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Histone H1X siRNA (m): sc-146034

BACKGROUND

Histone H1X is also known as H1FX (H1 Histone family, member X) and is a 213 amino acid protein that is localized to the nucleus. Histone H1X belongs to the Histone H1/H5 family and is an H1 Histone, which are important in the process of condensing nucleosome chains into structures inside chromosomes. H1 Histones also regulate DNA repair and replication as well as gene expression. During interphase, Histone H1X accumulates in nucleoli in the G₁ phase and is evenly distributed throughout the nucleus during the S and G₂ phases of the cell cycle. During mitosis, Histone H1X is distributed along chromosomes, mostly on the chromosomal surface. Neuroendocrine cells and tumors possess large quantities of Histone H1X.

REFERENCES

1. Yamamoto, T. and Horikoshi, M. 1996. Cloning of the cDNA encoding a novel subtype of Histone H1. *Gene* 173: 281-285.
2. Online Mendelian Inheritance in Man, OMIM[™]. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 602785. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
3. Happel, N., Schulze, E. and Doenecke, D. 2005. Characterisation of human Histone H1X. *Biol. Chem.* 386: 541-551.
4. Stoldt, S., Wenzel, D., Schulze, E., Doenecke, D. and Happel, N. 2007. G₁ phase-dependent nucleolar accumulation of human Histone H1X. *Biol. Cell* 99: 541-552.
5. Takata, H., Matsunaga, S., Morimoto, A., Ono-Maniwa, R., Uchiyama, S. and Fukui, K. 2007. H1X with different properties from other linker histones is required for mitotic progression. *FEBS Lett.* 581: 3783-3788.
6. Warneboldt, J., Haller, F., Horstmann, O., Danner, B.C., Fuzesi, L., Doenecke, D. and Happel, N. 2008. Histone H1X is highly expressed in human neuroendocrine cells and tumours. *BMC Cancer* 8: 388.

CHROMOSOMAL LOCATION

Genetic locus: H1fx (mouse) mapping to 6 D1.

PRODUCT

Histone H1X 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Histone H1X shRNA Plasmid (m): sc-146034-SH and Histone H1X shRNA (m) Lentiviral Particles: sc-146034-V as alternate gene silencing 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 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 H1X siRNA (m) is recommended for the inhibition of Histone H1X 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 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.

GENE EXPRESSION MONITORING

Histone H1X (E-5): sc-514856 is recommended as a control antibody for monitoring of Histone H1X 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-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker[™] Molecular Weight Standards: sc-2035, UltraCruz[®] Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Histone H1X gene expression knockdown using RT-PCR Primer: Histone H1X (m)-PR: sc-146034-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.