

CKAP4 siRNA (h): sc-95758

BACKGROUND

CKAP4 (cytoskeleton-associated protein 4), also known as p63, CLIMP-63 or ERGIC-63, is a 602 amino acid single-pass type II transmembrane protein that links the endoplasmic reticulum (ER) to the cytoskeleton. Considered a novel protein in maintaining ER morphology, CKAP4 anchors the ER to microtubules which is required for maintaining ER spatial distribution during interphase of the cell cycle. CKAP4 can be reversibly palmitoylated and phosphorylated and is a major substrate of the palmitoyl acyltransferase, ZDHHC2. It is suggested that CKAP4 binds with high affinity to an inhibitor of cell proliferation, antiproliferative factor (APF), and blocks its activity on bladder epithelial cells. Two isoforms of CKAP4 exist due to alternative splicing.

REFERENCES

1. Klopfenstein, D.R., et al. 2001. Subdomain-specific localization of CLIMP-63 (p63) in the endoplasmic reticulum is mediated by its luminal α -helical segment. *J. Cell Biol.* 153: 1287-1300.
2. Vedrenne, C., et al. 2005. Phosphorylation controls CLIMP-63-mediated anchoring of the endoplasmic reticulum to microtubules. *Mol. Biol. Cell* 16: 1928-1937.
3. Gupta, N., et al. 2006. Identification and characterization of p63 (CKAP4/ERGIC-63/CLIMP-63), a surfactant protein A binding protein, on type II pneumocytes. *Am. J. Physiol. Lung Cell. Mol. Physiol.* 291: L436-L446.
4. Conrads, T.P., et al. 2006. CKAP4/p63 is a receptor for the frizzled-8 protein-related antiproliferative factor from interstitial cystitis patients. *J. Biol. Chem.* 281: 37836-37843.
5. Wesierska-Gadek, J., et al. 2007. A new, unexpected action of olomoucine, a CDK inhibitor, on normal human cells: up-regulation of CLIMP-63, a cytoskeleton-linking membrane protein. *J. Cell. Biochem.* 102: 1405-1419.

CHROMOSOMAL LOCATION

Genetic locus: CKAP4 (human) mapping to 12q23.3.

PRODUCT

CKAP4 siRNA (h) is a target-specific 19-25 nt siRNA 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 CKAP4 shRNA Plasmid (h): sc-95758-SH and CKAP4 shRNA (h) Lentiviral Particles: sc-95758-V as alternate gene silencing 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 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

CKAP4 siRNA (h) is recommended for the inhibition of CKAP4 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 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

CKAP4 (A-3): sc-393544 is recommended as a control antibody for monitoring of CKAP4 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 κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 CKAP4 gene expression knockdown using RT-PCR Primer: CKAP4 (h)-PR: sc-95758-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Lee, J.E., et al. 2013. Definitive evidence using enucleated cytoplasts for a nongenomic basis for the cystic change in endoplasmic reticulum structure caused by STAT5a/b siRNAs. *Am. J. Physiol., Cell Physiol.* 304: C312-C323.
2. Ding, R., et al. 2017. p63 protects chondrosarcoma malignancies mainly by enhancing the expression of PTEN. *Pharmazie* 72: 414-418.

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.