

ATM (Ser-1981), phospho-specific

Cat. # AM3661

Host Mouse Monoclonal IgG1

Size 100 µl

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-1981. 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, CtlP, 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.

References

- Shiloh, Y. (1997) Annu Rev Genet. 31:635.
 Lee, J.H. & Paull, T.T. (2007) Oncogene 26:7741.
 Tian, B. et al. (2009) Nat Cell Biol. 11:211.

Immunogen:

ATM (Ser-1981) antibody was generated from a phospho-peptide that included amino acids surrounding Serine 1981 in human ATM. This sequence has high homology to the conserved site in rat and mouse ATM.

Applications:

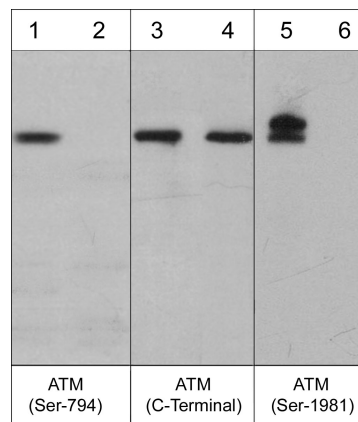
WB	1:1000	ICC	1:100
ELISA	1:2000		
IP	1:100		

End user should determine optimal dilution for their particular applications and experiments. Western blot membranes were incubated with diluted antibody in 5% non-fat milk, PBS, 0.04% Tween20 for 1 hour at room temperature.

Related Products:

- AM3611 ATM (C-terminal region) Mouse Monoclonal
 AP3631 ATM (Ser-794), phospho-specific Rabbit Polyclonal
 CM2361 Cdk5 Mouse Monoclonal
 CM2311 Cdk1 (Tyr-15), phospho-specific [Conserved site] Mouse Monoclonal
 MK6050 MAP Kinase Activation Antibody Sampler Kit
 MS3001 Donkey Anti-Mouse Ig:HRP

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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).

Buffer and Storage:

Mouse monoclonal, protein A purified antibody is supplied in 100µl phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. Store at -20°C. Do not aliquot. Stable for 1 year.

Specificity:

This antibody detects a 370 kDa* protein corresponding to the molecular mass of ATM on SDS-PAGE immunoblots of calyculin A treated human A431 and Jurkat Cells, but is not observed in control cells.

*All molecular weights (MW) are confirmed by comparison to Bio-Rad Rainbow Markers and to western blot mobilities of known proteins with similar MW.

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