

## GSTZ1 Protein, Human, Recombinant (His)

### General Information

Synonyms:	MAI;GSTZ1-1;glutathione S-transferase $\zeta$ 1;MAAI;GSTZ1;glutathione S-transferase zeta 1
Protein Construction:	A DNA sequence encoding the mature form of human GSTZ1 (NP_665877.1) (Met1-Ala216) was expressed with a polyhistide tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	E. coli
Accession:	O43708
Molecular Weight:	26 kDa (predicted); 27 kDa (reducing conditions)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 $\mu$ m filter, containing PBS, 10% glycerol, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

#### Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. 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

GSTZ1 (Glutathione S-Transferase Zeta 1) is a Protein Coding gene. 3 alternatively spliced human isoforms have been reported. GSTZ1 gene is a member of the glutathione S-transferase (GSTs) super-family which encodes multifunctional enzymes important in the detoxification of electrophilic molecules, including carcinogens, mutagens, and several therapeutic drugs, by conjugation with glutathione. GSTZ1 is a bifunctional protein that has minimal glutathione-conjugating activity with ethacrynic acid and 7-chloro-4-nitrobenzo-2-oxa-1,3-diazole

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and maleylacetoacetate isomerase activity. GSTZ1 catalyzes the glutathione-dependent oxygenation of dichloroacetic acid to glyoxylic acid. GSTZ1 participates in the catabolism of phenylalanine and tyrosine. Thus defects in GSTZ1 cause harsh metabolic disorders including alkaptonuria, phenylketonuria, and tyrosinemia.

### Reference

Tong Z. et al., 1999, Chem Res Toxicol. 11 (11): 1332-8.

Tong Z. et al., 1999, Biochem J. 331 (2): 371-4.

Ketterer B. 2001, Chem Biol Interact. 138 (1): 27-42.

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