

# Maspin siRNA (h): sc-35859

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: SERPINB5 (human) mapping to 18q21.33.

## PRODUCT

Maspin 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Maspin shRNA Plasmid (h): sc-35859-SH and Maspin shRNA (h) Lentiviral Particles: sc-35859-V as alternate gene silencing products.

For independent verification of Maspin (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-35859A, sc-35859B and sc-35859C.

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

## APPLICATIONS

Maspin siRNA (h) is recommended for the inhibition of Maspin 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  $\mu$ M in 66  $\mu$ 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

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-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 (h)-PR: sc-35859-PR (20  $\mu$ l, 443 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Qian, Y., et al. 2018. *Celastrus orbiculatus* extracts induce apoptosis and inhibit invasion by targeting the Maspin gene in human gastric adenocarcinoma cells. *Oncol. Lett.* 15: 243-249.
2. Ku, B.M., et al. 2018. Acquired resistance to AZD9291 as an upfront treatment is dependent on ERK signaling in a preclinical model. *PLoS ONE* 13: e0194730.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.