Revision 1

Store at -20C

#12191

SPT16 (D7I2K) Rabbit mAb

Cell Signaling TECHNOLOGY®

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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, ChIP	H M R Mk	Endogenous	140	Rabbit IgG	#Q9Y5B9	11198

Product Usage Information

For optimal ChIP results, use 10 µl of antibody and 10 µg of chromatin (approximately 4 x 10^6 cells) per IP. This antibody has been validated using SimpleChIP® Enzymatic Chromatin IP Kits.

Application	Dilution
Western Blotting	1:1000
Chromatin IP	1:50

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

SPT16 (D7I2K) Rabbit mAb recognizes endogenous levels of total SPT16 protein.

Species predicted to react based on 100% sequence homology

Hamster, Xenopus, Zebrafish, Bovine, Dog, Horse, Goat, Guinea Pig

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Leu662 of human SPT16 protein.

Background

Suppressor of Ty-16 (SPT16) and structure-specific recognition protein-1 (SSRP1) are subunits of the facilitates chromatin transcription (FACT) complex that is essential for transcription elongation (1,2). FACT facilitates RNA polymerase-dependent transcription of chromatin templates by destabilizing the nucleosomes within the open reading frames of active genes (3-5). FACT destabilizes the nucleosomes, which would otherwise act as barriers to RNA polymerase transcription activity, by disrupting histone-histone and histone-DNA contacts that lead to the eviction of the histone H2A-H2B dimer (2,3,6). FACT may also function as a histone chaperone to reassemble nucleosomes after RNA polymerase passage (7). In addition to transcription, FACT activity has been shown to have a role in DNA replication in yeast and in DNA repair by contributing to the activation of p53 by CK2 and by facilitating histone H2AX-H2B exchange upon DNA damage (8,9).

Background References

1. Winkler, D.D. and Luger, K. (2011) *J Biol Chem* 286, 18369-74.
2. Orphanides, G. et al. (1999) *Nature* 400, 284-8.
3. Orphanides, G. et al. (1998) *Cell* 92, 105-16.
4. Birch, J.L. et al. (2009) *EMBO J* 28, 854-65.
5. Orphanides, G. and Reinberg, D. (2000) *Nature* 407, 471-5.
6. Keller, D.M. and Lu, H. (2002) *J Biol Chem* 277, 50206-13.
7. Belotserkovskaya, R. et al. (2003) *Science* 301, 1090-3.
8. Schlesinger, M.B. and Formosa, T. (2000) *Genetics* 155, 1593-606.
9. Heo, K. et al. (2008) *Mol Cell* 30, 86-97.

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 **ChIP:** Chromatin IP

Cross-Reactivity Key

H: Human **M:** Mouse **R:** Rat **Mk:** Monkey

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