

MDMX siRNA (m): sc-37449

BACKGROUND

The MDM2 protein is the primary regulator of p53 protein stability. MDMX is an MDM2-related protein that inhibits MDM2-mediated degradation of p53 via distinct associations with MDM2. The gene that encodes MDMX (also designated MDM4) is a target for amplification in malignant gliomas. ARF interacts with MDMX to sequester MDMX within the nucleolus. This sequestration of MDMX by ARF results in an increase in p53 transactivation. In addition, expression of MDMX can reverse MDM2-targeted degradation of p53 while maintaining suppression of p53 transactivation. Like MDM2, MDMX also binds p73 and stabilizes the level of p73. Therefore, in striking contrast to p53, the half-life of p73 is increased by binding to MDM2.

REFERENCES

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2. Ongkeko, W.M., et al. 1999. MDM2 and MDMX bind and stabilize the p53-related protein p73. *Curr. Biol.* 9: 829-832.
3. Jackson, M.W., et al. 2000. MDMX protects p53 from MDM2-mediated degradation. *Mol. Cell. Biol.* 20: 1001-1007.
4. Jackson, M.W., et al. 2001. MDMX binding to ARF affects MDM2 protein stability and p53 transactivation. *J. Biol. Chem.* 276: 25336-25341.
5. Wang, X., et al. 2001. MDM2 and MDMX can interact differently with ARF and members of the p53 family. *FEBS Lett.* 490: 202-208.
6. Uldrijan, S., et al. 2007. An essential function of the extreme C-terminus of MDM2 can be provided by MDMX. *EMBO J.* 26: 102-112.
7. Marine, J.C., et al. 2007. MDMX: from bench to bedside. *J. Cell Sci.* 120: 371-378.
8. Singh, R.K., et al. 2007. Hetero-oligomerization with MDMX rescues the ubiquitin/Nedd8 ligase activity of RING finger mutants of MDM2. *J. Biol. Chem.* 282: 10901-10907.
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CHROMOSOMAL LOCATION

Genetic locus: Mdm4 (mouse) mapping to 1 E4.

PRODUCT

MDMX 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MDMX shRNA Plasmid (m): sc-37449-SH and MDMX shRNA (m) Lentiviral Particles: sc-37449-V as alternate gene silencing products.

For independent verification of MDMX (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-37449A, sc-37449B and sc-37449C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

MDMX siRNA (m) is recommended for the inhibition of MDMX 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 μ M in 66 μ l. 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

MDMX (G-10): sc-74467 is recommended as a control antibody for monitoring of MDMX 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 MDMX gene expression knockdown using RT-PCR Primer: MDMX (m)-PR: sc-37449-PR (20 μ l). 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.