Product Datasheet

ATM Antibody (5C2) - Azide and BSA Free
NB100-220

Unit Size: 0.1 ml

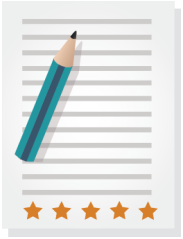
Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.

www.novusbio.com technical@novusbio.com

Publications: 36

Protocols, Publications, Related Products, Reviews, Research Tools and Images at:
www.novusbio.com/NB100-220

Updated 2/21/2025 v.20.1



NB100-220

ATM Antibody (5C2) - Azide and BSA Free

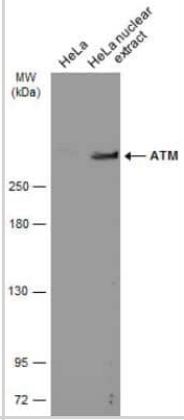
Product Information	
Unit Size	0.1 ml
Concentration	Concentrations vary lot to lot. See vial label for concentration. If unlisted please contact technical services.
Storage	Store at 4C short term. Aliquot and store at -20C long term. Avoid freeze-thaw cycles.
Clonality	Monoclonal
Clone	5C2
Preservative	No Preservative
Isotype	IgG1
Purity	Protein G 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	Human and Mouse reactivity reported in multiple pieces of scientific literature. 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	Recombinant protein expressed in E. coli corresponding to amino acids 980-1512.

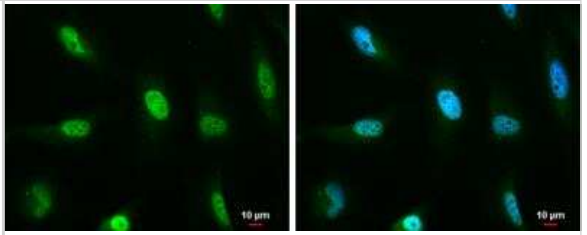
Product Application Details	
Applications	Western Blot, Immunocytochemistry/ Immunofluorescence, Immunohistochemistry, Immunoprecipitation
Recommended Dilutions	Western Blot 1:500-1:3000, Immunohistochemistry, Immunocytochemistry/ Immunofluorescence 1:100-1:1000, Immunoprecipitation
Application Notes	Use in ICC/IF reported in (PMID: 26447695). Use in WB reported in (PMID: 22869595). IHC, IP-Assay dependent.

Images

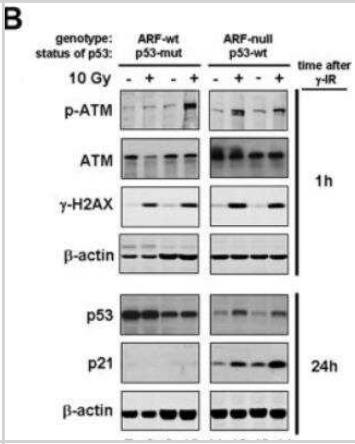
Western Blot: ATM Antibody (5C2) [NB100-220] - HeLa whole cell and nuclear extracts (30 ug) were separated by 5% SDS-PAGE, and the membrane was blotted with ATM antibody (5C2) [NB100-220] diluted at 1:1000. The HRP-conjugated anti-mouse IgG antibody [NBP2-19382] was used to detect the primary antibody, and the signal was developed with Trident ECL plus-Enhanced. Observed molecular weight ~320 kDa. Theoretical molecular weight 351 kDa.



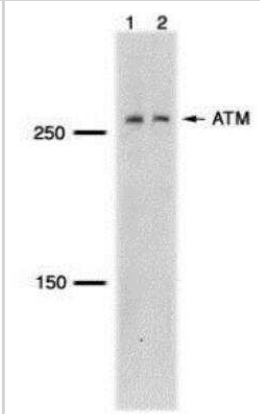
Immunocytochemistry/Immunofluorescence: ATM Antibody (5C2) [NB100-220] - HeLa cells were fixed in 4% paraformaldehyde at RT for 15 min. Green: ATM protein stained by ATM antibody (5C2) [NB100-220] diluted at 1:200. Blue: Hoechst 33342 staining. Scale bar = 10 um.



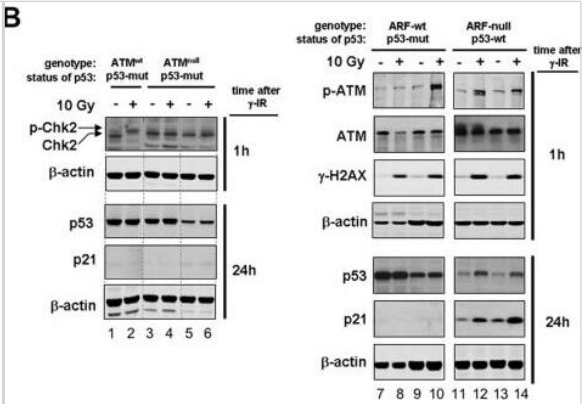
Western Blot: ATM Antibody (5C2) [NB100-220] - Absence of Atm does not relieve the selective pressure to inactivate p53 during chemical carcinogenesis. Examples of cancer cell lines established from 3MC-fibrosarcomas (each line derives from an independent fibrosarcoma). The genotype of the mice where the 3MC-fibrosarcomas were generated is indicated, as well as, the status of p53 as determined by a nutlin-sensitivity assay (see Supplementary Figures S5 and S6). Cell lines were exposed to 10 Gy and protein extracts were obtained 1h and 24h after irradiation. The levels of the indicated proteins were determined by immunoblotting using beta-actin as loading control. Image collected and cropped by CiteAb from the following publication (www.dx.plos.org/10.1371/journal.pone.0005475) licensed under a CC-BY license.



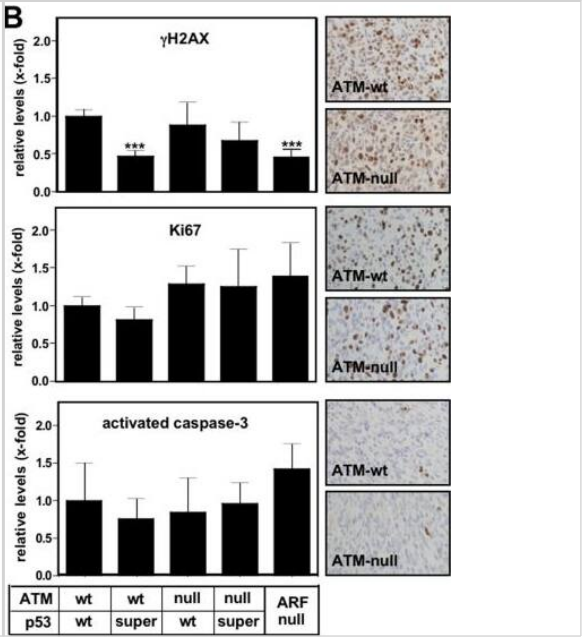
Western Blot: ATM Antibody (5C2) [NB100-220] - Detection of human ATM protein using monoclonal ATM antibody (5C2) [NB100-220] in Raji whole cell extract (lane 1) and T24 syncronized cell lysate (lane 2). Theoretical molecular weight 351 kDa.



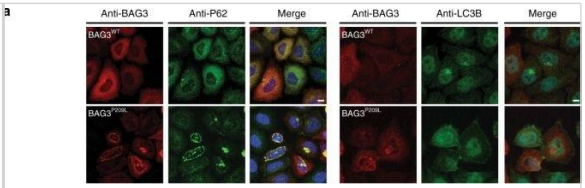
Western Blot: ATM Antibody (5C2) [NB100-220] - Absence of Atm does not relieve the selective pressure to inactivate p53 during chemical carcinogenesis.A. Representative images of 3MC-fibrosarcomas immunostained for Arf, p53 & p21 (see also Table 1). The upper & middle rows are representative of the large majority of fibrosarcomas developed in wild-type (upper) & Atm-null (middle) mice, which are consistent with a mutant p53 (i.e. strongly positive for p53 & negative for p21). The lower row is representative of the fibrosarcomas developed in Arf-null mice, which are consistent with a functional p53 (i.e. very weakly positive for p53 & positive for p21). B. Examples of cancer cell lines established from 3MC-fibrosarcomas (each line derives from an independent fibrosarcoma). The genotype of the mice where the 3MC-fibrosarcomas were generated is indicated, as well as, the status of p53 as determined by a nutlin-sensitivity assay (see Supplementary Figures S5 & S6). Cell lines were exposed to 10 Gy & protein extracts were obtained 1h & 24h after irradiation. The levels of the indicated proteins were determined by immunoblotting using β-actin as loading control. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/19421407), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Immunohistochemistry: ATM Antibody (5C2) [NB100-220] - Limited role of Atm in p53-mediated tumor suppression & DNA damage response in chemically-induced fibrosarcomas.A. Mice of the indicated genotypes, wt (n=15), p53-super (n=16), Atm-null (n=9), p53-super/Atm-null (n=13) & Arf-null (n=12), were injected intramuscularly with 3-methyl-cholanthrene (3MC) & tumour development was monitored. Kaplan-Meier tumour-free curves were obtained & statistical significant differences (logrank test) were found for wt vs. p53-super (p<0.005), Atm-null vs. p53-super/Atm-null (p<0.001) & Arf-null vs. wt (p<0.0001). No significant differences were found for wt vs. Atm-null (p=0.11), or p53-super vs. p53-super/Atm-null (p=0.18). B. Quantification of the persistent DNA damage response (γH2AX), proliferation (Ki67), & apoptosis (activated caspase-3) in 3MC-fibrosarcomas generated in mice of the indicated genotypes. Quantifications are relative to the 3MC-fibrosarcomas in wild-type mice. Values correspond to the average & standard deviation (n=5 per genotype). Examples of the immunostainings are shown in the panels at the right. Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/19421407), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Immunocytochemistry/ Immunofluorescence: ATM Antibody (5C2) [NB100-220] - BAG3P209L aggregation leads to co-aggregation of proteasomal substrates. a Immunofluorescence pictures of HeLa cells expressing FLAG-BAG3WT or FLAG-BAG3P209L using antibodies against BAG3 (green) or ubiquitin (red). Scale bar = 5 µm. b Suppression of GFP-HttQ74 aggregation of cells expressing a control, FLAG-BAG3WT or FLAG-BAG3P209L. Western blot against indicated antibodies is shown. c Quantification of GFP-HttQ74 aggregation of experiments similar to b. Relative percentage of SDS-insoluble protein levels are shown. Data represents the mean & standard deviation of three independent experiments. d Immunofluorescence pictures of HeLa cells expressing FLAG-BAG3WT or FLAG-BAG3P209L using antibodies against BAG3 (green) or ubiquitin (red). Left column BAG3, middle column ubiquitin & right column is the merge of BAG3 (green), ubiquitin (red), & DAPI (blue). Scale bar = 5 µm. e Fractionation of HEK293 cells expressing HSPB8, a control or BAG3WT or BAG3P209L, together with either Ub-R-GFP or GFP-ODC (ornithine decarboxylase). Western blot against GFP, FLAG (BAG3), Myc (HSPB8), & tubulin are shown. f Fractionation of HEK293 cells expressing HSPB8 & indicated BAG3 variants. Western blot using ubiquitin (FK2) & tubulin antibodies are shown. The same samples as in Fig. 5e have been used, loading control is therefore the same. Source data are provided as a Source data file Image collected & cropped by CiteAb from the following publication (https://pubmed.ncbi.nlm.nih.gov/30559338), licensed under a CC-BY license. Not internally tested by Novus Biologicals.



Publications

Reichlmeir M, Duecker RP, Röhrich H et Al. The ataxia-telangiectasia disease protein ATM controls vesicular protein secretion via CHGA and microtubule dynamics via CRMP5 Neurobiol Dis 2024-11-29 [PMID: 39615799]

Nollet EA, Cardo-Vila M, Ganguly SS et al. Androgen receptor-induced integrin alpha 6 beta 1 and Bnip3 promote survival and resistance to PI3K inhibitors in castration-resistant prostate cancer Oncogene 2020-06-21 [PMID: 32565538]

S Mukhopadhy, J Encarnació, EY Lin, ASW Sohn, H Zhang, JD Mancias, AC Kimmelman Autophagy supports mitochondrial metabolism through the regulation of iron homeostasis in pancreatic cancer Science Advances, 2023-04-19;9(16):eadf9284. 2023-04-19 [PMID: 37075122]

Athanasios Siametis, Kalliopi Stratigi, Despoina Giamaki, Georgia Chatzinikolaou, Alexia Akalestou-Clocher, Evi Goulielmaki, Brian Luke, Björn Schumacher, George A. Garinis Transcription stress at telomeres leads to cytosolic DNA release and paracrine senescence Nature Communications 2024-05-14 [PMID: 38744897]

Thayer, JA;Awad, O;Hegdekar, N;Sarkar, C;Tesfay, H;Burt, C;Zeng, X;Feldman, RA;Lipinski, MM; The PARK10 gene USP24 is a negative regulator of autophagy and ULK1 protein stability Autophagy 2019-04-07 [PMID: 30957634]

Xiaozhen Zhang, Mengyi Lao, Hanshen Yang, Kang Sun, Yunfei Dong, Lihong He, Xinchi Jiang, Honghui Wu, Yangwei Jiang, Muchun Li, Honggang Ying, Xinyuan Liu, Jian Xu, Yan Chen, Hanjia Zhang, Ruhong Zhou, Jianqing Gao, Xueli Bai, Tingbo Liang Targeting cancer-associated fibroblast autophagy renders pancreatic cancer eradicable with immunochemotherapy by inhibiting adaptive immune resistance Autophagy 2024-01-04 [PMID: 38174993]

Yuan J, Zhao F, Liu Y et al. Effects of Lactiplantibacillus plantarum on oxidative stress, mitophagy, and NLRP3 inflammasome activation in broiler breast meat Poultry Science 2023-09-20 [PMID: 37832190] (WB, Chicken)

Trudu M, Oliva L, Orfanelli U et al. Preclinical evidence of a direct pro-survival role of arginine deprivation in multiple myeloma Frontiers in Oncology 2022-09-08 [PMID: 36172163] (Western Blot)

Najnin R, Al Mahmud M, Rahman M et al. ATM suppresses c-Myc overexpression in the mammary epithelium in response to estrogen Cell Reports 2023-01-01 [PMID: 36640339] (ICC/IF, Mouse, Human)

Meister-Broekema M, Freilich R, Jagadeesan C et al. Myopathy associated BAG3 mutations lead to protein aggregation by stalling Hsp70 networks Nat Commun 2018-12-17 [PMID: 30559338] (ICC/IF, Human)

Barnard RA, Regan DP, Hansen RJ et al. Autophagy Inhibition Delays Early but Not Late-Stage Metastatic Disease. J Pharmacol Exp Ther 2016-08-01 [PMID: 27231155]

Milan E, Perini T, Resnati M et al. A plastic SQSTM1/p62-dependent autophagic reserve maintains proteostasis and determines proteasome inhibitor susceptibility in multiple myeloma cells. Autophagy 2015-01-01 [PMID: 26043024] (WB)

More publications at http://www.novusbio.com/NB100-220

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 NB100-220

NB820-59466	Raji Whole Cell Lysate
HAF007	Goat anti-Mouse IgG Secondary Antibody [HRP]
NB720-B	Rabbit anti-Mouse IgG (H+L) Secondary Antibody [Biotin]
NBP1-97005-0.5mg	Mouse IgG1 Isotype Control (MG1)

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/NB100-220

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