SANTA CRUZ BIOTECHNOLOGY, INC.

JMJD1B siRNA (h): sc-91707

BACKGROUND

JMJD1B (jumonji domain containing 1B), also known as KDM3B, 5qNCA (5q nuclear co-activator) or C5orf7, is a member of the JHDM2 histone demethylase family of proteins. Expressed in a wide variety of tissues, JMJD1B localizes to the nucleus and contains one JMJC domain and a C-terminal zinc finger motif. JMJD1B functions as a histone demethylase and, using iron as a cofactor, demethylates Lysine 9 of Histone H3. This suggests that JMJD1B plays a central role in the histone code. The gene encoding human JMJD1B is located within the 5q region of the genome that is often deleted in myeloid leukemias and myelodysplasias. This implies that JMJD1B may function as a tumor suppressor of myeloid leukemia. Eptopic expression of JMJD1B exhibits growth suppressive activities, further supporting a role for JMJD1B in tumor suppression.

REFERENCES

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3. Hu, Z., et al. 2001. A novel nuclear protein, 5qNCA (LOC51780) is a candidate for the myeloid leukemia tumor suppressor gene on chromosome 5 band q31. Oncogene 20: 6946-6954.
4. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609373. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
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CHROMOSOMAL LOCATION

Genetic locus: KDM3B (human) mapping to 5q31.2.

PRODUCT

JMJD1B 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 JMJD1B shRNA Plasmid (h): sc-91707-SH and JMJD1B shRNA (h) Lentiviral Particles: sc-91707-V as alternate gene silencing products.

For independent verification of JMJD1B (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-91707A, sc-91707B and sc-91707C.

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

JMJD1B siRNA (h) is recommended for the inhibition of JMJD1B 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 JMJD1B gene expression knockdown using RT-PCR Primer: JMJD1B (h)-PR: sc-91707-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Saavedra, F., et al. 2020. JMJD1B, a novel player in Histone H3 and H4 processing to ensure genome stability. Epigenetics Chromatin 13: 6.

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.