

cyclin M1 siRNA (m): sc-77060

BACKGROUND

The ADCP (ancient conserved domain protein) family is evolutionarily conserved in diverse species and likely function in ion transport in mammalian cells. Cyclin M1, also known as metal transporter CNNM1 and ACDP1 (ancient conserved domain-containing protein 1), is a 880 amino acid multi-pass membrane protein that shares weak sequence similarity with cyclin proteins, yet displays no cyclin-like function *in vivo*. With specific expression at high levels in brain and low levels in testis, Cyclin M1 is localized to the plasma membrane and nucleus where it is likely a metal transporter. Cyclin M1 contains two CBS domains, which appear to bind ligands with an adenosyl group such as AMP, ATP and S-AdoMet and may play a regulatory role in sensitizing proteins to adenosyl-carrying ligands. The gene encoding Cyclin M1 maps to a region of human chromosome 10 which is frequently implicated in the pathology of urofacial (Ochoa) syndrome (UFS), a disease that is characterized by abnormal facial expression and congenital obstructive uropathy.

REFERENCES

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2. Wang, C.Y., et al. 2003. High resolution mapping and mutation analyses of candidate genes in the urofacial syndrome (UFS) critical region. *Am. J. Med. Genet. A* 119A: 9-14.
3. Wang, C.Y., et al. 2003. Molecular cloning and characterization of a novel gene family of four ancient conserved domain proteins (ACDP). *Gene* 306: 37-44.
4. Wang, C.Y., et al. 2004. Molecular cloning and characterization of the mouse Acdp gene family. *BMC Genomics* 5: 7.
5. Scott, J.W., et al. 2004. CBS domains form energy-sensing modules whose binding of adenosine ligands is disrupted by disease mutations. *J. Clin. Invest.* 113: 274-284.
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CHROMOSOMAL LOCATION

Genetic locus: Cnnm1 (mouse) mapping to 19 C3 .

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.

PRODUCT

cyclin M1 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 cyclin M1 shRNA Plasmid (m): sc-77060-SH and cyclin M1 shRNA (m) Lentiviral Particles: sc-77060-V as alternate gene silencing products.

For independent verification of cyclin M1 (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-77060A, sc-77060B and sc-77060C.

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

cyclin M1 siRNA (m) is recommended for the inhibition of cyclin M1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor cyclin M1 gene expression knockdown using RT-PCR Primer: cyclin M1 (m)-PR: sc-77060-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.