

Phospho-ATM(S1981) Antibody
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3504a

Specification

Phospho-ATM(S1981) Antibody - Product Information

Application	IF, DB, E
Primary Accession	Q13315
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit Ig
Calculated MW	350687

Phospho-ATM(S1981) Antibody - Additional Information

Gene ID 472

Other Names

Serine-protein kinase ATM, Ataxia telangiectasia mutated, A-T mutated, ATM

Target/Specificity

This Phospho-ATM-pS1981 antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding S1981 of human ATM.

Dilution

IF~~1:10~50

DB~~1:500

Format

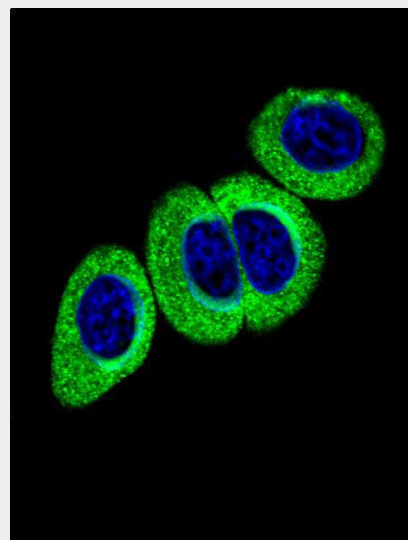
Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

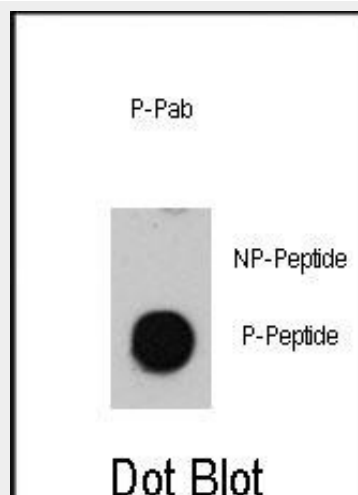
Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

Phospho-ATM(S1981) Antibody is for research use only and not for use in



Confocal immunofluorescent analysis of Phospho-ATM-pS1981 Antibody (Cat#AP3504a) with Hela cell followed by Alexa Fluor 488-conjugated goat anti-rabbit IgG (green). DAPI was used to stain the cell nuclear (blue).



Dot blot analysis of anti-Phospho-ATM-pS1981 Antibody (Cat.#AP3504a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antibody working concentrations are 0.5ug per ml.

diagnostic or therapeutic procedures.

Phospho-ATM(S1981) 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. Recognizes the substrate consensus sequence [ST]- Q. Phosphorylates 'Ser-139' of histone variant H2AX at double strand breaks (DSBs), thereby regulating DNA damage response mechanism. 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, 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:<a href="http://www.uniprot.org/ci

Phospho-ATM(S1981) Antibody - Background

ATM belongs to the PI3/PI4-kinase family. This protein is an important cell cycle checkpoint kinase that phosphorylates; thus, it functions as a regulator of a wide variety of downstream proteins, including tumor suppressor proteins p53 and BRCA1, checkpoint kinase CHK2, checkpoint proteins RAD17 and RAD9, and DNA repair protein NBS1. ATM and the closely related kinase ATR are thought to be master controllers of cell cycle checkpoint signaling pathways that are required for cell response to DNA damage and for genome stability. Mutations in the gene encoding ATM are associated with ataxia telangiectasia, an autosomal recessive disorder.

Phospho-ATM(S1981) Antibody - References

Brunet,J.,Clin. Genet. 73 (5), 465-473 (2008)
Tsai,W.B., Nat. Cell Biol. 10 (4), 460-467 (2008)

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tations/30886146"
target="_blank">30886146). 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.
Phosphorylates ATF2 which stimulates its
function in DNA damage response.
Phosphorylates ERCC6 which is essential for
its chromatin remodeling activity at DNA
double-strand breaks (PubMed:<a href="htt
p://www.uniprot.org/citations/29203878"
target="_blank">29203878).

Cellular Location

Nucleus. Cytoplasmic vesicle
Note=Primarily nuclear. Found also in
endocytic vesicles in association with
beta-adaptin.

Tissue Location

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

Phospho-ATM(S1981) 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](#)

Phospho-ATM(S1981) Antibody - Citations

- [Hepatitis B virus X stimulates redox signaling through activation of ataxia telangiectasia mutated kinase.](#)