

Anti-ATM (Ser-1981), Phosphospecific Antibody
Catalog # AN1647**Specification****Anti-ATM (Ser-1981), Phosphospecific Antibody - Product Information**

Application	WB, IHC
Primary Accession	Q13315
Reactivity	Bovine
Host	Mouse
Clonality	Mouse Monoclonal
Isotype	IgG1
Calculated MW	350687

Anti-ATM (Ser-1981), Phosphospecific Antibody - Additional InformationGene ID **472****Other Names**

ataxia telangiectasia mutated, AT1 ATDC TEL1 TELO1

Target/Specificity

Ataxia telangiectasia mutated kinase (ATM) is a serine/threonine kinase that regulates cell cycle checkpoints and DNA repair. Mutations of ATM cause a spectrum of defects ranging from neurodegeneration to cancer predisposition. Activation of ATM after DNA damage involves Cdk5 mediated phosphorylation of Ser-794 followed by autophosphorylation at Ser-1891. Active ATM kinase regulates a number of proteins involved in cell cycle checkpoint control, apoptosis and DNA repair. The Cdk5-ATM pathway regulates phosphorylation and function of the ATM targets p53 and H2AX in postmitotic neurons. Other known substrates of ATM include Chk2, Chk1, CtIP, 4E-BP1, BRCA1, RPA3, SMC1, FANCD2, Rad17, Artemis, Nbs1, and the I-2 regulatory subunit of PP1. Thus, activation of Cdk5 by DNA damage may be an important initiator of ATM-dependent regulation of cell cycle checkpoints.

Dilution

WB~~1:1000

IHC~~1:100~500

Format

Protein A Purified

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

Anti-ATM (Ser-1981), Phosphospecific Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Shipping

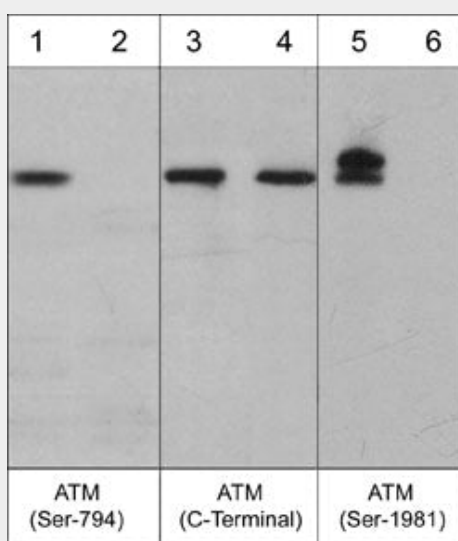
Blue Ice

Anti-ATM (Ser-1981), Phosphospecific Antibody - Protocols

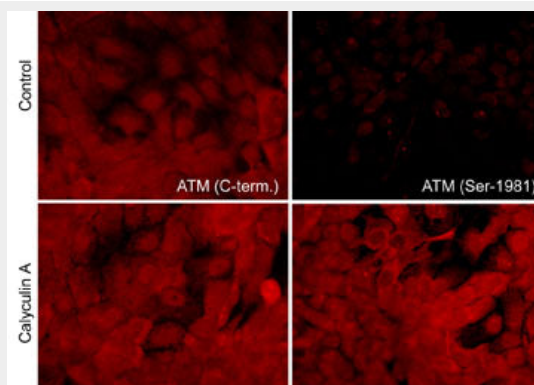
Provided below are standard protocols that you may find useful for product applications.

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

Anti-ATM (Ser-1981), Phosphospecific Antibody - Images



Western blot of human A431 cells treated with Calyculin A (100 nM) for 30 min. Blot lanes were untreated (lanes 1, 3, & 5) or treated with lambda phosphatase (lanes 2, 4, & 6) then probed with anti-ATM (Ser-794) (lanes 1 & 2), anti-ATM (C-Terminal) (lanes 3 & 4), or anti-ATM (Ser-1981) (lanes 5 & 6).



Immunocytochemical labeling of ATM phosphorylation in control (Top row) or calyculin A-treated A431 cells (Bottom row). The cells were labeled with mouse monoclonal ATM (C-terminal region) (AM3611) and ATM (Ser-1981) (AM3661). The antibodies were detected using goat anti-mouse-DyLight® 594.

Anti-ATM (Ser-1981), Phosphospecific Antibody - Background

Ataxia telangiectasia mutated kinase (ATM) is a serine/threonine kinase that regulates cell cycle checkpoints and DNA repair. Mutations of ATM cause a spectrum of defects ranging from neurodegeneration to cancer predisposition. Activation of ATM after DNA damage involves Cdk5 mediated phosphorylation of Ser-794 followed by autophosphorylation at Ser-1891. Active ATM kinase regulates a number of proteins involved in cell cycle checkpoint control, apoptosis and DNA repair. The Cdk5-ATM pathway regulates phosphorylation and function of the ATM targets p53 and H2AX in postmitotic neurons. Other known substrates of ATM include Chk2, Chk1, CtIP, 4E-BP1, BRCA1, RPA3, SMC1, FANCD2, Rad17, Artemis, Nbs1, and the I-2 regulatory subunit of PP1. Thus, activation of Cdk5 by DNA damage may be an important initiator of ATM-dependent regulation of cell cycle checkpoints.