

Histone H2A.F/Z siRNA (h): sc-105520

BACKGROUND

Histone H2A.Z/H2A.F/Z (H2A/z) is a 128 amino acid protein encoded by the human gene H2AFZ. Eukaryotic histones are basic and water soluble nuclear proteins that form hetero-octameric nucleosome particles by wrapping 146 base pairs of DNA sequentially in a left-handed super-helical turn to form chromosomal fiber. 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, creating two nearly symmetrical halves by tertiary structure. H2A.Z/H2A.F/Z is a variant Histone H2A which replaces conventional H2A in a subset of nucleosomes. Nucleosomes wrap and compact DNA into chromatin, limiting DNA accessibility to the cellular machineries which require DNA as a template. Histones thereby play a central role in transcription regulation, DNA repair, DNA replication and chromosomal stability. DNA accessibility is regulated via a complex set of posttranslational modifications of histones, also called histone code, and nucleosome remodeling. H2A.Z/H2A.F/Z may be involved in the formation of constitutive heterochromatin and may be required for chromosome segregation during cell division.

REFERENCES

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6. Bode, A.M., et al. 2005. Inducible covalent posttranslational modification of Histone H3. *Sci. STKE* 2005: re4.
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CHROMOSOMAL LOCATION

Genetic locus: H2AFV (human) mapping to 7p13.

PRODUCT

Histone H2A.F/Z 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Histone H2A.F/Z shRNA Plasmid (h): sc-105520-SH and Histone H2A.F/Z shRNA (h) Lentiviral Particles: sc-105520-V as alternate gene silencing products.

For independent verification of Histone H2A.F/Z (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-105520A, sc-105520B and sc-105520C.

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

Histone H2A.F/Z siRNA (h) is recommended for the inhibition of Histone H2A.F/Z 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Histone H2A.F/Z gene expression knockdown using RT-PCR Primer: Histone H2A.F/Z (h)-PR: sc-105520-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.