

**MPC2 (D4I7G) Rabbit mAb**

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|                               |                                |                                   |                        |                                      |                               |                                 |
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| <b>Applications:</b><br>W, IP | <b>Reactivity:</b><br>H M R Mk | <b>Sensitivity:</b><br>Endogenous | <b>MW (kDa):</b><br>14 | <b>Source/Isotype:</b><br>Rabbit IgG | <b>UniProt ID:</b><br>#O95563 | <b>Entrez-Gene Id:</b><br>25874 |
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**Product Usage Information****Application**

Western Blotting  
Immunoprecipitation

**Dilution**

1:1000  
1:50

**Storage**

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA, 50% glycerol and less than 0.02% sodium azide. Store at -20°C. Do not aliquot the antibody.

**Specificity/Sensitivity**

MPC2 (D4I7G) Rabbit mAb recognizes endogenous levels of total MPC2 protein. This antibody does not cross-react with MPC1 protein.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Asn33 of human MPC2 protein.

**Background**

The transport of the glycolytic end product pyruvate into mitochondria and the decarboxylation of pyruvate in the citric acid cycle generate energy through oxidative phosphorylation under aerobic conditions (1,2). Two inner mitochondrial membrane proteins, mitochondrial pyruvate carrier 1 (MPC1) and mitochondrial pyruvate carrier 2 (MPC2), form a 150 kDa complex and are essential proteins in the facilitated transport of pyruvate into mitochondria (1,2). Mutations in the corresponding *MPC1* gene are associated with deficient pyruvate transport and may result in lactic acidosis, developmental delay, and premature death (2,3). Altered MPC1/MPC2 expression or activity may result in significant metabolic disorders and contribute to the increase in aerobic glycolysis in cancer cells (a.k.a., the Warburg effect) (4).

**Background References**

1. Herzig, S. et al. (2012) *Science* 337, 93-6.
2. Bricker, D.K. et al. (2012) *Science* 337, 96-100.
3. Brivet, M. et al. (2003) *Mol Genet Metab* 78, 186-92.
4. Gray, L.R. et al. (2014) *Cell Mol Life Sci* 71, 2577-604.

**Species Reactivity**

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

**Western Blot Buffer**

**IMPORTANT:** For western blots, incubate membrane with diluted primary antibody in 5% w/v nonfat dry milk, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

**Applications Key**

**W:** Western Blotting **IP:** Immunoprecipitation

**Cross-Reactivity Key**

**H:** Human **M:** Mouse **R:** Rat **Mk:** Monkey

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