Revision 1

Store at -20C

#14462

MPC1 (D2L9I) Rabbit mAb

Cell Signaling TECHNOLOGY®

Orders: 877-616-CELL (2355)
orders@cellsignal.com

Support: 877-678-TECH (8324)

Web: info@cellsignal.com
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H M R Mk	Endogenous	12	Rabbit IgG	#Q9Y5U8	51660

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	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

MPC1 (D2L9I) Rabbit mAb recognizes endogenous levels of total MPC1 protein. This antibody does not cross-react with MPC2 protein.

Source / Purification

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxy terminus of human MPC1 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

Trademarks and Patents

Limited Uses

any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c) not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.