

Product Specification Sheet

**Monocarboxylate Transporter 7 (MCT7) Antibodies**

<b>Cat. MCT75-P</b>	Human MCT7 Control peptide # 1	<b>SIZE:</b> 100 ug
<b>Cat. MCT75-S</b>	Rabbit Anti-Human MCT7 antiserum # 1	<b>SIZE:</b> 100 ul
<b>Cat. MCT75-A</b>	Rabbit Anti-Human MCT7 IgG # 1 (affinity pure)	<b>SIZE:</b> 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.

**MCT7/MOT7/SLC16A6** (mouse, 523-aa; human 423-aa, chromosome 17q25.1) is a new member of MCT family. According to **new nomenclature**, the old MCT6 has now been reclassified as MCT7. This antibody has previously been listed as MCT62-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**

<b>Antigen</b>	13-aa peptide of rat Ho-2 (protein A 20-aa peptide sequence ( <b>designated MCT75-P; control peptide</b> ) within the <b>Cytoplasmic, C-terminus of human MCT7 (1)</b> was synthesized, coupled to KLH
<b>Ab Host/type</b>	Rabbit, Polyclonal antiserum # <b>MCT75-S</b> and IgG, purified over antigen-agarose (Cat # <b>MCT75-A</b> )
<b>2-Ab</b>	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
<b>-ve control IgG</b>	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as -ve control

**Form & Storage of Antibodies/Peptide Control**

**Antiserum (unpurified)**

100ul solution lyophilized powder  
Supplied 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 MCT75-P sequence is 70% conserved in mouse MCT7. No significant sequence homology exist with other MCTs. MCT7 sequences from other species are not yet available. 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 see detailed protocol at the web site).

**General References:** (1) Price NT et al (1998) Biochem. J. 329, 321-328 (review); Halestrap AP and Price NT (1999) Biochem J. 343, 281-299 (review)

\*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 NBC1-3)

**ReadyBlot brain and Kidney Explorer** (study distribution of proteins in pre-made protein

MCT75-S-A-P 71214A