



MARCH8 siRNA (h): sc-90432

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. MARCH8 (membrane-associated ring finger (C3HC4) 8), also known as MIR or RNF178 (RING-finger protein 178), is a 291 amino acid multi-pass membrane protein that localizes to vesicle membranes and contains one RING-CH-type zinc finger. Expressed in a variety of tissues, including immature dendritic cells, MARCH8 functions as an E3 ubiquitin ligase that is thought to regulate immune responses by promoting the ubiquitination and subsequent degradation of target proteins, such as B7-2 and CD71.

REFERENCES

1. Borden, K.L. and Freemont, P.S. 1996. The RING finger domain: a recent example of a sequence-structure family. *Curr. Opin. Struct. Biol.* 6: 395-401.
2. Lorick, K.L., et al. 1999. RING fingers mediate ubiquitin-conjugating enzyme (E2)-dependent ubiquitination. *Proc. Natl. Acad. Sci. USA* 96: 11364-11369.
3. Joazeiro, C.A. and Weissman, A.M. 2000. RING finger proteins: mediators of ubiquitin ligase activity. *Cell* 102: 549-552.
4. Goto, E., et al. 2003. c-MIR, a human E3 ubiquitin ligase, is a functional homolog of herpesvirus proteins MIR1 and MIR2 and has similar activity. *J. Biol. Chem.* 278: 14657-14668.

CHROMOSOMAL LOCATION

Genetic locus: MARCH8 (human) mapping to 10q11.21.

PRODUCT

MARCH8 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 MARCH8 shRNA Plasmid (h): sc-90432-SH and MARCH8 shRNA (h) Lentiviral Particles: sc-90432-V as alternate gene silencing products.

For independent verification of MARCH8 (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-90432A, sc-90432B and sc-90432C.

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

MARCH8 siRNA (h) is recommended for the inhibition of MARCH8 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MARCH8 gene expression knockdown using RT-PCR Primer: MARCH8 (h)-PR: sc-90432-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Kumazoe, M., et al. 2017. FOXO3 is essential for CD44 expression in pancreatic cancer cells. *Oncogene* 36: 2643-2654.
2. Kong, N., et al. 2020. BST2 suppresses porcine epidemic diarrhea virus replication by targeting and degrading virus nucleocapsid protein with selective autophagy. *Autophagy* 16: 1737-1752.
3. Jiao, Y., et al. 2021. PABPC4 broadly inhibits coronavirus replication by degrading nucleocapsid protein through selective autophagy. *Microbiol. Spectr.* 9: e0090821.
4. Wang, H., et al. 2021. EGR1 suppresses porcine epidemic diarrhea virus replication by regulating IRAV To degrade viral nucleocapsid protein. *J. Virol.* 95: e0064521.
5. Qin, W., et al. 2022. Nuclear ribonucleoprotein RALY targets virus nucleocapsid protein and induces autophagy to restrict porcine epidemic diarrhea virus replication. *J. Biol. Chem.* 298: 102190.
6. Qin, W., et al. 2022. hnRNP K degrades viral nucleocapsid protein and induces type I IFN production to inhibit porcine epidemic diarrhea virus replication. *J. Virol.* 96: e0155522.
7. Qin, W., et al. 2023. PTBP1 suppresses porcine epidemic diarrhea virus replication via inducing protein degradation and IFN production. *J. Biol. Chem.* 299: 104987.

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.