SANTA CRUZ BIOTECHNOLOGY, INC.

CLAMP siRNA (m): sc-142360

BACKGROUND

CLAMP, also known as SPEF1 (sperm flagellar protein 1), is a 236 amino acid protein that is present in epididymal sperm and localizes to the cell projection, as well as to the cytoplasm. Expressed in lung, brain and testis, CLAMP functions as a microtubule-associated protein that is thought to play a role in microtubule bundling. Human CLAMP exists as two alternatively spliced isoforms and shares a high degree of homology with its mouse counterpart, suggesting a conserved role between species. The gene encoding CLAMP maps to human chromosome 20, which houses over 600 genes and comprises nearly 2% of the human genome.

REFERENCES

1. Maccioni, R.B., et al. 1995. Role of microtubule-associated proteins in the control of microtubule assembly. Physiol. Rev. 75: 835-864.
2. Deloukas, P., et al. 2001. The DNA sequence and comparative analysis of human chromosome 20. Nature 414: 865-871.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 610674. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Dougherty, G.W., et al. 2005. CLAMP, a novel microtubule-associated protein with EB-type calponin homology. Cell Motil. Cytoskeleton 62: 141-156.
5. Chan, S.W., et al. 2005. Spef1, a conserved novel testis protein found in mouse sperm flagella. Gene 353: 189-199.

CHROMOSOMAL LOCATION

Genetic locus: Spef1 (mouse) mapping to 2 F1.

PRODUCT

CLAMP 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CLAMP shRNA Plasmid (m): sc-142360-SH and CLAMP shRNA (m) Lentiviral Particles: sc-142360-V as alternate gene silencing products.

For independent verification of CLAMP (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-142360A, sc-142360B and sc-142360C.

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

CLAMP siRNA (m) is recommended for the inhibition of CLAMP 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

CLAMP (G-3): sc-398342 is recommended as a control antibody for monitoring of CLAMP 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 CLAMP gene expression knockdown using RT-PCR Primer: CLAMP (m)-PR: sc-142360-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.