SANTA CRUZ BIOTECHNOLOGY, INC.

STC1 (FL-247): sc-30183

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 homoeostasis 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).

CHROMOSOMAL LOCATION

Genetic locus: STC1 (human) mapping to 8p21.2; Stc1 (mouse) mapping to 14 D2.

SOURCE

STC1 (FL-247) is a rabbit polyclonal antibody raised against amino acids 1-247 representing full length STC1 of human origin.

PRODUCT

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

APPLICATIONS

STC1 (FL-247) is recommended for detection of precursor and mature chain of STC1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

STC1 (FL-247) is also recommended for detection of precursor and mature chain of STC1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for STC1 siRNA (h): sc-44126, STC1 siRNA (m): sc-44871, STC1 siRNA (r): sc-156069, STC1 shRNA Plasmid (h): sc-44126-SH, STC1 shRNA Plasmid (m): sc-44871-SH, STC1 shRNA Plasmid (r): sc-156069-SH, STC1 shRNA (h) Lentiviral Particles: sc-44126-V, STC1 shRNA (m) Lentiviral Particles: sc-44871-V and STC1 shRNA (r) Lentiviral Particles: sc-156069-V.

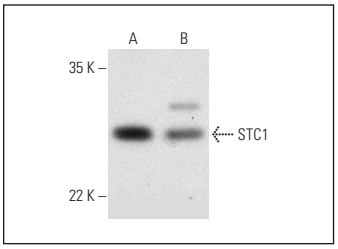
Molecular Weight of STC1: 31 kDa.

Positive Controls: human prostate extract: sc-363774, rat skeletal muscle extract: sc-364810 or human ovary extract: sc-363769.

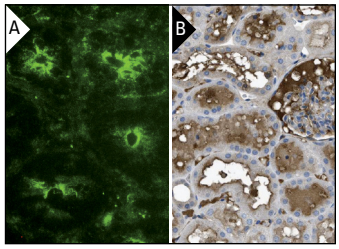
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



STC1 (FL-247): sc-30183. Western blot analysis of STC1 expression in human prostate (**A**) and human ovary (**B**) tissue extracts.



STC1 (FL-247): sc-30183. Immunofluorescence staining of normal mouse intestine frozen section showing extracellular staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic and extracellular staining of cells in tubules. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. Jauhiainen, S., et al. 2011. Vascular endothelial growth factor (VEGF)-D stimulates VEGF-A, Stanniocalcin-1, and Neuropilin-2 and has potent angiogenic effects. Arterioscler. Thromb. Vasc. Biol. 31: 1617-1624.

STORAGE

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

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.