SANTA CRUZ BIOTECHNOLOGY, INC.

sorcin siRNA (m): sc-41017

BACKGROUND

Sorcin is a highly conserved protein, with 95% homology between hamster and human sorcin sequences. Sorcin has four putative Ca-binding domains, two of which exhibit strong homology to calmodulin "EF hand" motifs. Calcium binding directly to sorcin has been demonstrated by *in vitro* assays. Sorcin is closely related to members of calpain and sarcoplasmic Ca^{2+}-binding protein subfamilies. Sorcin undergoes calcium-dependent translocation from the cytosol to cellular membranes. Sorcin binds to and modulates ryanodine receptors and is widely distributed including heart and brain tissues. At the subcellular level, sorcin localizes to T-tubule junctions of cardiac sarcoplasmic reticulum.

REFERENCES

1. Van der Bliek, A.M., et al. 1986. A 22-kd protein (sorcin/V19) encoded by an amplified gene in multidrug-resistant cells, is homologous to the calcium-binding light chain of calpain. EMBO J. 5: 3201-3208.
2. Meyers, M.B., et al. 1987. Sorcin (V19), a soluble acidic calcium-binding protein overproduced in multidrug-resistant cells. Identification of the protein by anti-sorcin antibody. Biochem. Pharmacol. 36: 2373-2380.
3. Moncrief, N.D., et al. 1990. Evolution of EF-hand calcium-modulated proteins. I. Relationships based on amino acid sequences. J. Mol. Evol. 30: 522-562.
4. Meyers, M.B., et al. 1995. Calcium-dependent translocation of sorcin to membranes: functional relevance in contractile tissue. FEBS Lett. 357: 230-234.
5. Meyers, M.B., et al. 1995. Association of sorcin with the cardiac ryanodine receptor. J. Biol. Chem. 270: 26411-26418.
6. Meyers, M.B., et al. 1998. Sorcin associates with the pore-forming subunit of voltage-dependent L type Ca^{2+} Channels. J. Biol. Chem. 273: 18930-18935.

CHROMOSOMAL LOCATION

Genetic locus: Sri (mouse) mapping to 5 A1.

PRODUCT

sorcin 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 sorcin shRNA Plasmid (m): sc-41017-SH and sorcin shRNA (m) Lentiviral Particles: sc-41017-V as alternate gene silencing products.

For independent verification of sorcin (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-41017A, sc-41017B and sc-41017C.

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

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

sorcin (39-M): sc-100859 is recommended as a control antibody for monitoring of sorcin 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 sorcin gene expression knockdown using RT-PCR Primer: sorcin (m)-PR: sc-41017-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Gupta, K., et al. 2018. Sorcin is involved during embryo implantation via activating VEGF/PI3K/Akt pathway in mice. J. Mol. Endocrinol. 60: 119-132.

RESEARCH USE

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