SANTA CRUZ BIOTECHNOLOGY, INC.

CHD1L siRNA (h): sc-78807

BACKGROUND

CHD1L (chromodomain helicase DNA-binding protein 1-like) is a 897 amino acid protein encoded by the human gene CHD1L. The CHD family of proteins are ATP-dependent chromatin remodeling enzymes, which combine chromodomains, with SWI2/SNF2 ATPase/helicase motifs and DNA-binding capability. Chromodomains are protein regions of about 40-50 amino acid residues found in proteins associated with chromatin remodeling and manipulation. The domain is highly conserved among both plants and animals and is found in a large variety of proteins from many genomes. CHD1L and CHD1 share most homology within two internal helicase domains.

REFERENCES

1. Stokes, D.G., et al. 1995. DNA-binding and chromatin localization properties of CHD1. Mol. Cell. Biol. 15: 2745-2753.
2. Woodage, T., et al. 1997. Characterization of the CHD family of proteins. Proc. Natl. Acad. Sci. USA 94: 11472-11477.
3. Kelley, D.E., et al. 1999. CHD1 interacts with SSRP1 and depends on both its chromodomain and its ATPase/helicase-like domain for proper association with chromatin. Chromosoma 108: 10-25.
4. 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.
5. Sims, R.J., et al. 2006. Human but not yeast CHD1 binds directly and selectively to histone H3 methylated at lysine 4 via its tandem chromodomains. J. Biol. Chem. 280: 41789-41792.
6. Flanagan, et al. 2006. Double chromodomains cooperate to recognize the methylated histone H3 tail. Nature 438: 1181-1185.
7. Okuda, M., et al. 2007. Structural polymorphism of chromodomains in CHD1. J. Mol. Biol. 365: 1047-1062.

CHROMOSOMAL LOCATION

Genetic locus: CHD1L (human) mapping to 1q21.1.

PRODUCT

CHD1L 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 CHD1L shRNA Plasmid (h): sc-78807-SH and CHD1L shRNA (h) Lentiviral Particles: sc-78807-V as alternate gene silencing products.

For independent verification of CHD1L (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-78807A, sc-78807B and sc-78807C.

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

CHD1L siRNA (h) is recommended for the inhibition of CHD1L 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

CHD1L (2170C3a): sc-81065 is recommended as a control antibody for monitoring of CHD1L 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 CHD1L gene expression knockdown using RT-PCR Primer: CHD1L (h)-PR: sc-78807-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.