ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Sodium Glucose Transporter 3 (SGLT-3) Antibodies

Cat # SG33-P	Pig SGLT-3 control/blocking peptide # 3	**SIZE**: 100 ug
Cat # SG33-S	Rabbit Anti-Pig SGLT-3 Antiserum # 3	**SIZE**: 100 ul
Cat # SG33-A	Rabbit Anti-Pig SGLT-3 IgG # 3, aff pure	**SIZE**: 100 ug

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. SGLT1-3 genes code for protein of approx 659-672 residues (calculated size of ~75 kDa). Both N and C-termini are predicted to be extracellualr. There is approx 60-70% homology between SGLT1-3. SGLTs transport a-methyl-D-glucoside (a-MDG), a non-metabolized model substrate, in Na-dependent manner. SGLT1 does not discriminate a-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), 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.

Source of Antigen and Antibodies

Antigen	14-aa peptide from **pig SGLT-3 (1)**; **Designation (#SG33-P, control/blocking peptide**) conjugated to KLH; Epitope location ~ N-terminal, cytoplasmic domain 1
Ab Host/type	Rabbit, Polyclonal Aff pure IgG, (Cat # **SG33**-A) purified over the antigen column
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 20°C and powder at 4°C or -20°C..

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

Stability: 6-12 months at –20°C or below.
Shipping: 4°C 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

Pig SG33-P peptide sequence is 61% conserved in human SGLT3. No significant sequence homology exists with other SGLTs. For mouse SGLT3, we recommend the use antibody #1, Cat # SG31-S, and SG-32 for human SGLT-3 that are made to the mouse and human SGLT-3 peptide, respectively. This antibody has previsouly been available as cat #SG21-S or SG21-A for pig SGLT-2. The same antibody is now reclassified as pig SGLT-3. 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

General References: (1) Tatabai 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

SG33-S-A-P 709119J

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