SANTA CRUZ BIOTECHNOLOGY, INC.

MRGBP siRNA (h): sc-75822

BACKGROUND

In the nucleosomes of eukaryotic chromatin, DNA is wound around a class of proteins known as histones. Post-translational modification of histones alters interaction with the DNA molecule. This interaction plays a major role in regulation of transcription, DNA repair and chromosome condensation. There are two copies each of four core histones (H2A, H2B, H3 and H4) within the nucleosome. MRGBP (MRG-binding protein), also known as C20orf20, is a 204 amino acid protein which is a part of the NuA4 histone acetyltransferase (HAT) complex that acts to acetylate histone H2A and H4. The NuA4 histone acetyltransferase complex is a nuclear enzyme that contains the catalytic subunit HTATIP/TIP60. MRGBP has potential to interact with MORF4L1/MRG15 and MORF4L2/MRGX. Human MRGBP contains two phosphoserine residues at position 191 and 195.

REFERENCES

1. Park, J., Kunjibettu, S., McMahon, S.B. and Cole, M.D. 2001. The ATM-related domain of TRRAP is required for histone acetyltransferase recruitment and Myc-dependent oncogenesis. Genes Dev. 15: 1619-1624.
2. Cai, Y., Jin, J., Tomomori-Sato, C., Sato, S., Sorokina, I., Parmely, T.J., Conaway, R.C. and Conaway, J.W. 2003. Identification of new subunits of the multiprotein mammalian TRRAP/TIP60-containing histone acetyltransferase complex. J. Biol. Chem. 278: 42733-42736.
3. Doyon, Y., Selleck, W., Lane, W.S., Tan, S. and Côte, J. 2004. Structural and functional conservation of the NuA4 histone acetyltransferase complex from yeast to humans. Mol. Cell. Biol. 24: 1884-1896.
4. Cai, Y., Jin, J., Florens, L., Swanson, S.K., Kusch, T., Li, B., Workman, J.L., Washburn, M.P., Conaway, R.C. and Conaway, J.W. 2005. The mammalian YL1 protein is a shared subunit of the TRRAP/TIP60 histone acetyltransferase and SRCAP complexes. J. Biol. Chem. 280: 13665-13670.
5. Squatrito, M., Gorrini, C. and Amati, B. 2006. Tip60 in DNA damage response and growth control: many tricks in one HAT. Trends Cell Biol. 16: 433-442.
6. Dephoure, N., Zhou, C., Villen, J., Beausoleil, S.A., Bakalarski, C.E., Elledge, S.J. and Gygi, S.P. 2008. A quantitative atlas of mitotic phosphorylation. Proc. Natl. Acad. Sci. USA 105: 10762-10767.

CHROMOSOMAL LOCATION

Genetic locus: MRGBP (human) mapping to 20q13.33.

PRODUCT

MRGBP 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 MRGBP shRNA Plasmid (h): sc-75822-SH and MRGBP shRNA (h) Lentiviral Particles: sc-75822-V as alternate gene silencing products.

For independent verification of MRGBP (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-75822A, sc-75822B and sc-75822C.

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

MRGBP siRNA (h) is recommended for the inhibition of MRGBP 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 MRGBP gene expression knockdown using RT-PCR Primer: MRGBP (h)-PR: sc-75822-PR (20 µl). 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.