

HMG-2L1 siRNA (m): sc-146048

BACKGROUND

High mobility group (HMG) protein 1 and 2 have been classified by DNA binding preferences and are ubiquitous non-histone components of chromatin. They bind to the minor groove of AT-rich DNA sequences with high affinity. 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 NF κ B family, ATF-2 and c-Jun to activate transcription. HMG-2L1 (high mobility group protein 2-like 1), also known as HMGB1, is a member of the HMG chromosomal protein superfamily. It contains a single HMG box DNA binding domain, and therefore does not contain an acidic C-terminal tail. HMG-2L1 is expressed in the nucleus and may play a role in transcriptional regulation.

REFERENCES

1. Bustin, M., Lehn, D.A. and Landsman, D. 1990. Structural features of the HMG chromosomal proteins and their genes. *Biochim. Biophys. Acta* 1049: 231-243.
2. Laudet, V., Stehelin, D. and Clevers, H. 1993. Ancestry and diversity of the HMG box superfamily. *Nucleic Acids Res.* 21: 2493-2501.
3. Nissen, M.S. and Reeves, R. 1995. Changes in superhelicity are introduced into closed circular DNA by binding of high mobility group protein I/Y. *J. Biol. Chem.* 270: 4355-4360.
4. Bustin, M. 1999. Regulation of DNA-dependent activities by the functional motifs of the high-mobility-group chromosomal proteins. *Mol. Cell. Biol.* 19: 5237-5246.
5. Online Mendelian Inheritance in Man, OMIM. 2000. John Hopkins University, Baltimore, MD. MIM Number: 604702. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Liu, F., Chau, K.Y., Arlotta, P. and Ono, S.J. 2001. The HMG I proteins: dynamic roles in gene activation, development, and tumorigenesis. *Immunol. Res.* 24: 13-29.
7. Yamada, M., Ohkawara, B., Ichimura, N., Hyodo-Miura, J., Urushiyama, S., Shirakabe, K. and Shibuya, H. 2003. Negative regulation of Wnt signalling by HMG2L, a novel NLK-binding protein. *Genes Cells* 8: 677-684.

CHROMOSOMAL LOCATION

Genetic locus: Hmgb4 (mouse) mapping to 8 C1.

PRODUCT

HMG-2L1 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see HMG-2L1 shRNA Plasmid (m): sc-146048-SH and HMG-2L1 shRNA (m) Lentiviral Particles: sc-146048-V as alternate gene silencing products.

For independent verification of HMG-2L1 (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-146048A, sc-146048B and sc-146048C.

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

HMG-2L1 siRNA (m) is recommended for the inhibition of HMG-2L1 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 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.

GENE EXPRESSION MONITORING

HMG-2L1 (F-10): sc-166797 is recommended as a control antibody for monitoring of HMG-2L1 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 HMG-2L1 gene expression knockdown using RT-PCR Primer: HMG-2L1 (m)-PR: sc-146048-PR (20 μ l). 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.

PROTOCOLS

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