SANTA CRUZ BIOTECHNOLOGY, INC.

Histone cluster 1 H2AD siRNA (m): sc-145981

BACKGROUND

Eukaryotic histones are basic water soluble nuclear proteins that form hetero-octameric nucleosome particles by wrapping 146 base pairs of DNA in a left-handed super-helical turn to form chromosomal fibers. Two molecules of each of the four core histones (H2A, H2B, H3 and H4) form the octamer, which is comprised of two H2A-H2B dimers and two H3-H4 dimers, forming two nearly symmetrical halves by tertiary structure. Histones are subject to post-translational modification by enzymes, primarily on their N-terminal tails, but also in their globular domains. Histone cluster 1 H2AD, also known as HIST1H2AD, H2A.3, H2A/g or H2AFG, is a 130 amino acid nuclear protein that belongs to the Histone H2A family and is encoded by an intronless gene located on human chromosome 6.

REFERENCES

1. Kosciessa, U. and Doenecke, D. 1989. Nucleotide sequences of mouse histone genes H2A and H3.1. Nucleic Acids Res. 17: 8861.
2. Albig, W., Kioschis, P., Poustka, A., Meergans, K. and Doenecke, D. 1997. Human histone gene organization: nonregular arrangement within a large cluster. Genomics 40: 314-322.
3. Albig, W. and Doenecke, D. 1997. The human histone gene cluster at the D6S105 locus. Hum. Genet. 101: 284-294.
4. Ahn, J. and Gruen, J.R. 1999. The genomic organization of the histone clusters on human 6p21.3. Mamm. Genome 10: 768-770.
5. Marzluff, W.F., Gongidi, P., Woods, K.R., Jin, J. and Maltais, L.J. 2002. The human and mouse replication-dependent histone genes. Genomics 80: 487-498.
6. Zhang, Y., Griffin, K., Mondal, N. and Parvin, J.D. 2004. Phosphorylation of histone H2A inhibits transcription on chromatin templates. J. Biol. Chem. 279: 21866-21872.
7. Bonenfant, D., Coulot, M., Towbin, H., Schindler, P. and van Oostrum, J. 2006. Characterization of histone H2A and H2B variants and their post-translational modifications by mass spectrometry. Mol. Cell Proteomics 5: 541-552.

CHROMOSOMAL LOCATION

Genetic locus: Hist1h2ad (mouse) mapping to 13 A3.1.

PRODUCT

Histone cluster 1 H2AD siRNA (m) is a target-specific 19-25 nt siRNA design-ed 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 cluster 1 H2AD shRNA Plasmid (m): sc-145981-SH and Histone cluster 1 H2AD shRNA (m) Lentiviral Particles: sc-145981-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

Histone cluster 1 H2AD siRNA (m) is recommended for the inhibition of Histone cluster 1 H2AD 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Histone cluster 1 H2AD gene expression knockdown using RT-PCR Primer: Histone cluster 1 H2AD (m)-PR: sc-145981-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.