ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

RSSG1 Antibodies

Cat # RSSG11-P	Mouse RSSG control peptide # 1	**SIZE**: 100 ug
Cat # RSSG11-S	Rabbit Anti-Mouse RSSG Antiserum # 1	**SIZE**: 100 ul
Cat # RSSG11-A	Rabbit Anti-Mouse RSSG IgG # 1, 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.

Recently, a cDNA (pRS1 from pig and hRS1 from human) has been cloned and expressed that encodes a membrane-associated protein that alters sugar transport by SGLT1 and SMIT. **RS1** (mouse 582 aa, pig 623 aa, 617 aa, chromosome 1p36.1, ~67 kDa) is also described as regulatoru subunit or beta-subunit of SGLT (**RSSG**) or regulatory solute carrier protein. RS1 is expressed in renal outer cortex, outer medulla, small intestine, liver, and LLCPK1 cells. Coexpression of hRS1 and SGLT1 in oocytes inhibits SGLT1 expression.

Source of Antigen and Antibodies

Antigen	A 15-aa peptide sequence (**designated RSSG11-P; control peptide**) from the N-terminal domain of **mouse RSSG or RS1** (1) was synthesized, coupled to KLH
Ab Host/type	Rabbit, Polyclonal antiserum # **RSSG11**-S and IgG, purified over antigen-agarose (Cat # **RSSG11**-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied 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 RSSG11-P peptide sequence is 87% conserved in human and 85% in pig RS1. No significant sequence homology exists with other SGLTs. 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 see detailed protocol at the web site).

General References: (1) Lamotte S et al (1996) DNA Cell Biol. 9, 769-777; Valentin M et al (2000) BBA 1468, 367-380; Reinhardt J et al (1999) BBA 1417, 131-143; Korn T et al (2001) JBC 276, 45330-45340Spangenberg VM et al (1993) JBC 268, 25041-25043

*This product is for In vitro research use only.

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

RSSG11-S-A-P 71213A

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