

# CAPS1 (C-20): sc-240200

## BACKGROUND

CAPS1 (Calcyphosine), also known as thyroid protein p24, is a 189 amino acid cytoplasmic protein that contains 4 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<sup>2+</sup>-phosphatidylinositol cascades. In addition to thyroid, 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

- Lefort, A., et al. 1989. Cloning and sequencing of a calcium-binding protein regulated by cyclic AMP in the thyroid. *EMBO J.* 8: 111-116.
- Lecocq, R., et al. 1995. Rapid purification and identification of calcyphosine, a Ca<sup>2+</sup>-binding protein phosphorylated by protein kinase A. *Biochem. J.* 306: 147-151.
- Clément, S., et al. 1997. Loss of calcyphosine gene expression in mouse and other rodents. *Biochem. Biophys. Res. Commun.* 232: 407-413.
- El Housni, H., et al. 1997. Cloning and sequence analysis of human calcyphosine complementary DNA. *Biochim. Biophys. Acta* 1352: 249-252.
- 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.
- Halleux, P., et al. 1998. Calcium binding protein calcyphosine in dog central astrocytes and ependymal cells and in peripheral neurons. *J. Chem. Neuroanat.* 15: 239-250.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 114212. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- 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.
- 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.

## SOURCE

CAPS1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of CAPS1 of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-240200 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

CAPS1 (C-20) is recommended for detection of CAPS1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with CAPS2 or CAPSL.

CAPS1 (C-20) is also recommended for detection of CAPS1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CAPS1 siRNA (h): sc-97488, CAPS1 shRNA Plasmid (h): sc-97488-SH and CAPS1 shRNA (h) Lentiviral Particles: sc-97488-V.

Molecular Weight of CAPS1: 24 kDa.

## RECOMMENDED SECONDARY REAGENTS

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.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## PROTOCOLS

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