SANTA CRUZ BIOTECHNOLOGY, INC.

MARCH9 siRNA (h): sc-95940

BACKGROUND

Ubiquitination is an important mechanism through which three classes of enzymes act in concert to target short-lived or abnormal proteins for destruction. The three classes of enzymes involved in ubiquitination are the ubiquitin-activating enzymes (E1s), the ubiquitin-conjugating enzymes (E2s) and the ubiquitin-protein ligases (E3s). MARCH9 (membrane-associated ring finger (C3HC4) 9), also known as RNF179, is a 346 amino acid multi-pass membrane protein that localizes to the Golgi apparatus and contains one RING-CH-type zinc finger. Expressed ubiquitously, MARCH9 exists as a homodimer and functions as an E3 ubiquitin-protein ligase that accepts a ubiquitin residue from an E2 ubiquitin-conjugating enzyme and is thought to promote the degradation of target proteins, such as CD4 and MHC-I. Multiple isoforms of MARCH9 exist due to alternative splicing events.

REFERENCES

1. Ciechanover, A. 1994. The ubiquitin-proteasome proteolytic pathway. Cell 79: 13-21.
2. Ciechanover, A., et al. 1994. The ubiquitin-mediated proteolytic pathway: mechanisms of recognition of the proteolytic substrate and involvement in the degradation of native cellular proteins. FASEB J. 8: 182-191.
3. Hochstrasser, M. 1995. Ubiquitin, proteasomes and the regulation of intracellular protein degradation. Curr. Opin. Cell Biol. 7: 215-223.
4. Liakopoulos, D., et al. 1998. A novel protein modification pathway related to the ubiquitin system. EMBO J. 17: 2208-2214.
5. Bartee, E., et al. 2004. Downregulation of major histocompatibility complex class I by human ubiquitin ligases related to viral immune evasion proteins. J. Virol. 78: 1109-1120.
6. Hoer, S., et al. 2007. MARCH-IX mediates ubiquitination and downregulation of ICAM-1. FEBS Lett. 581: 45-51.

CHROMOSOMAL LOCATION

Genetic locus: MARCH9 (human) mapping to 12q14.1.

PRODUCT

MARCH9 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 MARCH9 shRNA Plasmid (h): sc-95940-SH and MARCH9 shRNA (h) Lentiviral Particles: sc-95940-V as alternate gene silencing products.

For independent verification of MARCH9 (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-95940A, sc-95940B and sc-95940C.

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

MARCH9 siRNA (h) is recommended for the inhibition of MARCH9 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 MARCH9 gene expression knockdown using RT-PCR Primer: MARCH9 (h)-PR: sc-95940-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. Shen, Q.M., et al. 2018. MARCH9 suppresses lung adenocarcinoma progression by downregulating ICAM-1. Cell. Physiol. Biochem. 50: 92-107.

RESEARCH USE

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