SANTA CRUZ BIOTECHNOLOGY, INC.

SVCT1 (H-11): sc-376090

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The sodium-dependent vitamin C transporters SVCT1 and SCVT2 are membrane transporters for L-ascorbic acid (vitamin C). Both SVCT proteins mediate high affinity Na^+-dependent L-ascorbic acid transport and are necessary for the uptake of vitamin C in many tissues. SVCT1 is a 604 amino acid protein that is expressed mainly in epithelial tissues, including intestine, kidney, and liver. SVCT2 is a 592 amino acid protein that shares 65% homology to SVCT1, has been detected in various metabolically active cells as well as in specialized tissues such as eye and brain. A non-functional splice variant of SVCT1 has been identified in normal human intestine.

REFERENCES

1. Faaland, C.A., et al. 1998. Molecular characterization of two novel transporters from human and mouse kidney and from LLC-PK1 cells reveals a novel conserved family that is homologous to bacterial and *Aspergillus nucleobase* transporters. Biochim. Biophys. Acta 1442: 353-360.
2. Tsukaguchi, H., et al. 1999. A family of mammalian Na^+-dependent L-ascorbic acid transporters. Nature 399: 70-75.

CHROMOSOMAL LOCATION

Genetic locus: SLC23A1 (human) mapping to 5q31.2.

SOURCE

SVCT1 (H-11) is a mouse monoclonal antibody raised against amino acids 521-598 mapping at the C-terminus of SVCT1 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.

SVCT1 (H-11) is available conjugated to agarose (sc-376090 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376090 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376090 PE), fluorescein (sc-376090 FITC), Alexa Fluor® 488 (sc-376090 AF488), Alexa Fluor® 546 (sc-376090 AF546), Alexa Fluor® 594 (sc-376090 AF594) or Alexa Fluor® 647 (sc-376090 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376090 AF680) or Alexa Fluor® 790 (sc-376090 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

SVCT1 (H-11) is recommended for detection of SVCT1 of 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).

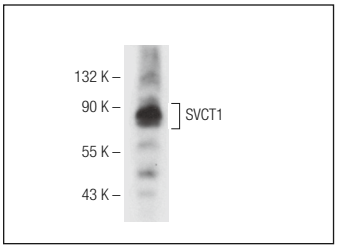
Suitable for use as control antibody for SVCT1 siRNA (h): sc-41006, SVCT1 shRNA Plasmid (h): sc-41006-SH and SVCT1 shRNA (h) Lentiviral Particles: sc-41006-V.

Positive Controls: SH-SY5Y cell lysate: sc-3812.

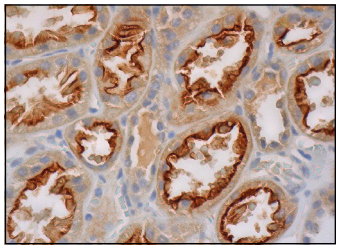
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



SVCT1 (H-11): sc-376090. Western blot analysis of SVCT1 expression in SH-SY5Y whole cell lysate.



SVCT1 (H-11): sc-376090. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing apical membrane and cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Pires, A.S., et al. 2016. Ascorbic acid and colon cancer: an oxidative stimulus to cell death depending on cell profile. Eur. J. Cell Biol. 95: 208-218.
2. Subramanian, V.S., et al. 2018. Tumor necrosis factor α reduces intestinal vitamin C uptake: a role for NFκB-mediated signaling. Am. J. Physiol. Gastrointest. Liver Physiol. 315: G241-G248.
3. Subramenium, G.A., et al. 2019. Enterotoxigenic *Escherichia coli* (ETEC) heat labile enterotoxin inhibits intestinal ascorbic acid uptake via a cAMP-dependent NFκB mediated pathway. Am. J. Physiol. Gastrointest. Liver Physiol. 316: G55-G63.

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 for detailed protocols and support products.