SANTA CRUZ BIOTECHNOLOGY, INC.

Maspin siRNA (m): sc-35860

BACKGROUND

Maspin is structurally a Serine protease inhibitor (Serpin) that was initially isolated from normal human mammary epithelial cells. Serpins are a family of proteins that inhibit chymotrypsin-like Serine proteinases. Serpins control activated proteinases and several are involved in the regulation of cell death. Maspin is found in the extracellular matrix and at the plasma membrane. Maspin has been shown to act at the cell surface to block cell motility and inhibit invasion of breast and prostate cancer cells. Maspin is present in normal mammary epithelial cells but is absent in many tumor cell lines, yet no major structural alterations of the Maspin gene have been identified in tumor cells. Similarly, Maspin is expressed in normal prostate cells and down-regulated or absent in prostate tumor cells.

REFERENCES

1. Tomasetto, C., et al. 1993. Specificity of gap junction communication among human mammary cells and connexin transfectants in culture. J. Cell Biol. 122: 157-167.
2. Zou, Z., et al. 1994. Maspin, a Serpin with tumor-suppressing activity in human mammary epithelial cells. Science 263: 526-529.
3. Sheng, S., et al. 1994. Production, purification, and characterization of recombinant Maspin proteins. J. Biol. Chem. 269: 30988-30993.
4. Sheng, S., et al. 1996. Maspin acts at the cell membrane to inhibit invasion and motility of mammary and prostatic cancer cells. Proc. Natl. Acad. Sci. USA 93: 11669-11674.
5. Zhang, M., et al. 1997. Expression of Maspin in prostate cells is regulated by a positive Ets element and a negative hormonal responsive element site recognized by androgen receptor. Proc. Natl. Acad. Sci. USA 94: 5673-5678.
6. Whisstock, J., et al. 1998. An atlas of Serpin conformations. Trends Biochem. Sci. 23: 63-67.
7. Bird, P.I. 1998. Serpins and regulation of cell death. Results Probl. Cell Differ. 24: 63-89.

CHROMOSOMAL LOCATION

Genetic locus: Serpinb5 (mouse) mapping to 1 E2.1.

PRODUCT

Maspin 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 Maspin shRNA Plasmid (m): sc-35860-SH and Maspin shRNA (m) Lentiviral Particles: sc-35860-V as alternate gene silencing products.

For independent verification of Maspin (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-35860A, sc-35860B and sc-35860C.

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

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

Maspin (C-8): sc-271694 is recommended as a control antibody for monitoring of Maspin 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 Maspin gene expression knockdown using RT-PCR Primer: Maspin (m)-PR: sc-35860-PR (20 µl, 467 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.