



CHD9 siRNA (h): sc-72886

BACKGROUND

CHD9 (chromodomain-helicase-DNA-binding protein 9), also known as chromatin-related mesenchymal modulator (CReMM), PPAR- α -interacting complex protein 320 kDa, kismet homolog 2 or CHROM1, is a 2,897 amino acid protein belonging to the Snf2/Rad54 helicase family. The CHD family of proteins are ATP-dependent chromatin remodeling enzymes which combine chromodomains with SWI2/Snf2 ATPase/helicase motifs and DNA-binding capability. Localized to the cytoplasm and the nucleus, CHD9 contains two chromodomains, one ATP-binding helicase domain and one C-terminal helicase domain. 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. CHD9 acts as a transcriptional coactivator for PPAR α and may also be an ATP-dependent chromatin remodeling protein. CHD9 is widely expressed at low levels and is present as three isoforms produced by alternative splicing.

REFERENCES

1. Jones, D.O., et al. 2000. Mammalian chromodomain proteins: their role in genome organisation and expression. *Bioessays* 22: 124-137.
2. Shur, I. and Benayahu, D. 2005. Characterization and functional analysis of CReMM, a novel chromodomain helicase DNA-binding protein. *J. Mol. Biol.* 352: 646-655.
3. Surapureddi, S., et al. 2006. PRIC320, a transcription coactivator, isolated from peroxisome proliferator-binding protein complex. *Biochem. Biophys. Res. Commun.* 343: 535-543.

CHROMOSOMAL LOCATION

Genetic locus: CHD9 (human) mapping to 16q12.2.

PRODUCT

CHD9 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 CHD9 shRNA Plasmid (h): sc-72886-SH and CHD9 shRNA (h) Lentiviral Particles: sc-72886-V as alternate gene silencing products.

For independent verification of CHD9 (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-72886A, sc-72886B and sc-72886C.

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

CHD9 siRNA (h) is recommended for the inhibition of CHD9 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

CHD9 (E-4): sc-390291 is recommended as a control antibody for monitoring of CHD9 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 CHD9 gene expression knockdown using RT-PCR Primer: CHD9 (h)-PR: sc-72886-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Bao, Z.Y., et al. 2023. Administration of *A. muciniphila* ameliorates pulmonary arterial hypertension by targeting miR-208a-3p/NOVA1 axis. *Acta Pharmacol. Sin.* 44: 2201-2215.

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.