

ATM Antibody
Rabbit Polyclonal Antibody
Catalog # ABV10627**Specification**

ATM Antibody - Product Information

Application	WB, IP
Primary Accession	Q13315
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	350687

ATM Antibody - Additional Information**Gene ID 472**

Application & Usage	Western blotting (1:500-2000) and immunoprecipitation. However, the optimal concentrations should be determined individually. Human L-40 cell lysate can be used as a positive control for Western blotting. The antibody recognizes ATM in samples from human and mouse origins. Reactivity to other species has not been tested.
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Other Names

AT complementation group A, AT complementation group C, AT complementation group D, AT complementation group E , ATE, ATDC

Target/Specificity

ATM

Antibody Form

Liquid

Appearance

Colorless liquid

Formulation

100 µl affinity purified rabbit polyclonal antibody in phosphate-buffered saline (PBS) containing 30% glycerol, 0.5% BSA, and 0.01% thimerosal

Handling

The antibody solution should be gently mixed before use.

Reconstitution & Storage

-20 °C

Background Descriptions

Precautions

ATM Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

ATM Antibody - Protein Information

Name ATM

Function

Serine/threonine protein kinase which activates checkpoint signaling upon double strand breaks (DSBs), apoptosis and genotoxic stresses such as ionizing ultraviolet A light (UVA), thereby acting as a DNA damage sensor (PubMed:9733514, PubMed:10550055, PubMed:10839545, PubMed:10910365, PubMed:12556884, PubMed:14871926, PubMed:15456891, PubMed:15448695, PubMed:15916964, PubMed:17923702). Recognizes the substrate consensus sequence [ST]-Q (PubMed:9733514, PubMed:10550055, PubMed:10839545, PubMed:10910365, PubMed:12556884, PubMed:14871926, PubMed:15456891, PubMed:15448695, PubMed:15916964, PubMed:17923702). Phosphorylates 'Ser-139' of histone variant H2AX at double strand breaks (DSBs), thereby regulating DNA damage response mechanism (By similarity). Also plays a role in pre-B cell allelic exclusion, a process leading to expression of a single immunoglobulin heavy chain allele to enforce clonality and monospecific recognition by the B-cell antigen receptor (BCR) expressed on individual B-lymphocytes. After the introduction of DNA breaks by the RAG complex on one immunoglobulin allele, acts by mediating a repositioning of the second allele to pericentromeric heterochromatin, preventing accessibility to the RAG complex and recombination of the second allele. Also involved in signal transduction and cell cycle control. May function as a tumor suppressor. Necessary for activation of ABL1 and SAPK. Phosphorylates DYRK2, CHEK2, p53/TP53, FBXW7, FANCD2, NFKBIA, BRCA1, CTIP, nibrin (NBN), TERF1, UFL1, RAD9, UBQLN4 and DCLRE1C (PubMed:9843217, PubMed:9733515, PubMed:10550055, PubMed:10766245, PubMed:10839545, PubMed:10910365, PubMed:10802669, PubMed:10973490, PubMed:11375976, PubMed:12086603, PubMed:15456891).

PubMed:19965871,
PubMed:30612738,
PubMed:30886146,
PubMed:26774286).
May play a role in vesicle and/or protein transport. Could play a role in T-cell development, gonad
and neurological function. Plays a role in replication-dependent histone mRNA degradation. Binds
DNA ends. Phosphorylation of DYRK2 in nucleus in response to genotoxic stress prevents its
MDM2-mediated ubiquitination and subsequent proteasome degradation (PubMed:19965871).
Phosphorylates ATF2 which stimulates its function in DNA damage response (PubMed:15916964).
Phosphorylates ERCC6 which is essential for its chromatin remodeling activity at DNA
double-strand breaks (PubMed:<a href="http://www.uniprot.org/citations/29203878"
target="_blank">29203878). Phosphorylates TTC5/STRAP at 'Ser-203' in the cytoplasm in
response to DNA damage, which promotes TTC5/STRAP nuclear localization (PubMed:15448695). Also involved
in pexophagy by mediating phosphorylation of PEX5: translocated to peroxisomes in response to
reactive oxygen species (ROS), and catalyzes phosphorylation of PEX5, promoting PEX5
ubiquitination and induction of pexophagy (PubMed:26344566).

Cellular Location

Nucleus. Cytoplasmic vesicle. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome
{ECO:0000250|UniProtKB:Q62388}. Peroxisome matrix. Note=Primarily nuclear
(PubMed:9050866, PubMed:9150358). Found also in endocytic vesicles in association with
beta-adaptin (PubMed:9707615). Translocated to peroxisomes in response to reactive oxygen
species (ROS) by PEX5 (PubMed:26344566)

Tissue Location

Found in pancreas, kidney, skeletal muscle, liver, lung, placenta, brain, heart, spleen, thymus,
testis, ovary, small intestine, colon and leukocytes

ATM Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

ATM Antibody - Images

ATM Antibody - Background

The phosphatidylinositol kinase (PIK) family members fall into two distinct subgroups. The first subgroup contains proteins such as the PI 3- and PI 4-kinases and the second group comprises the PIK-related kinases. The PIK-related kinases include Atm, DNA-PKCS and FRAP. These proteins have in common a region of homology at their carboxy termini that is not present in the PI 3- and PI 4-kinases. All of the members of the PIK-related kinases are also larger than 270 kDa. The Atm gene is mutated in the autosomal recessive disorder ataxia telangiectasia (AT), which is characterized by cerebellar degeneration (ataxia) and the appearance of dilated blood vessels (telangiectases) in the

conjunctivae of the eyes. AT cells are hypersensitive to ionizing radiation, impaired in mediating the inhibition of DNA synthesis and they display delays in p53 induction.