SANTA CRUZ BIOTECHNOLOGY, INC.

Histone H2BM siRNA (h): sc-91039

BACKGROUND

Eukaryotic histones are basic and water soluble nuclear proteins that form hetero-octameric nucleosome particles by wrapping 146 base pairs of DNA in a left-handed super-helical turn sequentially to form chromosomal fiber. Over 80% of nucleosomes contain the linker Histone H1, derived from an intronless gene, that interacts with linker DNA between nucleosomes and mediates compaction into higher order chromatin. Histones are subject to post-translational modification by enzymes primarily on their N-terminal tails, but also in their globular domains. Such modifications include methylation, citrullination, acetylation, phosphorylation, sumoylation, ubiquitination and ADP-ribosylation. Histone H2BM, also known as H2BFM, is a 257 amino acid protein that belongs to the histone H2B family. Localizing to the nucleus and chromosome, Histone H2BM differs from other H2B histones in that it does not contain the conserved C-terminal residue involved in monoubiquitination.

REFERENCES

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2. Koppel, D.A., et al. 1994. Primate testicular histone H1t genes are highly conserved and the human H1t gene is located on chromosome 6. J. Cell. Biochem. 54: 219-230.
3. Gunjan, A., et al. 2005. Regulation of histone synthesis and nucleosome assembly. Biochimie 87: 625-635.
4. Rupp, R.A., et al. 2005. Gene regulation by histone H1: new links to DNA methylation. Cell 123: 1178-1179.
5. Bustin, M., et al. 2005. The dynamics of histone H1 function in chromatin. Mol. Cell 17: 617-620.
6. Martin, C., et al. 2005. The diverse functions of histone lysine methylation. Nat. Rev. Mol. Cell Biol. 6: 838-849.
7. Wurtele, H., et al. 2006. Histone post-translational modifications and the response to DNA double-strand breaks. Curr. Opin. Cell Biol. 18: 137-144.

CHROMOSOMAL LOCATION

Genetic locus: H2BFM (human) mapping to Xq22.2.

PRODUCT

Histone H2BM 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 Histone H2BM shRNA Plasmid (h): sc-91039-SH and Histone H2BM shRNA (h) Lentiviral Particles: sc-91039-V as alternate gene silencing products.

For independent verification of Histone H2BM (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-91039A, sc-91039B and sc-91039C.

RESEARCH USE

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

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

Histone H2BM siRNA (h) is recommended for the inhibition of Histone H2BM 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 Histone H2BM gene expression knockdown using RT-PCR Primer: Histone H2BM (h)-PR: sc-91039-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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