SANTA CRUZ BIOTECHNOLOGY, INC.

HMG-3 siRNA (h): sc-75264

BACKGROUND

The HMGB family, whose members include HMG-1, HMG-2, HMG-3 and HMG-4, is a highly conserved group of chromatin-associated proteins. Evidence suggests that the binding of HMG proteins to DNA induces alterations in the DNA architecture including DNA bending and unwinding of the helix. HMG proteins synergize with Oct-2, members of the NFκB family, ATF-2 and c-Jun to activate transcription. Other studies indicate that phosphorylation of HMG proteins is required to stimulate the transcriptional activity of HMG target proteins. HMG proteins bind single-stranded DNA, but are able to induce conformational changes in double-stranded DNA. HMG-3, also known as HMGB3 (high mobility group protein B3), is a 200 amino acid protein that localizes to the nucleus and is expressed in hematopoietic stem cells. As a member of a family of chromatin-binding proteins, HMG-3 facilitates transcription factor binding by altering DNA structure. HMG-3 may play a role in regulating proliferation and differentiation of certain cell lines. Like all other HMGB family proteins, HMG-3 contains two HMG box DNA-binding domains which can bind DNA either in a sequence-specific manner, or without sequence specificity.

REFERENCES

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7. Hayes, D.C., et al. 2006. Multigene real-time PCR detection of circulating tumor cells in peripheral blood of lung cancer patients. Anticancer Res. 26: 1567-1575.
8. Terada, K., et al. 2006. Nucleosome regulator Xhmgb3 is required for cell proliferation of the eye and brain as a downstream target of *Xenopus* rax/Rx1. Dev. Biol. 291: 398-412.
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PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

CHROMOSOMAL LOCATION

Genetic locus: HMGB3 (human) mapping to Xq28.

PRODUCT

HMG-3 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-3 shRNA Plasmid (h): sc-75264-SH and HMG-3 shRNA (h) Lentiviral Particles: sc-75264-V as alternate gene silencing products.

For independent verification of HMG-3 (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-75264A, sc-75264B and sc-75264C.

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-3 siRNA (h) is recommended for the inhibition of HMG-3 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-3 gene expression knockdown using RT-PCR Primer: HMG-3 (h)-PR: sc-75264-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.