

SUV420H2 (N-12): sc-131078

BACKGROUND

SUV420H2 (suppressor of variegation 4-20 homolog 2), also known as KMT5C, is a 462 amino acid nuclear protein that is associated with pericentric heterochromatin in the nucleus. One of several members of the histone-lysine methyltransferase family, SUV420H2 functions as a histone methyltransferase that trimethylates the Lys-20 residue of Histone H4, thereby tagging H4 for transcriptional repression. The co-localization of SUV420H2 with pericentric heterochromatin allows the methyltransferase to play a key role in the establishment of constitutive heterochromatin, further implicating SUV420H2 as a regulator of transcriptional events. Characteristic of most histone methyltransferases, SUV420H2 contains one SET domain through which it confers its enzymatic activity. Three isoforms of SUV420H2 are expressed due to alternative splicing events.

REFERENCES

- Schotta, G., et al. 2004. A silencing pathway to induce H3-K9 and H4-K20 trimethylation at constitutive heterochromatin. *Genes Dev.* 18: 1251-1262.
- Gonzalo, S., et al. 2005. Role of the RB1 family in stabilizing histone methylation at constitutive heterochromatin. *Nat. Cell Biol.* 7: 420-428.
- Pogribny, I.P., et al. 2006. Histone H3 Lysine 9 and H4 Lysine 20 trimethylation and the expression of SUV420H2 and SUV39H1 histone methyltransferases in hepatocarcinogenesis induced by methyl deficiency in rats. *Carcinogenesis* 27: 1180-1186.
- Tryndyak, V.P., et al. 2006. Loss of DNA methylation and Histone H4 Lysine 20 trimethylation in human breast cancer cells is associated with aberrant expression of DNA methyltransferase 1, SUV420H2 histone methyltransferase and methyl-binding proteins. *Cancer Biol. Ther.* 5: 65-70.
- Benetti, R., et al. 2007. SUV420H deficiency results in telomere elongation and derepression of telomere recombination. *J. Cell Biol.* 178: 925-936.
- Szafrański, K., et al. 2007. Violating the splicing rules: TG dinucleotides function as alternative 3' splice sites in U2-dependent introns. *Genome Biol.* 8: R154.
- Pogribny, I.P., et al. 2007. Methyl deficiency, alterations in global histone modifications, and carcinogenesis. *J. Nutr.* 137: 216S-222S.

CHROMOSOMAL LOCATION

Genetic locus: SUV420H2 (human) mapping to 19q13.42; Suv420h2 (mouse) mapping to 7 A1.

SOURCE

SUV420H2 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of SUV420H2 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.

Blocking peptide available for competition studies, sc-131078 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SUV420H2 (N-12) is recommended for detection of SUV420H2 isoforms 1 and 3 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); non cross-reactive with SUV420H2-2.

Suitable for use as control antibody for SUV420H2 siRNA (h): sc-97240, SUV420H2 siRNA (m): sc-153946, SUV420H2 shRNA Plasmid (h): sc-97240-SH, SUV420H2 shRNA Plasmid (m): sc-153946-SH, SUV420H2 shRNA (h) Lentiviral Particles: sc-97240-V and SUV420H2 shRNA (m) Lentiviral Particles: sc-153946-V.

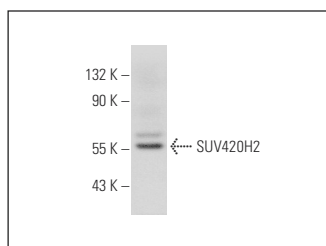
Molecular Weight of SUV420H2: 52 kDa.

Positive Controls: MCF7 nuclear extract: sc-2149.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



SUV420H2 (N-12): sc-131078. Western blot analysis of SUV420H2 expression in MCF7 nuclear extract.

SELECT PRODUCT CITATIONS

- Sanders, Y., et al. 2013. Histone modifications in senescence-associated resistance to apoptosis by oxidative stress. *Redox Biol.* 1: 8-16.

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.