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SANTA CRUZ BIOTECHNOLOGY, INC.

COMMD1 siRNA (m): sc-142482

BACKGROUND

Copper is an essential micronutrient used as a co-factor for several essential enzymes in all living organisms. Due to the high toxicity of copper, its metabolism is tightly regulated and defects in this regulation can cause Menkes (deficiency) or Wilson (accumulation) disease in various tissue. COMMD1 (copper metabolism MURR1 domain-containing protein 1), also known as MURR1, is a 190 amino acid protein responsible for inhibition of TNF-induced NFκB p50 and has a suggested role in facilitation of biliary copper excretion within hepatocytes. COMMD1 localizes to both the nucleus and cytoplasm within the cell. Highest expression is found in liver tissue, with lower expressions in lung, heart, kidney and brain tissue. COMMD1 interacts directly with COMMD6 and ATP7B, and indirectly with IκB-β and COMMD7. All ten members of the COMMD family (COMMD1-10) contain a conserved COMM domain which provides an interface for protein-protein interactions.

REFERENCES

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3. Coronado, V.A., et al. 2005. COMMD1 (MURR1) as a candidate in patients with copper storage disease of undefined etiology. Clin. Genet. 68: 548-551.
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5. de Bie, P., et al. 2005. The many faces of the copper metabolism protein MURR1/COMMD1. J. Hered. 96: 803-811.
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8. Sommerhalter, M., et al. 2007. Solution structure of the COMMD1 N-terminal domain. J. Mol. Biol. 365: 715-721.

CHROMOSOMAL LOCATION

Genetic locus: Commd1 (mouse) mapping to 11 A3.2.

PRODUCT

COMMD1 siRNA (m) 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see COMMD1 shRNA Plasmid (m): sc-142482-SH and COMMD1 shRNA (m) Lentiviral Particles: sc-142482-V as alternate gene silencing products.

For independent verification of COMMD1 (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-142482A and sc-142482B.

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

COMMD1 siRNA (m) is recommended for the inhibition of COMMD1 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 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.

GENE EXPRESSION MONITORING

COMMD1 (B-4): sc-166248 is recommended as a control antibody for monitoring of COMMD1 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 COMMD1 gene expression knockdown using RT-PCR Primer: COMMD1 (m)-PR: sc-142482-PR (20 µl). 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.