SANTA CRUZ BIOTECHNOLOGY, INC.

CHD1 siRNA (m): sc-60364

BACKGROUND

Chromodomains participate in the recognition of lysine-methylated histone tails and nucleic acids. The CHD1 protein, named for its chromo-domain, ATPase helicase-like domain and DNA-binding domain, functions as an ATP-utilizing chromatin assembly factor. Unlike HP1 and Polycomb proteins that use single chromodomains to bind to their respective methylated Histone H3 tails, the two chromodomains of CHD1 cooperate to associate with one methylated H3 tail. Unique inserts within chromodomain 1 of CHD1 block the expected site of H3 tail binding seen in HP1 and Polycomb, and instead direct H3 binding to a groove at the interchromodomain junction. The human CHD1 gene maps to 5q21.1, and encodes a 1,709 amino acid deduced protein that shares 95.5% identity with the 1,711 amino acid mouse Chd1 polypeptide.

REFERENCES

1. Stokes, D.G., et al. 1995. DNA-binding and chromatin localization properties of CHD1. Mol. Cell. Biol. 15: 2745-2753.
2. Stokes, D.G., et al. 1996. CHD1 is concentrated in interbands and puffed regions of Drosophila polytene chromosomes. Proc. Natl. Acad. Sci. USA 93: 7137-7142.
3. Fridolfsson, A.K., et al. 2000. Molecular evolution of the avian CHD1 genes on the Z and W sex chromosomes. Genetics 155: 1903-1912.
4. Tsang, J.S., et al. 2002. Sec-dependent and Sec-independent translocation of haloacid dehalogenase CHD1 of *Burkholderia cepacia* MBA4 in *Escherichia coli*. FEMS Microbiol. Lett. 211: 259-264.
5. Simic, R., et al. 2003. Chromatin remodeling protein CHD1 interacts with transcription elongation factors and localizes to transcribed genes. EMBO J. 22: 1846-1856.
6. Tai, H.H., et al. 2003. CHD1 associates with NCoR and histone deacetylase as well as with RNA splicing proteins. Biochem. Biophys. Res. Commun. 308: 170-176.

CHROMOSOMAL LOCATION

Genetic locus: Chd1 (mouse) mapping to 17 A2.

PRODUCT

CHD1 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 CHD1 shRNA Plasmid (m): sc-60364-SH and CHD1 shRNA (m) Lentiviral Particles: sc-60364-V as alternate gene silencing products.

For independent verification of CHD1 (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-60364A, sc-60364B and sc-60364C.

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 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

CHD1 siRNA (m) is recommended for the inhibition of CHD1 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

CHD1 (C-8): sc-271626 is recommended as a control antibody for monitoring of CHD1 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 CHD1 gene expression knockdown using RT-PCR Primer: CHD1 (m)-PR: sc-60364-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.