SANTA CRUZ BIOTECHNOLOGY, INC.

MTBP siRNA (m): sc-61081

BACKGROUND

p53 is a critical coordinator of a wide range of stress responses. To facilitate a rapid response to stress, p53 is produced constitutively, but is negatively regulated by MDM2. MTBP (also designated MDM2BP or MDM2 transformed 3T3 cell double minute 2, p53 binding protein (mouse) binding protein) is a growth regulator that modulates the activity of MDM2 towards itself and p53, and thereby contributes to MDM2-dependent p53 homeostasis in cells. Specifically, MTBP promotes MDM2-mediated ubiquitination and degradation of p53 and also MDM2 stabilization. MTBP transcript is most abundant in thymus, testis and ovary.

REFERENCES

1. Boyd, M.T., et al. 2000. A novel cellular protein (MTBP) binds to MDM2 and induces a G_1 arrest that is suppressed by MDM2. J. Biol. Chem. 275: 31883-31890.
2. Boyd, M.T., et al. 2000. Assignment of 8q24 by *in situ* hybridization. Cytogenet. Cell Genet. 90: 64-65.
3. Brady, M., et al. 2005. Regulation of p53 and MDM2 activity by MTBP. Mol. Cell. Biol. 25: 545-553.
4. Cheah, P.L., et al. 2005. p53: an overview of over two decades of study. Malays. J. Pathol. 23: 9-16.
5. Levav-Cohen, Y., et al. 2005. MDM2 in growth signaling and cancer. Growth Factors 23: 183-192.
6. Stríteská, D. 2006. The tumor supressor gene p53. Acta Medica Suppl. 48: 21-25.

CHROMOSOMAL LOCATION

Genetic locus: Mtbp (mouse) mapping to 15 D1.

PRODUCT

MTBP siRNA (m) 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 MTBP shRNA Plasmid (m): sc-61081-SH and MTBP shRNA (m) Lentiviral Particles: sc-61081-V as alternate gene silencing products.

For independent verification of MTBP (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-61081A, sc-61081B and sc-61081C.

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

MTBP siRNA (m) is recommended for the inhibition of MTBP expression in mouse 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

MTBP (B-5): sc-137201 is recommended as a control antibody for monitoring of MTBP 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 MTBP gene expression knockdown using RT-PCR Primer: MTBP (m)-PR: sc-61081-PR (20 µl, 437 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.