



TMEM173 siRNA (m): sc-154411

BACKGROUND

TMEM173 (transmembrane protein 173) is a 379 amino acid protein encoded by a gene mapping to human chromosome 5q31.2. With 181 million base pairs encoding around 1,000 genes, chromosome 5 is about 6% of human genomic DNA. It is associated with Cockayne syndrome through the ERCC8 gene and familial adenomatous polyposis through the adenomatous polyposis coli (APC) tumor suppressor gene. Treacher Collins syndrome is also chromosome 5 associated and is caused by insertions or deletions within the TCOF1 gene. Deletion of the p arm of chromosome 5 leads to Cri du chat syndrome. Deletion of 5q or chromosome 5 altogether is common in therapy-related acute myelogenous leukemias and myelodysplastic syndrome.

CHROMOSOMAL LOCATION

Genetic locus: Tmem173 (mouse) mapping to 18 B2.

PRODUCT

TMEM173 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 TMEM173 shRNA Plasmid (m): sc-154411-SH and TMEM173 shRNA (m) Lentiviral Particles: sc-154411-V as alternate gene silencing products.

For independent verification of TMEM173 (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-154411A, sc-154411B and sc-154411C.

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

TMEM173 siRNA (m) is recommended for the inhibition of TMEM173 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.

GENE EXPRESSION MONITORING

TMEM173 (C-10): sc-518172 is recommended as a control antibody for monitoring of TMEM173 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor TMEM173 gene expression knockdown using RT-PCR Primer: TMEM173 (m)-PR: sc-154411-PR (20 μ l, 577 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zhu, W., et al. 2014. p204-initiated innate antiviral response in mouse Leydig cells. *Biol. Reprod.* 91: 8.
2. Zhu, W., et al. 2015. Pattern recognition receptor-initiated innate antiviral responses in mouse epididymal epithelial cells. *J. Immunol.* 194: 4825-4835.
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4. Yan, K., et al. 2017. Cytosolic DNA sensor-initiated innate immune responses in mouse ovarian granulosa cells. *Reproduction* 153: 821-834.
5. Sun, S.C., et al. 2020. Juglanin alleviates bleomycin-induced lung injury by suppressing inflammation and fibrosis via targeting sting signaling. *Biomed. Pharmacother.* 127: 110119.
6. Zhong, W., et al. 2020. Aging aggravated liver ischemia and reperfusion injury by promoting STING-mediated NLRP3 activation in macrophages. *Aging Cell* 19: e13186.
7. Jin, M., et al. 2021. Tau activates microglia via the PQBP1-cGAS-STING pathway to promote brain inflammation. *Nat. Commun.* 12: 6565.
8. Li, X., et al. 2022. The transmembrane endoplasmic reticulum-associated E3 ubiquitin ligase TRIM13 restrains the pathogenic-DNA-triggered inflammatory response. *Sci. Adv.* 8: eab0496.

RESEARCH USE

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