

Sodium Glucose Transporter 3-b (SGLT3-b) Antibodies

– Cat # SG31-P	Mouse SGLT3-b control peptide # 1	SIZE: 100 ug
– Cat # SG31-S	Rabbit Anti-Mouse SGLT3-b Antiserum # 1	SIZE: 100 ul
– Cat # SG31-A	Rabbit Anti-Mouse SGLT3-b IgG # 1, aff pure	SIZE: 100 ug

The kidneys play a major role in the regulation of glucose levels. Kidneys filter approx. 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. SGLT1-3 genes code for protein of approx 659-672 residues (calculated size of ~75 kDa). Both N and C-termini are predicted to be extracellular. There is approx 60-70% homology between SGLT1-3. SGLTs transport α-methyl-D-glucoside (α-MDG), a non-metabolized model substrate, in Na-dependent manner. SGLT1 does not discriminate α-MDG, glucose, and galactose. SGLT2/3 do not transport D-galactose efficiently.

SGLT3/SLC54 (pig 660 aa; mouse 656/660/616 aa; human 659 aa, chromosome 22, gene accession # QNY91), originally named **SAAT1** or **pSGLT2**, was initially identified in LLC-Pk1 cell line derived from pig renal epithelium. It is also low affinity Na-glucose transporter. It is expressed in kidney, intestine, liver, skeletal muscle and spleen. Like SGLT2, SGLT3 has a low affinity for sugars, and is highly selective for D-glucose and low affinity for D-galactose. Mouse SGLT-3 has 2 isoforms: **SGLT3-a** (SGLT3-a; SLC5a4a (gene accession # Q9ET37; 656-aa) and **SGLT3-b** (Slc5a4b (660/659 aa; gene accession # Q91ZP4). The two SGLT-3 isoforms show most divergence at the N-terminus. Both forms are expressed in kidney.

Source of Antigen and Antibodies

Antigen	A 16-aa peptide of mouse SGLT3-b/ Slc5a4b (660/659 aa; gene accession # Q91ZP4; refs 1) ; Designated (SG31-P or control peptide) conjugated to KLH
Location	~N-terminus; cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#SG31-S) and IgG, purified over antigen-agarose (Cat # SG31-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

100ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

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 -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: 4oC 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 Mouse SG31-P peptide sequence is poorly conserved (~37%) in human and pig SGLT3. It is not conserved in mouse SGLT3-a (gene accession # Q9ET37). No significant sequence homology exists with other SGLTs. For human SGLT3, we recommend the use antibody #2, Cat # SG32-S, and SG-34 or SG35 for pig SGLT-3 that is made to the human and pig SGLT-3 peptide, respectively. 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 1 ul antiserum) to confirm antibody specificity (see detailed protocol at: www.4adi.com\data\abblock.html).

General References: (1) Tabatabai NM et al (2001) Toxicol. Appl. Pharamcol. 177, 163-177; Kong CT et al (1993) JBC 268, 1509-1512; Mackenzie B et al (1994) JBC 269, 22488-22491; Dunham I et al (1999) Nature 402, 489-495; Wright E (2001) Am. J. Physiol. Renal Physiol. 280, F10-F18 (review)

*This product is for In vitro research use only.

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

SG31-S-A-P

70622A