



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

SMC1 Antibody

Store at -20C
#4802

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

Applications: W	Reactivity: H M	Sensitivity: Endogenous	MW (kDa): 145	Source/Isotype: Rabbit	UniProt ID: #Q14683	Entrez-Gene Id: 8243
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Product Usage Information

Application

Western Blotting

Dilution

1:1000

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.

Specificity/Sensitivity

SMC1 Antibody detects endogenous levels of total SMC1 protein.

Species predicted to react based on 100% sequence homology

Rat, Chicken, Xenopus, Bovine

Source / Purification

Polyclonal antibodies are produced by immunizing animals with synthetic peptides corresponding to residues near the amino terminus of human SMC1. Antibodies are purified by protein A and peptide affinity chromatography.

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). ATM/NBS1-dependent phosphorylation of SMC1 occurs at Ser957 and Ser966 in response to ionizing radiation (IR) as part of the intra-S-phase DNA damage checkpoint (3). SMC1 phosphorylation is ATM-independent in cells subjected to other forms of DNA damage, including UV light and hydroxyurea treatment (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).

Background References

1. Michaelis, C. et al. (1997) *Cell* 91, 35-45.
2. Sjögren, C. and Nasmyth, K. (2001) *Curr Biol* 11, 991-5.
3. Yazdi, P.T. et al. (2002) *Genes Dev* 16, 571-82.
4. Kim, S.T. et al. (2002) *Genes Dev* 16, 560-70.

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

W: Western Blotting

Cross-Reactivity Key

H: Human **M:** Mouse

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