SANTA CRUZ BIOTECHNOLOGY, INC.

HMG-17 siRNA (h): sc-37988

BACKGROUND

The high-mobility group (HMG) proteins 14 and 17 are abundant chromosomal proteins that bind to nucleosomes and enhance transcription. HMG-14 and HMG-17 also function as architectural elements, which alter the structure of the chromatin fiber and enhance transcription from chromatin templates. HMG-14/17 proteins modify the nucleosomal organization of the 30 nm chromatin fiber and mediate the unfolding of the higher order chromatin structure, thereby facilitating access to the underlying DNA sequence. Clustering of architectural elements, such as HMG proteins and linker histone subtypes, into distinct domains may lead to structural and functional heterogeneity along the chromatin fiber. In addition, HMG-14 and HMG-17 have been identified as constitutive components of mouse oocyte and embryonic chromatin that establish a link between the structure of embryonic chromatin and the normal progression of embryonic development.

REFERENCES

1. Bustin, M., et al. 1995. The HMG-14/-17 chromosomal protein family: architectural elements that enhance transcription from chromatin templates. Semin. Cell Biol. 6: 247-255.
2. Postnikov, Y.V., et al. 1997. Clusters of nucleosomes containing chromosomal protein HMG-17 in chromatin. J. Mol. Biol. 274: 454-465.
3. Hock, R., et al. 1998. Dynamic relocation of chromosomal protein HMG-17 in the nucleus is dependent on transcriptional activity. EMBO J. 17: 6992-7001.
4. Hock, R., et al. 1998. Chromosomal proteins HMG-14 and HMG-17 are released from mitotic chromosomes and imported into the nucleus by active transport. J. Cell Biol. 143: 1427-1436.
5. Mohamed, O.A., et al. 2001. High-mobility group proteins 14 and 17 maintain the timing of early embryonic development in the mouse. Dev. Biol. 229: 237-249.

CHROMOSOMAL LOCATION

Genetic locus: HMGN2 (human) mapping to 1p36.11.

PRODUCT

HMG-17 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 HMG-17 shRNA Plasmid (h): sc-37988-SH and HMG-17 shRNA (h) Lentiviral Particles: sc-37988-V as alternate gene silencing products.

For independent verification of HMG-17 (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-37988A, sc-37988B and sc-37988C.

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

HMG-17 siRNA (h) is recommended for the inhibition of HMG-17 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HMG-17 gene expression knockdown using RT-PCR Primer: HMG-17 (h)-PR: sc-37988-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Saayman, S.M., et al. 2016. Long non-coding RNA BGas regulates the cystic fibrosis transmembrane conductance regulator. Mol. Ther. 24: 1351-1357.

RESEARCH USE

For research use only, not for use in diagnostic procedures.