

**MTHFD1L (D7O8E) Rabbit mAb**

**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.**

<b>Applications:</b> W, IP	<b>Reactivity:</b> H	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 106	<b>Source/Isotype:</b> Rabbit IgG	<b>UniProt ID:</b> #Q6UB35	<b>Entrez-Gene Id:</b> 25902
-------------------------------	-------------------------	-----------------------------------	-------------------------	--------------------------------------	-------------------------------	---------------------------------

**Product Usage Information****Application**

Western Blotting  
Immunoprecipitation

**Dilution**

1:1000  
1:200

**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**

MTHFD1L (D7O8E) Rabbit mAb recognizes endogenous levels of total MTHFD1L protein.

**Source / Purification**

Monoclonal antibody is produced by immunizing animals with a synthetic peptide corresponding to residues surrounding Pro52 of human MTHFD1L protein.

**Background**

NADP<sup>+</sup> dependent methylenetetrahydrofolate dehydrogenase 1-like (MTHFD1L) is a mitochondrial enzyme that catalyzes the production of formate from 10-formyl-tetrahydrofolate, the last step in one-carbon (1-C) flow from mitochondria to cytoplasm (1,2). These one-carbon end products are required for *de novo* synthesis of thymidylate and purines. In the mitochondria, these essential one-carbon products are formed by a series of reactions catalyzed by a pair of enzymes (MTHFD2 and MTHFD1L), but by the trifunctional MTHFD1 enzyme in the cytoplasm (3). The 10-formyl-tetrahydrofolate synthetase MTHFD1L is widely expressed in most adult tissues and at all stages of mammalian embryonic development (1). Research studies using MTHFD1L knockout mice indicate that MTHFD1L plays an essential role in neural tube formation; mice lacking MTHFD1L displayed neural tube and craniofacial defects leading to embryonic lethality (4).

**Background References**

1. Prasannan, P. et al. (2003) *J Biol Chem* 278, 43178-87.
2. Prasannan, P. and Appling, D.R. (2009) *Arch Biochem Biophys* 481, 86-93.
3. Pike, S.T. et al. (2010) *J Biol Chem* 285, 4612-20.
4. Momb, J. et al. (2013) *Proc Natl Acad Sci U S A* 110, 549-54.

**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 BSA, 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

**Trademarks and Patents**

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

XP is a registered trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit [cellsignal.com/trademarks](http://cellsignal.com/trademarks) for more information.

**Limited Uses**

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in

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.