SANTA CRUZ BIOTECHNOLOGY, INC.

SGLT-2 (D-6): sc-393350

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 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.

CHROMOSOMAL LOCATION

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

SOURCE

SGLT-2 (D-6) is a mouse monoclonal antibody raised against amino acids 220-270 mapping within an extracellular region of SGLT-2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

SGLT-2 (D-6) is available conjugated to agarose (sc-393350 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393350 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393350 PE), fluorescein (sc-393350 FITC), Alexa Fluor® 488 (sc-393350 AF488), Alexa Fluor® 546 (sc-393350 AF546), Alexa Fluor® 594 (sc-393350 AF594) or Alexa Fluor® 647 (sc-393350 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393350 AF680) or Alexa Fluor® 790 (sc-393350 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SGLT-2 (D-6) is recommended for detection of SGLT-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

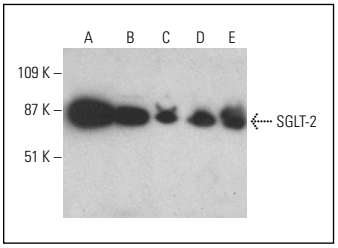
Molecular Weight of SGLT-2: 70-77 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224, Jurkat whole cell lysate: sc-2204 or K-562 whole cell lysate: sc-2203.

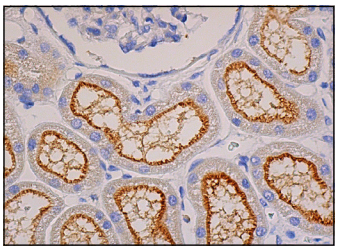
STORAGE

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

DATA



SGLT-2 (D-6) HRP: sc-393350 HRP. Direct western blot analysis of SGLT-2 expression in Jurkat (**A**), K-562 (**B**), Caki-1 (**C**), c4 (**D**) and EOC 20 (**E**) whole cell lysates.



SGLT-2 (D-6): sc-393350. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing apical membrane staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Bonner, C., et al. 2015. Inhibition of the glucose transporter SGLT2 with dapagliflozin in pancreatic α cells triggers glucagon secretion. Nat. Med. 21: 512-517.
2. Solini, A., et al. 2017. Dapagliflozin modulates glucagon secretion in an SGLT-2-independent manner in murine α cells. Diabetes Metab. 43: 512-520.
3. Takesue, H., et al. 2018. Nucleosome positioning and gene regulation of the SGLT-2 gene in the renal proximal tubular epithelial cells. Mol. Pharmacol. 94: 953-962.
4. Vergari, E., et al. 2019. Insulin inhibits glucagon release by SGLT-2-induced stimulation of somatostatin secretion. Nat. Commun. 10: 139.
5. Koyani, C.N., et al. 2020. Empagliflozin protects heart from inflammation and energy depletion via AMPK activation. Pharmacol. Res. 158: 104870.
6. Sukhanov, S., et al. 2021. The SGLT-2 inhibitor empagliflozin attenuates interleukin-17A-induced human aortic smooth muscle cell proliferation and migration by targeting TRAF3IP2/Ros/NLRP3/caspase-1-dependent IL-1β and IL-18 secretion. Cell. Signal. 77: 109825.
7. Isaksson, G.L., et al. 2022. Proteinuria is accompanied by intratubular complement activation and apical membrane deposition of C3dg and C5b-9 in kidney transplant recipients. Am. J. Physiol. Renal Physiol. 322: F150-F163.
8. Kobayashi, K., et al. 2023. Sweet taste receptor subunit T1R3 regulates casein secretion and phosphorylation of STAT5 in mammary epithelial cells. Biochim. Biophys. Acta Mol. Cell Res. 1870: 119448.

RESEARCH USE

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