The kidneys play a major role in the regulation of glucose levels. Kidneys filter approx. 180 g of glucose per day from the blood, and this is mostly reabsorbed back into the blood in the proximal tubules. Typically, glucose is first absorbed within epithelium by a specific transporter protein, Sodium glucose co transporters (SGLT), in the brush-border membrane and then it is transported out of the cell across the basolateral membranes by a facilitated sugar transporter (GLUTs). At least 3 members of SGLTs (SGLT1-3) have been cloned and characterized from various species. Individual member of this family have identical predicted secondary structures with up to 14 transmembrane domains. SGLT1 does not discriminate a-MDG, glucose, and galactose. SGLT2/3 do not transport D-galactose efficiently.

SGLT2/SCL5A2 (rat/mouse 670 aa; human 672 aa, chromosome 16p11.2) is the low affinity, high capacity Na+-glucose transporter located in the S1 segments of proximal tubules. It is ~60% identical with SGLT1. SGLT2 mediates saturable Na-dependent and phlorizin-sensitive glucose transport. In contrast with SGLT1, SGLT2 does not transport D-galactose. Defect in SGLT2 may be associated with renal glycosuria.

### Source of Antigen and Antibodies

<table>
<thead>
<tr>
<th>Antigen</th>
<th>Designation</th>
<th>Cat #</th>
<th>Ab Host/type</th>
<th>2-Ab</th>
<th>-ve control</th>
<th>Recommended Usage</th>
</tr>
</thead>
</table>
| 16-aa peptide from rat SGLT-2 (1) | Polyclonal unpurified antiserum (#SG23-S) and IgG, purified over antigen-agarose (Cat # SG23-A) | SG23-S-A-P | Rabbit | Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available) | Rabbit Anti-Rat SGLT-2 IgG # 1, aff pure | Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure antibody using Chemiluminescence technique).

### 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 -20OC 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:

4C for solutions and room temp for powder

### Recommended Usage

**Western Blotting**

(1:1K-5K for neat serum and 1-10 ug/ml for affinity pure antibody using Chemiluminescence technique).

**ELISA:** Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

**Histochemistry & Immunofluorescence:** not tested.

### Specificity & Cross-reactivity

The Rat SG23-P peptide sequence is 86% conserved in mouse SGLT2. No significant sequence homology exists with other SGLTs. For human SGLT2, we recommend the use antibody #2, Cat # SG24-S that is made to the human SGLT-2 peptide. 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 (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1ul antiserum) to confirm antibody specificity (see detailed protocol see detailed protocol at the web site).

### General References:


(2) Citations of ADI’s Antibodies [see web site for updated list]


**Antibodies to SGLT1-3, RS11, and Glut1-13**


Han HJ, 2005, Am J Physiol Renal Physiol, 288: 988 - 996., WB, IHC

Han HJ, 2004, Toxicology in Vitro 19, 21-30, WB, IHC


this product is for In vitro research use only.

**Antibodies to SGLT1-3, RS11, and Glut1-13**

SG23-S-A-P 71213A

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