

Product Specification Sheet

Urate Transporter 1 (URAT1) Antibodies

Cat. # URAT11-P	Human URAT1 Control/blocking Peptide	SIZE: 100 ug
Cat. # URAT11-S	Rabbit Anti-Human URAT1 antiserum	SIZE: 100 ul
Cat. # URAT11-A	Rabbit Anti-Human URAT1 IgG (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**), have been cloned and characterized from various tissues. OATPs family of proteins are very similar in sequence and secondary protein structure (up to 12 transmembrane domains with cytoplasmic N and C-terminus).

Urate, a naturally occurring product of purine metabolism, is a scavenger of oxidants. Urate exists primarily as a weak acid (pKa ~5.75). Urate concentration is quite high (~200-500 uM) in human due to loss of uricase gene and the presence of an effective reabsorption system. Recently an OAT-related transporter, URAT1, has been identified in the kidney that acts urate-anion exchanger and effectively regulates urate levels. URAT1/RST/SLC22A12 (mouse 553-aa, human 555-aa, chromosome 11q13, ~40 kDa) is ~42% identical with OAT4. Like OAT4, it is predicted to display 12-TM domains with cytoplasmic N and C-terminus. URAT1 is prominent in epithelial cells of proximal tubule of the renal cortex. Patients with idiopathic renal hypouricemia (lack of blood uric acid) have defects in URAT1 gene.

Protein name Solute carrier family 22 member 12
Synonym Organic anion transporter 4-like protein
Gene name Name: SLC22A12

Source of Antigen and Antibodies

Antigen	11-aa peptide from human URAT1 (1) ; (protein accession #Q96S37, refs 1) Designation (#URAT11-P, control/blocking peptide) conjugated to KLH; Epitope location ~ C-terminus Cytoplasmic domain
Ab Host/type	Rabbit, Aff pure IgG, purified over (Cat # URAT11-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 1 mg/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 5-20 ug/ml.

Specificity & Cross-reactivity

The URAT11-P control peptide is 100% conserved in human URAT1/RST or OAT-4-like protein, and only 54% in mouse RST/URAT1. No significant sequence homology of URAT11-P is observed with other OAT4 or other proteins. 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: (1) Entomoto A et al (2002) Nature 417, 447-452; Mori K et al (1997) FEBS Lett. 417, 371-374

*This product is for In vitro research use only.

Related material available from ADI

Antibodies OAT1-7 and CLC-K1; KCCL1-3; AQP-9 and RUT; OCT and OAT, AE-3, and NACX

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