SANTA CRUZ BIOTECHNOLOGY, INC.

CHRAC15 siRNA (m): sc-142335

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. CHRAC15 and CHRAC17 are subunits of the nucleosomal remodeling factor CHRAC (chromatin accessibility complex), which increases the accessibility of nucleosomal DNA in an ATP-dependent manner. Unlike other known chromatin remodelling factors, CHRAC 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 CHRAC organizes randomly deposited histones into a regularly spaced array. In the presence of CHRAC, the nucleosomal ATPase ISWI catalyses several ATP-dependent transitions of chromatin structure.

REFERENCES

1. Varga-Weisz, P.D., et al. 1997. Chromatin-remodelling factor CHRAC contians the ATPases ISWI and topoisomerase II. Nature 388: 598-602.
2. Alexiadis, V., et al. 1998. *In vitro* chromatin remodelling by chromatin accessibility complex (CHRAC) at the SV40 origin of DNA replication. EMBO J. 17: 3428-3438.
3. Langst, G., et al. 1999. Nucleosome movement by CHRAC 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/CHRAC 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: Chrac1 (mouse) mapping to 15 D3.

PRODUCT

CHRAC15 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 CHRAC15 shRNA Plasmid (m): sc-142335-SH and CHRAC15 shRNA (m) Lentiviral Particles: sc-142335-V as alternate gene silencing products.

For independent verification of CHRAC15 (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-142335A, sc-142335B and sc-142335C.

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

CHRAC15 siRNA (m) is recommended for the inhibition of CHRAC15 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CHRAC15 gene expression knockdown using RT-PCR Primer: CHRAC15 (m)-PR: sc-142335-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.