Purified anti-ATM Antibody

Catalog# / Size	939301 / 25 µg 939302 / 100 µg
Clone	MAT3-4G10/8
Regulatory Status	RUO
Other Names	ATM Serine/Threonine Kinase, Ataxia Telangiectasia Mutated, Serine-Protein Kinase ATM
Isotype	Mouse IgG1, κ
Description	Ataxia telangiectasia mutated kinase (ATM) is a serine/threonine kinase that plays a critical role in cell cycle checkpoints and DNA repair. ATM is normally maintained as an inactive dimer in unstressed cells. Cellular irradiation and other genotoxic events that lead to double-stranded DNA breaks induce a rapid intermolecular autophosphorylation of serine 1981 that results in dimer dissociation and initiation of intrinsic kinase activity. ATM serine 1981 phosphorylation is considered a powerful surrogate of both ATM activation and double-stranded DNA break repair. ATM directly regulates a broad range of substrate proteins involved in cell cycle checkpoint control, apoptosis, and DNA repair, including tumor suppressor proteins p53 and BRCA1, and the checkpoint kinase Chk2.

Product Details

Verified Reactivity	Human, Mouse
Antibody Type	Monoclonal
Host Species	Mouse
Immunogen	Synthetic mouse ATM peptide
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Preparation	The antibody was purified by affinity chromatography.
Concentration	0.5 mg/mL
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C.
Application	WB - Quality tested IP - Verified
Recommended Usage	Each lot of this antibody is quality control tested by western blotting. For western blotting, the suggested use of this reagent is 0.125 - 1.0 µg/mL. For immunoprecipitation, the suggested use of this reagent is 2.0 µg/test. It is recommended that the reagent be titrated for optimal performance for each application.
Application Notes	This clone was not tested for ICC due to the detection of proteins of unknown origin by western blot.
RRID	AB_2876766 (BioLegend Cat. No. 939301) AB_2876766 (BioLegend Cat. No. 939302)

Antigen Details

Structure	ATM is 3056 amino acids protein with a predicted molecular weight of ~351 kD.
Distribution	Ubiquitously expressed, nuclear
Function	Serine, threonine kinase, DNA repair and checkpoint signaling
Biology Area	Cell Biology, Cell Cycle/DNA Replication, DNA Repair/Replication

Antigen References

1. Lee JH and Paull TT. 2007. *Oncogene.* 26:7741.
2. Bakkenist CJ and Kastan MB. 2003. *Nature.* 421:499.
3. McConville CM, *et al.* 1996. *Am. J. Hum. Genet.* 59:320.
4. Tang X, *et al.* 2008. *Mol. Cell Biol.* 28:2559.

Gene ID 472

Related Protocols

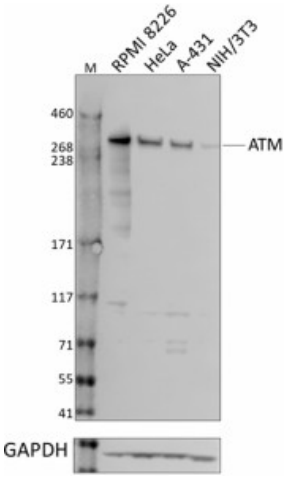
Western Blotting Protocol

Immunoprecipitation Protocol

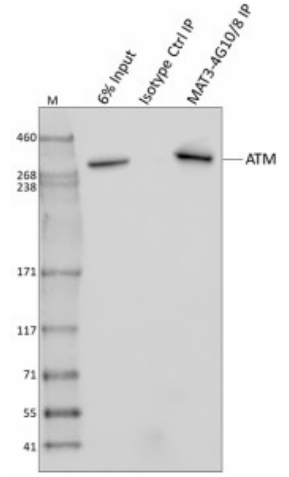
Other Formats

Purified anti-ATM Antibody

Product Data



Whole cell extracts (15 µg total protein) from the indicated cell lines were resolved by 3-8% Tris-Acetate gel electrophoresis, transferred to a PVDF membrane, and probed with 1.0 µg/mL (1:500 dilution) of purified anti-ATM antibody (clone MAT3-4G10/8) overnight at 4°C. Proteins were visualized by chemiluminescence detection using HRP goat anti-mouse IgG antibody (Cat. No. 405306) at a 1:3000 dilution. Direct-Blot™ HRP anti-GAPDH antibody (Cat. No. 607904) was used as a loading control at a 1:25000 dilution (lower). Lane M: Molecular weight marker.



Whole cell extracts (250 µg total protein) prepared from HeLa cells were immunoprecipitated overnight with 2.0 µg of purified mouse IgG1, κ isotype ctrl antibody (Cat. No. 401402) or purified anti-ATM antibody (clone MAT3-4G10/8). The resulting IP fractions and whole cell extract input (6%) were resolved by 3-8% Tris-Acetate gel electrophoresis, transferred to a PVDF membrane and probed with a rabbit control antibody raised against a separate epitope of ATM. Lane M: Molecular weight marker.

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