ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Monocarboxylate Transporter 8 (MCT8/XPCT) Antibodies

Cat. MCT81-P	Mouse MCT8 Control peptide # 1	**SIZE**: 100 ug
Cat. MCT81-S	**Rabbit** Anti-Mouse MCT8 antiserum # 1	**SIZE**: 100 ul
Cat. MCT81-A	**Rabbit** Anti-Mouse MCT8 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.

MCT8 or XPCT (X-linked **P**EST **C**ontaining **T**ransporter**;** (mouse, 545 aa, human 613/598 aa, chromosome xq13.2) is highly expressed in liver, heart, and kidney. 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	19-aa peptide of mouse MCT-8 (1) (gene accession #070342) ; **(designated MCT81-P; control peptide**) conjugated to KLH
Location	~C-terminal Cytoplasmic domain
Ab Host/type	Rabbit, Polyclonal, unpurified antiserum (Cat # MC81-S) and IgG purified over antigen-agarose (Cat # MCT81-A) supplied in PBS+0.1% BSA+0.05% azide
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 Peptide and Antibodies

Antiserum (unpurified, undiluted)

100 ul/vial solution — 50 ul/vial lyophilized powder

contains 0.05% sodium azide

Reconstitute powder 50 ul or 100 ul PBS

Affinity pure IgG

100 ug/100ul solution — 50 ug/50 ul lyophilized powder

Buffer: 100 mM Tris, pH 7.5; 0.2% BSA

contains 0.05% sodium azide

Reconstitute powder in PBS at 1 mg/ml

Control/blocking peptide

100 ug/100 ul solution — 50 ug/50 ul lyophilized powder

Buffer: PBS pH 7.5, contains 0.05% sodium azide

Reconstitute powder in the original vol. **O**f water

Storage

Short-term: unopened, undiluted liquid vials for less than a week at 4oC.

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 lyophilized items.

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

Mouse MCT81-P sequence is 94% conserved in rat, 89% in human MCT8. No significant sequence homology exist with other MCTs. 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 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 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

MCT81-S-A-P 60111A

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