

#4801 Store at -20°C

Phospho-SMC1 (Ser957) Antibody

✓ 100 µl (10 western blots)



Orders ■ 877-616-CELL (2355) orders@cellsignal.com
Support ■ 877-678-TECH (8324) info@cellsignal.com
Web ■ www.cellsignal.com

rev. 04/19/10

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.

Entrez-Gene ID #8243
Swiss-Prot Acc. #Q14683

Applications W Endogenous	Species Cross-Reactivity* H, M, (B, X)	Molecular Wt. 145 kDa	Source Rabbit**
---------------------------------	---	--------------------------	--------------------

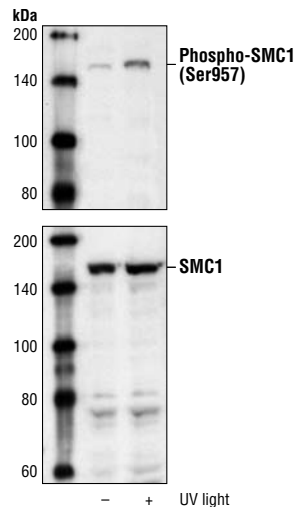
Background: Structural maintenance of chromosomes 1 (SMC1) protein is a chromosomal protein member of the cohesin complex that enables sister chromatid cohesion and plays a role in DNA repair (1,2). In response to ionizing radiation (IR), as part of the intra-S-phase DNA damage checkpoint, ATM/NBS1-dependent phosphorylation of SMC1 occurs at Ser957 and Ser966 (3). In cells subjected to other forms of DNA damage, including UV light and hydroxyurea treatment, SMC1 phosphorylation is ATM-independent (4). While phosphorylation of SMC1 is required for activation of the IR-induced intra-S-phase checkpoint, the precise mechanism is not well understood and may involve a conformational change that affects SMC1-SMC3 interaction (3).

Specificity/Sensitivity: Phospho-SMC1 (Ser957) Antibody detects endogenous levels of SMC1 only when phosphorylated at Ser957.

Source/Purification: Polyclonal antibodies are produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser957 of human SMC1. Antibodies are purified by protein A and peptide affinity chromatography.

Background References:

- (1) Michaelis, C. et al. (1997) *Cell* 91, 35–45.
- (2) Sjogren, C. and Nasmyth, K. (2001) *Curr. Biol.* 11, 991–995.
- (3) Yazdi, P.T. et al. (2002) *Genes Dev.* 16, 571–582.
- (4) Kim, S.T. et al. (2002) *Genes Dev.* 16, 560–570.



Western blot analysis of extracts from 293 cells, untreated or UV-treated, using Phospho-SMC1 (Ser957) Antibody (upper) or SMC1 Antibody #4802 (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% 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.