SANTA CRUZ BIOTECHNOLOGY, INC.

H2BFWT siRNA (h): sc-91226

BACKGROUND

Eukaryotic histones are water soluble, basic 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. H2BFWT (H2B histone family member W testis-specific) is a 175 amino acid nuclear membrane histone that belongs to the histone H2B family. In contrast to most H2B histones, H2BFWT does not contain the conserved C-terminal residue involved in monoubiquitination, but is structurally indistinguishable from conventional H2B histones. Also varying from other H2B histones, H2BFWT does not participate in the recruitment of chromosome condensation factors or in the assembly of mitotic chromsomes. Expressed in testis, H2BFWT is present in sperm cells and may be essential to telomere function.

REFERENCES

1. Chadwick, B.P. and Willard, H.F. 2001. Histone H2A variants and the inactive X chromosome: identification of a second macroH2A variant. Hum. Mol. Genet. 10: 1101-1113.
2. Churikov, D., Siino, J., Svetlova, M., Zhang, K., Gineitis, A., Morton Bradbury, E. and Zalensky, A. 2004. Novel human testis-specific histone H2B encoded by the interrupted gene on the X chromosome. Genomics 84: 745-756.
3. Ross, M.T., Grafham, D.V., Coffey, A.J., Scherer, S., McLay, K., Muzny, D., Platzer, M., Howell, G.R., Burrows, C., Bird, C.P., Frankish, A., Lovell, F.L., Howe, K.L., Ashurst, J.L., Fulton, R.S., Sudbrak, R., Wen, G., et al. 2005. The DNA sequence of the human X chromosome. Nature 434: 325-337.
4. Doyen, C.M., An, W., Angelov, D., Bondarenko, V., Mietton, F., Studitsky, V.M., Hamiche, A., Roeder, R.G., Bouvet, P. and Dimitrov, S. 2006. Mechanism of polymerase II transcription repression by the histone variant macroH2A. Mol. Cell. Biol. 26: 1156-1164.
5. Boulard, M., Gautier, T., Mbele, G.O., Gerson, V., Hamiche, A., Angelov, D., Bouvet, P. and Dimitrov, S. 2006. The NH_2 tail of the novel histone variant H2BFWT exhibits properties distinct from conventional H2B with respect to the assembly of mitotic chromosomes. Mol. Cell. Biol. 26: 1518-1526.
6. Lee, J., Park, H.S., Kim, H.H., Yun, Y.J., Lee, D.R. and Lee, S. 2009. Functional polymorphism in H2BFWT-5'UTR is associated with susceptibility to male infertility. J. Cell. Mol. Med. 13: 1942-1951.

CHROMOSOMAL LOCATION

Genetic locus: H2BFWT (human) mapping to Xq22.2.

PRODUCT

H2BFWT 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see H2BFWT shRNA Plasmid (h): sc-91226-SH and H2BFWT shRNA (h) Lentiviral Particles: sc-91226-V as alternate gene silencing products.

For independent verification of H2BFWT (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-91226A, sc-91226B and sc-91226C.

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

H2BFWT siRNA (h) is recommended for the inhibition of H2BFWT 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 H2BFWT gene expression knockdown using RT-PCR Primer: H2BFWT (h)-PR: sc-91226-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Cornebise, C., Courtaut, F., Taillandier-Coindard, M., Valls-Fonayet, J., Richard, T., Monchaud, D., Aires, V. and Delmas, D. 2020. Red wine extract inhibits VEGF secretion and its signaling pathway in retinal ARPE-19 cells to potentially disrupt AMD. Molecules 25: 5564.

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.