SANTA CRUZ BIOTECHNOLOGY, INC.

Testican-2 siRNA (h): sc-61671

BACKGROUND

The Testican family, also designated the BM-40/SPARC/osteonectin family, is composed of highly conserved, extracellular, calcium-binding, sulfate proteoglycans. Expression of Testicans is detected in a variety of tissues, but is most abundant in brain. Family members include Testican-1, Testican-2, Testican-3 and an amino-terminal splice variant of Testican-3, designated N-Tes. Most Testicans inhibit MT-MMPs, thereby inhibiting the activity of pro-MMP-2. Testican-2 is expressed in the central nervous system (CNS), with widespread expression in the olfactory bulb, cerebral cortex, thalamus, hippocampus, cerebellum and medulla, and is also found in lung and testis. Testican-2 is unique in that it actually abolishes the inhibition of MT-MMPs by other testican family members and specifically inactivates N-Tes by binding to its COOH-terminal extracellular calcium-binding domain. Testican-2 halts neurite growth from cerebellar neurons and may be involved in regulating the development of the CNS.

REFERENCES

1. Vannahme, C., et al. 1999. Molecular cloning of Testican-2: defining a novel calcium-binding proteoglycan family expressed in brain. J. Neurochem. 73: 12-20.
2. Nakada, M., et al. 2003. Testican-2 abrogates inhibition of membrane-type matrix metalloproteinases by other Testican family proteins. Cancer Res. 63: 3364-3369.
3. Meh, P., et al. 2005. Dual concentration-dependent activity of thyro-globulin type-1 domain of Testican: specific inhibitor and substrate of cathepsin L. Biol. Chem. 386: 75-83.
4. Mohrmann, G., et al. 2005. SPOC1, a novel PHD-finger protein: association with residual disease and survival in ovarian cancer. Int. J. Cancer 116: 547-554.
5. Schnepp, A., et al. 2005. Mouse Testican-2. Expression, glycosylation, and effects on neurite outgrowth. J. Biol. Chem. 280: 11274-11280.
6. Röll, S., et al. 2006. Testican-1 is dispensable for mouse development. Matrix Biol. 25: 373-381.

CHROMOSOMAL LOCATION

Genetic locus: SPOCK2 (human) mapping to 10q22.1.

PRODUCT

Testican-2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Testican-2 shRNA Plasmid (h): sc-61671-SH and Testican-2 shRNA (h) Lentiviral Particles: sc-61671-V as alternate gene silencing products.

For independent verification of Testican-2 (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-61671A, sc-61671B and sc-61671C.

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

Testican-2 siRNA (h) is recommended for the inhibition of Testican-2 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 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

Testican-2 (B-5): sc-515691 is recommended as a control antibody for monitoring of Testican-2 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 Testican-2 gene expression knockdown using RT-PCR Primer: Testican-2 (h)-PR: sc-61671-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.