



CHRA15 siRNA (h): sc-38614

BACKGROUND

DNA replication is initiated by the binding of initiation factors to the origin of replication. Nucleosomes inhibit access to the replication machinery at these origin sequences. Nucleosome remodeling factors increase the accessibility of nucleosomal DNA to transcriptional regulators. CHRA15 and CHRA17 are subunits of the nucleosomal remodeling factor CHRA1 (chromatin accessibility complex), which increases the accessibility of nucleosomal DNA in an ATP-dependent manner. Unlike other known chromatin remodeling factors, CHRA1 also functions during chromatin assembly by using ATP to convert irregular chromatin into a regular array of nucleosomes with even spacing. This conversion process occurs when CHRA1 organizes randomly deposited histones into a regularly spaced array. In the presence of CHRA1, the nucleosomal ATPase ISWI catalyzes several ATP-dependent transitions of chromatin structure.

REFERENCES

1. Varga-Weisz, P.D., et al. 1997. Chromatin-remodelling factor CHRA1 contains the ATPases ISWI and topoisomerase II. *Nature* 388: 598-602.
2. Alexiadis, V., et al. 1998. *In vitro* chromatin remodeling by chromatin accessibility complex (CHRA1) at the SV40 origin of DNA replication. *EMBO J.* 17: 3428-3438.
3. Langst, G., et al. 1999. Nucleosome movement by CHRA1 and ISWI without disruption or *trans*-displacement of the histone octamer. *Cell* 97: 843-852.
4. Guschin, D., et al. 2000. Multiple ISWI ATPase complexes from *Xenopus laevis*. Functional conservation of an ACF/CHRA1 homolog. *J. Biol. Chem.* 275: 35248-35245.
5. Clapier, C.R., et al. 2001. Critical role for the Histone H4 N terminus in nucleosome remodeling by ISWI. *Mol. Cell. Biol.* 21: 875-883.

CHROMOSOMAL LOCATION

Genetic locus: CHRA1 (human) mapping to 8q24.3.

PRODUCT

CHRA15 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 CHRA15 shRNA Plasmid (h): sc-38614-SH and CHRA15 shRNA (h) Lentiviral Particles: sc-38614-V as alternate gene silencing products.

For independent verification of CHRA15 (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-38614A, sc-38614B and sc-38614C.

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.

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

CHRA15 siRNA (h) is recommended for the inhibition of CHRA15 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CHRA15 gene expression knockdown using RT-PCR Primer: CHRA15 (h)-PR: sc-38614-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.