# SHMT2 Protein, Human (His)

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| **Cat. No.:** | HY-P701977 |
| **Synonyms:** | SHMT2; Serine hydroxymethyltransferase; mitochondrial; SHMT; Glycine hydroxymethyltransferase; Serine methylase |
| **Species:** | Human |
| **Source:** | E. coli |
| **Accession:** | P34897 (S29-H504) |
| **Gene ID:** | 6472 |
| **Molecular Weight:** | |

## PROPERTIES

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| **Appearance** | Solution. |
| **Formulation** | Supplied as a 0.22 μm filtered solution of 50 mM Tris-HCl, pH7.5, 200 mM NaCl, 20% glycerol. |
| **Endotoxin Level** | <1 EU/μg, determined by LAL method. |
| **Reconsititution** | Please use rapid thawing with running water to thaw the protein. |
| **Storage & Stability** | Stored at -80°C for 1 year. It is stable at -20°C for 3 months after opening. It is recommended to freeze aliquots at -80°C for extended storage. Avoid repeated freeze-thaw cycles. |
| **Shipping** | Shipping with dry ice. |

## DESCRIPTION

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| **Background** | SHMT2, a versatile enzyme, serves a crucial role in cellular metabolism by catalyzing the cleavage of serine to glycine while concurrently producing 5,10-methylenetetrahydrofolate, an essential intermediate in purine biosynthesis. This process is pivotal for generating one-carbon units, with serine acting as the major contributor to folate-associated one-carbon metabolism. SHMT2's involvement extends to mitochondrial thymidylate biosynthesis, where it aids in preventing uracil accumulation in mtDNA. Additionally, it plays a crucial role in mitochondrial translation by producing 5,10-methylenetetrahydrofolate, a methyl donor essential for the modification of mitochondrial tRNAs. Beyond its mitochondrial functions, SHMT2 participates in the deubiquitination of target proteins as a component of the BRISC complex, demonstrating its multifaceted contributions to cellular processes. |



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