Product Datasheet

ATM Antibody (2C1) - Azide and BSA Free
NB100-309

Unit Size: 100 ul

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

Reviews: 3 Publications: 131

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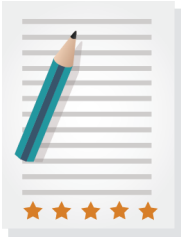
Updated 2/21/2025 v.20.1



NB100-309

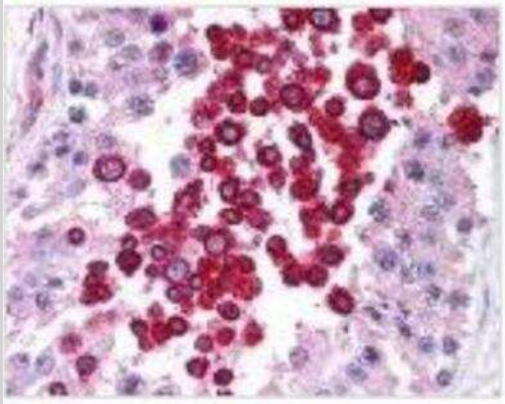
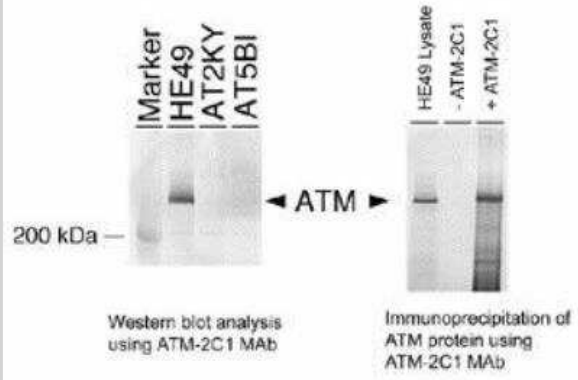
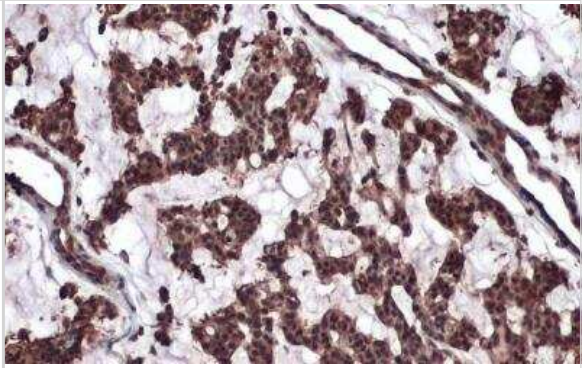
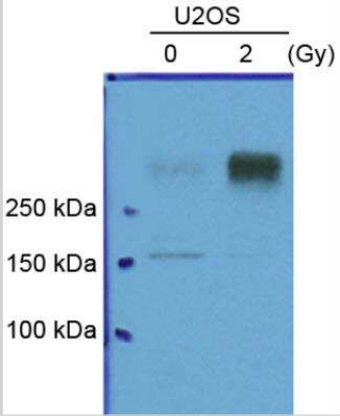
ATM Antibody (2C1) - Azide and BSA Free

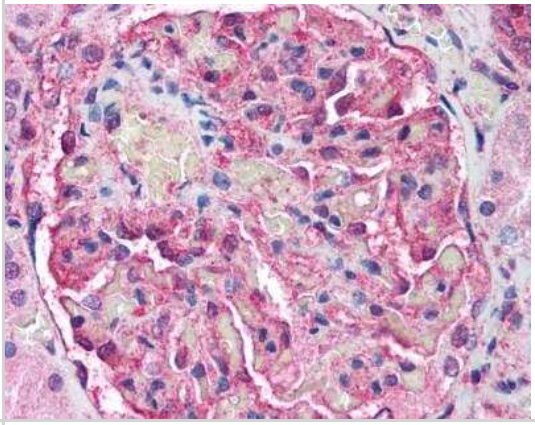
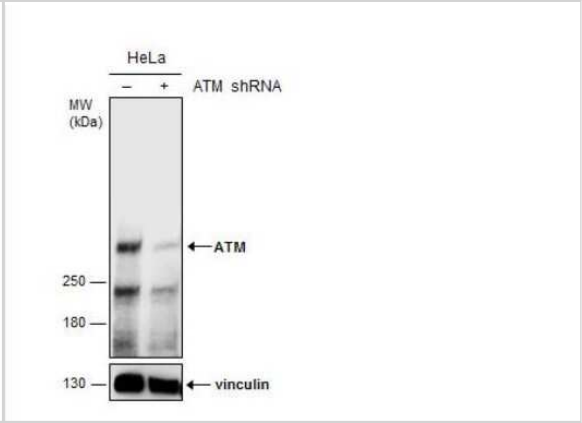
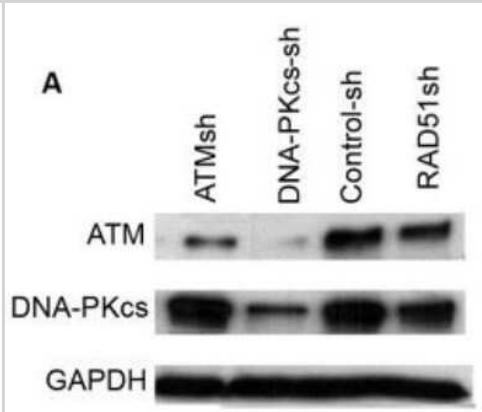
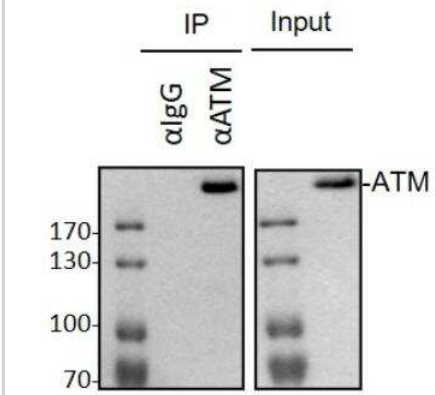
Product Information	
Unit Size	100 ul
Concentration	Concentrations vary lot to lot. See vial label for concentration. If unlisted please contact technical services.
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	2C1
Preservative	No Preservative
Isotype	IgG1
Purity	Antigen Affinity-purified
Buffer	PBS
Target Molecular Weight	351 kDa

Product Description	
Host	Mouse
Gene ID	472
Gene Symbol	ATM
Species	Human, Mouse, Rat, Monkey
Reactivity Notes	Use in Human reported in scientific literature (PMID:33743824).
Specificity/Sensitivity	ATM Antibody (2C1) recognizes full-length ATM, a 350-kDa nuclear phosphoprotein.
Immunogen	Recombinant protein expressed in E. coli corresponding to amino acids 2577-3056.

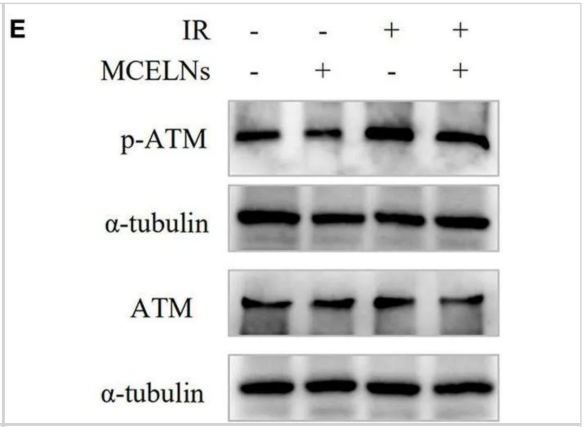
Product Application Details	
Applications	Western Blot, ELISA, Flow Cytometry, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin, Immunoprecipitation, SDS-Page, Chromatin Immunoprecipitation (ChIP), Knockdown Validated, Single Cell Western
Recommended Dilutions	Western Blot 1:500 - 1:3000, Flow Cytometry, ELISA 1:100 - 1:2000, Immunohistochemistry 5 ug/mL, Immunocytochemistry/ Immunofluorescence 1:10 - 1:500, Immunoprecipitation 1 - 10 ug/mL, Immunohistochemistry-Paraffin 5 ug/mL, SDS-Page, Chromatin Immunoprecipitation (ChIP) 1:10-1:500, Single Cell Western 100 ug/mL, Knockdown Validated
Application Notes	Use in SDS-PAGE reported in scientific literature (PMID:34210973). Use in IHC-P reported in scientific literature (PMID: 25895060). Use in FLOW reported in scientific literature (PMID: 15197179). ATM antibody is validated for WB, IP from a verified customer reviews.

Images

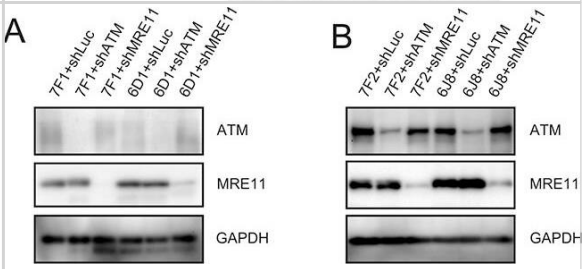
Immunohistochemistry-Paraffin: ATM Antibody (2C1) [NB100-309] - Human Testis (formalin-fixed, paraffin-embedded) stained with ATM antibody (2C1) [NB100-309] at 5 ug/ml followed by biotinylated anti-mouse IgG secondary antibody, alkaline phosphatase-streptavidin and chromogen.	
Western Blot: ATM Antibody (2C1) [NB100-309] - Detection of human ATM protein using ATM antibody (2C1) [NB100-309] by western blot or immunoprecipitation. Theoretical molecular weight 351 kDa.	
Immunohistochemistry-Paraffin: ATM Antibody (2C1) [NB100-309] - Human breast carcinoma. ATM stained by ATM antibody [2C1] diluted at 1:100. Antigen Retrieval: Citrate buffer, pH 6.0, 15 min.	
Western Blot: ATM Antibody (2C1) [NB100-309] - Analysis of ATM in U2OS sarcoma cells using ATM antibody (2C1) [NB100-309]. Theoretical molecular weight 351 kDa. Western blot image submitted by a verifeid customer review.	

Immunohistochemistry-Paraffin: ATM Antibody (2C1) [NB100-309] - Human Kidney (formalin-fixed, paraffin-embedded) stained with ATM antibody (2C1) [NB100-309] at 5 ug/ml followed by biotinylated anti-mouse IgG secondary antibody, alkaline phosphatase-streptavidin and chromogen.	
Western Blot: ATM Antibody (2C1) [NB100-309] - Non-transfected (-) and transfected (+) HeLa whole cell extracts (60 ug) were separated by 5% SDS-PAGE, and the membrane was blotted with ATM antibody (2C1) [NB100-309] diluted at 1:500.	
Western Blot: ATM Antibody (2C1) [NB100-309] - Methylated EDSBs may be repaired by an ATM-dependent pathway. Immunoblots of ATM and DNA-PKcs in ATM shRNA-transfected HeLa cells, using ATM antibody (2C1) [NB100-309]. GAPDH is included as a loading control. Image collected and cropped by CiteAb from the following publication (https://molecular-cancer.biomedcentral.com/articles/10.1186/1476-4598-9-70), licensed under a CC-BY license.	
Immunoprecipitation: ATM Antibody (2C1) [NB100-309] - MDA-MB-231 whole cell lysates were immunoprecipitated with 2 ug ATM Antibody (NB100-309), followed by Western blot (primary antibody: NB100-309 at 1:1000, 4C overnight. Western blot image submitted by a verified customer review.	

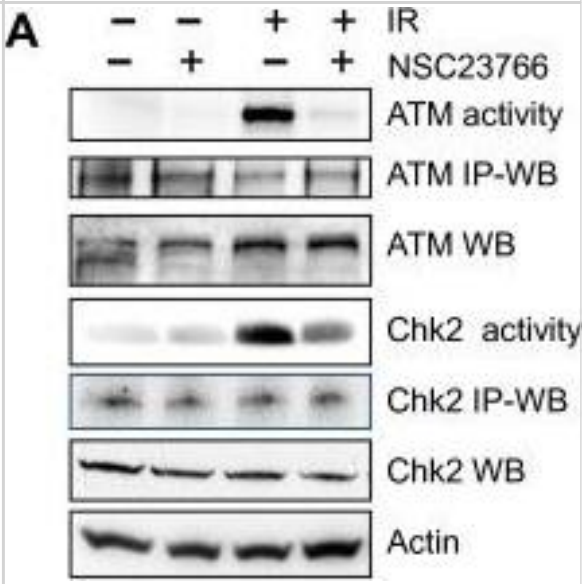
Western Blot: ATM Antibody (2C1) [NB100-309] - MCELNs decreased the DNA damage of H9C2 cells after radiation. Western blot images of p-ATM (NB100-306) and ATM (NB100-309) in H9C2 cells after 48 h of culture with indicated treatment. IR (-/+): 0/16 Gy X-ray; MCELNs (-/+): 0/10 ug/mL. Image collected and cropped by CiteAb from the following publication (//pubmed.ncbi.nlm.nih.gov/35509278/) licensed under a CC-BY license.



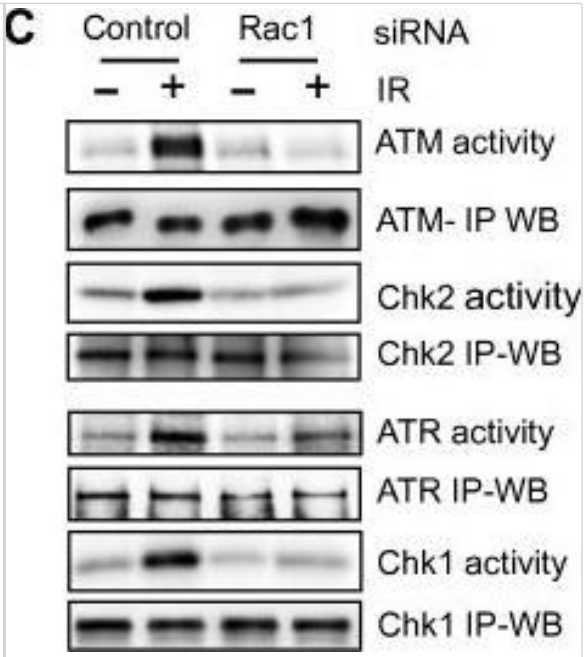
Western Blot: ATM Antibody (2C1) [NB100-309] - Western blot analysis of the extent of knockdown MRE11 & ATM, & the lack of effect of Mirin activation of ATM. The extent of shRNA-mediated knockdown of MRE11 & ATM are shown for (A) clones GFP-7F1 & GFP-6D1 & (B) clones EDS-7F2 & EDS-6J8. The extent of knockdown was determined by analyzing the intensity of the ATM & MRE11 bands relative to the intensity of the loading control GAPDH bands (see Table 1). (C) The effect of Mirin on activation of ATM was determined by analysis of phosphorylation of ATM in response to ionizing radiation. Cultures treated with DMSO alone, 20 µM Mirin, or knockdown of ATM were analyzed by western blot 30 min after exposure to 10 Gy of ionizing radiation. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/26209132), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



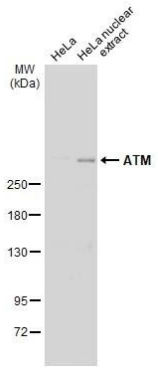
Western Blot: ATM Antibody (2C1) [NB100-309] - Rac1 inhibition abolishes IR-induced activation of both ATM & ATR signaling. (A) MCF-7 cells were treated with/without 20-Gy IR in the presence or absence of 100 µM NSC23766 & incubated for 1 hour at 37°C before analysis. To assess the ATM kinase activity, ATM was immunoprecipitated from cell lysate by using anti-ATM antibody (2C1) & assayed for ATM activity by using p53 recombinant protein as substrate. To measure the Chk2 activity, Chk2 was immunoprecipitated from cell lysate by using B-4 anti-Chk2 antibody & assayed for Chk2 activity by using Cdc25C recombinant protein as substrate. As controls, ATM & Chk2 protein levels in the immunoprecipitates (IP-WB) as well as in cell lysates (WB) were assessed with immunoblotting. (B) ATR & Chk1 were immunoprecipitated from cell lysates by using N-19 anti-ATR & G-4 anti-Chk1 antibody, respectively. ATR activity was assayed by using p53 recombinant protein substrate, & Chk1 activity assayed by using Cdc25C recombinant protein substrate. As controls, ATR & Chk1 protein levels in the immunoprecipitates (IP-WB), as well as in cell lysates (WB) were assessed with immunoblotting. (C) MCF-7 cells were exposed to IR at the indicated doses in the presence or absence of NSC23766, incubated for 1 hour, & assessed for Chk1 & Chk2 activities. *Kinase assay does not contain Cdc25C substrate. (D) T47D & ZR-75-1 cells were exposed to 10-Gy IR in the presence or absence of 100 µM NSC23766, incubated for 1 hour, & analyzed for Chk1 & Chk2 activities. Image collected & cropped by CiteAb from the following publication (http://breast-cancer-research.biomedcentral.com/articles/10.1186/bcr3164), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



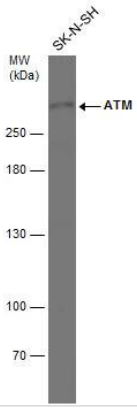
Western Blot: ATM Antibody (2C1) [NB100-309] - Inhibition of Rac1 by N17Rac1 mutant or Rac1 siRNA diminishes IR-induced G2/M checkpoint activation. (A) MCF-7 cells were infected with Ad.N17Rac1 or Ad.Control for 24 hours & exposed to 15-Gy IR. Left panel: the cells were analyzed for DNA content 24 hours after IR. The result depicts the percentage of cells with 4N-DNA content & is shown as mean ± SD of quadruplicate samples. *P < 0.001 (n = 4), significant difference from the irradiated Ad.Control-infected cells. Right panel: Inset: at 15 minutes after IR, the infected cells were analyzed for Rac1 activities (Rac1-GTP) & protein levels (total Rac1). Bar graph: mitotic cells in the cell samples were analyzed 2 hours after IR. The result depicts the percentage of mitotic cells & is shown as mean ± SD of triplicate samples. **P = 0.002 (n = 3), significant difference from the irradiated Ad.Control-infected cells. (B) Upper panel: MCF-7 cells transfected with Rac1 siRNA (Rac1) or control siRNA (Control) were incubated for the indicated times & analyzed for protein levels of Rac1 & Actin. Lower panel: After 2-day incubation, the siRNA-transfected cells were exposed to IR, incubated for 24 hours, & assessed for DNA content. Results depict the percentage of cells with 4N-DNA content & represent the mean ± SD of three separate experiments in duplicate samples. *P < 0.001 (n = 6), significant difference from the irradiated Control-siRNA transfected cells. (C) After 2-day incubation, siRNA-transfected cells were treated with/without 20-Gy IR, incubated for 1 hour, & analyzed for ATM, ATR, Chk1, & Chk2 activities. Image collected & cropped by CiteAb from the following publication (http://breast-cancer-research.biomedcentral.com/articles/10.1186/bcr3164), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: ATM Antibody (2C1) [NB100-309] - HeLa whole cell extract and nuclear extracts (30 ug) were separated by 5% SDS-PAGE, and the membrane was blotted with ATM antibody [2C1] (NB100-309) diluted at 1:500. The HRP-conjugated anti-mouse IgG antibody was used to detect the primary antibody.



Western Blot: ATM Antibody (2C1) [NB100-309] - Whole cell extract (30 ug) was separated by 5% SDS-PAGE, and the membrane was blotted with ATM antibody [2C1] (NB100-309) diluted at 1:1000.



Publications

T Affandi, AM Ohm, D Gaillard, A Haas, ME Reyland Tyrosine kinase inhibitors protect the salivary gland from radiation damage by increasing DNA double strand break repair The Journal of Biological Chemistry, 2021-02-09;0 (0):100401. 2021-02-09 [PMID: 33571522]

Cui WW, Ye C, Wang KX et al. Momordica. charantia-Derived Extracellular Vesicles-Like Nanovesicles Protect Cardiomyocytes Against Radiation Injury via Attenuating DNA Damage and Mitochondria Dysfunction Frontiers in Cardiovascular Medicine 2022-04-18 [PMID: 35509278] (Western Blot, Block/Neutralize)

Wang S, Luke CJ, Pak SC et al. SERPINB3 (SCCA1) inhibits cathepsin L and lysoptosis, protecting cervical cancer cells from chemoradiation Communications Biology 2022-01-12 [PMID: 35022555] (Block/Neutralize)

Maeda J, Haskins JS, Kato TA XRCC8 mutation causes hypersensitivity to PARP inhibition without Homologous recombination repair deficiency Mutation research 2023-02-13 [PMID: 36812659] (WB, Chinese Hamster)

Osma-Garcia IC, Capitan-Sobrino D, Mouysset M et al. The splicing regulators TIA1 and TIAL1 are required for the expression of the DNA damage repair machinery during B cell lymphopoiesis Cell reports 2022-12-20 [PMID: 36543128] (FLOW, Mouse)

Osma-Garcia IC, Capitan-Sobrino D, Mouysset M et al. The splicing regulators TIA1 and TIAL1 are required for the expression of the DNA damage repair machinery during B cell lymphopoiesis Cell reports 2022-12-20 [PMID: 36543128] (FLOW, Mouse)

El Hajjar J, Chatoo W, Hanna R, Nkanza P. Heterochromatic genome instability and neurodegeneration sharing similarities with Alzheimer's disease in old Bmi1 +/- mice Sci Rep 2019-01-26 [PMID: 30679733]

Fu X, Duan Z, Lu X et al. SND1 Promotes Radioresistance in Cervical Cancer Cells by Targeting the DNA Damage Response Cancer biotherapy & radiopharmaceuticals 2022-03-10 [PMID: 35271349] (WB, Human)

Yang Y, Lu H, Chen C et al. HIF-1 Interacts with TRIM28 and DNA-PK to release paused RNA polymerase II and activate target gene transcription in response to hypoxia Nature communications 2022-01-14 [PMID: 35031618] (WB)

Palazzo, L, Della Monica, R Et al. ATM controls proper mitotic spindle structure. Cell Cycle 2014-02-21 [PMID: 24553124] (WB, Human)

Kirtay M, Sell J, Marx C Et Al. ATR regulates neuronal activity by modulating presynaptic firing Nature communications 2021-07-01 [PMID: 34210973] (WB, SDS-Page)

Blakemore D, Vilaplana-Lopera N, Almaghrabi R et al. MYBL2 and ATM suppress replication stress in pluripotent stem cells EMBO reports 2021-03-28 [PMID: 33779025] (WB, Mouse)

More publications at http://www.novusbio.com/NB100-309

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NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
NBP1-97005-0.5mg	Mouse IgG1 Isotype Control (MG1)
H00000472-Q01-10ug	Recombinant Human ATM GST (N-Term) Protein

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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