

# SVCT1 (D-19): sc-9921

## 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<sup>+</sup>-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 and 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., Race, J.E., Ricken, G., Warner, F.J., Williams, W.J. and Holtzman, E.J. 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., Tokui, T., Mackenzie, B., Berger, U.V., Chen, X.Z., Wang, Y., Brubaker, R.F. and Hediger, M.A. 1999. A family of mammalian Na<sup>+</sup>-dependent L-ascorbic acid transporters. *Nature* 399: 70-75.
3. Daruwala, R., Song, J., Koh, W.S., Rumsey, S.C. and Levine, M. 1999. Cloning and functional characterization of the human sodium-dependent vitamin C transporters hSVCT1 and hSVCT2. *FEBS Lett.* 460: 480-484.
4. Rajan, D.P., Huang, W., Dutta, B., Devoe, L.D., Leibach, F.H., Ganapathy, V. and Prasad, P.D. 1999. Human placental sodium-dependent vitamin C transporter (SVCT2): molecular cloning and transport function. *Biochem. Biophys. Res. Commun.* 262: 762-768.
5. Wang, H., Dutta, B., Huang, W., Devoe, L.D., Leibach, F.H., Ganapathy, V. and Prasad, P.D. 1999. Human Na<sup>+</sup>-dependent vitamin C transporter 1 (hSVCT1): primary structure, functional characteristics and evidence for a non-functional splice variant. *Biochim. Biophys. Acta* 1461: 1-9.

## CHROMOSOMAL LOCATION

Genetic locus: Slc23a1 (mouse) mapping to 18 B2.

## SOURCE

SVCT1 (D-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of SVCT1 of rat 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-9921 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

SVCT1 (D-19) is recommended for detection of SVCT1 of 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for SVCT1 siRNA (m): sc-41007, SVCT1 shRNA Plasmid (m): sc-41007-SH and SVCT1 shRNA (m) Lentiviral Particles: sc-41007-V.

## 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.

## SELECT PRODUCT CITATIONS

1. Jin, S.N., Mun, G.H., Lee, J.H., Oh, C.S., Kim, J., Chung, Y.H., Kang, J.S., Kim, J.G., Hwang, D.H., Hwang, Y.I., Shin, D.H. and Lee, W.J. 2005. Immunohistochemical study on the distribution of sodium-dependent vitamin C transporters in the respiratory system of adult rat. *Microsc. Res. Tech.* 68: 360-367.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.