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Datasheet for ABIN6656105

anti-ATM antibody (AA 1974-1988) (Biotin)

4 Images

Overview

Quantity:	100 µg
Target:	ATM
Binding Specificity:	AA 1974-1988
Reactivity:	Human
Host:	Mouse
Clonality:	Monoclonal
Conjugate:	This ATM antibody is conjugated to Biotin
Application:	Western Blotting (WB), Immunohistochemistry (IHC), ELISA, Fluorescence Microscopy (FM)

Product Details

Immunogen:	Immunogen: This antibody was produced from a synthetic peptide S-L-A-F-E-E-G-Sp-Q-S-T-T-I-S-S corresponding to aa 1974-1988 of human ATM. Immunogen Type: Peptide
Clone:	10H11-E12
Isotype:	IgG1
Cross-Reactivity:	Human, Mouse (Murine), Rat (Rattus)
Cross-Reactivity (Details):	Cross reactivity with ATM from other mammalian sources has not been tested.
Purification:	This Protein A Purified Mab antibody is directed against human ATM and is useful in determining its presence in various assays. This monoclonal anti-ATM antibody recognizes the phosphorylated epitope in native and over-expressed proteins found in various tissues and extracts. Reactivity is observed against human and mouse ATM.

Target Details

Target: ATM

Alternative Name: ATM ([ATM Products](#))

Background: Synonyms: mouse anti-ATM antibody biotin, mouse anti-ATMpS1981 antibody biotin conjugation, biotin conjugated mouse anti- ATM pS1981 antibody, DKFZp781A0353 antibody, Human phosphatidylinositol 3 kinase homolog antibody, MGC74674 antibody, Serine protein kinase ATM antibody, T cell prolymphocytic leukemia antibody, AT mutated antibody, AT protein antibody, AT1 antibody, ATA antibody, Ataxia telangiectasia gene mutated in human beings antibody, Ataxia telangiectasia mutated antibody, ATC antibody, ATDC antibody, ATE antibody, ATM antibody

Background: ATM, the gene mutated in the hereditary disease ataxia-telangiectasia, codes for a protein kinase that acts as a master regulator of cellular responses to DNA double-strand breaks. ATM is normally inactive and the question of how it is activated in the event of DNA damage (due to ionizing radiation for instance) is central to understanding its function. ATM protein is now shown to be present in undamaged cells as an inactive dimer. Low doses of ionizing radiation, which induce only a few DNA breaks, activate at least half of the total ATM protein present, possibly in response to changes in chromatin structure. The ATM gene encodes a 370- kDa protein that belongs to the phosphoinositide 3-kinase (PI(3)K) superfamily, but which phosphorylates proteins rather than lipids. The 350-amino-acid kinase domain at the carboxy terminus of this large protein is the only segment of ATM with an assigned function. Exposure of cells to IR triggers ATM kinase activity, and this function is required for arrests in G1, S and G2 phases of the cell cycle. Several substrates of the ATM kinase participate in these IR-induced cell-cycle arrests. These include p53, Mdm2 and Chk2 in the G1 checkpoint, Nbs1, Brca1, FancD2 and SMC1 in the transient IR-induced S-phase arrest, and Brca1 and hRad17 in the G2/M checkpoint. Ideal for Cancer, Cell Signaling, Chromatin, Neuroscience and Signal Transduction research.

Gene Name: ATM

Gene ID: 472

UniProt: [Q13315](#)

Pathways: [p53 Signaling](#), [Apoptosis](#), [DNA Damage Repair](#), [Inositol Metabolic Process](#), [Positive Regulation of Response to DNA Damage Stimulus](#)

Application Details

Application Notes: Immunohistochemistry Dilution: 1:1,000 - 1:5,000

Application Details

Application Note: This antibody was tested by ELISA and western blotting against both the native and recombinant forms of the protein. This reagent may also be suitable for other biotin-streptavidin based assays.

ELISA Dilution: 1:20,000 - 1:100,000

Western Blot Dilution: 1:2,000 - 1:10,000

IF Microscopy Dilution: User Optimized

Restrictions: For Research Use only

Handling

Format: Lyophilized

Reconstitution: Reconstitution Volume: 100 μ L
Reconstitution Buffer: Restore with deionized water (or equivalent)

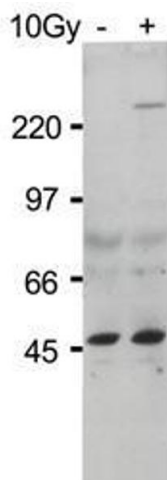
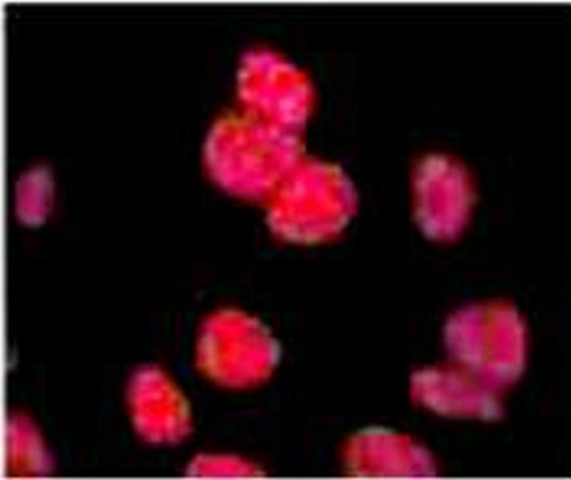
Buffer: Buffer: 0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Stabilizer: 10 mg/mL Bovine Serum Albumin (BSA) - Immunoglobulin and Protease free
0.01 % (w/v) Gentamicin Sulfate. Do NOT add Sodium Azide!

Preservative: Gentamicin sulfate

Precaution of Use: This product contains Gentamicin sulfate: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Storage: RT, 4 °C, -20 °C

Storage Comment: Store vial at 4° C prior to restoration. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

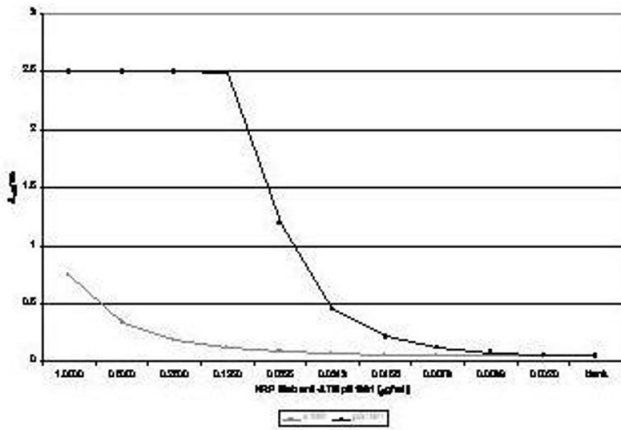


Immunofluorescence

Image 1. Anti-ATM Monoclonal Antibody - Immunofluorescence Anti ATM Antibody showing overlay of anti-ATM pS1981 staining. Cells were fixed 15 min after 5 Gy (IR+) of irradiation, then labeled with antibody. See Kitagawa et al. for additional details.

Western Blotting

Image 2. Anti-ATM Monoclonal Antibody - Western Blot. Western Blot of Protein A Purified Mab anti-ATM Protein Kinase pS1981. Lane 1: HEK293 cells treated with doxorubicin pre-incubation of peptide with 50 µg of immunizing phospho peptide negates specific staining. Lane 2: HEK293 cells treated with doxorubicin. A 370 kDa band corresponding to phosphorylated ATM is detected (lane 2). The lysate was prepared with HALT phosphatase inhibitor (Pierce). Load: ~30µg. Primary antibody: anti-ATM Protein Kinase pS1981 diluted 1:500 overnight at 4°C. Secondary Antibody:800 conjugated Gt-a-Mouse IgG [H&L] (code 610-132-121) at 1:10,000 for 40 min at room temperature. LICOR's Infrared Imaging System was used to scan and process the image. Other detection systems will yield similar results.



Immunohistochemistry

Image 3. Anti-ATM Monoclonal Antibody - Immunofluorescence Anti ATM Antibody showing overlay of anti-ATM pS1981 staining. Cells were fixed 15 min after 5 Gy (IR+) of irradiation, then labeled with antibody. See Kitagawa et al. for additional details.

Please check the [product details page](#) for more images. Overall 4 images are available for ABIN6656105.