

# CPPED1 siRNA (m): sc-141917

## BACKGROUND

Metallophosphoesterases (MPPEs) are dynamic enzymes that catalyze a variety of cellular reactions and contain a conserved  $\beta$ - $\alpha$ - $\beta$  fold. The MPPE superfamily is divided into two subfamilies: phosphomonoesterases and phosphodiesterases. Each MPPE has a dimetal center located approximately at the C-terminal end of the parallel  $\beta$ -strands of the fold. CPPED1 (calcineurin-like phosphoesterase domain containing 1), also known as CSTP1 (complete S-transactivated protein 1) is a 314 amino acid protein that belongs to the MPPE superfamily and CPPED1 family. Existing as two alternatively spliced isoforms, CPPED1 is transactivated by Hep B virus and binds two divalent metal cations as cofactors. The gene encoding CPPED1 maps to human chromosome 16, which encodes over 900 genes and comprises nearly 3% of the human genome. Giant axonal neuropathy, Rubinstein-Taybi syndrome and Crohn's disease are associated with chromosome 16.

## REFERENCES

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- Bomont, P., et al. 2000. The gene encoding gigaxonin, a new member of the cytoskeletal BTB/kelch repeat family, is mutated in giant axonal neuropathy. *Nat. Genet.* 26: 370-374.
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- Tyagi, R., et al. 2009. Characterization of an evolutionarily conserved metallophosphoesterase that is expressed in the fetal brain and associated with the WAGR syndrome. *J. Biol. Chem.* 284: 5217-5228.

## CHROMOSOMAL LOCATION

Genetic locus: Cpped1 (mouse) mapping to 16 A1.

## PRODUCT

CPPED1 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CPPED1 shRNA Plasmid (m): sc-141917-SH and CPPED1 shRNA (m) Lentiviral Particles: sc-141917-V as alternate gene silencing products.

For independent verification of CPPED1 (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-141917A, sc-141917B and sc-141917C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

CPPED1 siRNA (m) is recommended for the inhibition of CPPED1 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  $\mu$ M in 66  $\mu$ 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

CPPED1 (H-11): sc-514222 is recommended as a control antibody for monitoring of CPPED1 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CPPED1 gene expression knockdown using RT-PCR Primer: CPPED1 (m)-PR: sc-141917-PR (20  $\mu$ 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.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.