

Store at
-20°C

#31068

PhosphoPlus® ATM (Ser1981) Antibody Duet



Cell Signaling
TECHNOLOGY®

Support: +1-978-867-2388 (U.S.)
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Entrez-Gene ID #472
UniProt ID #Q13315

New 05/20

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

Products Included	Product #	Quantity	Mol. Wt.	Isotype
ATM (D2E2) Rabbit mAb	2873	100 µl	350 kDa	Rabbit IgG
Phospho-ATM (Ser1981) (D25E5) Rabbit mAb	13050	100 µl	350 kDa	Rabbit IgG

See www.cellsignal.com for individual component applications, species cross-reactivity, dilutions and additional application protocols.

Description: PhosphoPlus® Duets from Cell Signaling Technology (CST) provide a means to assess protein activation status. Each Duet contains an activation-state and total protein antibody to your target of interest. These antibodies have been selected from CST's product offering based upon superior performance in specified applications.

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: ATM (D2E2) Rabbit mAb detects endogenous levels of total ATM protein. Phospho-ATM (Ser1981) (D25E5) Rabbit mAb recognizes endogenous levels of ATM protein only when phosphorylated at Ser1981.

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

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.

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.

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www.cellsignal.com

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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide **Species Cross-Reactivity:** 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.