SANTA CRUZ BIOTECHNOLOGY, INC.

SGLT-2 (C-19): sc-47401

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) and 2 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 SGLT1 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 GLUT2: 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 SGLT2 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 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a C-terminal cytoplasmic domain of SGLT-2 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.

Blocking peptide available for competition studies, sc-47401 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 (C-19) is recommended for detection of SGLT-2 of human and, to a lesser extent, mouse and rat 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), 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).

SGLT-2 (C-19) is also recommended for detection of SGLT-2 in additional species, including canine.

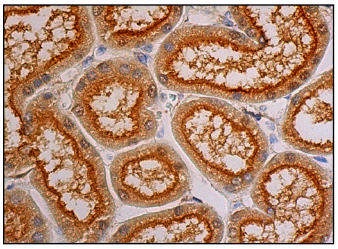
Suitable for use as control antibody for SGLT-2 siRNA (h): sc-106547, SGLT-2 siRNA (m): sc-61540, SGLT-2 shRNA Plasmid (h): sc-106547-SH, SGLT-2 shRNA Plasmid (m): sc-61540-SH, SGLT-2 shRNA (h) Lentiviral Particles: sc-106547-V and SGLT-2 shRNA (m) Lentiviral Particles: sc-61540-V.

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

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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



SGLT-2 (C-19): sc-47401. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing apical membrane and cytoplasmic staining of cells in tubules.

RESEARCH USE

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