ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Organic Anion Transporter 1 (OAT1) Antibodies

Cat. # OAT11-P	Rat OAT1 control/blocking Peptide	**SIZE**: 100 ug
Cat. # OAT11-S	Rabbit Anti-rat OAT1 antiserum	**SIZE**: 100 ul
Cat. # OAT11-A	Rabbit Anti-rat OAT1 (affinity pure) Ig G	**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**), have been cloned and characterized from various tissues. Rat Kidney PAH transporter, termed **OAT1** or **ROAT1**, encodes a protein of 551 aa. Human OAT1 (**hOAT1**) is 563 aa and its alternatively spliced isoform hOAT2 is 550 aa (missing 13 aa from 523-533 aa). OAT1 has wide substrate selectivity, covering endogenous substrates such as cyclic nucleotides, prostaglandin and uric acid, and a variety of drugs (e.g., antibiotics, non-steroidal anti-inflammatory drugs, diuretics, anti-neoplastic drug, and a uricosuric drug). OAT1 has been localized on the basolateral membrane of the proximal tubule in the kidney. Weak expression was also detected in brain. OAT1 has ~95 identity with mouse NKT, an ortholog of rat OAT1.

Protein name Renal organic anion transporter 1
Synonyms Solute carrier family 22 (Organic anion transporter), member 6
Multispecific organic anion transporter
Gene name Name: Slc22a6; Synonyms: OAT1, ROAT1

Source of Antigen and Antibodies

Antigen	16-aa peptide of Rat OAT1/Slc22a6; (protein accession #O35956, refs 1) **Designated (OAT11-P or control peptide or blocking peptide**) conjugated to KLH; Epitope location ~C-terminus, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal Aff IgG (Cat # OAT11-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 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. We recommend the use of affinity purified antibody at 1-20 ug/ml (2).

Specificity & Cross-reactivity

The 16 AA rat OAT11-P control peptide is 87% conserved in mouse, rabbit, and 81% in human OAT1. No significant sequence homology is detected with other OATs or other proteins. Antibody cross-reactivity in various species has not been studied. The OAT11-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

General References:

(1) Sekine T (1997) JBC. 272, 18526-18529; Sweet DH (1997) JBC. 272, 30088-30095; Lopez-Nieto CE (1997) JBC. 272, 6471-6478; Reid G (1998) Kidney Blood Press. Res. 2, 233-237; Race JE (1999) BBRC 255, 508-514; Lu R (1999) Am. J. Physiol. 276, F295-F303; (**2**). Hosoyamada M (1999) Am J. Physiol. 276, 122; Skeine T (1999) J Am. Soc. Nephrol. 10, 464-471.

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

Bahn A, 2004, Drug Metab. Dispos.,32: 424 - 430, WB, IF
Ljubojevic M, 2004, Am J Physiol Renal Physiol 287: 124, WB, IHC
Villar SR, 2004, BBA 1688, 204-209, WB,
Beery E, 2003, Endocrinology, 144: 4519 - 4526, , IHC

*This product is for In vitro research use only.

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