SANTA CRUZ BIOTECHNOLOGY, INC.

MAGOH siRNA (m): sc-60979

BACKGROUND

MAGOH, the human homolog of *Drosophila* mago nashi, is required for embryo development. MAGOH is ubiquitously expressed in adult tissues. It has an unusual structure consiting of an extremely flat, six-stranded anti-parallel β sheet packed next to two helices. MAGOH interacts with the Y14 protein to form a complex that plays a crucial role in postsplicing processing (including nuclear export and cytoplasmic localization of the mRNA) and in the nonsense-mediated mRNA decay (NMD) surveillance process. The MAGOH-Y14 complex remains persistently associated in the same position on the mRNA after its export to the cytoplasm and requires translation of the mRNA for removal. This complex may illustrate the mechanism of the pre-mRNA splicing machinery for forming a stable exon-exon junction complex-mRNA at splice junctions.

REFERENCES

1. Zhao, X.F., et al. 1998. The mammalian homolog of mago nashi encodes a serum-inducible protein. Genomics 47: 319-322.
2. Zhao, X.F., et al. 2000. MAGOH interacts with a novel RNA-binding protein. Genomics 63: 145-148.
3. Kataoka, N., et al. 2001. MAGOH, a human homolog of *Drosophila* mago nashi protein, is a component of the splicing-dependent exon-exon junction complex. EMBO J. 20: 6424-6433.
4. Lau, C.K., et al. 2003. Structure of the MAGOH-Y14 core of the exon junction complex. Curr. Biol. 13: 933-941.
5. Degot, S., et al. 2004. Association of the breast cancer protein MLN51 with the exon junction complex via its speckle localizer and RNA binding module. J. Biol. Chem. 279: 33702-33715.
6. Nott, A., et al. 2004. Splicing enhances translation in mammalian cells: an additional function of the exon junction complex. Genes Dev. 18: 210-222.
7. Palacios, I.M., et al. 2004. An eIF4AIII-containing complex required for mRNA localization and nonsense-mediated mRNA decay. Nature 427: 753-757.
8. Wilkinson, M.F. 2005. A new function for nonsense-mediated mRNA-decay factors. Trends Genet. 21: 143-148.

CHROMOSOMAL LOCATION

Genetic locus: Magoh (mouse) mapping to 4 C7.

PRODUCT

MAGOH 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 MAGOH shRNA Plasmid (m): sc-60979-SH and MAGOH shRNA (m) Lentiviral Particles: sc-60979-V as alternate gene silencing products.

For independent verification of MAGOH (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-60979A, sc-60979B and sc-60979C.

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

MAGOH siRNA (m) is recommended for the inhibition of MAGOH 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

MAGOH (21B12): sc-56724 is recommended as a control antibody for monitoring of MAGOH 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 MAGOH gene expression knockdown using RT-PCR Primer: MAGOH (m)-PR: sc-60979-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.