

Store at
-20°C

#50805

SET1A (E3E2S) Rabbit mAb



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Entrez-Gene ID #233904
UniProt ID #E9PYH6

New 08/19

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

Applications
W, IP, ChIP
Endogenous

Species Cross-Reactivity*
H, M, R, Mk

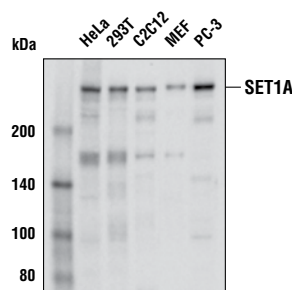
Molecular Wt.
300 kDa

Isotype
Rabbit IgG**

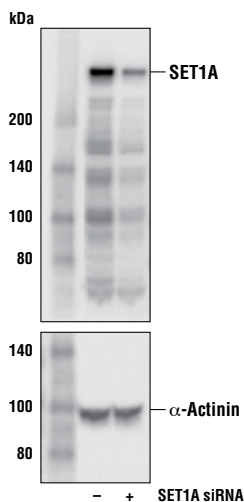
Background: The Set1 histone methyltransferase protein was first identified in yeast as part of the Set1/COMPASS histone methyltransferase complex, which methylates histone H3 at Lys4 and functions as a transcriptional co-activator (1). While yeast contain only one known Set1 protein, six Set1-related proteins exist in mammals: SET1A, SET1B, MLL1, MLL2, MLL3, and MLL4, all of which assemble into COMPASS-like complexes and methylate histone H3 at Lys4 (2,3). These Set1-related proteins are each found in distinct protein complexes, all of which share the common subunits WDR5, RBBP5, ASH2L, CXXC1 and DPY30. These subunits are required for proper complex assembly and modulation of histone methyltransferase activity (2-6). MLL1 and MLL2 complexes contain the additional protein subunit, menin (6). Like yeast Set1, all six Set1-related mammalian proteins methylate histone H3 at Lys4 (2-6). MLL translocations are found in a large number of hematological malignancies, suggesting that Set1/COMPASS histone methyltransferase complexes play a critical role in leukemogenesis (6).

Specificity/Sensitivity: SET1A (E3E2S) Rabbit mAb recognizes endogenous levels of total SET1A protein.

Source/Purification: Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human SET1A protein.



Western blot analysis of extracts from various cell lines using SET1A (E3E2S) Rabbit mAb.



Western blot analysis of extracts from 293T cells, untransfected (-) or transfected with SET1A siRNA (+), using SET1A (E3E2S) Rabbit mAb (upper) and α -Actinin (D6F6) XP[®] Rabbit mAb #6487 (lower). As expected, SET1A expression is decreased in cells transfected with SET1A siRNA.

Storage: Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 μ g/ml BSA, 50% glycerol and less than 0.02% sodium azide. 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
Immunoprecipitation	1:200
Chromatin IP	1:25
<i>Optimal ChIP conditions: 20 μl of antibody & 10 μg of chromatin (4 x 10⁶ cells) per IP. Antibody validated using SimpleChIP[®] Enzymatic ChIP Kits.</i>	

For product specific protocols and a complete listing of recommended companion products please see the product web page at www.cellsignal.com.

Background References:

- (1) Miller, T. et al. (2001) *Proc Natl Acad Sci USA* 98, 12902-7.
- (2) Shilatifard, A. (2008) *Curr Opin Cell Biol* 20, 341-8.
- (3) Tenney, K. and Shilatifard, A. (2005) *J Cell Biochem* 95, 429-36.
- (4) Lee, J.H. and Skalnik, D.G. (2005) *J Biol Chem* 280, 41725-31.
- (5) Lee, J.H. et al. (2007) *J Biol Chem* 282, 13419-28.
- (6) Hughes, C.M. et al. (2004) *Mol Cell* 13, 587-97.

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IMPORTANT: For western blots, incubate membrane with diluted antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween[®]20 at 4°C with gentle shaking, overnight.

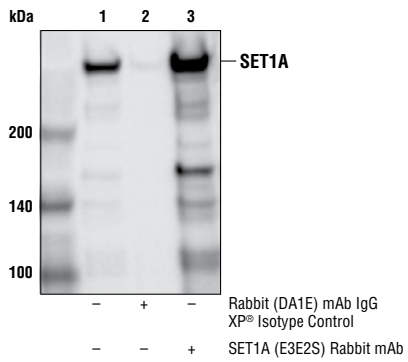
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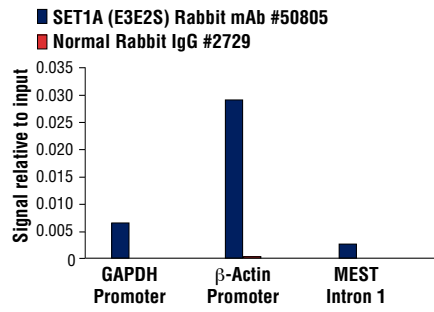
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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide Species Cross-Reactivity: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken 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.



Immunoprecipitation of SET1A from 293T cell extracts. Lane 1 is 10% input, lane 2 is Rabbit (DA1E) mAb IgG XP® Isotype Control #3900, and lane 3 is SET1A (E3E2S) Rabbit mAb. Western blot analysis was performed using SET1A (E3E2S) Rabbit mAb.



Chromatin immunoprecipitations were performed with cross-linked chromatin from F9 cells and either SET1A (E3E2S) Rabbit mAb or Normal Rabbit IgG #2729 using SimpleChIP® Plus Enzymatic Chromatin IP Kit (Magnetic Beads) #9005. The enriched DNA was quantified by real-time PCR using SimpleChIP® Human GAPDH Promoter Primers #4471, SimpleChIP® Human β-Actin Promoter Primers #13653, and SimpleChIP® Mouse MEST Intron 1 Primers #12870. The amount of immunoprecipitated DNA in each sample is represented as signal relative to the total amount of input chromatin, which is equivalent to one.

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