SANTA CRUZ BIOTECHNOLOGY, INC.

MOCS3 siRNA (h): sc-75807

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The Power to Question

BACKGROUND

Molybdenum is an essential trace element found in most organisms and it functions as a cofactor for several enzymes that catalyze important transformations in carbon, nitrogen and sulfur metabolism. The molybdenum cofactor biosynthetic pathway is evolutionarily conserved between organisms. MOCS3 (molybdenum cofactor synthesis protein 3), also known as UBA4, molybdopterin synthase sulfurylase or MPT synthase sulfurylase, belongs to the hesA/moeB/thiF family and is necessary for the function of all molybdoenzymes. MOCS3 is thought to activate molybdopterin synthase by adenylating its smaller subunit at the C-terminus during molybdopterin biosynthesis in humans. Molybdopterin synthase catalyzes the formation of molybdopterin by incorporating a dithiolene functional group. Molybdenum cofactor deficiency in humans results in the loss of the activity of molybdoenzymes sulfite oxidase, xanthine dehydrogenase and aldehyde oxidase which leads to progressive neurological damage. All forms of molybdenum cofactor deficiency are inherited as autosomal recessive traits.

REFERENCES

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PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: MOCS3 (human) mapping to 20q13.13.

PRODUCT

MOCS3 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 MOCS3 shRNA Plasmid (h): sc-75807-SH and MOCS3 shRNA (h) Lentiviral Particles: sc-75807-V as alternate gene silencing products.

For independent verification of MOCS3 (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-75807A, sc-75807B and sc-75807C.

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

MOCS3 siRNA (h) is recommended for the inhibition of MOCS3 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 MOCS3 gene expression knockdown using RT-PCR Primer: MOCS3 (h)-PR: sc-75807-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.