Revision 1

Store at -20C

#12612

SHMT1 Antibody

Cell Signaling TECHNOLOGY®

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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	50	Rabbit	#P34896	6470

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 and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

SHMT1 Antibody recognizes endogenous levels of total SHMT1 protein.

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the amino terminus of human SHMT1 protein. Antibodies are purified by protein A and peptide affinity chromatography.

Background

Serine hydroxymethyltransferases 1 and 2 (SHMT1, SHMT2) are cytoplasmic and mitochondrial serine hydroxymethyltransferases, respectively (1,2). They catalyze the conversion of serine to glycine with the transfer of β-carbon from serine to tetrahydrofolate (THF) to form 5,10-methylene-THF (1,2). Research studies indicate that SHMT1 hemizygosity is associated with higher risk of intestinal cancer in mice of a certain genetic background (3). Suppression of SHMT2 was shown to block cell proliferation (4).

Background References

1. MacFarlane, A.J. et al. (2008) *J Biol Chem* 283, 25846-53.
2. Hebbring, S.J. et al. (2012) *J Neurochem* 120, 881-90.
3. Macfarlane, A.J. et al. (2011) *Cancer Res* 71, 2098-107.
4. di Salvo, M.L. et al. (2013) *Med Hypotheses* 80, 633-6.

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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