

#2909 Store at -20°C

Phospho-(Ser/Thr) ATM/ATR Substrate (4F7) Rabbit mAb

✓ 100 µl
(10 western blots)



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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

Applications	Species Cross-Reactivity*	Isotype	Motif
W Endogenous	All	Rabbit IgG**	L(S*/T*)Q

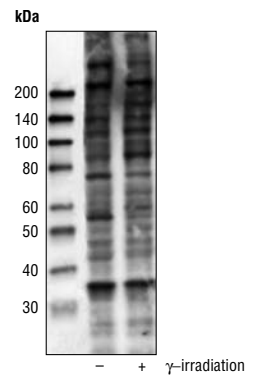
Background: Ataxia telangiectasia mutated kinase (ATM) and ataxia telangiectasia and Rad3-related kinase (ATR) are related kinases that regulate cell cycle checkpoints and DNA repair (1). The identified substrates for ATM are p53, p95/NBS1, MDM2, Chk2, BRCA1, CtIP, 4E-BP1 and Chk1 (1,2). The essential requirement for the substrates of ATM/ATR is S*/T*Q. Hydrophobic amino acids at positions -3 and -1, and negatively charged amino acids at position +1 are positive determinants for substrate recognition by these kinases. Positively charged residues surrounding the S*/T*Q are negative determinants for substrate phosphorylation (3). The complex phenotype of AT cells suggests that it likely has additional substrates (3). To better understand the kinase and identify substrates for ATM and the related kinase ATR, CST has developed antibodies that recognize phosphorylated serine or threonine in the S*/T*Q motif.

Specificity/Sensitivity: Phospho-(Ser/Thr) ATM/ATR Substrate (4F7) Rabbit mAb detects endogenous levels of proteins containing the ATM/ATR substrate motif. This antibody preferentially binds peptides and proteins that contain phospho-Ser/Thr preceded by Leu or similar hydrophobic amino acids at the -1 position and followed by Gln at the +1 position. The antibody does not cross-react with corresponding nonphosphorylated sequences or with other phospho-Ser/Thr-containing motifs. (U.S. Patent No's.: 6,441,140; 6,982,318; 7,259,022; 7,344,714; U.S.S.N. 11,484,485; and all foreign equivalents.)

Source/Purification: Monoclonal antibody is produced by immunizing animals with synthetic phospho-ATM/ATR substrate peptides (KLH-coupled).

- Background References:**
- (1) Kastan, M.B. and Lim, D.S. (2000) *Nature Rev. Mol. Cell Biol.* 1, 179–186.
 - (2) Zhao, H. and Piwnicka-Worms, H. (2001) *Mol. Cell Biol.* 21, 4129–4139.
 - (3) Kim, S. T. et al. (1999) *J. Biol. Chem.* 274, 37538–37543.

License/Use Restrictions: Use of CST Motif Antibodies within certain methods (e.g., U.S. Patent No.'s 7,198,896 & 7,300,753) may require a license from CST. For information regarding academic licensing terms please have your technology transfer office contact CST Legal Department at CST_ip@cellsignal.com. For information regarding commercial licensing terms please contact CST Pharma Services Department at ptmscan@cellsignal.com.



Western blot analysis of extracts from HeLa cells, untreated or treated with γ -irradiation, using Phospho-(Ser/Thr) ATM/ATR Substrate (4F7) Rabbit mAb.

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.

*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.

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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—zebra fish B—bovine
 Dg—Dog Pg—Pig Sc—S. cerevisiae All—all species expected Species enclosed in parentheses are predicted to react based on 100% sequence homology.