

#14998 Store at -20°C

MTHFD1L (D7O8E) Rabbit mAb**Cell Signaling**
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Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
WB, IP	H	Endogenous	106	Rabbit IgG	#Q6UB35	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⁺ 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**WB:** Western Blotting **IP:** Immunoprecipitation**Cross-Reactivity Key**

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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