SANTA CRUZ BIOTECHNOLOGY, INC.

CAPS1 siRNA (h): sc-97488

BACKGROUND

CAPS1 (Calcyphosine), also known as thyroid protein p24, is a 189 amino acid cytoplasmic protein that contains four EF-hand domains, which serve as calcium-binding sites, and was first identified in canine thyroid. Interestingly, CAPS1 is much less abundant in humans than in canines. Synthesis and phosphorylation of CAPS1 is upregulated by cAMP-agonists in thyrocytes. CAPS1 likely functions in the regulation of ionic transport and may be involved in cross-signaling between cAMP and Ca^{2+}-phophatidylinositol cascades. In addition to thyriod, CAPS1 is expressed in brain, salivary glands and lung. Expression of CAPS1 is increased in endometrial cancer and prognosis seems to be dependent on the level of CAPS1 expression, indicating that CAPS1 may be an appropriate prognostic marker for patient survival.

REFERENCES

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3. Clément, S., et al. 1997. Loss of calcyphosine gene expression in mouse and other rodents. Biochem. Biophys. Res. Commun. 232: 407-413.
4. El Housni, H., et al. 1997. Cloning and sequence analysis of human calcyphosine complementary DNA. Biochim. Biophys. Acta 1352: 249-252.
5. El Housni, H., et al. 1997. Production of dog calcyphosine in bacteria and lack of phosphorylation by the catalytic subunit of protein kinase A *in vitro*. Mol. Cell. Endocrinol. 135: 93-97.
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8. Li, Z., et al. 2008. Prognostic evaluation of epidermal fatty acid-binding protein and calcyphosine, two proteins implicated in endometrial cancer using a proteomic approach. Int. J. Cancer 123: 2377-2383.
9. Dong, H., et al. 2008. Crystal-structure and biochemical characterization of recombinant human calcyphosine delineates a novel EF-hand-containing protein family. J. Mol. Biol. 383: 455-464.

CHROMOSOMAL LOCATION

Genetic locus: CAPS (human) mapping to 19p13.3.

PRODUCT

CAPS1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CAPS1 shRNA Plasmid (h): sc-97488-SH and CAPS1 shRNA (h) Lentiviral Particles: sc-97488-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 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

CAPS1 siRNA (h) is recommended for the inhibition of CAPS1 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 µM in 60 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

CAPS1 (6D8): sc-134298 is recommended as a control antibody for monitoring of CAPS1 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 CAPS1 gene expression knockdown using RT-PCR Primer: CAPS1 (h)-PR: sc-97488-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.