ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Organic anion transporting polypeptide 2 (Oatp2) Antibodies

Cat. # OATP21-P	Rat OATP2 Control/blocking Peptide	**SIZE**: 100 ug
Cat. # OATP21-S	Rabbit Anti-rat OATP2 antiserum #1	**SIZE**: 100 ul
Cat. # OATP21-A	Rabbit Anti-rat OATP2 IgG #1 (aff pure)	**SIZE**: 100 ug

Mammalian kidney and liver are critical in maintaining physiological ionic environment. Kidney specializes in removing toxins, drugs, and other organic anions from the blood by a process called "renal secretion". Besides kidney, anionic substrates are also transported in other organs, e.g., choroid plexus, eye, airway, and placenta. Several multispecific **OATs** (OAT1-3, OAT-K1 and OATK2) and **OATPs** (organic anion transporting polypeptides; **oatp1-3, LST-1, and PGT**), have been cloned and characterized from various tissues. OATPs family of proteins share significant sequence homology, and general secondary protein structure (up to 12 transmembrane domains with cytoplasmic N and C-terminus).

Oatp2 (also called OATP-B1; 661 aa; 12 TM), cloned from rat brain, shares significant homology with rat oatp1 and OAT-K1 (77%) and human OATP (73%). It is highly expressed in brain, liver, and kidney but not in heart, spleen, lung, muscle, and testes. Oatp2 mediates uptake of taurocholate, estrogen conjugates, and cardiac glycosides.. Unlike other oatp's, oatp2 also transported digioxin.

Protein name: Solute carrier organic anion transporter family member 1A4; **Synonyms**: Solute carrier family 21 member 5 Sodium-independent organic anion-transporting polypeptide 2; Brain digoxin carrier protein; Brain-specific organic anion transporter; OATP-B1; **Gene name**: Name: Slco1a4; **Synonyms**: Oatp2, Slc21a5

Source of Antigen and Antibodies

Antigen	12-aa peptide of Rat OATP2, SO1A4 (protein accession # O55224 ; Designated (OATP21-P or control peptide /blocking peptide) conjugated to KLH; epitope location ~ C-terminus
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#**OATP21**-S) and IgG, purified over antigen-agarose (Cat # **OATP21**-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	# 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.

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure antibody using ECL technique). Rat oatp2 is approx. ~75 kDa in brain and liver (1). (see published refs using this antibody in 2).

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: We recommend the use of affinity purified antibody at 2-20 ug/ml in paraformaldehyde fixed sections of tissues (See published refs 2.).

Specificity & Cross-reactivity

Rat OATP21-P control peptide is 50% conserved in mouse oatp2 (protein accession #Q9QXZ6). No significant sequence homology is detected with other oatp1 and 3 or human OATP or LST-1. Antibody cross-reactivity in various species has not been studied. The OATP21-P control peptide is available to confirm specificity of antibodies. 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: Noe B et al (1997) PNAS 94, 10346-10350; Abe T et al (1998) J. Biol. Chem. 273, 22395-22401; kakyo M et al (1999) FEBS lett. 445, 343-346

(2) Citations of ADI's Antibodies (see web site for updated list)

Wong H 2005 Toxicol. Sci., 84: 232 - 242 WB
Freeman, WM. 2001, Neuroscience 108, 371-380 WB,
Kuroda M 2004, J Gastroenterol. Hepatol. 19, 146-153, WB
Higuchi K 2004, Hepatology Research 29, 60-66 WB

*This product is for In vitro research use only.

OATP21-S-A-P 71213A

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