SANTA CRUZ BIOTECHNOLOGY, INC.

Histone H2A.Bbd siRNA (h): sc-75261

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 fibers. Two molecules of each of the four core Histones (Histone H2A, H2B, H3, and H4) form the octamer, which consists of two H2A-H2B dimers and two H3-H4 dimers that are nearly symmetrical by tertiary structure. 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. Histone H2A.Bbd (Histone H2A Barr body-deficient), also known as Histone H2A-Bbd type 2/3, is a 115 amino acid protein that localizes to the nucleus and exists as an atypical Histone H2A which can replace conventional H2As in some nucleosomes. Unlike most Histones, Histone H2A.Bbd lacks the conserved residues that are necessary for post-translational modification and is, therefore, not susceptible to phosphorylation or glycosylation.

REFERENCES

1. El Kharroubi, A., et al. 1998. Transcriptional activation of the integrated chromatin-associated human immunodeficiency virus type 1 promoter. Mol. Cell. Biol. 18: 2535-2544.
2. Deng, L., et al. 2000. Acetylation of HIV-1 Tat by CBP/P300 increases transcription of integrated HIV-1 genome and enhances binding to core histones. Virology 277: 278-295.
3. Chadwick, B.P. and Willard, H.F. 2001. A novel chromatin protein, distantly related to histone H2A, is largely excluded from the inactive X chromosome. J. Cell Biol. 152: 375-384.
4. Online Mendelian Inheritance in Man, OMIM™. 2003. Johns Hopkins University, Baltimore, MD. MIM Number: 300445. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Bao, Y., et al. 2004. Nucleosomes containing the histone variant H2A.Bbd organize only 118 base pairs of DNA. EMBO J. 23: 3314-3324.
6. Okuwaki, M., et al. 2005. Assembly and disassembly of nucleosome core particles containing histone variants by human nucleosome assembly protein I. Mol. Cell. Biol. 25: 10639-10651.

CHROMOSOMAL LOCATION

Genetic locus: H2AFB3 (human) mapping to Xq28.

PRODUCT

Histone H2A.Bbd siRNA (h) 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 Histone H2A.Bbd shRNA Plasmid (h): sc-75261-SH and Histone H2A.Bbd shRNA (h) Lentiviral Particles: sc-75261-V as alternate gene silencing products.

PROTOCOLS

See our web site at www.scbt.com or our catalog 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

Histone H2A.Bbd siRNA (h) is recommended for the inhibition of Histone H2A.Bbd 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 H2A.Bbd gene expression knockdown using RT-PCR Primer: Histone H2A.Bbd (h)-PR: sc-75261-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.