ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Organic Cation Transporter 3 (OCTN3) Antibodies

Cat. # OCTN31-P	Mouse OCTN3 Control Peptide	**SIZE**: 100 ug
Cat. # OCTN31-S	Rabbit Anti-Mouse OCTN3 antiserum	**SIZE**: 100 ul
Cat. # OCTN31-A	Rabbit Anti-Mouse OCTN3 IgG (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 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.

OCTN2, a structural homolog of OCTN1, has been identified as **carnitine transporter**. OCTN2 (human/rat/mouse 557 aa) shares ~76% homology with OCTN1. It is strongly expressed in human kidney, skeletal muscle, heart, and placental in adult humans. In rat, OCTN2 expression was found in the proximal and distal tubules and in the glomeruli in the kidney, in the myocardium, valves, and arterioles in the heart, in the labyrinthine layer of the placenta, and brain (cortex, hippocampus, and cerebellum). OCTN2 mediated uptake of carnitine in a Na+-dependant manner, whereas other organic cations were transported without Na+. **OCTN3** (564 aa) has been cloned from mouse testes. It appears to be a carnitine transporter. However, its functional characteristics have not been reported.

Source of Antigen and Antibodies

Antigen	19aa peptide of Mouse OCTN3 **Designated (#OCTN31-P or control peptide)** conjugated to KLH
Location	~C-terminus, Cytoplasmic
Ab Host/type	Rabbit, polyclonal, Unpurified antiserum (**cat #OCT31-S**) Aff pure IgG (**cat #OCTN31-A**)
2-ab	**Goat Anti-rabbit IgG-HRP** cat # 20320 (AP, biotin, FITC conjugates also available)
-ve	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as –ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
00ul 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.
Shipping: 4oC 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 2-20 ug/ml in paraformaldehyde fixed sections of tissues.

Specificity & Cross-reactivity

The 19 AA mouse OCTN3 sequence from other species is not yet available. OCTN31-P control peptide has no significant sequence homology with other OCTs or OCTNs. Antibody cross-reactivity in various species has not been studied. The OCTN31-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 at: www.4adi.com\data\abblock.html).

General References:
(1). Nezu S et al (1999) Gene accession # AB018436; Wu X et al (1998) BBRC 246, 589-595; Tamai I et al (1998) J. Biol. Chem. 273, 20378-20382; 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; KCC1-3; AQP-9 and RUT; OCT1-3, OCTN1-3, and OAT1-3, and OATK1/K2, AE-3, and NCX1-3, NaPi and NBC1-3, NHE1-5

OCTN31-S 70314A

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