#2853 Store at –20°C

Phospho-ATR (Ser428) Antibody

Cell Signaling TECHNOLOGY®

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

Entrez-Gene ID #545
UniProt ID #Q13535

Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W Endogenous	H, M, R, Mk	300 kDa	Rabbit**

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.

Background: Ataxia telangiectasia mutated kinase (ATM) and ataxia telangiectasia and Rad3-related kinase (ATR) are PI-3 Kinase-related kinase (PIKK) family members that phosphorylate multiple substrates on serine or threonine residues that are followed by a glutamine in response to DNA damage or replication blocks (1–3). Despite the essential role of ATR in cell cycle signaling and DNA repair processes, little is known about its activation. While there have been no published reports of phosphorylation sites on ATR, Cell Signaling Technology has produced an antibody directed against phospho-ATR (Ser428) that demonstrates *in vivo* and UV-induced phosphorylation of this protein. This reagent could prove to be a valuable tool for monitoring ATR activation. Proline-directed phosphorylation sites like this one are often targeted by CDKs and MAPKs and can often dramatically affect protein conformation (4,5).

Specificity/Sensitivity: Phospho-ATR (Ser428) Antibody detects endogenous levels of ATR only when phosphorylated at serine 428.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Ser428 of human ATR. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

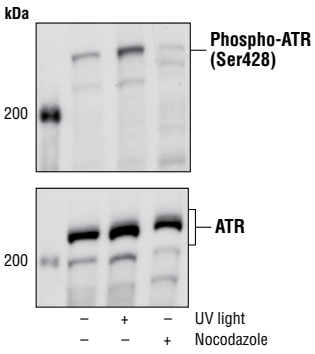
(1) Kastan, M.B. and Lim, D.S. (2000) *Nature Rev. Mol. Cell Biol.* 1, 179–186.

(2) Abraham, R.T. (2004) *DNA Repair* 3, 883–887.

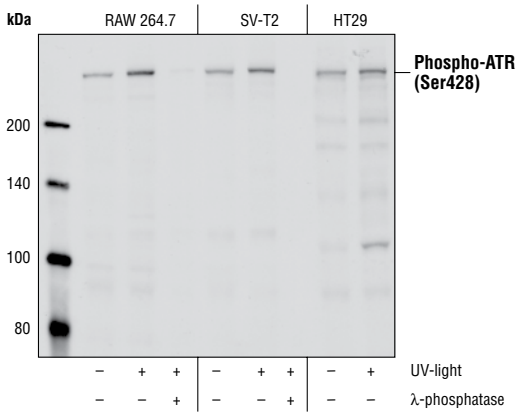
(3) Shechter, D. et al. (2004) *DNA Repair* 3, 901–908.

(4) Pinna, L.A. and Ruzzene, M. (1996) *Biochim Biophys Acta* 1314, 191–225.

(5) Zhou, X. Z. et al. (1999) *Cell. Mol. Life Sci.* 56, 788–806.



Western blot analysis of untreated, UV-treated (50 µJ, 30 min) and nocodazole-treated (50 ng/µl, 24 hr) RAW 264.7 cells, using Phospho-ATR (Ser428) Antibody (upper) and a total ATR antibody (lower).



Western blot analysis of RAW 264.7, SV-T2 and HT29 cells that were untreated or UV-treated (50 µJ, 30 min), using Phospho-ATR (Ser428) Antibody. λ phosphatase NEB #P0753 (10,000 Units/µl, 1 hr) was used to demonstrate the phospho-specificity of the antibody.

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.