SANTA CRUZ BIOTECHNOLOGY, INC.

HMGN3 siRNA (m): sc-146053

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The Power to Question

BACKGROUND

HMGN3 (high mobility group nucleosome-binding domain-containing protein 3), also known as TRIP7 (thyroid receptor-interacting protein 7), is a 99 amino acid member of the HMGN protein family. Localized to the nucleus, HMGN3 is believed to enhance transcription from chromatin templates by reducing the compactness of the chromatin fibers in the nucleosomes. HMGN3 also interacts with the ligand binding domain of the thyroid receptor. HMGN3 is induced by estrogen, and is abundantly expressed in skeletal muscle, kidney and heart with lower levels found in liver, pancreas and lung. HMGN3 is expressed as two isoforms produced by alternative splicing events.

REFERENCES

1. Lee, J.W., et al. 1995. Two classes of proteins dependent on either the presence or absence of thyroid hormone for interaction with the thyroid hormone receptor. Mol. Endocrinol. 9: 243-254.
2. West, K.L., et al. 2001. HMGN3a and HMGN3b, two protein isoforms with a tissue-specific expression pattern, expand the cellular repertoire of nucleosome-binding proteins. J. Biol. Chem. 276: 25959-25969.
3. Leong, P.W., et al. 2002. Differential display RT-PCR analysis of enterovirus-71-infected rhabdomyosarcoma cells reveals mRNA expression responses of multiple human genes with known and novel functions. Virology 295: 147-159.
4. Wu, C., et al. 2007. Systematic identification of SH3 domain-mediated human protein-protein interactions by peptide array target screening. Proteomics 7: 1775-1785.
5. Lucey, M.M., et al. 2008. Differential expression of the HMGN family of chromatin proteins during ocular development. Gene Expr. Patterns 8: 433-437.
6. Cherukuri, S., et al. 2008. Cell cycle-dependent binding of HMGN proteins to chromatin. Mol. Biol. Cell 19: 1816-1824.
7. Ueda, T., et al. 2009. The nucleosome binding protein HMGN3 modulates the transcription profile of pancreatic beta cells and affects Insulin secretion. Mol. Cell. Biol. 29: 5264-5276.

CHROMOSOMAL LOCATION

Genetic locus: Hmgn3 (mouse) mapping to 9 E2.

PRODUCT

HMGN3 siRNA (m) is a target-specific 19-25 nt siRNA 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 HMGN3 shRNA Plasmid (m): sc-146053-SH and HMGN3 shRNA (m) Lentiviral Particles: sc-146053-V as alternate gene silencing products.

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

HMGN3 siRNA (m) is recommended for the inhibition of HMGN3 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

p-HMGN3 (47.Ser 31): sc-135764 is recommended as a control antibody for monitoring of HMGN3 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, TBS Blotto B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Lambda Phosphatase: sc-200312A 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 HMGN3 gene expression knockdown using RT-PCR Primer: HMGN3 (m)-PR: sc-146053-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.