SANTA CRUZ BIOTECHNOLOGY, INC.

SUV420H2 siRNA (h): sc-97240

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

1. Schotta, G., et al. 2004. A silencing pathway to induce H3-K9 and H4-K20 trimethylation at constitutive heterochromatin. Genes Dev. 18: 1251-1262.
2. Gonzalo, S., et al. 2005. Role of the RB1 family in stabilizing histone methylation at constitutive heterochromatin. Nat. Cell Biol. 7: 420-428.
3. 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.
4. 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.
5. Benetti, R., et al. 2007. SUV420H deficiency results in telomere elongation and derepression of telomere recombination. J. Cell Biol. 178: 925-936.

CHROMOSOMAL LOCATION

Genetic locus: SUV420H2 (human) mapping to 19q13.42.

PRODUCT

SUV420H2 siRNA (h) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SUV420H2 shRNA Plasmid (h): sc-97240-SH and SUV420H2 shRNA (h) Lentiviral Particles: sc-97240-V as alternate gene silencing products.

For independent verification of SUV420H2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-97240A, sc-97240B and sc-97240C.

PROTOCOLS

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

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

SUV420H2 siRNA (h) is recommended for the inhibition of SUV420H2 expression in human cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor SUV420H2 gene expression knockdown using RT-PCR Primer: SUV420H2 (h)-PR: sc-97240-PR (20 µl, 519 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Ea, C.K., et al. 2012. EHMT1 protein binds to nuclear factor-κB p50 and represses gene expression. J. Biol. Chem. 287: 31207-31217.

RESEARCH USE

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