SANTA CRUZ BIOTECHNOLOGY, INC.

SVCT1 (N-20): sc-9924

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 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of SVCT1 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-9924 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

SVCT1 (N-20) is recommended for detection of SVCT1 of 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).

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: LNCaP cell lysate: sc-2231.

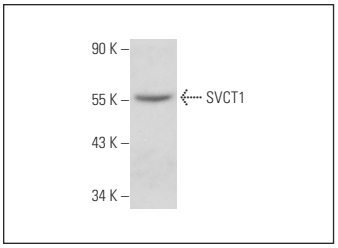
STORAGE

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

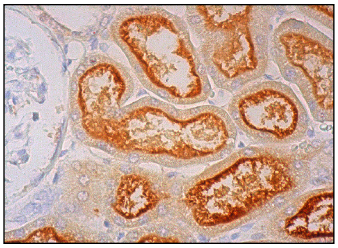
RESEARCH USE

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

DATA



SVCT1(N-20) : sc-9924. Western blot analysis of SVCT1 expression in LNCaP whole cell lysate.



SVCT1 (N-20): sc-9924. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing apical membrane and cytoplasmic staining of cells in tubules.

SELECT PRODUCT CITATIONS

1. Li, X., et al. 2003. Ascorbic acid spares α-tocopherol and decreases lipid peroxidation in neuronal cells. Biochem. Biophys. Res. Commun. 305: 656-661.
2. Savini, I., et al. 2007. Translational control of the ascorbic acid transporter SVCT2 in human platelets. Free Radic. Biol. Med. 42: 608-616.
3. Steiling, H., et al. 2007. Sodium-dependent vitamin C transporter isoforms in skin: Distribution, kinetics, and effect of UVB-induced oxidative stress. Free Radic. Biol. Med. 43: 752-762.
4. Castro, T., et al. 2008. Differential distribution of the sodium-vitamin C cotransporter-1 along the proximal tubule of the mouse and human kidney. Kidney Int. 74: 1278-1286.
5. Qiao, H., et al. 2009. Ascorbic acid uptake and regulation of type I collagen synthesis in cultured vascular smooth muscle cells. J. Vasc. Res. 46: 15-24.
6. Michels, A.J. and Hagen, T.M. 2009. Hepatocyte nuclear factor 1 is essential for transcription of sodium-dependent vitamin C transporter protein 1. Am. J. Physiol., Cell Physiol. 297: C1220-C1227.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.