



Histone cluster 2 H2BE siRNA (h): sc-105510

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. 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 posttranslational modification by enzymes primarily on their N-terminal tails, but also in their globular domains. Histone cluster 2 H2BE (Histone H2B type 2-E), also known as HIST2H2BE, H2B, H2BQ, H2BFO, H2BGL105 or GL105, is a 126 amino acid nuclear protein belonging to the Histone H2B family. Functioning as a key component of the nucleosome, Histone cluster 2 H2BE is essential for chromosomal stability, transcriptional regulation and DNA repair and regulation. Histone cluster 2 H2BE has also been implicated in bactericidal activity of amniotic fluid and may assist in assembly of the colonic epithelium's antimicrobial barrier.

REFERENCES

- Collart, D., et al. 1992. A human Histone H2B.1 variant gene, located on chromosome 1, utilizes alternative 3' end processing. *J. Cell. Biochem.* 50: 374-385.
- Nemergut, M.E., et al. 2001. Chromatin docking and exchange activity enhancement of RCC1 by histones H2A and H2B. *Science* 292: 1540-1543.
- Tollin, M., et al. 2003. Antimicrobial peptides in the first line defence of human colon mucosa. *Peptides* 24: 523-530.
- Howell, S.J., et al. 2003. Antimicrobial polypeptides of the human colonic epithelium. *Peptides* 24: 1763-1770.
- Maile, T., et al. 2004. TAF1 activates transcription by phosphorylation of serine 33 in histone H2B. *Science* 304: 1010-1014.
- Dorigo, B., et al. 2004. Nucleosome arrays reveal the two-start organization of the chromatin fiber. *Science* 306: 1571-1573.
- Barbera, A.J., et al. 2006. The nucleosomal surface as a docking station for Kaposi's sarcoma herpesvirus LANA. *Science* 311: 856-861.

CHROMOSOMAL LOCATION

Genetic locus: HIST2H2BE (human) mapping to 1q21.2.

PRODUCT

Histone cluster 2 H2BE 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 cluster 2 H2BE shRNA Plasmid (h): sc-105510-SH and Histone cluster 2 H2BE shRNA (h) Lentiviral Particles: sc-105510-V as alternate gene silencing products.

For independent verification of Histone cluster 2 H2BE (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-105510A, sc-105510B and sc-105510C.

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 cluster 2 H2BE siRNA (h) is recommended for the inhibition of Histone cluster 2 H2BE 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 cluster 2 H2BE gene expression knockdown using RT-PCR Primer: Histone cluster 2 H2BE (h)-PR: sc-105510-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.