SANTA CRUZ BIOTECHNOLOGY, INC.

HBO1 siRNA (h): sc-35530

BACKGROUND

In the cell, transcription is regulated in part by the histone modification of chromatin. Specifically, histone acetyltransferase proteins and their associated complexes function with coactivators to regulate transcription. One family of histone acetyltransferases is the MYST family of transcriptional silencers, which is linked to ORC (origin recognition complex) function. The ORC is an initiator protein for DNA replication and mediates the acetylation of chromatin to control both DNA replication and gene expression. HBO1 (histone acetyltransferase binding to ORC) is a MYST family protein that interacts with ORC1, the largest subunit of the human ORC complex. HBO1 is a nuclear protein that is highly expressed in human testis. In addition to binding ORC, HBO1 represses AR (androgen receptor)-mediated transcription by binding AR through its N-terminal transcriptional repression domain. HBO1 may play a role in regulating AR-dependent gene transcription in normal and prostate cancer cells.

REFERENCES

1. Iizuka, M. and Stillman, B. 1999. Histone acetyltransferase HBO1 interacts with the ORC1 subunit of the human initiator protein. J. Biol. Chem. 274: 23027-23034.
2. Sharma, M., et al. 2000. Androgen receptor interacts with a novel MYST protein, HBO1. J. Biol. Chem. 275: 35200-35208.
3. Zong, H., et al. 2005. Cyclin-dependent kinase 11(p58) interacts with HBO1 and enhances its histone acetyltransferase activity. FEBS Lett. 579: 3579-3588.
4. Iizuka, M., et al. 2006. Regulation of replication licensing by acetyltransferase HBO1. Mol. Cell. Biol. 26: 1098-1108.
5. Online Mendelian Inheritance in Man, OMIM™. 2006. Johns Hopkins University, Baltimore, MD. MIM Number: 609880. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Miotto, B. and Struhl, K. 2008. HBO1 histone acetylase is a coactivator of the replication licensing factor Cdt1. Genes Dev. 22: 2633-2638.
7. Foy, R.L., et al 2008. Role of Jade-1 in the histone acetyltransferase (HAT) HBO1 complex. J. Biol. Chem. 283: 28817-28826.

CHROMOSOMAL LOCATION

Genetic locus: KAT7 (human) mapping to 17q21.33.

PRODUCT

HBO1 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 HBO1 shRNA Plasmid (h): sc-35530-SH and HBO1 shRNA (h) Lentiviral Particles: sc-35530-V as alternate gene silencing products.

For independent verification of HBO1 (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-35530A, sc-35530B and sc-35530C.

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

HBO1 siRNA (h) is recommended for the inhibition of HBO1 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.

GENE EXPRESSION MONITORING

HBO1 (G-2): sc-398346 is recommended as a control antibody for monitoring of HBO1 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 HBO1 gene expression knockdown using RT-PCR Primer: HBO1 (h)-PR: sc-35530-PR (20 µl, 449 bp). 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.