

STC2 (K-17): sc-14352

BACKGROUND

Stanniocalcin 1 (STC1) and stanniocalcin 2 (STC2) are mammalian peptide hormones that were previously considered to be present only in bony fish where they are involved in calcium homeostasis. STC1 plays a role in calcium and phosphate homeostasis and is phosphorylated *in vitro* by protein kinase C, and STC2 is phosphorylated *in vitro* by casein kinase II (CK2). A human fibrosarcoma cell line, HT1080, expresses both STC1 and STC2 as secreted phosphoproteins *in vivo*, with STC2 being phosphorylated by an ecto-CK2-like enzyme. STC1 and STC2 have opposite effects on calcium and phosphate homeostasis, namely anti-hypercalcemic and anti-hypocalcemic actions, respectively. STC1 and STC2 are detected in human adrenal tumors, such as pheochromocytoma, differentiated neuroblastoma Aldosterone-producing adenoma, and in cultured adrenal tumor cells (rat pheochromocytoma PC-12 cells and human neuroblastoma NB-1 cells).

REFERENCES

- Chang, A.C., et al. 1998. Identification of a second stanniocalcin cDNA in mouse and human: stanniocalcin 2. *Mol. Cell. Endocrinol.* 141: 95-99.
- Honda, S., et al. 1999. Regulation by $1\alpha,25$ -dihydroxyvitamin D_3 of expression of stanniocalcin messages in the rat kidney and ovary. *FEBS Letts.* 459: 119-122.
- Jellinek, D.A., et al. 2000. Stanniocalcin 1 and 2 are secreted as phosphoproteins from human fibrosarcoma cells. *Biochem. J.* 350: 453-461.
- Miura, W., et al. 2000. Expression of stanniocalcin in zona glomerulosa and medulla of normal human adrenal glands, and some adrenal tumors and cell lines. *APMIS* 108: 367-372.
- Stasko, S.E., et al. 2001. Stanniocalcin gene expression during mouse urogenital development: a possible role in mesenchymal-epithelial signalling. *Dev. Dyn.* 220: 49-59.

CHROMOSOMAL LOCATION

Genetic locus: STC2 (human) mapping to 5q35.1; Stc2 (mouse) mapping to 11 A4.

SOURCE

STC2 (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of STC2 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-14352 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

STC2 (K-17) is recommended for detection of STC2 of mouse, rat and 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).

Suitable for use as control antibody for STC2 siRNA (h): sc-44127, STC2 siRNA (m): sc-153883, STC2 shRNA Plasmid (h): sc-44127-SH, STC2 shRNA Plasmid (m): sc-153883-SH, STC2 shRNA (h) Lentiviral Particles: sc-44127-V and STC2 shRNA (m) Lentiviral Particles: sc-153883-V.

Molecular Weight of STC2: 33 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.

SELECT PRODUCT CITATIONS

- Wary, K.K., et al. 2003. Analysis of VEGF-responsive genes involved in the activation of endothelial cells. *Mol. Cancer* 2: 25.
- O'Neill, J.P., et al. 2006. Thapsigargin resistance in human prostate cancer cells. *Cancer* 107: 649-659.

RESEARCH USE

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

PROTOCOLS

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



Try **STC2 (2B11): sc-293388**, our highly recommended monoclonal alternative to STC2 (K-17).