

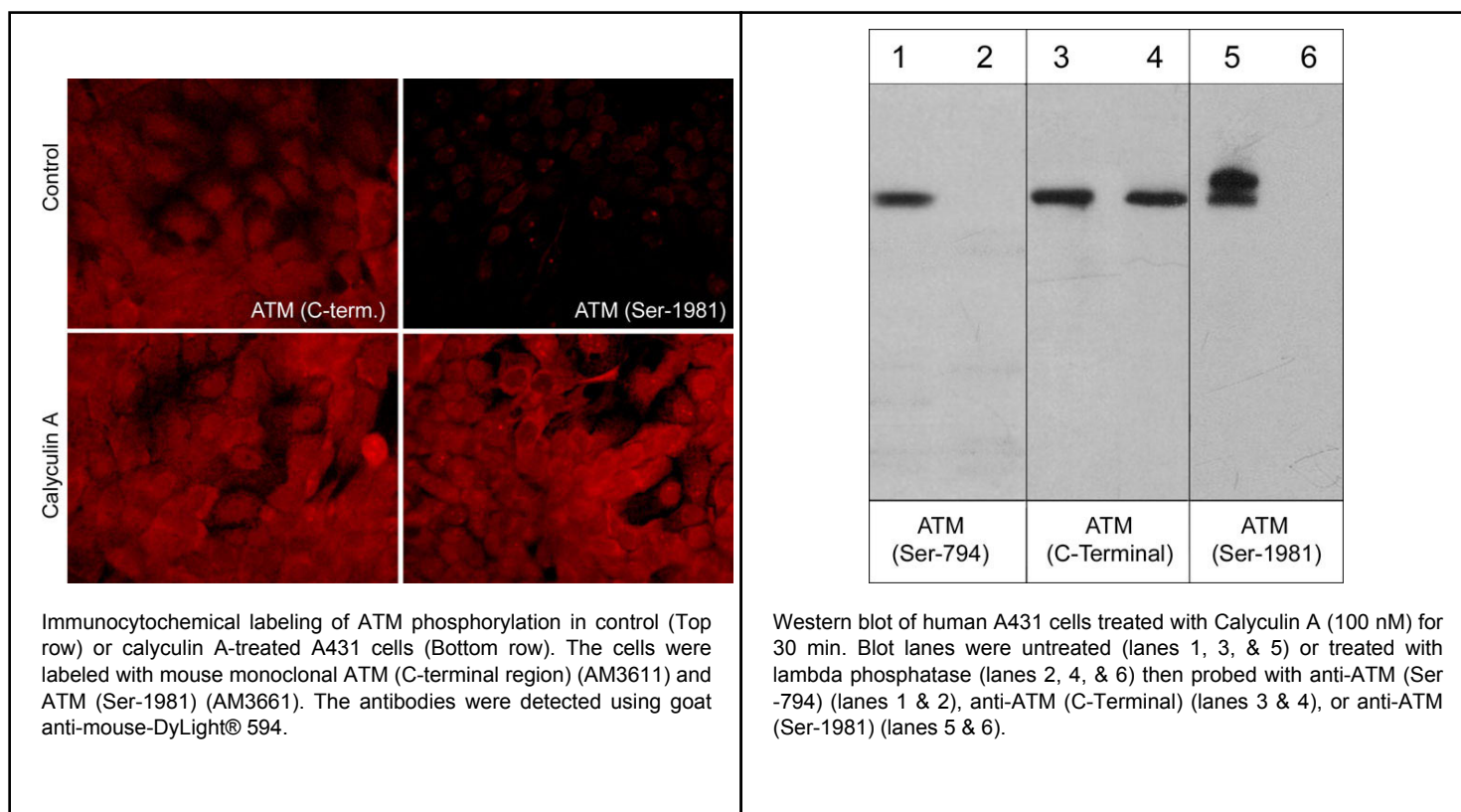
### Kit Summary

The ATM phospho-regulation antibody sampler kit can be used to detect ATM phosphorylation on Ser-794 and Ser-1981. The kit also includes a monoclonal antibody to monitor total ATM expression levels and secondary reagents for detection of these antibodies.

### Kit Components

Cat. #	Description	Product Type	Size	Applications	Species Reactivity	WB Dilution
AM3611	ATM (C-terminal region)	Mouse mAb	50 µl	WB, E, IP, ICC, FC	Hu	1:1000
AP3631	ATM (Ser-794), phospho-specific	Rabbit pAb	50 µl	WB, E, ICC, FC	Hu, Rt, Ms	1:1000
AM3661	ATM (Ser-1981), phospho-specific	Mouse mAb	50 µl	WB, E, IP, ICC	Hu, Rt, Ms	1:1000
MS3001	Anti-Mouse Ig:HRP	Donkey pAb	100 µl	WB, E	Ms	1:5000
RS3251	Anti-Rabbit Ig Light-Chain Specific:HRP	Mouse mAb	100 µl	WB, E, ICC, IHC	Rb	1:5000

Applications: WB = Western blot, E = ELISA, ICC = Immunocytochemistry, IP = Immunoprecipitation, IHC = Immunohistochemistry, FC = Flow Cytometry  
Species: H = Human, R = Rat, Ms = Mouse, C = Chicken, F = Fish, Fr = Frog, Rb = Rabbit



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### 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

- Lee, J.H. & Paull, T.T. (2007) *Oncogene* 26:7741.
- Shiloh, Y. (1997) *Annu Rev Genet.* 31:635.

### Buffer and Storage

Mouse monoclonal and rabbit polyclonal antibodies are supplied in phosphate-buffered saline, 50% glycerol, 1 mg/ml BSA, and 0.05% sodium azide. The secondary reagents are supplied in the same buffer without azide. Store all at –20°C. Stable for 1 year.

### Product Citations

<u>Cat. #</u>	<u>Citation &amp; Application</u>
AM3611	Bourton, EC et al. (2015) <i>J Cancer Sci Ther.</i> 7(2):95. (FC: human breast cancer cells)
AM3611	Cao, N. et al. (2016) <i>BMC Mol Biol.</i> 17(1):12. (WB: mouse embryonic fibroblasts)
AP3631	Bourton, EC et al. (2015) <i>J Cancer Sci Ther.</i> 7(2):95. (FC: human breast cancer cells)
AM3661	Nechiporuk, T. et al. (2016) <i>Elife.</i> 5:e09584. (WB/IHC: mouse cerebral cortex)
MS3001	Estrada-Bernal, A. et al. (2011) <i>J Neurooncol.</i> 102:353. (Western blot: MDCK epithelial, A549, and HEK293)
RS3251	Kawasaki, H. et al. (2013) <i>World J Gastroenter.</i> 19(17):2629. (WB, ICC: mouse intestinal myofibroblasts and
RS3251	Estrada-Bernal, A. et al. (2011) <i>J Neurooncol.</i> 102:353. (Western blot)

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