Revision 5

#6966 Store at -20C

Phospho-ATM/ATR Substrate Motif [(pS/pT) QG] MultiMab® Rabbit mAb mix

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	Source/Isotype:
WB, IP	All	Endogenous	Rabbit IgG

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:100

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.

Specificity / Sensitivity

Phospho-ATM/ATR Substrate Motif [(pS/pT) QG] MultiMab® Rabbit mAb mix recognizes proteins containing phospho-Ser or phospho-Thr followed by Gln and Gly residues. To some extent, this antibody also recongizes proteins with an S*/T*Q motif.

Source / Purification

MultiMab® rabbit monoclonal mix antibodies are prepared by combining individual rabbit monoclonal clones in optimized ratios for the approved applications. Each antibody in the mix is carefully selected based on motif recognition and performance in multiple assays. Each mix is engineered to yield the broadest possible coverage of the modification being studied while ensuring a high degree of specificity for the modification or motif.

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.

Background References

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

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

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

Applications Key

WB: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **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 **GP:** Guinea Pig **Rab:** rabbit **All:** all species expected

Trademarks and Patents

Limited Uses

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