

Product Specification Sheet

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

Cat. # SVCT12-P	Human <b>SVCT</b> control/ blocking peptide # 2	<b>SIZE:</b> 100 ug
Cat. # SVCT12-A	Rabbit Anti-Human SVCT IgG # 2 (aff pure)	<b>SIZE:</b> 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.

**SVCT1** 605aa protein in rat, 604 in human (chr5, gene SLC23A1) contain up to 12 transmembrane domains, two possible sites for N-glycosylation and multiple phosphorylation sites. It is 65% identical to SVCT2 and largely expressed in epithelial surfaces involved in bulk transport such as intestine, liver and kidney.

**Source of Antigen and Antibodies**

<b>Antigen</b>	15-aa peptide from human SVCT ( <b>Designated SVCT12-P or control peptide</b> ) conjugated to KLH; <b>epitope location</b> ~ N-terminal, Cytoplasmic domain
<b>Ab Host/type</b>	Rabbit, Polyclonal Aff pure IgG ( <b>cat # SVCT12-A</b> ) <b>purified over antigen-agarose column</b>
<b>2-ab</b>	<b>Goat Anti-rabbit IgG-HRP</b> cat # 20320 (AP, biotin, FITC conjugates also available)
<b>-ve control IgG</b>	<b># 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control</b>

**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 40C or -200C..

**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 -200C or below.  
**Shipping:** 40C 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 human SVCT12-P control peptide is 40-45% conserved in mouse and rat SVCT-1. No significant homology exist with SVCT2 or other related transporters. 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.

*\*This product is for In vitro research use only.*

**Related material available from ADI**

Antibodies and Peptides: Different Nutrient transporters SMVT, Creatine transporter, Folate transporter, Thiamine transporter, Thyroid iodide transporter, Taurine transporter etc.

SVCT12-A-P      71209A