Product Datasheet

ATM Antibody - BSA Free
NB100-104

Unit Size: 0.05 ml

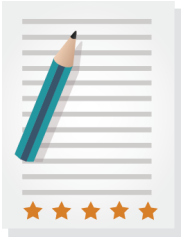
Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.

www.novusbio.com technical@novusbio.com

Reviews: 2 Publications: 100

Protocols, Publications, Related Products, Reviews, Research Tools and Images at:
www.novusbio.com/NB100-104

Updated 2/21/2025 v.20.1



NB100-104

ATM Antibody - BSA Free

Product Information

Unit Size	0.05 ml
Concentration	2.5 mg/ml
Storage	Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles.
Clonality	Polyclonal
Preservative	0.05% Sodium Azide
Isotype	IgG
Purity	Immunogen affinity purified
Buffer	PBS, 50% Glycerol
Target Molecular Weight	351 kDa

Product Description

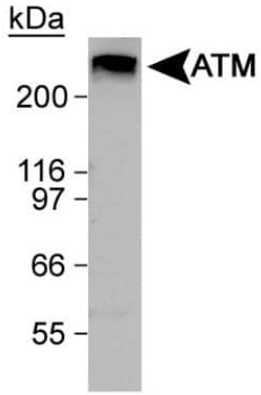
Host	Rabbit
Gene ID	472
Gene Symbol	ATM
Species	Human, Mouse, Rat, Canine, Kangaroo
Reactivity Notes	Canine reactivity reported in scientific literature (PMID: 31648115).
Immunogen	ATM Antibody was made to a fragment of the human ATM protein corresponding to the C-terminus (within the last third of the protein sequence). [Uniprot: Q13315]

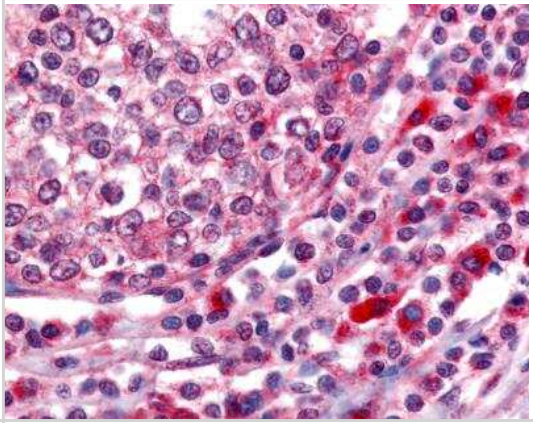
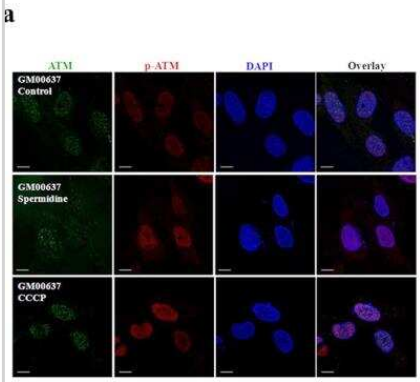
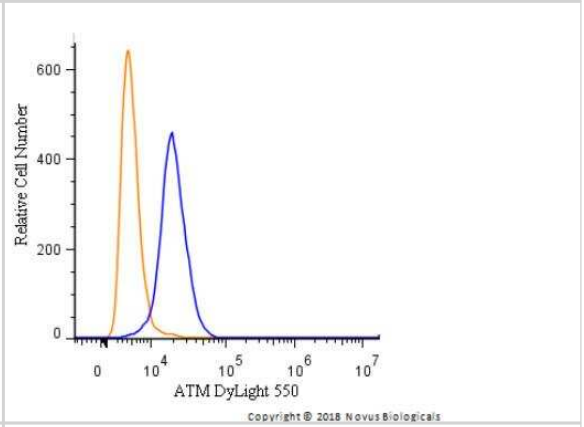
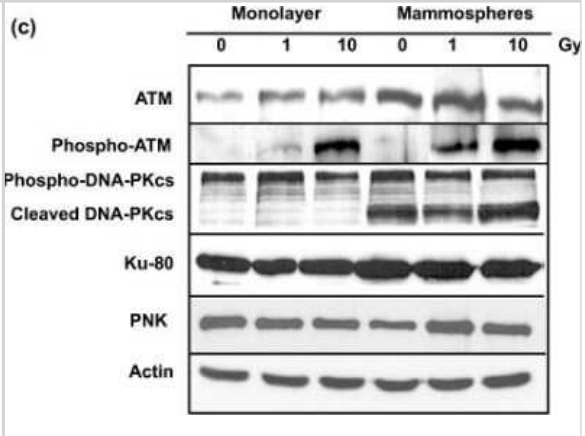
Product Application Details

Applications	Western Blot, ELISA, Flow Cytometry, Immunoblotting, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunohistochemistry-Paraffin, Immunoprecipitation
Recommended Dilutions	Western Blot 1:500-1:1000, Flow Cytometry, ELISA, Immunohistochemistry 1:100, Immunocytochemistry/ Immunofluorescence 1:100, Immunoprecipitation 1:10-1:500, Immunohistochemistry-Paraffin 1:100, Immunoblotting reported in scientific literature (PMID 28512243)
Application Notes	In Western blot, it detects a band at ~350 kDa, representing ATM.

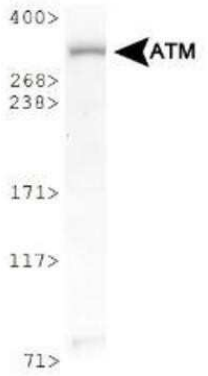
Images

Western Blot: ATM Antibody [NB100-104] - Detection of ATM in HeLa nuclear extract using ATM antibody [NB100-104]. Theoretical molecular weight 351 kDa.

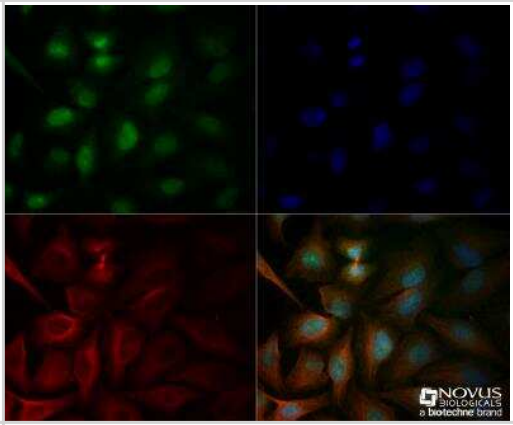


Immunohistochemistry-Paraffin: ATM Antibody [NB100-104] - Staining of human tonsil, germinal center and mantle zone with ATM Antibody [NB100-104].	
Immunocytochemistry/Immunofluorescence: ATM Antibody [NB100-104] - GM00637 cells with KU55933 pretreatment (a) were exposed to 50 uM spermidine or CCCP, followed by immunofluorescence analyses of total and p-ATM on Ser-1981. The scale bar is 10 um. Image collected and cropped by CiteAb from the following publication (https://www.nature.com/articles/srep24700) licensed under a CC-BY license.	
Flow Cytometry: ATM Antibody [NB100-104] - An intracellular stain was performed on HeLa cells with Dylight 550-conjugated ATM Antibody [NB100-104R] (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 5 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to DyLight 550.	
Western Blot: ATM Antibody [NB100-104] - Analysis of double strand break repair in MCF-7 monolayer and mammosphere populations. Expression of proteins involved in the NHEJ pathway of DSB repair in response to increasing doses of ionizing radiation. Lysates were prepared from unirradiated cells and from cells harvested one hour after exposure to 1 or 10-Gy 60Co I3-radiation and analyzed by immunoblotting with antibodies against several DSB repair proteins. Phospho-ATM and phospho-DNA-PKcs refer to phosphorylation of these proteins at Ser1981 and Ser2056, respectively. Actin served as a loading control. Image collected and cropped by Citeab from the following publication (Senescence evasion by MCF-7 human breast tumor-initiating cells. Breast Cancer Res (2010)) licensed under a CC-BY license.	

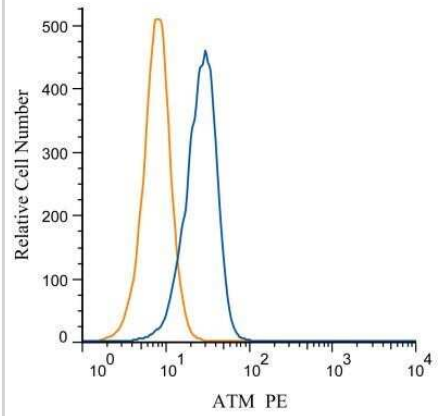
Western Blot: ATM Antibody [NB100-104] - Detection of ATM in Raji whole cell lysate using [NB100-104]. Observed molecular weight ~300 kDa. Theoretical molecular weight 351 kDa.



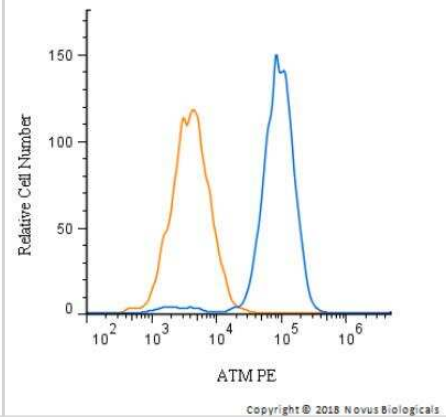
Immunocytochemistry/Immunofluorescence: ATM Antibody [NB100-104] - HeLa cells were fixed for 10 minutes using 10% formalin and then permeabilized for 5 minutes using 1X TBS + 0.05% Triton X-100. Then cells were incubated with [NB100-104] at a 1:100 dilution overnight at 4C and detected with an anti-rabbit DyLight 488 (Green) at a 1:500 dilution. Alpha tubulin was used as a co-stain at a 1:1000 dilution and detected with an anti-mouse DyLight 550 (Red) at a 1:500 dilution. Nuclei were counterstained with DAPI (Blue). Cells were imaged using a 40X objective.



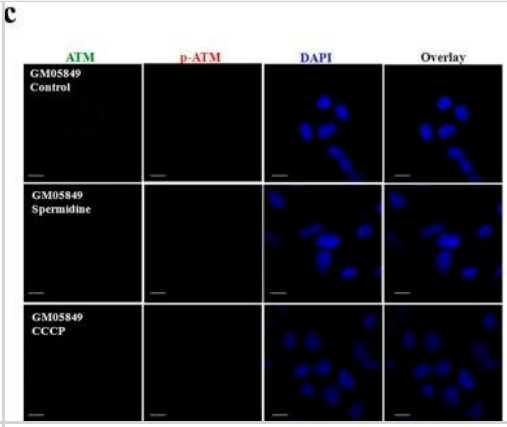
Flow Cytometry: ATM Antibody [NB100-104] - Analysis of PE conjugate of ATM Antibody [NB100-104PE]. An intracellular stain was performed on HeLa cells with ATM antibody [NB100-104PE] (blue) and a matched isotype control [NBP2-24893PE] (orange). Cells were fixed with 4% PFA and then permeablized with 0.1% saponin.



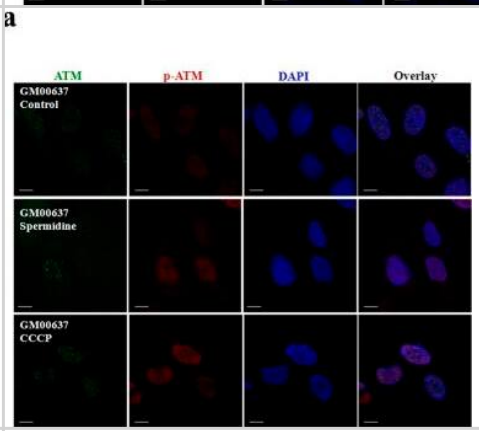
Flow Cytometry: ATM Antibody [NB100-104] - An intracellular stain was performed on HepG2 cells with PE-conjugated ATM antibody [NB100-104PE] (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeablized with 0.1% saponin. Cells were incubated in an antibody dilution of 5 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Phycoerythrin.



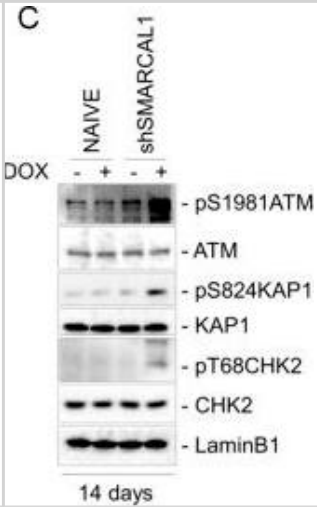
Immunocytochemistry/ Immunofluorescence: ATM Antibody [NB100-104] - ATM is activated by spermidine in GM00637 cells.GM00637 cells with or without KU55933 pretreatment (a,b), & GM05849 cells (c) were exposed to 50 µM spermidine or CCCP, followed by immunofluorescence analyses of total & p-ATM on Ser-1981. The scale bar is 10 µm. Ratios of cells expressing p-ATM Ser-1981 to cells expressing total ATM were presented (d). 20–45 cells/condition from three experiments were collected. Values are mean ± SD, *p < 0.05 vs. control. Image collected & cropped by CiteAb from the following publication (https://www.nature.com/articles/srep24700), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



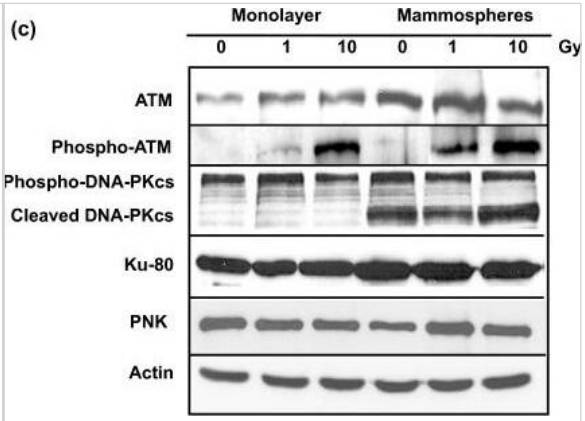
Immunocytochemistry/ Immunofluorescence: ATM Antibody [NB100-104] - ATM is activated by spermidine in GM00637 cells.GM00637 cells with or without KU55933 pretreatment (a,b), & GM05849 cells (c) were exposed to 50 µM spermidine or CCCP, followed by immunofluorescence analyses of total & p-ATM on Ser-1981. The scale bar is 10 µm. Ratios of cells expressing p-ATM Ser-1981 to cells expressing total ATM were presented (d). 20–45 cells/condition from three experiments were collected. Values are mean ± SD, *p < 0.05 vs. control. Image collected & cropped by CiteAb from the following publication (https://www.nature.com/articles/srep24700), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: ATM Antibody [NB100-104] - Depletion of SMARCAL1 induces DNA damage & checkpoint activation in iSML1 iPSCs. (A,B) The iSML1 iPSCs were cultured for 7 & 14 days in the presence of doxycycline (DOX) to induce SMARCAL1 downregulation & then immunostained. The graphs (top) show quantification of the number of γ-H2AX-positive cells (A) or ATM-pSer1981-positive cells (B). Representative images from triplicate experiments are shown (bottom). (C) Immunoblot detection of the indicated DDR proteins in iSML1 iPSCs after 14 days of continuous treatment with DOX. Lamin B1 was used as the loading control. Data are mean±s.e.m. from three independent experiments. *P≤0.05, **P≤0.01, ***P≤0.001 (two-way ANOVA test). ns, not significant. Scale bars: 10 µm. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/31515241), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Western Blot: ATM Antibody [NB100-104] - Analysis of double strand break repair in MCF-7 monolayer & mammosphere populations. (a) Cells were exposed to 4 Gy 60Co γ-radiation & the relative degree of double-strand breakage (DSB) was determined by the comet assay under neutral conditions immediately after exposure & at the times indicated after exposure. (b) The 'comets' (n of about 100) were categorized according to the NIH LISTSERV (Comet Assay Interest Group web site) in which type 1 comets display the least DNA damage & type 5 the most. The error bars represent the mean ± standard error of the mean in both panels. The comets of the unirradiated cells are labeled Cont. (c) Expression of proteins involved in the NHEJ pathway of DSB repair in response to increasing doses of ionizing radiation. Lysates were prepared from unirradiated cells & from cells harvested one hour after exposure to 1 or 10-Gy 60Co γ-radiation & analyzed by immunoblotting with antibodies against several DSB repair proteins. Phospho-ATM & phospho-DNA-PKcs refer to phosphorylation of these proteins at Ser1981 & Ser2056, respectively. Actin served as a loading control. Image collected & cropped by CiteAb from the following publication (http://breast-cancer-research.biomedcentral.com/articles/10.1186/bcr2583), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Celeste E Suart, Alma M Perez, Ismael Al-Ramahi, Tamara Maiuri, Juan Botas, Ray Truant Spinocerebellar Ataxia Type 1 protein Ataxin-1 is signaled to DNA damage by ataxia-telangiectasia mutated kinase. Human molecular genetics 2022-03-28 [PMID: 33772540]

Urushihara Y, Hashimoto T, Fujishima Y, Hosoi Y. AMPK/FOXO3a Pathway Increases Activity and/or Expression of ATM, DNA-PKcs, Src, EGFR, PDK1, and SOD2 and Induces Radioresistance under Nutrient Starvation International Journal of Molecular Sciences 2023-08-15 [PMID: 37629008] (Western Blot)

Roulston A, Zimmermann M, Papp R et al. RP-3500: A Novel, Potent, and Selective ATR Inhibitor that is Effective in Preclinical Models as a Monotherapy and in Combination with PARP Inhibitors Molecular Cancer Therapeutics 2022-02-01 [PMID: 34911817] (Western Blot, Block/Neutralize)

Nagelli S CIP2A IS A CRITICAL DNA DAMAGE RESPONSE PROTEIN THAT DRIVES BASAL-LIKE BREAST CANCER Thesis 2023-01-01 (WB)

Habib R, Kim R, Neitzel H et al. Telomere attrition and dysfunction: a potential trigger of the progeroid phenotype in nijmegen breakage syndrome Aging (Albany NY) 2020-06-22 [PMID: 32564008]

Hashimoto T, Urushihara Y, Murata Y et al. AMPK increases expression of ATM through transcriptional factor Sp1 and induces radioresistance under severe hypoxia in glioblastoma cell lines Biochemical and biophysical research communications 2021-12-23 [PMID: 34973534] (WB, Human)

Sato H, Singer RH Cellular variability of nonsense-mediated mRNA decay Nature communications 2021-12-10 [PMID: 34893608] (ICC/IF, Human)

Nishiyama Y, Morita A, Tatsuta S Et al. Isorhamnetin Promotes 53BP1 Recruitment through the Enhancement of ATM Phosphorylation and Protects Mice from Radiation Gastrointestinal Syndrome Genes 2021-09-26 [PMID: 34680909] (WB, Human)

Chakraborty P, Hiom K DHX9-dependent recruitment of BRCA1 to RNA promotes DNA end resection in homologous recombination Nature communications 2021-07-05 [PMID: 34226554] (WB)

Gupta M, Liu X, Teraoka SN et al. Genes affecting ionizing radiation survival identified through combined exome sequencing and functional screening Human mutation 2021-06-21 [PMID: 34153142]

Zhang JQJ, Saravanabavan S, Chandra AN et al. Up-regulation of DNA Damage Response Signaling in Autosomal Dominant Polycystic Kidney Disease The American journal of pathology 2021-02-04 [PMID: 33549515]

Xu L, Ma E et al. ATM deficiency promotes progression of CRPC by enhancing Warburg effect. Endocr Relat Cancer 2019-01-01 [PMID: 30400006] (WB, Human)

More publications at http://www.novusbio.com/NB100-104

Novus Biologicals USA
10730 E. Briarwood Avenue
Centennial, CO 80112
USA
Phone: 303.730.1950
Toll Free: 1.888.506.6887
Fax: 303.730.1966
nb-customerservice@bio-techne.com

Bio-Techne Canada
21 Canmotor Ave
Toronto, ON M8Z 4E6
Canada
Phone: 905.827.6400
Toll Free: 855.668.8722
Fax: 905.827.6402
canada.inquires@bio-techne.com

Bio-Techne Ltd
19 Barton Lane
Abingdon Science Park
Abingdon, OX14 3NB, United Kingdom
Phone: (44) (0) 1235 529449
Free Phone: 0800 37 34 15
Fax: (44) (0) 1235 533420
info.EMEA@bio-techne.com

General Contact Information
www.novusbio.com
Technical Support: nb-technical@bio-techne.com
Orders: nb-customerservice@bio-techne.com
General: novus@novusbio.com

Products Related to NB100-104

HAF008	Goat anti-Rabbit IgG Secondary Antibody [HRP]
NB7160	Goat anti-Rabbit IgG (H+L) Secondary Antibody [HRP]
NBP2-24891	Rabbit IgG Isotype Control
NB100-104PE	ATM Antibody [PE]

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.

For more information on our 100% guarantee, please visit www.novusbio.com/guarantee

Earn gift cards/discounts by submitting a review: www.novusbio.com/reviews/submit/NB100-104

Earn gift cards/discounts by submitting a publication using this product: www.novusbio.com/publications