SANTA CRUZ BIOTECHNOLOGY, INC.

JMJD1C siRNA (m): sc-75358

BACKGROUND

JMJD1C (Jumonji domain containing 1C), also known as TRIP8 (thyroid hormone receptor interacting protein 8), is a nuclear protein that belongs to the JHDM2 family of histone demethylases. Expressed in a wide variety of tissues, JMJD1C binds iron as a cofactor and contains one JMJC domain, a TRI8H1 domain with a C_2HC_4-type zinc finger-like motif and a TRI8H2 domain with a TRβ (thyroid hormone receptor β)-binding region. JMJD1C demethylates Lysine 9 of Histone H3, thereby playing a central role in the histone code and participating in nuclear hormone receptor-based transcriptional regulation. In addition, JMJD1C plays an important role in the regulation of cell growth during development and in chromatin regulation. Due to alternative splicing events, two isoforms exist for JMJD1C. One of these isoforms functions as a coactivator for the AR (androgen receptor).

REFERENCES

1. Toyoda, M., et al. 2000. Jumonji is a nuclear protein that participates in the negative regulation of cell growth. Biochem. Biophys. Res. Commun. 274: 332-336.
2. Jung, J., et al. 2005. Roles of Jumonji in mouse embryonic development. Dev. Dyn. 232: 21-32.
3. Takeuchi, T., et al. 2006. Roles of Jumonji and Jumonji family genes in chromatin regulation and development. Dev. Dyn. 235: 2449-2459.
4. Tarnopolsky, M., et al. 2007. Gene expression, fiber type, and strength are similar between left and right legs in older adults. J. Gerontol. A Biol. Sci. Med. Sci. 62: 1088-1095.
5. Katoh, M. and Katoh, M. 2007. Comparative integromics on JMJD1C gene encoding histone demethylase: conserved POU5F1 binding site elucidating mechanism of JMJD1C expression in undifferentiated ES cells and diffuse-type gastric cancer. Int. J. Oncol. 31: 219-223.
6. Wolf, S.S., et al. 2007. A novel variant of the putative demethylase gene, s-JMJD1C, is a co-activator of the AR. Arch. Biochem. Biophys. 460: 56-66.
7. Castermans, D., et al. 2007. Identification and characterization of the TRIP8 and REEP3 genes on chromosome 10q21.3 as novel candidate genes for autism. Eur. J. Hum. Genet. 15: 422-431.

CHROMOSOMAL LOCATION

Genetic locus: Jmjd1c (mouse) mapping to 10 B5.1.

PRODUCT

JMJD1C siRNA (m) 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 JMJD1C shRNA Plasmid (m): sc-75358-SH and JMJD1C shRNA (m) Lentiviral Particles: sc-75358-V as alternate gene silencing products.

For independent verification of JMJD1C (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-75358A, sc-75358B and sc-75358C.

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

JMJD1C siRNA (m) is recommended for the inhibition of JMJD1C expression in mouse 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 JMJD1C gene expression knockdown using RT-PCR Primer: JMJD1C (m)-PR: sc-75358-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

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.