SANTA CRUZ BIOTECHNOLOGY, INC.

MAD2L1BP siRNA (h): sc-95335

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The Power to Question

BACKGROUND

MAD2L1BP (MAD2L1 binding protein), also known as CMT2, is a 274 amino acid protein that localizes to the nucleoplasm during early mitosis and to the spindle from metaphase through anaphase. Functioning as a component of the spindle checkpoint (which delays the onset of anaphase until kineotchore attachment is complete), MAD2L1BP is thought to coordinate cell cycle events in late mitosis, possibly binding to MAD2, thereby silencing the spindle checkpoint and allowing mitosis to proceed. MAD2L1BP is expressed as multiple alternativly spliced isforms that, upon DNA damage, may be phosphorylated by Atm or ATR. The gene encoding MAD2L1BP maps to human chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome.

REFERENCES

1. Nagase, T., et al. 1995. Prediction of the coding sequences of unidentified human genes. III. The coding sequences of 40 new genes (KIAA0081-KIAA0120) deduced by analysis of cDNA clones from human cell line KG-1. DNA Res. 2: 37-43.
2. Howell, B.J., et al. 2000. Visualization of MAD2 dynamics at kinetochores, along spindle fibers, and at spindle poles in living cells. J. Cell Biol. 150: 1233-1250.
3. Habu, T., et al. 2002. Identification of a MAD2-binding protein, CMT2, and its role in mitosis. EMBO J. 21: 6419-6428.
4. Xia, G., et al. 2004. Conformation-specific binding of p31(comet) antagonizes the function of MAD2 in the spindle checkpoint. EMBO J. 23: 3133-3143.
5. Yang, M., et al. 2007. p31comet blocks MAD2 activation through structural mimicry. Cell 131: 744-755.
6. Yun, M.Y., et al. 2007. Mutation analysis of p31comet gene, a negative regulator of MAD2, in human hepatocellular carcinoma. Exp. Mol. Med. 39: 508-513.

CHROMOSOMAL LOCATION

Genetic locus: MAD2L1BP (human) mapping to 6p21.1.

PRODUCT

MAD2L1BP 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 MAD2L1BP shRNA Plasmid (h): sc-95335-SH and MAD2L1BP shRNA (h) Lentiviral Particles: sc-95335-V as alternate gene silencing products.

For independent verification of MAD2L1BP (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-95335A, sc-95335B and sc-95335C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support 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 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

MAD2L1BP siRNA (h) is recommended for the inhibition of MAD2L1BP 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

MAD2L1BP (4-RE23): sc-134381 is recommended as a control antibody for monitoring of MAD2L1BP 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 MAD2L1BP gene expression knockdown using RT-PCR Primer: MAD2L1BP (h)-PR: sc-95335-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.