

MSE55 siRNA (h): sc-41802

BACKGROUND

MSE55 (also known as Borg5 or binder of Rho GTPases 5) is a Cdc42 effector protein that induces long cellular extensions in fibroblasts. MSE55 also increases and mediates Actin cytoskeleton reorganization at the plasma membrane. MSE55 is a nonkinase CRIB (Cdc42/Rac interactive-binding) domain-containing molecule. An intact CRIB domain is required for the GTP-dependent binding of MSE55 to Cdc42. MSE55 is expressed in a tissue-specific manner in both endothelial and bone marrow stromal cells. MSE55 may have a functional role in hematopoiesis or as a negative regulator of Rho GTPase signaling.

REFERENCES

1. Bahou, W.F., Campbell, A.D. and Wicha, M.S. 1992. cDNA cloning and molecular characterization of MSE55, a novel human serum constituent protein that displays bone marrow stromal/endothelial cell-specific expression. *J. Biol. Chem.* 267: 13986-13992.
2. Burbelo, P.D., Drechsel, D. and Hall, A. 1995. A conserved binding motif defines numerous candidate target proteins for both Cdc42 and Rac GTPases. *J. Biol. Chem.* 270: 29071-29074.
3. Neudauer, C.L., Joberty, G., Tatsis, N. and Macara, I.G. 1998. Distinct cellular effects and interactions of the Rho-family GTPase TC10. *Curr. Biol.* 8: 1151-1160.
4. Burbelo, P.D., Snow, D.M., Bahou, W. and Spiegel, S. 1999. MSE55, a Cdc42 effector protein, induces long cellular extensions in fibroblasts. *Proc. Natl. Acad. Sci. USA* 96: 9083-9088.
5. Joberty, G., Perlungher, R.R. and Macara, I.G. 1999. The borgs, a new family of Cdc42 and TC10 GTPase-interacting proteins. *Mol. Cell. Biol.* 19: 6585-6597.

CHROMOSOMAL LOCATION

Genetic locus: MSE55 (human) mapping to 22q13.1.

PRODUCT

MSE55 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MSE55 shRNA Plasmid (h): sc-41802-SH and MSE55 shRNA (h) Lentiviral Particles: sc-41802-V as alternate gene silencing products.

For independent verification of MSE55 (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-41802A, sc-41802B and sc-41802C.

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.

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

APPLICATIONS

MSE55 siRNA (h) is recommended for the inhibition of MSE55 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 μ M in 66 μ 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

MSE55 (D-5): sc-376360 is recommended as a control antibody for monitoring of MSE55 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 κ BP-HRP: sc-516102 or m-IgG κ 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 κ BP-FITC: sc-516140 or m-IgG κ 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 MSE55 gene expression knockdown using RT-PCR Primer: MSE55 (h)-PR: sc-41802-PR (20 μ l, 532 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.