

Product datasheet for **TA336258**

ATM Rabbit Polyclonal Antibody

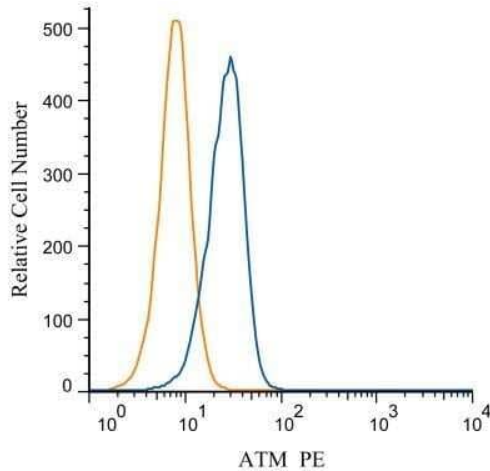
Product data:

| | |
|-------------------------|---|
| Product Type: | Primary Antibodies |
| Applications: | ELISA, FC, ICC/IF, IHC, Immunoblotting, IP, WB |
| Recommended Dilution: | Western Blot: 1:500-1:1000, Immunoblotting, Immunoprecipitation: 1:10-1:500, Immunocytochemistry/ Immunofluorescence: 1:100, Immunohistochemistry: 1:100, Immunohistochemistry-Paraffin: 1:100, ELISA, Flow Cytometry |
| Reactivity: | Human, Mouse |
| Host: | Rabbit |
| Clonality: | Polyclonal |
| Immunogen: | A fragment of the human ATM protein corresponding to the C-terminus (within the last third of the protein sequence). [UniProt# Q13315] |
| Formulation: | PBS, 50% glycerol, 0.05% Sodium Azide. Aliquot and store at -20C or -80C. Avoid freeze-thaw cycles. |
| Concentration: | lot specific |
| Purification: | Immunogen affinity purified |
| Conjugation: | Unconjugated |
| Storage: | Store at -20°C as received. |
| Stability: | Stable for 12 months from date of receipt. |
| Predicted Protein Size: | 350 kDa |
| Gene Name: | ATM serine/threonine kinase |
| Database Link: | NP_000042 Entrez Gene 11920 Mouse Entrez Gene 472 Human Q13315 |

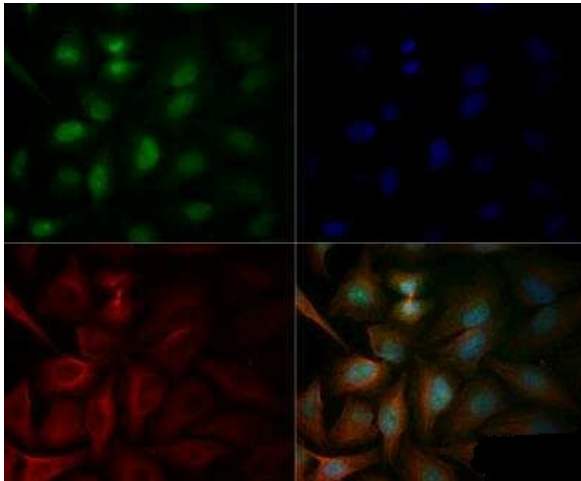


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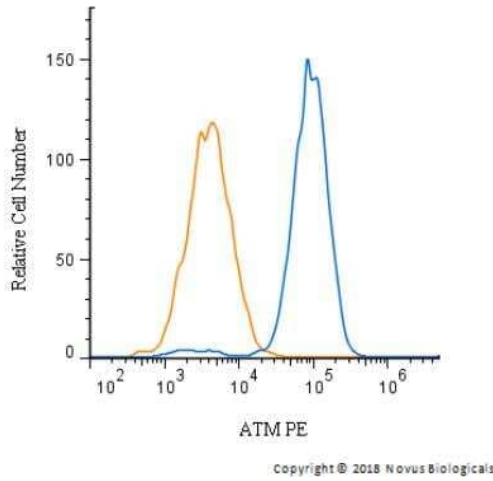
| | |
|--------------------------|---|
| Background: | ATM (ataxia telangiectasia mutated kinase), the master regulator of DNA double-strand breaks (DSBs) repair pathway, is a serine/threonine protein kinase that act as DNA damage sensor by activating checkpoint signaling upon DSBs, apoptosis and genotoxic stresses. ATM activation involves its recruitment to DSBs through interaction with the MRE11-RAD50-NBS1 or MRN complex, followed by KAT5/TIP60 mediated acetylation. ATM recognizes the substrate consensus sequence [ST]-Q and phosphorylates 'Ser-139' of histone variant H2AX/H2AFX at DSBs, thereby regulating DNA damage response mechanism. ATM also implicates in vesicle and/or protein transport, T-cell development, gonads/neurological function, pre-B cell allelic exclusion, signal transduction, cell cycle control and act as a tumor suppressor. ATM exist as dimers or tetramers in inactive state and on DNA damage, autophosphorylation dissociates ATM into monomers rendering them catalytically active and binds/activates ABL1, SAPK, DYRK2, CHEK2, p53/TP53, FANCD2, NFKBIA, BRCA1, CTIP, nibrin (NBN), TERF1, RAD9 and DCLRE1C. ATM is an integral part of BASC complex (BRCA1, MSH2, MSH6, MLH1, ATM, BLM, PMS2 and the RAD50-MRE11-NBN protein complex) and interacts with DCLRE1C, KAT8, KAT5, NABP2, ATMIN, CEP164, AP2B1, AP3B2, TELO2, TTI1, DDX1 etc. NUAK1/ARK5 mediated ATM phosphorylation and ATM autophosphorylation at Ser-367, Ser-1893, Ser-1981 correlates with DNA damage-regulated activation of the kinase. Defects in ATM are the cause of ataxia telangiectasia (AT), T-cell acute lymphoblastic leukemia (TALL) and T-prolymphocytic leukemia (TPLL), B-cell non-Hodgkin lymphomas (BNHL), including mantle cell lymphoma (MCL), B-cell chronic lymphocytic leukemia (BCLL). |
| Synonyms: | AT1; ATA; ATC; ATD; ATDC; ATE; TEL1; TELO1 |
| Note: | This ATM antibody can be used for Immunocytochemistry/Immunofluorescence, Immunohistochemistry on paraffin-embedded sections, Immunoprecipitation and Western Blot. In WB, it detects a band at ~350 kDa, representing ATM. |
| Protein Families: | Druggable Genome, Protein Kinase, Transcription Factors |
| Protein Pathways: | Apoptosis, Cell cycle, p53 signaling pathway |

Product images:

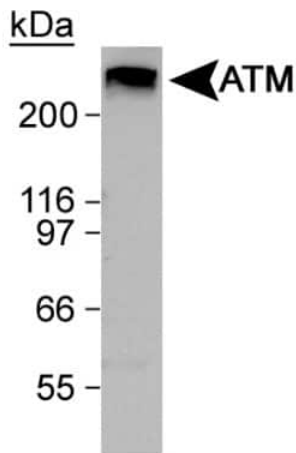
Flow Cytometry: ATM Antibody TA336258 - Analysis of PE conjugate of ATM Antibody [TA336258PE]. An intracellular stain was performed on HeLa cells with ATM antibody [TA336258PE] (blue) and a matched isotype control [NBP2-24893PE] (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin.



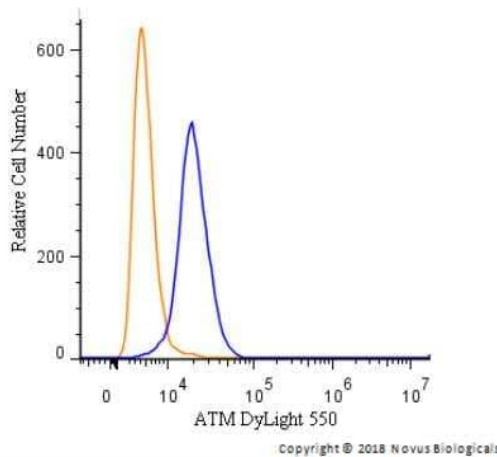
Immunocytochemistry/Immunofluorescence: ATM Antibody TA336258 - HeLa cells were fixed for 10 minutes using 10% formalin and then permeabilized for 5 minutes using 1X TBS + 0.05% Triton X-100. Then cells were incubated with TA336258 at a 1:100 dilution overnight at 4C and detected with an anti-rabbit 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.



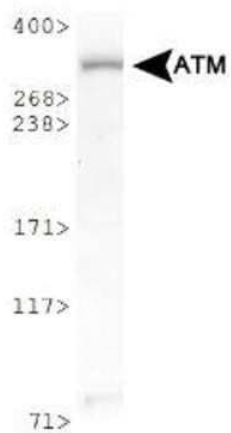
Flow Cytometry: ATM Antibody TA336258 - An intracellular stain was performed on HepG2 cells with PE-conjugated ATM antibody [TA336258PE] (blue) and a matched isotype control (orange). Cells were fixed with 4% PFA and then permeabilized with 0.1% saponin. Cells were incubated in an antibody dilution of 5 ug/mL for 30 minutes at room temperature. Both antibodies were conjugated to Phycoerythrin.



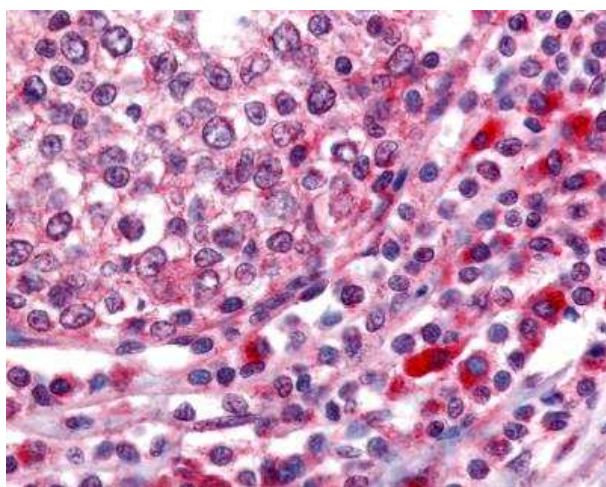
Western Blot: ATM Antibody TA336258 - Detection of ATM in HeLa nuclear extract using ATM antibody TA336258. Theoretical molecular weight 351 kDa.



Flow Cytometry: ATM Antibody TA336258 - An intracellular stain was performed on HeLa cells with DyLight 550-conjugated ATM Antibody [TA336258R] (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 TA336258 - Detection of ATM in Raji whole cell lysate using TA336258. Observed molecular weight ~300 kDa. Theoretical molecular weight 351 kDa.



Immunohistochemistry-Paraffin: ATM Antibody TA336258 - Staining of human tonsil, germinal center and mantle zone with ATM Antibody TA336258.