SANTA CRUZ BIOTECHNOLOGY, INC.

SGLT-2 (K-17): sc-47402

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Glucose is the main source of energy for mammalian cells and its entry is mediated by various transporters. This process involves seven facilitative (GLUT-1 to -7), two concentrative glucose transporters (SGLT-1, SGLT-2) and a sensor (SGLT-3). The SGLT family members use the electrochemical gradient of two sodium ions to transport one glucose molecule. The mRNA of SGLTs increase steadily from the fetal period to maturity along with an increase in their functional activity. SGLT-1 is responsible for the uptake of the dietary sugars glucose and galactose from the intestinal lumen, while SGLT-3 is involved in the detection of luminal glucose only. Both the sodium glucose co-transporters SGLT-1 and SGLT-2 are expressed in kidneys. Mutations in the gene encoding SGLT-2 result in familial renal glucosuria (FRG), an isolated disorder of proximal tubular glucose transport, characterized by abnormal urinary glucose excretion in the presence of normal blood glucose levels.

REFERENCES

1. Turk, E., et al. 1993. Assignment of the human Na^+/glucose cotransporter gene SGLT-1 to chromsome 22q13.1. Genomics 17: 752-754.
2. Yang, Q., et al. 2000. Expression characteristics and relevance of sodium glucose cotransporter-1 in mammalian renal tubulogenesis. Am. J. Physiol. Renal Physiol. 279: 765-777.
3. Wallner, E.I., et al. 2001. Status of glucose transporters in the mammalian kidney and renal development. Ren. Fail. 23: 301-310.
4. Stumpel, F., et al. 2001. Normal kinetics of intestinal glucose absorption in the absence of GLUT-2: evidence for a transport pathway requiring glucose phosphorylation and transfer into the endoplasmic reticulum. Proc. Natl. Acad. Sci. USA 98: 11330-11335.
5. Francis, J., et al. 2004. A novel SGLT-2 mutation in a patient with autosomal recessive renal glucosuria. Nephrol. Dial. Transplant. 19: 2893-2895.

CHROMOSOMAL LOCATION

Genetic locus: SLC5A2 (human) mapping to 16p11.2; Slc5a2 (mouse) mapping to 7 F3.

SOURCE

SGLT-2 (K-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an N-terminal extracellular domain of SGLT-2 of mouse origin.

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-47402 P, (100 µg 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

SGLT-2 (K-17) is recommended for detection of SGLT-2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SGLT-2 siRNA (h): sc-106547, SGLT-2 siRNA (m): sc-61540, SGLT-2 shRNA Plasmid (h): sc-106547-SH, SGLT-2 shRNA Plasmid (m): sc-61540-SH, SGLT-2 shRNA (h) Lentiviral Particles: sc-106547-V and SGLT-2 shRNA (m) Lentiviral Particles: sc-61540-V.

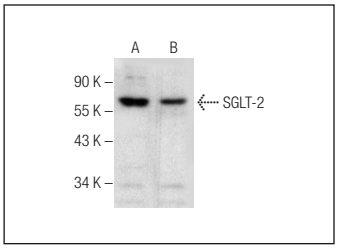
Molecular Weight of SGLT-2: 70-77 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224 or Jurkat whole cell lysate: sc-2204.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



SGLT-2 (K-17): sc-47402. Western blot analysis of SGLT-2 expression in Jurkat (**A**) and Caki-1 (**B**) whole cell lysates.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **SGLT-2 (D-6): sc-393350**, our highly recommended monoclonal alternative to SGLT-2 (K-17).