SANTA CRUZ BIOTECHNOLOGY, INC.

CKAP5 siRNA (m): sc-142355

BACKGROUND

CKAP5 (cytoskeleton-associated protein 5), also known as ch-TOG (colonic hepatic tumor overexpressed gene), is a 2,032 amino acid protein that is a member of the TOG/XMAP215 family and contains nine heat repeats. CKAP5 is expressed in skeletal muscle, brain, heart, placenta, lung, liver, kidney and pancreas, and is overexpressed in hepatomas and colonic tumors. During interphase, CKAP5 localizes to the perinuclear cytoplasm and the spindle poles, where it plays an important role in spindle microtubule organization. Specifically, CKAP5 is required for extrapole formation in prometaphases lacking Ark-1, a mitotic centrosomal kinase that functions as a spindle regulator and is overexpressed in tumors. CKAP5 binds to hnRNP A2 (heterogeneous nuclear ribonucleoprotein) and interacts with TACC1, TACC3 and Tubulin.

REFERENCES

1. Charrasse, S., et al. 1995. Characterization of the cDNA and pattern of expression of a new gene over-expressed in human hepatomas and colonic tumors. Eur. J. Biochem. 234: 406-413.
2. Charrasse, S., et al. 1996. Expression of the tumor over-expressed ch-TOG gene in human and baboon brain. Neurosci. Lett. 212: 119-122.
3. Charrasse, S., et al. 1998. The TOGp protein is a new human microtubule-associated protein homologous to the *Xenopus* XMAP215. J. Cell Sci. 111: 1371-1383.
4. Dionne, M.A., et al. 2000. ch-TOGp is required for microtubule aster formation in a mammalian mitotic extract. J. Biol. Chem. 275: 12346-12352.
5. Lauffart, B., et al. 2002. Interaction of the transforming acidic coiled-coil 1 (TACC1) protein with ch-TOG and GAS41/NuBI1 suggests multiple TACC1-containing protein complexes in human cells. Biochem. J. 363: 195-200.
6. Gergely, F., et al. 2003. The ch-TOG/XMAP215 protein is essential for spindle pole organization in human somatic cells. Genes Dev. 17: 336-341.
7. Francone, V.P., et al. 2007. The microtubule-associated protein tumor overexpressed gene/cytoskeleton-associated protein 5 is necessary for Myelin basic protein expression in oligodendrocytes. J. Neurosci. 27: 7654-7662.

CHROMOSOMAL LOCATION

Genetic locus: Ckap5 (mouse) mapping to 2 E1.

PRODUCT

CKAP5 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 CKAP5 shRNA Plasmid (m): sc-142355-SH and CKAP5 shRNA (m) Lentiviral Particles: sc-142355-V as alternate gene silencing products.

For independent verification of CKAP5 (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-142355A, sc-142355B and sc-142355C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

CKAP5 siRNA (m) is recommended for the inhibition of CKAP5 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

CKAP5 (H-4): sc-374394 is recommended as a control antibody for monitoring of CKAP5 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 CKAP5 gene expression knockdown using RT-PCR Primer: CKAP5 (m)-PR: sc-142355-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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