

SUV39H1 (C-10): sc-377112

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. Aagaard, 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. Rea, S., et al. 2000. Regulation of chromatin structure by site-specific Histone H3 methyltransferases. *Nature* 406: 593-599.

CHROMOSOMAL LOCATION

Genetic locus: SUV39H1 (human) mapping to Xp11.23.

SOURCE

SUV39H1 (C-10) is a mouse monoclonal antibody raised against amino acids 166-220 of SUV39H1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SUV39H1 (C-10) is available conjugated to agarose (sc-377112 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377112 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377112 PE), fluorescein (sc-377112 FITC), Alexa Fluor® 488 (sc-377112 AF488), Alexa Fluor® 546 (sc-377112 AF546), Alexa Fluor® 594 (sc-377112 AF594) or Alexa Fluor® 647 (sc-377112 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377112 AF680) or Alexa Fluor® 790 (sc-377112 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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STORAGE

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

APPLICATIONS

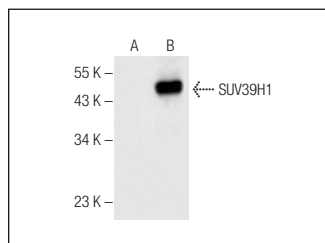
SUV39H1 (C-10) is recommended for detection of SUV39H1 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

Molecular Weight of SUV39H1: 45 kDa.

Positive Controls: SUV39H1 (h2): 293T Lysate: sc-175626, HeLa nuclear extract: sc-2120 or HeLa whole cell lysate: sc-2200.

DATA



SUV39H1 (C-10): sc-377112. Western blot analysis of SUV39H1 expression in non-transfected: sc-117752 (A) and human SUV39H1 transfected: sc-175626 (B) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Stelzer, Y., et al. 2014. The noncoding RNA IPW regulates the imprinted DLK1-DIO3 locus in an induced pluripotent stem cell model of Prader-Willi syndrome. *Nat. Genet.* 46: 551-557.
2. Wang, F., et al. 2021. Stat3 enhances radiation-induced tumor migration, invasion and stem-like properties of bladder cancer. *Mol. Med. Rep.* 23: 87.
3. Qi, X., et al. 2021. HDN-1 induces cell differentiation toward apoptosis in promyelocytic leukemia cells depending on its selective effect on client proteins of Hsp90. *Toxicol. Appl. Pharmacol.* 417: 115459.
4. Dinami, R., et al. 2022. TRF2 cooperates with CTCF for controlling the oncomiR-193b-3p in colorectal cancer. *Cancer Lett.* 533: 215607.
5. Yang, D., et al. 2022. The KMT1A/TIMP3/PI3K/Akt circuit regulates tumor growth in cervical cancer. *Reprod. Biol.* 22: 100644.

RESEARCH USE

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

PROTOCOLS

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