

SVCT1 (H-78): sc-30113

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.
3. Daruwala, R., et al. 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., et al. 1999. Human placental sodium-dependent vitamin C transporter (SVCT2): molecular cloning and transport function. *Biochem. Biophys. Res. Commun.* 262: 762-768.

CHROMOSOMAL LOCATION

Genetic locus: SLC23A1 (human) mapping to 5q31.2; Slc23a1 (mouse) mapping to 18 B2.

SOURCE

SVCT1 (H-78) is a rabbit polyclonal antibody raised against amino acids 521-598 mapping at the C-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.

APPLICATIONS

SVCT1 (H-78) is recommended for detection of SVCT1 of mouse, rat and 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) 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 siRNA (m): sc-41007, SVCT1 shRNA Plasmid (h): sc-41006-SH, SVCT1 shRNA Plasmid (m): sc-41007-SH, SVCT1 shRNA (h) Lentiviral Particles: sc-41006-V 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 goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. 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.
2. Qiao, H., et al. 2009. Macrophage differentiation increases expression of the ascorbate transporter (SVCT2). *Free Radic. Biol. Med.* 46: 1221-1232.

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 or our catalog for detailed protocols and support products.


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Try **SVCT1 (H-11): sc-376090**, our highly recommended monoclonal alternative to SVCT1 (H-78).