

**SHMT1 Antibody**

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<b>Applications:</b> W, IP	<b>Reactivity:</b> H M R Mk	<b>Sensitivity:</b> Endogenous	<b>MW (kDa):</b> 50	<b>Source/Isotype:</b> Rabbit	<b>UniProt ID:</b> #P34896	<b>Entrez-Gene Id:</b> 6470
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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 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 hemizygoty 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. Hebring, 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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