ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Organic Cation Transporter 1 (OCTN1) Antibodies

□ Cat. # OCTN11-P	Mouse OCTN1 Control/blocking peptide #1	**SIZE**: 100 ug
□ Cat. # OCTN11-S	Rabbit Anti-Mouse OCTN1 antiserum #1	**SIZE**: 100 ul
□ Cat. # OCTN11-A	Rabbit Anti-Mouse OCTN1 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 cations from the blood by an active process called "renal secretion". Functional studies have identified two distinct categories of organic cation transporters (OCTs): a system driven by transmembrane potential difference that governs the influx of cations, whereas the H+-gradient-dependent transport system may mediate the efflux of organic cations. Several multispecific, potential-sensitive transporters (**OCT1-3**) and H+-dependent transporters (**OCTN1-3**) have been cloned and characterized from various tissues. OCT superfamily of proteins shares high degree of sequence homology, display up to 12 transmembrane domains with cytoplasmic N and C-terminus.

Recently a novel transporter termed **OCTN1**, has been cloned and characterized human fetal liver, which carries a nucleotide birding site motif. OCTN1 (human 551 a, mouse 553 aa) shares ~32% homology with OCT1-3. It is strongly expressed in adult kidney, trachea, bone marrow, and fetal liver, and several tumor cells, but not in adult human liver. OCTN1 mediated uptake of TEA in pH dependent manner.

Source of Antigen and Antibodies

Antigen	20aa peptide of Mouse OCTN (gene accession # NP066261.1) **Designated (OCTN11-P or control peptide). conjugated to KLH**
Location	~C-terminus
Ab Host/type	Rabbit, polyclonal; Unpurified antiserum (cat #OCTN11-S) Aff pure IgG (**cat #OCTN11-A**)
2-ab	**Goat Anti-rabbit IgG-HRP** cat # 20320 (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)
□ 100 ul □ □ Solution □ Lyophilized powder
Supplied in Buffer: 0.1% azide
Reconstitute powder in 100 ul PBS

Affinity pure IgG
□100 ug/100 ul □ 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 4oC or -20ºC..

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 –20ºC or below.
Shipping: 4ºC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K- 1-10 ug/ml for affinity pure antibody using ECL technique).Not tested

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 2-20 ug/ml in paraformaldehyde fixed sections of tissues.

Specificity & Cross-reactivity

The 20 AA mouse OCTN11-P control peptide is 88% conserved in rat and 61% in human OCTN1. No significant sequence homology is detected with other OCTs or OCTNs. Antibody cross-reactivity in various species has not been studied. The OCTN11-P 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 at: www.4adi.com\data\abblock.html).

General References:

Kekuda R et al (1998) J. Biol. Chem. 273, 15971-15979; Verhaagh S et al (1999) Genomics 55, 209-218; Gruendemann D et al (1998) Nat. Neurosci. 1, 349-351; Wu, X et al (1998) J. Biol. Chem. 273, 32776-32786; Koespell H (1998) Ann Rev. Physiol. 60, 243-266 (review).

*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; OCT1-3, OCTN1-3, and OAT1-3, and OATK1/K2, AE-3, and NACX1-3, NaPi and NaHCO3 transporters 1-3, NHE1-5

Recycle your blot in Just 5-10 min. (use the same strip for various Dopamine receptors) New formulation will strip antibodies in just a few minutes at room temp. (no boiling or pungent mercaptoethanol).

OCTN11-S-A-P rev.200825AC