

SUV39H2 (h): 293T Lysate: sc-175630

BACKGROUND

Distinct modifications of histone tails, such as acetylation, phosphorylation and methylation, regulate nuclear processes by organizing chromatin into higher order structures. Higher order chromatin influences chromosome function and epigenetic gene regulation. SUV39H2 (suppressor of variegation 3-9 homolog 2), also known as KMT1B or Histone H3-K9 methyltransferase 2, is a 410 amino acid protein that localizes to the centromere and contains one SET domain, one pre-SET domain, one post-SET domain and one chromo domain. Expressed at high levels in adult testis, SUV39H2 functions as a histone methyltransferase that trimethylates the Lys-9 residue of Histone H3, thereby playing an essential role in establishing constitutive heterochromatin at pericentric and telomere regions. SUV39H2 conveys its enzymatic activity via its multiple catalytic domains, which are necessary for both stable binding of SUV39H2 to chromatin and for SUV39H2 methyltransferase activity. Multiple isoforms of SUV39H2 exist due to alternative splicing events.

REFERENCES

1. O'Carroll, D., et al. 2000. Isolation and characterization of SUV39H2, a second Histone H3 methyltransferase gene that displays testis-specific expression. *Mol. Cell. Biol.* 20: 9423-9433.
2. Rea, S., et al. 2000. Regulation of chromatin structure by site-specific Histone H3 methyltransferases. *Nature* 406: 593-599.
3. Peters, A.H., et al. 2001. Loss of the SUV39H histone methyltransferases impairs mammalian heterochromatin and genome stability. *Cell* 107: 323-337.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 606503. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
5. García-Cao, M., et al. 2004. Epigenetic regulation of telomere length in mammalian cells by the SUV39H1 and SUV39H2 histone methyltransferases. *Nat. Genet.* 36: 94-99.
6. Frontelo, P., et al. 2004. SUV39H histone methyltransferases interact with Smads and cooperate in BMP-induced repression. *Oncogene* 23: 5242-5251.

CHROMOSOMAL LOCATION

Genetic locus: SUV39H2 (human) mapping to 10p13.

PRODUCT

SUV39H2 (h): 293T Lysate represents a lysate of human SUV39H2 transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

APPLICATIONS

SUV39H2 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive SUV39H2 antibodies.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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