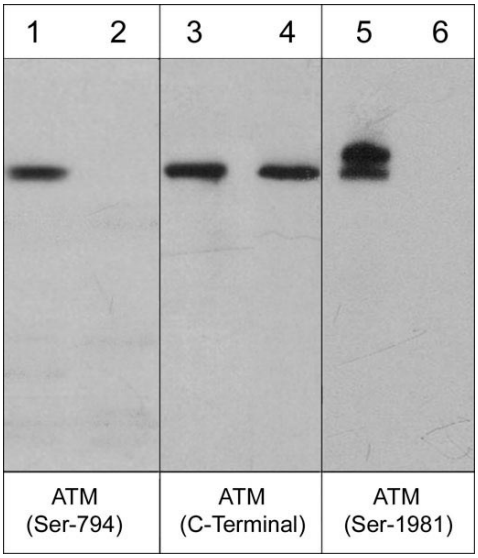
ATM (C-terminal region)

Mouse Monoclonal

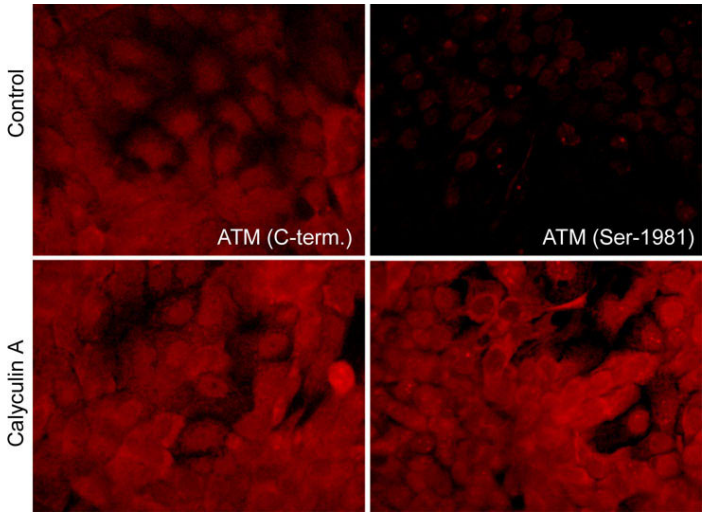
Cat. # AM3611
Size 100 µl

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-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.



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.

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.

Product Citations

Cao, N. et al. (2016) BMC Mol Biol. 17(1):12.
WB: mouse embryonic fibroblasts

Bourton, EC et al. (2015) J Cancer Sci Ther. 7(2):95.
FC: human breast cancer cells

www.ecmbio.com
info@ecmbio.com
toll-free: 1-800-859-8202
telephone: 859-879-2075

Rev10/22/2019

ATM (C-terminal region)

Mouse Monoclonal

Cat. # AM3611
Size 100 µl

Immunogen

Uniprot ID: Q13315

Clone M361 was generated from a recombinant sequence corresponding to amino acids in the C-terminal region of human ATM.

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. Stable for 1 year.

Applications

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

Species Reactivity

Hu

Isotype: IgG2b

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, Tris buffer, 0.04% Tween20 for 1 hour at room temperature.
Abbreviations: E = ELISA, ICC = immunocytochemistry, IHC = immunohistochemistry, IP = immunoprecipitation, MS = mass spectrometry, WB = western blot
Hu = Human, Ms = Mouse, Rt = Rat, Ck = Chicken, F = Frog, B = Bovine

Specificity

This antibody detects a 370 kDa* protein corresponding to the molecular mass of ATM on SDS-PAGE immunoblots of human A431 and Jurkat cells.

*All molecular weights (MW) are confirmed by comparison to MW standards and to western blot mobilities of known proteins with similar MW.
"Native" western blot utilizes non-reducing sample buffer (no mercaptoethanol or SDS), normal SDS-PAGE gel electrophoresis, and no methanol in transfer buffers.

Related Products

AM3661 ATM (Ser-1981), phospho-specific Mouse Monoclonal

AP3631 ATM (Ser-794), phospho-specific Rabbit Polyclonal

CM2261 Cdk1 (N-terminal region) Mouse Monoclonal

CM2311 Cdk1 (Tyr-15)[conserved site], phospho-specific Mouse Monoclonal

CM2361 Cdk5 Mouse Monoclonal

MS3001 Anti-Mouse Ig:HRP Donkey Polyclonal

www.ecmbio.com
info@ecmbio.com
toll-free: 1-800-859-8202
telephone: 859-879-2075

Rev10/22/2019