SANTA CRUZ BIOTECHNOLOGY, INC.

SMOC-1 siRNA (m): sc-63045

BACKGROUND

SMOC-1 (SPARC-related modular calcium-binding protein-1) is a secreted modular calcium-binding protein found in the extracellular space in or around the basement membrane. SMOC-1 is a member of the BM-40 family and contains two EF-hand domains, one Kazal-like domain and two thyroglobulin type-1 domains. The BM-40 family has been implicated with tissue remodeling, angiogenesis and bone mineralization. In embryonic stage day 12, and fetal stages day 14, 16 and 18, the SMOC-1 protein is present in the basement membrane zones of brain, blood vessels, skin, skeletal muscle, lung, heart, liver, pancreas, ovary, intestine and kidney. This broad and organ-specific distribution suggests multifunctional roles of SMOC-1 during embryogenesis.

REFERENCES

1. Vannahme, C., et al. 2002. Characterization of SMOC-1, a novel modular calcium-binding protein in basement membranes. J. Biol. Chem. 277: 37977-37986.
2. Vannahme, C., et al. 2003. Characterization of SMOC-2, a modular extracellular calcium-binding protein.. Biochem. J. 373: 805-814.
3. Srivastava, J., et al. 2006. Transcriptional status of known and novel genes tagged with consensus of 33.15 repeat loci employing minisatellite-associated sequence amplification (MASA) and real-time PCR in water buffalo, *Bubalus bubalis*. DNA Cell Biol. 25: 31-48.
4. Gersdorff, N., et al. 2006. Secreted modular calcium-binding protein-1 localization during mouse embryogenesis. Histochem. Cell Biol. 126: 705-712.
5. Srivastava, J., et al. 2007. Characterization of SMOC-1 uncovers two transcript variants showing differential tissue and age specific expression in *Bubalus bubalis*. BMC Genomics 8: 436-436.
6. Sherva, R., et al. 2007. A whole genome scan for pulse pressure/stroke volume ratio in African Americans: the HyperGEN study. Am. J. Hypertens. 20: 398-402.

CHROMOSOMAL LOCATION

Genetic locus: Smoc1 (mouse) mapping to 12 D1.

PRODUCT

SMOC-1 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 SMOC-1 shRNA Plasmid (m): sc-63045-SH and SMOC-1 shRNA (m) Lentiviral Particles: sc-63045-V as alternate gene silencing products.

For independent verification of SMOC-1 (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-63045A, sc-63045B and sc-63045C.

RESEARCH USE

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

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

SMOC-1 siRNA (m) is recommended for the inhibition of SMOC-1 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

SMOC-1 (A-10): sc-390448 is recommended as a control antibody for monitoring of SMOC-1 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 SMOC-1 gene expression knockdown using RT-PCR Primer: SMOC-1 (m)-PR: sc-63045-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.