SANTA CRUZ BIOTECHNOLOGY, INC.

MORG1 siRNA (h): sc-75812

BACKGROUND

WD-repeats are motifs that are found in a variety of proteins and are characterized by a conserved core of 40-60 amino acids that commonly form a tertiary propeller structure. While proteins that contain WD-repeats participate in a wide range of cellular functions, they are generally involved in regulatory mechanisms concerning chromatin assembly, cell cycle control, signal transduction, RNA processing, apoptosis and vesicular trafficking. MORG1 (mitogen-activated protein kinase organizer 1) is a 315 amino acid protein that localizes to both the nucleus and the cytoplasm and contains seven WD repeats. Interacting with HIF PHD3, MORG1 functions as a molecular scaffold protein for several different multimeric protein complexes and is thought to play a role in pre-mRNA splicing, as well as protein degradation and cellular responses to hypoxia.

REFERENCES

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3. Smith, T.F., Gaitatzes, C., Saxena, K. and Neer, E.J. 1999. The WD repeat: a common architecture for diverse functions. Trends Biochem. Sci. 24: 181-185.
4. Jurica, M.S., Licklider, L.J., Gygi, S.R., Grigorieff, N. and Moore, M.J. 2002. Purification and characterization of native spliceosomes suitable for three-dimensional structural analysis. RNA 8: 426-439.
5. Vomastek, T., Schaeffer, H.J., Tarcsafalvi, A., Smolkin, M.E., Bissonette, E.A. and Weber, M.J. 2004. Modular construction of a signaling scaffold: MORG1 interacts with components of the ERK cascade and links ERK signaling to specific agonists. Proc. Natl. Acad. Sci. USA 101: 6981-6986.
6. Hopfer, U., Hopfer, H., Jablonski, K., Stahl, R.A. and Wolf, G. 2006. The novel WD-repeat protein MORG1 acts as a molecular scaffold for hypoxia-inducible factor prolyl hydroxylase 3 (PHD3). J. Biol. Chem. 281: 8645-8655.
7. Haase, D., Keiner, S., Mawrin, C. and Wolf, G. 2009. Reduced MORG1 expression in ischemic human brain. Neurosci. Lett. 455: 46-50.

CHROMOSOMAL LOCATION

Genetic locus: WDR83 (human) mapping to 19p13.2.

PRODUCT

MORG1 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 MORG1 shRNA Plasmid (h): sc-75812-SH and MORG1 shRNA (h) Lentiviral Particles: sc-75812-V as alternate gene silencing products.

For independent verification of MORG1 (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-75812A, sc-75812B and sc-75812C.

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

MORG1 siRNA (h) is recommended for the inhibition of MORG1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MORG1 gene expression knockdown using RT-PCR Primer: MORG1 (h)-PR: sc-75812-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.