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Store at -20C
#4805

Phospho-SMC1 (Ser957) (5D11G5) Mouse mAb

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

Applications: W	Reactivity: H M	Sensitivity: Endogenous	MW (kDa): 145	Source/Isotype: Mouse IgG1	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, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

Specificity/Sensitivity

Phospho-SMC1 (Ser957) (5D11G5) Mouse Monoclonal Antibody detects endogenous levels of SMC1 only when phosphorylated at serine 957. This antibody may also recognize phosphorylated human DNA-PKcs (450kDa).

Species predicted to react based on 100% sequence homology

Bovine

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic phosphopeptide corresponding to residues surrounding Ser957 of human SMC1.

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 nonfat dry milk, 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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