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CLASP1 siRNA (m): sc-44352

BACKGROUND

Members of the CLASP family, including CLASP1, are mammalian microtubule plus-end binding proteins that interact with CLIPs in order to stabilize the microtubule structures in transfected cells. CLASP1 localizes near the distal end of growing spindle microtubules during mitosis and is a component of the outer corona region of kinetochores. CLASP proteins stabilize microtubules by promoting pauses and restricting MT growth. Defects in CLASP1 cause collapse of the spindle, attachment of kinetochores to short microtubules, and other abnormal mitotic behaviors.

REFERENCES

1. Lemos, C.L., et al. 2000. Mast, a conserved microtubule-associated protein required for bipolar mitotic spindle organization. *EMBO J.* 19: 3668-3682.
2. Akhmanova, A., et al. 2001. CLASPs are CLIP-115 and -170-associating proteins involved in the regional regulation of microtubule dynamics in motile fibroblasts. *Cell* 104: 923-935.
3. Maiato, H., et al. 2003. How do kinetochores CLASP dynamic microtubules? *Cell Cycle* 2: 511-514.
4. Maiato, H., et al. 2003. Human CLASP1 is an outer kinetochore component that regulates spindle microtubule dynamics. *Cell* 113: 891-904.
5. Mimori-Kiyosue, Y., et al. 2005. CLASP1 and CLASP2 bind to EB1 and regulate microtubule plus-end dynamics at the cell cortex. *J. Cell Biol.* 168: 141-153.
6. Venables, J.P., et al. 2005. Upregulation of the ubiquitous alternative splicing factor Tra2 β causes inclusion of a germ cell-specific exon. *Hum. Mol. Genet.* 14: 2289-2303.

CHROMOSOMAL LOCATION

Genetic locus: Clasp1 (mouse) mapping to 1 E2.3.

PRODUCT

CLASP1 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 CLASP1 shRNA Plasmid (m): sc-44352-SH and CLASP1 shRNA (m) Lentiviral Particles: sc-44352-V as alternate gene silencing products.

For independent verification of CLASP1 (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-44352A, sc-44352B and sc-44352C.

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

CLASP1 siRNA (m) is recommended for the inhibition of CLASP1 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.

GENE EXPRESSION MONITORING

CLASP1 (C-15): sc-33476 is recommended as a control antibody for monitoring of CLASP1 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 (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor CLASP1 gene expression knockdown using RT-PCR Primer: CLASP1 (m)-PR: sc-44352-PR (20 μ 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 for detailed protocols and support products.