

Product Specification Sheet

Monocarboxylate Transporter 3 (MCT3) Antibodies

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|---------------------|---|---------------------|
| Cat. MCT35-P | Rat MCT3 Control peptide # 1 | SIZE: 100 ug |
| Cat. MCT35-S | Rabbit Anti-Rat MCT3 antiserum # 1 | SIZE: 100 ul |
| Cat. MCT35-A | Rabbit Anti-Rat MCT3 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.

MCT3/REMP/SLC16A8 (mouse/rat 492-aa, human 504-aa; chromosome 22q12.3-q13.2) is exclusively located in the basal membrane of RPE, in contrast with MCT1, which was found on the apical surface. According to new nomenclature, the old MCT3 has now been reclassified as MCT4. Please consult our web site for a detailed nomenclature.

Source of Antigen and Antibodies

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|---------------------|---|
| Antigen | 17-aa peptide from (Gene Accession #070461) rat/mouse MCT3 (1); Designation (MCT35-P, control peptide) conjugated to KLH |
| Location | Cytoplasmic, ~C-terminus |
| Ab Host/type | Rabbit, Polyclonal; Unpurified antiserum (cat # MCT35-S) and aff pure IgG (cat # MCT35-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

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|-------------------------------|---|
| 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 -200C 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

Rat MCT35-P sequence is 100% conserved in mouse MCT3. No significant sequence homology exists with either human MCT3 or other MCTs. For human MCT3, we recommend the use of antibody cat # MCT36-S. 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) Jackson VN et al (1997) Biochem. J. 324, 447-453; Dao L et al (1998) J. Biol. Chem. 273, 28959-28965; Koehler-Stec EM et al (1998) Am. J. Physiol. 275, E516-E524; 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

MCT35-S-A-P

rev. 40202S