

SUV39H1 (H-55): sc-25366

BACKGROUND

Distinct modifications of histone tails, such as acetylation, phosphorylation and methylation, regulate nuclear processes by organizing the chromatin into higher order structures. Higher-order chromatin influences chromosome function and epigenetic gene regulation. Human and murine SUV39H1 are mammalian homologues of *Drosophila* Su(var)3-9 and of *Schizosaccharomyces pombe* clr4, which encode Histone H3-specific methyltransferases. SUV39H1, suppressor of variegation 3-9, selectively methylates Lysine 9 of the amino-terminus of Histone H3 to generate a binding site for HP1 proteins. These HP1 proteins belong to a family of heterochromatic adaptor molecules that are implicated in both gene silencing and supra-nucleosomal chromatin structure. SUV39H1 contains both SET and chromo domains and is ubiquitously expressed. The enrichment of SUV39H1 at heterochromatic foci during interphase and centromere-specific localization during metaphase depends on the C-terminal SET domain. SUV39H1 is phosphorylated specifically at the G₁/S cell cycle transition and, when forcibly expressed, suppresses cell growth. SUV39H1 acts as a long-range repressor that is capable of acting over several kilobases to silence basal promoters.

REFERENCES

1. Agaard, L., et al. 1999. Functional mammalian homologues of the *Drosophila* PEV-modifier Su(var)3-9 encode centromere-associated proteins which complex with the heterochromatin component M31. *EMBO J.* 18: 1923-1938.
2. Melcher, M., et al. 2000. Structure-function analysis of SUV39H1 reveals a dominant role in heterochromatin organization, chromosome segregation, and mitotic progression. *Mol. Cell. Biol.* 20: 3728-3741.
3. Hagemann, T.L., et al. 2000. Gene regulation of Wiskott-Aldrich syndrome protein and the human homolog of the *Drosophila* Su(var)3-9: WASP and SUV39H1, two adjacent genes at Xp11.23. *Biochim. Biophys. Acta* 1493: 368-372.
4. Firestein, R., et al. 2000. SET domain-dependent regulation of transcriptional silencing and growth control by SUV39H1, a mammalian ortholog of *Drosophila* Su(var)3-9. *Mol. Cell. Biol.* 20: 4900-4909.
5. Tachibana, M., et al. 2001. SET-domain containing protein, G9a, is a novel lysine-preferring mammalian histone methyltransferase with hyperactivity and specific selectivity to Lysines 9 and 27 of Histone H3. *J. Biol. Chem.* 276: 25309-25317.

CHROMOSOMAL LOCATION

Genetic locus: SUV39H1 (human) mapping to Xp11.23; Suv39h1 (mouse) mapping to X A1.1.

SOURCE

SUV39H1 (H-55) is a rabbit polyclonal antibody raised against amino acids 166-220 of SUV39H1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

SUV39H1 (H-55) is recommended for detection of SUV39H1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

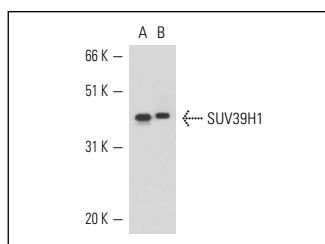
SUV39H1 (H-55) is also recommended for detection of SUV39H1 in additional species, including canine and bovine.

Suitable for use as control antibody for SUV39H1 siRNA (h): sc-38463, SUV39H1 siRNA (m): sc-38464, SUV39H1 shRNA Plasmid (h): sc-38463-SH, SUV39H1 shRNA Plasmid (m): sc-38464-SH, SUV39H1 shRNA (h) Lentiviral Particles: sc-38463-V and SUV39H1 shRNA (m) Lentiviral Particles: sc-38464-V.

Molecular Weight of SUV39H1: 45 kDa.

Positive Controls: HeLa nuclear extract: sc-2120 or HeLa whole cell lysate: sc-2200.

DATA



SUV39H1 (H-55): sc-25366. Western blot analysis of SUV39H1 expression in HeLa (A) nuclear extract and HeLa (B) whole cell lysate.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.


 MONOS
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Guaranteed

Try **SUV39H1 (C-10): sc-377112** or **SUV39H1 (44.1): sc-23961**, our highly recommended monoclonal alternatives to SUV39H1 (H-55).