



Hex siRNA (h): sc-43831

BACKGROUND

The homeobox protein Hex, also known as proline-rich homeodomain protein (Prh), is encoded by a divergent homeobox gene that is transiently expressed in many hematopoietic lineages, suggesting involvement in cellular differentiation. Hex plays a critical role in inducing differentiation of vascular endothelial cells, in the development and maintenance of several organs derived from foregut endoderm, such as the lung, liver and thyroid gland, and in thyroid cell differentiation. Specifically, Hex is expressed in the developmental phases of the thyroid, lung, liver, thymus, gallbladder and pancreas, and in the adult thyroid, lung and liver. Hex also mediates transcriptional induction of the SMemb/NMHC-B gene via its homeodomain and can function as a transcriptional modulator of CRE-dependent transcription in vascular smooth muscle cells (VSMCs). Hex, a 35-37-kDa soluble protein, is detected in both the nucleus and cytoplasm of transfected and nontransfected cultured cells.

REFERENCES

1. Bogue, C., et al. 2000. Hex expression suggest a role in the development and function of organs derived from foregut endoderm. *Dev. Dyn.* 1: 84-89.
2. Pellizzari, L., et al. 2000. Expression and function of the homeodomain-containing protein Hex in thyroid cells. *Nucleic Acids Res.* 13: 2503-2511.
3. Martinez, B., et al. 2000. The homeobox gene Hex is required in definitive endodermal tissues for normal forebrain, liver, and thyroid formation. *Development* 11: 2433-2445.
4. Denson, L., et al. 2000. Divergent homeobox gene Hex regulates promoter of the Na⁺-dependent bile acid co-transporter. *Am. J. Physiol. Gastrointest. Liver Physiol.* 2: 347-355.
5. Ghosh, B., et al. 2000. Immunocytochemical characterization of murine Hex, a homeobox-containing protein. *Pediatr. Res.* 5: 634-638.
6. Sekiguchi, K., et al. 2001. Homeobox proteins Hex induces SMemb/non-muscle myosin heavy chain-B gene expression through the cAMP-responsive element. *Circ. Res.* 1: 52-58.

CHROMOSOMAL LOCATION

Genetic locus: HHEX (human) mapping to 10q23.33.

PRODUCT

Hex 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Hex shRNA Plasmid (h): sc-43831-SH and Hex shRNA (h) Lentiviral Particles: sc-43831-V as alternate gene silencing products.

For independent verification of Hex (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-43831A, sc-43831B and sc-43831C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Hex siRNA (h) is recommended for the inhibition of Hex 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 μ M in 66 μ l. 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

Hex (HHE5I261): sc-81284 is recommended as a control antibody for monitoring of Hex 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 Hex gene expression knockdown using RT-PCR Primer: Hex (h)-PR: sc-43831-PR (20 μ l, 498 bp). 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.