

RNF23 siRNA (m): sc-155964

BACKGROUND

The RING-type zinc finger motif is present in a number of viral and eukaryotic proteins and is made of a conserved cysteine-rich domain that is able to bind two zinc atoms. Proteins that contain this conserved domain are generally involved in the ubiquitination pathway of protein degradation. RNF23 (RING finger protein 23), also known as tripartite motif-containing protein 39 (TRIM39) or testis-abundant finger protein, is a 518 amino acid protein belonging to the TRIM/RBCC family that is known to interact with MOAP1. Ubiquitously expressed and existing as two alternatively spliced isoforms, RNF23 is found at highest levels in spleen, testis, brain, kidney, liver, heart and skeletal muscle. RNF23 typically localizes to cytosol but shifts to mitochondria upon co-localization with MOAP1, a short-lived, pro-apoptotic protein which RNF23 prevents from becoming poly-ubiquitinated and degraded, thereby facilitating apoptosis. RNF23 contains one B box-type zinc finger, a B30.2/SPRY domain and a single RING-type zinc finger.

REFERENCES

- Orimo, A., Yamagishi, T., Tominaga, N., Yamauchi, Y., Hishinuma, T., Okada, K., Suzuki, M., Sato, M., Nogi, Y., Suzuki, H., Inoue, S., Yoshimura, K., Shimizu, Y. and Muramatsu, M. 2000. Molecular cloning of testis-abundant finger Protein/Ring finger protein 23 (RNF23), a novel RING-B box-coiled coil-B30.2 protein on the class I region of the human MHC. *Biochem. Biophys. Res. Commun.* 276: 45-51.
- Reymond, A., Meroni, G., Fantozzi, A., Merla, G., Cairo, S., Luzi, L., Riganelli, D., Zanaria, E., Messali, S., Cainarca, S., Guffanti, A., Minucci, S., Pelicci, P.G. and Ballabio, A. 2001. The tripartite motif family identifies cell compartments. *EMBO J.* 20: 2140-2151.
- Meroni, G., Diez-Roux, G. 2005. TRIM/RBCC, a novel class of "single protein RING finger" E3 ubiquitin ligases. *Bioessays* 27: 1147-1157.
- Roberts, J.D., Chiche, J.D., Kolpa, E.M., Bloch, D.B. and Bloch, K.D. 2007. cGMP-dependent protein kinase I interacts with TRIM39R, a novel Rpp21 domain-containing TRIM protein. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 293: L903-L912.
- Fu, N.Y., Sukumaran, S.K. and Yu, V.C. 2007. Inhibition of ubiquitin-mediated degradation of MOAP-1 by apoptotic stimuli promotes Bax function in mitochondria. *Proc. Natl. Acad. Sci. USA* 104: 10051-10056.
- Lee, S.S., Fu, N.Y., Sukumaran, S.K., Wan, K.F., Wan, Q. and Yu, V.C. 2009. TRIM39 is a MOAP-1-binding protein that stabilizes MOAP-1 through inhibition of its poly-ubiquitination process. *Exp. Cell Res.* 315: 1313-1325.

CHROMOSOMAL LOCATION

Genetic locus: Trim39 (mouse) mapping to 17 B1.

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.

PRODUCT

RNF23 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see RNF23 shRNA Plasmid (m): sc-155964-SH and RNF23 shRNA (m) Lentiviral Particles: sc-155964-V as alternate gene silencing products.

For independent verification of RNF23 (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-155964A, sc-155964B and sc-155964C.

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

RNF23 siRNA (m) is recommended for the inhibition of RNF23 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor RNF23 gene expression knockdown using RT-PCR Primer: RNF23 (m)-PR: sc-155964-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.