

MARCH2 siRNA (h): sc-97543

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). MARCH2 (membrane-associated RING finger (C3HC4) 2), also known as RNF172 or HSPC240, is a 246 amino acid multi-pass membrane protein that localizes to the endoplasmic reticulum and contains one RING-CH-type zinc finger. Expressed in a variety of tissues, MARCH2 functions as an E3 ubiquitin-protein ligase that is thought to mediate the ubiquitination and subsequent degradation of CD71 and B7-2 and may be involved in endosomal protein trafficking.

REFERENCES

1. Zhang, Q.H., et al. 2000. Cloning and functional analysis of cDNAs with open reading frames for 300 previously undefined genes expressed in CD34⁺ hematopoietic stem/progenitor cells. *Genome Res.* 10: 1546-1560.
2. Barteel, 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.
3. Nakamura, N., et al. 2005. MARCH2 is a Syntaxin 6-binding protein involved in endosomal trafficking. *Mol. Biol. Cell* 16: 1696-1710.
4. Nakamura, N., et al. 2006. MARCH5 is a novel mitofusin 2- and DRP1-binding protein able to change mitochondrial morphology. *EMBO Rep.* 7: 1019-1022.
5. Fukuda, H., et al. 2006. MARCH3 is a novel component of endosomes with properties similar to those of MARCH2. *J. Biochem.* 139: 137-145.
6. Cao, Z., et al. 2008. DLG1 is an anchor for the E3 ligase MARCH2 at sites of cell-cell contact. *Cell. Signal.* 20: 73-82.

CHROMOSOMAL LOCATION

Genetic locus: MARCH2 (human) mapping to 19p13.2.

PRODUCT

MARCH2 siRNA (h) is a pool of 2 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 MARCH2 shRNA Plasmid (h): sc-97543-SH and MARCH2 shRNA (h) Lentiviral Particles: sc-97543-V as alternate gene silencing products.

For independent verification of MARCH2 (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-97543A and sc-97543B.

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

MARCH2 siRNA (h) is recommended for the inhibition of MARCH2 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 MARCH2 gene expression knockdown using RT-PCR Primer: MARCH2 (h)-PR: sc-97543-PR (20 μ l). 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.