

Product Specification Sheet

Monocarboxylate Transporter 6 (MCT6) Antibodies

Cat. MCT65-P	Human MCT6 Control peptide # 1	SIZE: 100 ug
Cat. MCT65-S	Rabbit Anti-Human MCT6 antiserum # 1	SIZE: 100 ul
Cat. MCT65-A	Rabbit Anti-Human MCT6 IgG # 1 (affinity pure)	SIZE: 100 ug

Monocarboxylate such as lactate and pyruvate play an important role in cellular metabolism. Lactic acid is produced as the end product of glycolysis. Some tissues, such as white skeletal muscle and, red blood cells, use this pathway to generate most of their ATP under normal physiological conditions. All tissues become dependent on this pathway during abnormal conditions such as hypoxia and ischaemia. Lactic acid, produced during normal glycolysis, must be transported out of cells to sustain maintain high rate of glycolysis. Failure to export lactic acid leads to accumulation of cellular lactic acid followed by an increase in pH and inhibition of glycolysis. Some tissues, such as brain, heart, and red skeletal muscle, readily oxidize lactic acid, and must import lactic acid into the cells. Lactic acid transport is mediated by a group of proton-linked membrane transporters called **monocarboxylic acid transporters (MCTs)**. At least 9 MCT-related proteins (MCT1-9) have been identified in mammals that are expressed in a tissue specific manner.

MCT6/SLC16A5 (human 505-aa, ch 17q25.3) is highly expressed in kidney and placenta. According to **new nomenclature**, the old MCT5 has now been reclassified as MCT6. This antibody has previously been listed as MCT52-S. Please consult our web site and Halestrap AP and Price NT (1999) Biochem J. 343, 281-299 (review) for a detailed nomenclature.

Source of Antigen and Antibodies

Antigen	18-aa peptide from (Gene Accession #Q6P1X3) human MCT6 (1); Designation (#MCT65-P, control/blocking peptide) conjugated to KLH
Location	~C-terminus, Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#MCT65-S) and IgG, purified over antigen-agarose (Cat # MCT65-A)
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 -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 1-5 ug/ml for affinity pure using Chemiluminescence technique.

ELISA (1:10K-1:100K; using 50-100 ng of control peptide/well).

Histochemistry & Immunofluorescence: Not tested. We recommend the use of affinity purified antibody at 5-10 ug/ml in paraformaldehyde fixed tissues.

Specificity & Cross-reactivity

Human MCT65-P sequence has no significant sequence homology with other MCTs. It is 70% conserved in mouse and 65% in rat MCT6. Antibody crossreactivity 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 (see detailed protocol at: www.4adi.com/data/abblock.html).

General References: (1) Price NT (1998) Biochem. J. 329, 321-328 (review); Halestrap AP and Price NT (1999) Biochem J. 343, 281

*This product is for in vitro research use only.

Related material available from ADI

Antibodies to MCT1-8; NBC1-3; NHE1-5, AE1-3; NCX, NKCC, NCC, AE1-3, OATs, OCTs, etc

Western Blot recycling kit (Use the same blot to probe with multiple antibodies MCTs)

MCT65-S-A-P

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