

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.

Background 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.

Applications

Blocking 1:1000
ELISA 50 ng/well

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.

Specificity

The peptide is specifically recognized by ATM (Ser-794) phospho-specific antibody (AP3631) in ELISA, and has been shown to block the reactivity of AP3631 in Western blot. In addition, the peptide is recommended for use in blocking AP3631 reactivity in immunocytochemistry.

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

Peptide Sequence

Phospho-ATM (Ser-794) synthetic peptide corresponding to amino acids surrounding Ser-794 in human ATM. This sequence is well conserved in rat and mouse ATM.

Buffer and Storage

Blocking Peptide is supplied in 50µl phosphate-buffered saline and 0.05% sodium azide. Store at –20°C. Stable for 1 year.

Related Products

- AM3611 ATM (C-terminal region) Mouse Monoclonal
AP3631 ATM (Ser-794), phospho-specific Rabbit Polyclonal
AM3661 ATM (Ser-1981), phospho-specific Mouse Monoclonal
CM2311 Cdk1 (Tyr-15)[conserved site], phospho-specific Mouse Monoclonal
CM2361 Cdk5 Mouse Monoclonal

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