ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Organic anion transporting polypeptide 1 (Oatp1) Antibodies

Cat. # OATP11-P	Rat Oatp1 control/blocking Peptide	**SIZE**: 100 ug
Cat. # OATP11-S	Rabbit Anti-rat Oatp1antiserum #1	**SIZE**: 100 ul
Cat. # OATP11-A	Rabbit Anti-rat Oatp1 IgG #1 (affinity 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).

Rat Oatp, now called **oatp1**, encodes a protein of 670 aa. Oatp1 was localized at the apical portions of the S3 segment of the proximal tubule, and at the apical surface of the choroid plexus of rat brain. It is also found in liver, lung, skeletal muscle, and colon. It mediates Na+-independent uptake of wide range of amphipathic substrates including sulfobromopthalein (BSP), bile acids, estrogen conjugates, and neutral steroids, etc.. Human liver **OATP** (670 aa) is only 67% homologous with rat oatp1. It differs in functional properties from rat oatp1 and highly expressed in brain.

FUNCTION: Mediates the Na(+)-independent transport of organic anions such as bromosulfobromophthalein (BSP) and conjugated (taurocholate) and unconjugated (cholate) bile acids.
SUBCELLULAR LOCATION: Membrane; Multi-pass membrane protein.
SIMILARITY: Belongs to the organo anion transporter (TC 2.A.60) family [view classification].
Protein name Solute carrier organic anion transporter family member 1A1
Synonyms Solute carrier family 21 member 1
Sodium-independent organic anion transporter 1
Organic anion-transporting polypeptide 1
Gene name Name: Slco1a1; Synonyms: Oatp, Oatp1, Slc21a1

Source of Antigen and Antibodies

Antigen	17aa peptide of Rat OATP1/Slco1a1; (protein accession #P46720 , refs 1) **Designated (OATP11-P or control peptide /blocking peptide**) conjugated to KLH; Epitope location ~ Mid-region
Ab Host/type	Rabbit, IgG, (Cat # **OATP11**-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 ECL). (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 1-20 ug/ml in paraformaldehyde fixed sections of tissues. (see published refs using this antibody in 2).

Specificity & Cross-reactivity

Rat OATP11-P control peptide is unique to rat oatp1. No significant sequence homology is detected with other oatp2-3 or human OATP or LST-1. The antibodies crossreact with mouse oatp1 (2). Antibody cross-reactivity in various species has not been studied. 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: Jacquemin E et al (1994) PNAS 91, 133-137; Kullak-Ublick, GA et al (1995) gastroenterol. 109, 1274-1282

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

Wong H	2005	Toxicol. Sci., 84: 232 - 242	WB
Higuchi K	2004	Hepatology Research 29, 60-66,	WB
Tanaka Y	2003	BBRC 309, 324-330,	WB, IHC/acetone fixed
Kuroda M	2004	J Gastroenterol. Hepatol. 19, 146-153,	WB
Gao B	2004	Exp. Eye Res. 80, 61-72	WB IHC

*This product is for In vitro research use only.

Related material available from ADI

Antibodies CLC1-7 and CLC-K1; KCCL1-3; AQP-9 and RUT; OCT and OAT, AE-3, and NACX, NaPi and NaHCO3 transporters

OATP11-S-A-P 70910J

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