SANTA CRUZ BIOTECHNOLOGY, INC.

ERH siRNA (m): sc-144931

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The Power to Question

BACKGROUND

ERH (enhancer of rudimentary homolog), also known as DROER, is a 104 amino acid transcriptional coregulator that is ubiquitously expressed and highly conserved among eukaryotes. ERH may play a role in cell cycle regulation and pyrimidine biosynthesis. ERH represses the function of the coactivator PCBD, preventing it from enhancing the activity of the tissue-specific transcription factor HNF-1 (hepatocyte nuclear factor-1). HNF-1 is a homeodomain transcription factor that binds DNA as a dimer and the HNF-1/DNA complex is stabilized by PCBD. By repressing PCBD, ERH disrupts the stability of the HNF-1/DNA complex, affecting the expression of multiple genes in the liver. The structure of ERH is characterized by a single domain consisting of three α-helices and four beta-strands. ERH has a long flexible loop that is significantly conserved, suggesting that this loop region may be important for the function of ERH. ERH has two casein kinase II phosphorylation sites that are thought to disrupt the ability of ERH to dimerize.

REFERENCES

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3. Pogge von Strandmann, E., et al. 2001. ERH (enhancer of rudimentary homologue), a conserved factor identical between frog and human, is a transcriptional repressor. Biol. Chem. 382: 1379-1385.
4. Arai, R., et al. 2005. Crystal structure of an enhancer of rudimentary homolog (ERH) at 2.1 Angstroms resolution. Protein Sci. 14: 1888-1893.
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6. Jin, T., et al. 2007. A 1.55 A resolution X-ray crystal structure of HEF2/ERH and insights into its transcriptional and cell-cycle interaction networks. Proteins 68: 427-437.
7. Lukasik, A., et al. 2008. Ciz1, a $p21^{cip1/Waf1}$-interacting zinc finger protein and DNA replication factor, is a novel molecular partner for human enhancer of rudimentary homolog. FEBS J. 275: 332-340.

CHROMOSOMAL LOCATION

Genetic locus: Erh (mouse) mapping to 12 D1.

PRODUCT

ERH siRNA (m) is a target-specific 19-25 nt siRNA 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 ERH shRNA Plasmid (m): sc-144931-SH and ERH shRNA (m) Lentiviral Particles: sc-144931-V as alternate gene silencing 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

ERH siRNA (m) is recommended for the inhibition of ERH 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.

GENE EXPRESSION MONITORING

ERH (C-6): sc-373906 is recommended as a control antibody for monitoring of ERH 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).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor ERH gene expression knockdown using RT-PCR Primer: ERH (m)-PR: sc-144931-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.