

# CKAP2 siRNA (h): sc-105207

## BACKGROUND

CKAP2 (cytoskeleton associated protein 2) is localized to the cytoplasm of humans and is expressed in tissues, including thymus and testis. CKAP2 is also referred to as LB1, TMAP or se20-10, and is a 682 amino acid protein which is expressed as three isoforms. CKAP2 is utilized during mitosis and is involved in regulating functions of microtubules, cellular death and the cell cycle. Before mitosis, CKAP2 is expressed in the cell cycle between phases G<sub>1</sub> and S, and accumulates between phases S and G<sub>2</sub>. During mitosis, when the anaphase promoting complex is activated, CKAP2 is degraded. The regulation of CKAP2 is essential for proper spindle functions and cytokinesis, and it is thought that CKAP2 function is mediated via phosphorylation and dephosphorylation. Upon activation of p53 by CKAP2, the G<sub>1</sub> phase of the cell cycle is stopped, leading to cell death and apoptosis. Gastric tumors contain excessive amounts of CKAP2, which can lead to unregulated spindle functions may be involved in the development and progression of gastric cancer.

## REFERENCES

1. Udina, I.G., et al. 2001. Evolutionarily-conserved gene CKAP2, located in region 13q14.3 of the human genome, is frequently rearranged in various tumors. *Genetika* 37: 120-123.
2. Rakhmanaliev, E.R., et al. 2002. The structure of the human oncogenesis-associated CKAP2 (LB1) gene. *Mol. Biol.* 36: 985-989.
3. Online Mendelian Inheritance in Man, OMIM<sup>™</sup>. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 611569. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Bae, C.D., et al. 2003. Up-regulation of cytoskeletal-associated protein 2 in primary human gastric adenocarcinomas. *J. Cancer Res. Clin. Oncol.* 129: 621-630.
5. Tsuchihara, K., et al. 2005. Ckap2 regulates aneuploidy, cell cycling, and cell death in a p53-dependent manner. *Cancer Res.* 65: 6685-6691.

## CHROMOSOMAL LOCATION

Genetic locus: CKAP2 (human) mapping to 13q14.3.

## PRODUCT

CKAP2 siRNA (h) 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 CKAP2 shRNA Plasmid (h): sc-105207-SH and CKAP2 shRNA (h) Lentiviral Particles: sc-105207-V as alternate gene silencing products.

For independent verification of CKAP2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-105207A, sc-105207B and sc-105207C.

## PROTOCOLS

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

## 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

CKAP2 siRNA (h) is recommended for the inhibition of CKAP2 expression in human 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

CKAP2 (B-12): sc-398286 is recommended as a control antibody for monitoring of CKAP2 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 CKAP2 gene expression knockdown using RT-PCR Primer: CKAP2 (h)-PR: sc-105207-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.