SANTA CRUZ BIOTECHNOLOGY, INC.

CHRAC17 siRNA (m): sc-38616

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., Wilm, M., Bonte, E., Dumas, K., Mann, M. and Becker, P.B. 1997. Chromatin-remodelling factor CHRAC contians the ATPases ISWI and topoisomerase II. Nature 388: 598-602.
2. Alexiadis, V., Varga-Weisz, P.D., Bonte, E., Becker, P.B. and Gruss, C. 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., Bonte, E.J., Corona, D.F. and Becker, P.B. 1999. Nucleosome movement by CHRAC and ISWI without disruption or *trans*-displacement of the histone octamer. Cell 97: 843-852.
4. Guschin, D., Geiman, T.M., Kikyo, N., Tremethick, D.J., Wolffe, A.P. and Wade, P.A. 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., Langst, G., Corona, D.F., Becker, P.B. and Nightingale, K.P. 2001. Critical role for the Histone H4 N terminus in nucleosome remodeling by ISWI. Mol. Cell. Biol. 21: 875-883.

CHROMOSOMAL LOCATION

Genetic locus: Pole3 (mouse) mapping to 4 B3.

PRODUCT

CHRAC17 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 CHRAC17 shRNA Plasmid (m): sc-38616-SH and CHRAC17 shRNA (m) Lentiviral Particles: sc-38616-V as alternate gene silencing products.

For independent verification of CHRAC17 (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-38616A, sc-38616B and sc-38616C.

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

CHRAC17 siRNA (m) is recommended for the inhibition of CHRAC17 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

CHRAC17 (E-11): sc-376242 is recommended as a control antibody for monitoring of CHRAC17 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 CHRAC17 gene expression knockdown using RT-PCR Primer: CHRAC17 (m)-PR: sc-38616-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.