

SHMT1 Protein, Human, Recombinant (His)

General Information

Synonyms:	Serine Methylase;Glycine Hydroxymethyltransferase;Serine Hydroxymethyltransferase Cytosolic;SHMT;SHMT1
Protein Construction:	Met3-Phe483
Species:	Human
Expression Host:	HEK293 Cells
Accession:	AAH07979.1
Molecular Weight:	55 KDa (reducing condition)
AA Sequence:	Met3-Phe483

QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	Greater than 95% as determined by reducing SDS-PAGE. (QC verified)
Endotoxin:	< 0.1 ng/μg (1 EU/μg) as determined by LAL test.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM PB, 150 mM NaCl, 1 mM EDTA, 5% Trehalose, 5% Mannitol, 0.02% Tween 80, pH 6.0.

Preparation and Storage

Reconstitution:

Reconstitute the lyophilized protein in distilled water. The product concentration should not be less than 100 μg/ml. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Serine Hydroxymethyltransferase Cytosolic (SHMT1) is a member of the SHMT family. SHMT1 is a cytoplasmic protein and exists as a homotetramer. SHMT1 catalyzes the reversible conversion of serine and tetrahydrofolate to glycine and 5,10-methylene tetrahydrofolate. This reaction provides one carbon unit for the synthesis of methionine, thymidylate, and purines in the cytoplasm. A reduction in SHMT1 levels would result in less glycine

that could affect the nervous system by acting as an agonist to the NMDA receptor and this could be a mechanism behind Smith-Magenis syndrome.

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