

SUV420H1 (N-15): sc-169462

BACKGROUND

SUV420H1 (suppressor of variegation 4-20 homolog 1), also known as CGI85 or KMT5B, is an 885 amino acid protein that is associated with pericentric heterochromatin in the nucleus. One of several members of the histone-lysine methyltransferase family, SUV420H1 functions as a histone methyltransferase that trimethylates the Lys 20 residue of Histone H4, thereby tagging H4 for transcriptional repression. Characteristic of most histone methyltransferases, SUV420H1 contains one SET domain through which it confers its enzymatic activity. The co-localization of SUV420H1 with pericentric heterochromatin allows the methyltransferase to play a key role in the establishment of constitutive heterochromatin, further implicating SUV420H1 as a regulator of transcriptional events. Expression of SUV420H1 is strongly downregulated in breast cancer cells, suggesting a role for SUV420H1 in tumor suppression. Three isoforms of SUV420H1 are expressed due to alternative splicing events.

REFERENCES

- Schotta, G., Lachner, M., Sarma, K., Ebert, A., Sengupta, R., Reuter, G., Reinberg, D. and Jenuwein, T. 2004. A silencing pathway to induce H3-K9 and H4-K20 trimethylation at constitutive heterochromatin. *Genes Dev.* 18: 1251-1262.
- Gonzalo, S., García-Cao, M., Fraga, M.F., Schotta, G., Peters, A.H., Cotter, S.E., Eguía, R., Dean, D.C., Esteller, M., Jenuwein, T. and Blasco, M.A. 2005. Role of the RB1 family in stabilizing histone methylation at constitutive heterochromatin. *Nat. Cell Biol.* 7: 420-428.
- Pogribny, I.P., Ross, S.A., Tryndyak, V.P., Pogribna, M., Poirier, L.A. and Karpinet, T.V. 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., Kovalchuk, O. and Pogribny, I.P. 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.

CHROMOSOMAL LOCATION

Genetic locus: SUV420H1 (human) mapping to 11q13.2; Suv420h1 (mouse) mapping to 19 A.

SOURCE

SUV420H1 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SUV420H1 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-169462 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SUV420H1 (N-15) is recommended for detection of SUV420H1 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.

SUV420H1 (N-15) is also recommended for detection of SUV420H1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for SUV420H1 siRNA (h): sc-96776, SUV420H1 siRNA (m): sc-153945, SUV420H1 shRNA Plasmid (h): sc-96776-SH, SUV420H1 shRNA Plasmid (m): sc-153945-SH, SUV420H1 shRNA (h) Lentiviral Particles: sc-96776-V and SUV420H1 shRNA (m) Lentiviral Particles: sc-153945-V.

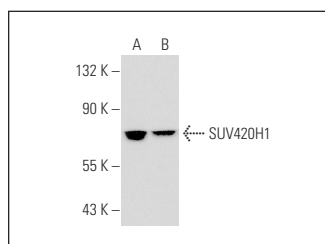
Molecular Weight of SUV420H1 isoforms: 99/45/32 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, K-562 whole cell lysate: sc-2203 or Hep G2 cell lysate: sc-2227.

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



SUV420H1 (N-15): sc-169462. Western blot analysis of SUV420H1 expression in Jurkat (A) and K-562 (B) whole cell lysates.

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.