SANTA CRUZ BIOTECHNOLOGY, INC.

ENX-1 siRNA (h): sc-35312

BACKGROUND

In *Drosophila*, the Polycomb (PcG) gene family encodes chromatin proteins that are required for the repression of homeotic loci in embryonic development. PcG proteins work in conjunction with the trithorax group (trxG), which activate homeobox gene expression during embryonic development. ENX-1, a mammalian homolog of the *Drosophila* gene enhancer of zeste, is a PcG protein that is ubiquitously expressed during early embryogenesis and becomes restricted to the central and peripheral nervous systems and sites of fetal hematopoiesis during later development. In the adult, ENX-1 is restricted to specific sites, including spleen, testis and placenta. The gene encoding human ENX-1 transcribes a 746 amino acid polypeptide which contains a trithorax-like domain and a DNA-binding motif. ENX-1 interacts with the proto-oncogene product Vav and is thought to be involved in the proliferation of normal and malignant hematopoietic cells. By altering the regulation of target genes, ENX-1 may also contribute to certain phenotypes of Down syndrome.

REFERENCES

1. Goebl, M.G. 1991. The Bmi-1 and Mel-18 gene products define a new family of DNA-binding proteins involved in cell proliferation and tumorigenesis. Cell 66: 623.
2. Hobert, O., et al. 1996. Isolation and developmental expression analysis of ENX-1, a novel mouse Polycomb group gene. Mech. Dev. 55: 171-184.

CHROMOSOMAL LOCATION

Genetic locus: EZH2 (human) mapping to 7q36.1.

PRODUCT

ENX-1 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 ENX-1 shRNA Plasmid (h): sc-35312-SH and ENX-1 shRNA (h) Lentiviral Particles: sc-35312-V as alternate gene silencing products.

For independent verification of ENX-1 (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-35312A, sc-35312B and sc-35312C.

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

ENX-1 siRNA (h) is recommended for the inhibition of ENX-1 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.

GENE EXPRESSION MONITORING

ENX-1 (D-8): sc-137255 is recommended as a control antibody for monitoring of ENX-1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ENX-1 gene expression knockdown using RT-PCR Primer: ENX-1 (h)-PR: sc-35312-PR (20 µl, 422 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Sasaki, M., et al. 2008. Over-expression of Polycomb group protein EZH2 relates to decreased expression of $p16^{INK4a}$ in cholangiocarcinogenesis in hepatolithiasis. J. Pathol. 215: 175-183.
2. Chinaranagari, S., et al. 2014. EZH2 dependent H3K27me3 is involved in epigenetic silencing of ID4 in prostate cancer. Oncotarget 5: 7172-7182.
3. Lu, L., et al. 2015. Posttranscriptional silencing of the lncRNA MALAT1 by miR-217 inhibits the epithelial-mesenchymal transition via enhancer of zeste homolog 2 in the malignant transformation of HBE cells induced by cigarette smoke extract. Toxicol. Appl. Pharmacol. 289: 276-285.
4. Cardenas, H., et al. 2016. EZH2 inhibition promotes epithelial-to-mesenchymal transition in ovarian cancer cells. Oncotarget 7: 84453-84467.
5. Xue, J., et al. 2017. Circ100284, via miR-217 regulation of EZH2, is involved in the arsenite-accelerated cell cycle of human keratinocytes in carcinogenesis. Biochim. Biophys. Acta Mol. Basis Dis. 1863: 753-763.
6. Deng, H., et al. 2019. CBX6 is negatively regulated by EZH2 and plays a potential tumor suppressor role in breast cancer. Sci. Rep. 9: 197.
7. Subuddhi, A., et al. 2020. Unraveling the role of H3K4 trimethylation and lncRNA HOTAIR in SATB1 and DUSP4-dependent survival of virulent *Mycobacterium tuberculosis* in macrophages. Tuberculosis 120: 101897.

RESEARCH USE

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