

Sodium-dependent Vitamin C Transporter 2 (SVCT 2) Antibodies

Cat. # SVCT21-P	Rat SVCT 2 control/ blocking peptide # 1	SIZE: 100 ug
Cat. # SVCT21-A	Rabbit Anti-rat SVCT 2 IgG # 1 (aff pure)	SIZE: 100 ug

A sodium-dependent transport system is responsible for transfer and distribution of vitamins to different parts of the body, the transfer includes vitamins like pantothenate, biotin, and ascorbic acid etc. These transporters belong to **Solute Carrier family (SLC)**. Since vitamins are required for essential metabolic processes in all mammalian cells, such cells have developed intrinsic mechanisms to active accumulation of essential vitamins. Thus transporters help these cells to fulfill their requirement, they include Sodium-dependent Multi-Vitamin Transporter (SMVT), Sodium-dependent Vitamin-C Transporter (SVCT) 1 & 2, Creatine Transporter (CRT1/ CT1). The other vitamin transporters from SLC family include Thiamine Transporter Protein 1 (THTR1), Folate Transporter or Reduced Folate Carrier 1 (RFC1), Thyroid Iodide Transporter (TIT) and Taurine Transporter (TAU) etc.

Sodium-dependent Vitamin C Transporter (**SVCT**), Vitamin C is now known to mediate a variety of enzymatic reactions, including collagen synthesis, the basis for the defect in scurvy, the vitamin also protects tissues from oxidative damage by scavenging free radical. The vitamin C absorption and distribution requires SVCT1 and SVCT2. **SVCT2** account for tissue specific uptake of Vit C, expression is widespread occurring in neurons, bone and other tissues. SVCT2 is a 592aa protein in rat and 650aa long in human (chr20, gene SLC23A2). It is predominantly prenatal Vit C transporter to most tissues particularly in central nervous system and adrenal glands. Deficiency to this protein is lethal in newborn mice.

Source of Antigen and Antibodies

Antigen	14-aa peptide from rat SVCT2 (Designated SVCT21-P or control peptide) conjugated to KLH; epitope location ~ N-terminus, Extracellular domain
Ab Host/type	Rabbit, Polyclonal Aff pure IgG (cat # SVCT21-A) purified over antigen-agarose column
2-ab	Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer:** PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
100 ug/100 ul solution lyophilized powder
Supplied in **Buffer:** PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -200C and powder at 4oC or -20oC..

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder.

Recommended Usage

Western Blotting (1-10 ug/ml for affinity pure antibody using ECL technique).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of aff pure IgG at 2-20 ug/ml.

Specificity & Cross-reactivity

The rat SVCT21-P control peptide is 100% conserved in mouse and 64% in human SVCT 2. No significant homology detected with SVCT1. Antibody cross-reactivity in various species has not been studied. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (see detailed protocol at the web site).

General References: Sotiriou, S et al (2002) Nature Med 8, 514; Tsukaguchi, H et al (1999) Nature 399, 70; Rajan, DP et al (1999) BBRC 262, 762; Faaland, CA et al (1998) BBA 1442, 353; Nagase, T et al (1996) DNA Res 3, 321; Warden CH et al (1993) Genomics 18, 295.

Citations of for SVCT2 (see updated list at the web site)

May JM 2005	Archives	Biochem.	Biophys.,
440(2):165-72	WB		
May JM 2005	Free Radical Biology and Medicine	39,	
1449-1459	WB		
Fan X 2006	PNAS 103: 16912 - 16917		IHC

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Related material available from ADI

Antibodies and Peptides: Different Nutrient transporters SMVT, Creatine transporter, Folate transporter, Thiamine transporter, Thyroid Iodide transporter, Taurine transporter SVCT21-A-P 71209A