

# ZMAT4 siRNA (h): sc-77490

## BACKGROUND

Zinc-finger proteins contain DNA-binding domains and have a wide variety of functions, most of which encompass some form of transcriptional activation or repression. Zinc finger matrin-type protein 4 (ZMAT4) is a 229 amino acid protein that contains four matrin-type zinc fingers. The matrin-type zinc finger, which is very similar in structure to the classical DNA-binding C<sub>2</sub>H<sub>2</sub> zinc finger, was first identified in the protein matrin-3. It has also been identified in several spliceosome RNA-binding proteins, suggesting a role in pre-mRNA binding. ZMAT4 is localized to the nucleus, and two isoforms of this protein exist as a result of alternative splicing events.

## REFERENCES

1. Thiesen, H.J. 1990. Multiple genes encoding zinc finger domains are expressed in human T cells. *New Biol.* 2: 363-374.
2. Rossi, F., Forne, T., Antoine, E., Tazi, J., Brunel, C. and Cathala, G. 1996. Involvement of U1 small nuclear ribonucleoproteins (snRNP) in 5' splice site-U1 snRNP interaction. *J. Biol. Chem.* 271: 23985-23991.
3. Matsushima, Y., Matsumura, K. and Kitagawa, Y. 1997. Zinc finger-like motif conserved in a family of RNA binding proteins. *Biosci. Biotechnol. Biochem.* 61: 905-906.
4. Hibino, Y. 2000. Functional arrangement of genomic DNA and structure of nuclear matrix. *Yakugaku Zasshi* 120: 520-533.
5. Durand, S., Abadie, P., Angeletti, S. and Genti-Raimondi, S. 2003. Identification of multiple differentially expressed messenger RNAs in normal and pathological trophoblast. *Placenta* 24: 209-218.
6. Liu, J. and Stormo, G.D. 2008. Context-dependent DNA recognition code for C<sub>2</sub>H<sub>2</sub> zinc-finger transcription factors. *Bioinformatics* 24: 1850-1857.

## CHROMOSOMAL LOCATION

Genetic locus: ZMAT4 (human) mapping to 8p11.21.

## PRODUCT

ZMAT4 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 ZMAT4 shRNA Plasmid (h): sc-77490-SH and ZMAT4 shRNA (h) Lentiviral Particles: sc-77490-V as alternate gene silencing products.

For independent verification of ZMAT4 (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-77490A, sc-77490B and sc-77490C.

## 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.

## 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

ZMAT4 siRNA (h) is recommended for the inhibition of ZMAT4 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

ZMAT4 (F-6): sc-514072 is recommended as a control antibody for monitoring of ZMAT4 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 ZMAT4 gene expression knockdown using RT-PCR Primer: ZMAT4 (h)-PR: sc-77490-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.