#5883 Store at -20°C

Phospho-ATM (Ser1981) (D6H9) Rabbit mAb

Cell Signaling TECHNOLOGY®

☑ 100 µl
(10 western blots)

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rev. 08/24/12

For Research Use Only. Not For Use In Diagnostic Procedures.

Entrez-Gene ID #472
Swiss-Prot Acc. #Q13315

Applications	Species Cross-Reactivity*	Molecular Wt.	Isotype
W Endogenous	H, (Mk, Pg, B, Hr)	350 kDa	Rabbit IgG**

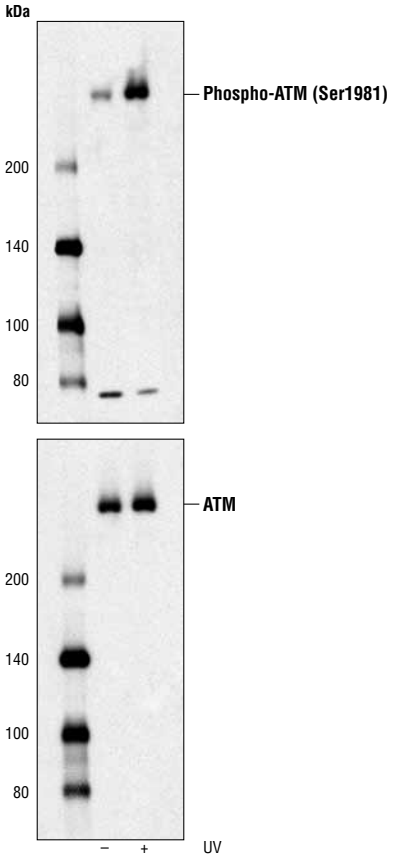
Background: Ataxia telangiectasia mutated kinase (ATM) is a serine/threonine kinase that regulates cell cycle checkpoints and DNA repair (1). Activation of ATM by autophosphorylation on Ser1981 occurs in response to exposed DNA double stranded breaks. ATM kinase regulates a number of proteins involved in cell cycle checkpoint control, apoptosis, and DNA repair. Known substrates include p53, Chk2, Chk1, CtIP, 4E-BP1, BRCA1, RPA3, H2A.X, SMC1, FANCD2, Rad17, Artemis, Nbs1, and the I-2 regulatory subunit of PP1 (1,2). Mutations in the corresponding ATM gene result in ataxia telangiectasia (AT), an autosomal recessive disease characterized by uncoordinated muscle movement and neurodegeneration. Cells from AT patients display defective DNA damage-induced checkpoint activation, sensitivity to radiation, and a higher frequency of chromosome breakage (3,4).

Specificity/Sensitivity: Phospho-ATM (Ser1981) (D6H9) Rabbit mAb recognizes endogenous levels of ATM protein only when phosphorylated at Ser1981.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser1981 of human ATM protein.

Background References:

(1) Lee, J.H. and Paull, T.T. (2007) *Oncogene* 26, 7741-8.
(2) Tang, X. et al. (2008) *Mol Cell Biol* 28, 2559-66.
(3) Shiloh, Y. (1997) *Annu Rev Genet* 31, 635-62.
(4) Petrini, J.H. (2000) *Curr Opin Cell Biol* 12, 293-6.



Western blot analysis of extracts from 293 cells, untreated or UV-treated (100 mJ, 4 hr recovery), using Phospho-ATM (Ser1981) (D6H9) Rabbit mAb (upper) or ATM (D2E2) Rabbit mAb #2873 (lower).

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. *Do not aliquot the antibody.*

***Species cross-reactivity is determined by western blot.**

****Anti-rabbit secondary antibodies must be used to detect this antibody.**

Recommended Antibody Dilutions:

Western blotting	1:1000

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v BSA, 1X TBS, 0.1% Tween-20 at 4°C with gentle shaking, overnight.

Applications Key: **W**—Western **IP**—Immunoprecipitation **IHC**—Immunohistochemistry **ChIP**—Chromatin Immunoprecipitation **IF**—Immunofluorescence **F**—Flow cytometry **E-P**—ELISA-Peptide
Species Cross-Reactivity Key: **H**—human **M**—mouse **R**—rat **Hm**—hamster **Mk**—monkey **Mi**—mink **C**—chicken **Dm**—D. melanogaster **X**—Xenopus **Z**—zebrafish **B**—bovine **Dg**—dog **Pg**—pig **Sc**—S. cerevisiae **Ce**—C. elegans **Hr**—horse **All**—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.

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