydroxamic acid (SAHA), enhances anti-tumor effects of the poly (ADP-ribose) polymerase (PARP) inhibitor olaparib in triple-negative breast cancer cells. Breast Cancer Res 2015-07-03 [PMID: 25888415] (WB, Human)

Mohan M, Akula D, Dhillon A et al. Human RAD51 paralogue RAD51C fosters repair of alkylated DNA by interacting with the ALKBH3 demethylase Nucleic Acids Res. 2019-10-23 [PMID: 31642493] (IP, Human)

More publications at http://www.novusbio.com/NB100-177

Procedures

Western Blot protocol for Rad51C Antibody (NB100-177)

Western Blot Protocol

1. Preparation of samples for loading ~50-80ug of sample containing laemmli loading dye (containing SDS) at 90 degrees Celsius for ~2 minutes.
2. Load sample onto a 10% Tris-HCL gel and run for ~30 minutes at 200V (or until dye front reaches bottom of gel).
3. Place gel in transfer buffer for 10 minutes (192mM Glycine, 25mM Tris-HCL, 20% Methanol). Pre-soak two pieces of Whatman paper and PVDF, as well.

NOTE: The PVDF should be soaked in CH3OH for ~ 1minute, rinsed in ddH20 and then placed in transfer buffer.

4. Transfer the protein from the gel to the membrane using a semi-dry transfer apparatus. Run for 20 minutes at 20V.
5. Block non-specific proteins with blocking buffer #1 (10mM Tris-HCL pH 8.0, 300mM NaCL, 0.025% Tween 20) for 10 minutes. Then continue blocking in blocking buffer #2 (buffer #1 + 15% nonfat dry milk) for an additional hour, gently rocking at room temperature (RT) or overnight at 4 degrees Celcius.
6. Dilute the primary antibody (anti-Rad51C, NB 100-177) in antibody dilution buffer (blocking buffer #1 + 2% milk).
7. Wash the membrane briefly with some blocking buffer #1 and then add your diluted primary antibody.
8. Incubate the primary for 1 hour at room temperature, gently rocking. Again this can be done overnight at 4 Celcius.

9. Wash 3X with blocking buffer #1 for 10 minutes, each, gently rocking.
10. Incubate the diluted secondary antibody (anti-mouse IgG conjugated to HRP), diluted in antibody dilution buffer, for 1 hour at room temperature, gently rocking.
11. Wash 2X with blocking buffer #1 for 10 minutes, each, gently rocking. Wash 1X with blocking buffer #1 for 30 minutes, gently rocking.
12. Develop membrane with your chemiluminescent substrate.

NOTE: NIH 3T3 and HEK 293 whole cell extracts and mouse embryonic fibroblast cells have been used as positive controls for this antibody.

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Products Related to NB100-177

NB800-PC1	HeLa Whole Cell Lysate
HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
NBP1-43319-0.5mg	Mouse IgG1 Kappa Isotype Control (P3.6.2.8.1)

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