

# Recombinant Glutathione S-Transferase (GST)

## Certificate of Analysis and Data Sheet

➤ <b>Source:</b> E.Coli	➤ <b>Catalog No.</b> PRO-312
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### ➤ **Background:**

Antioxidant enzyme Glutathione S- Transferase (GST) is thought to do the primary cellular defense mechanism against reactive oxygen species. GST reduces lipid hydroperoxides through its Se-independent glutathione peroxidase activity. The enzyme also detoxifies lipid peroxidation end products such as 4-hydroxynonenal (4-HNE).

The soluble GST is a 26 kDa protein which occurs as a dimer in all aerobic organisms. Each monomer has two domains, one that binds GSH and is an  $\alpha$ -structure similar to thioredoxin and the other, all helical, that binds the hydrophobic substrate. The GST -fusion protein expression system is a widely used recombinant protein expression system that allows a peptide or a regulatory protein domain to be expressed as a fusion to the C-terminus of Schistosoma japonicum GST. Fusion proteins also possess GST -enzymatic activity and can undergo dimerization similar to in vivo. The fusion protein can be purified via GST -affinity column chromatography. In most cases, the desired peptides or domains are removed from GST by applying a specific protease that recognizes and cleaves the linker between the protein domain and GST. The technique has been widely used to generate different kinds of proteins for crystallization, molecular immunology studies, the production of vaccines and studies involving protein-protein and protein-DNA interactions.

### ➤ **Description :**

GST was isolated from an E. coli strain that carries the coding sequence for Schistosoma japonicum GST under the control of a T7 promoter. GST can be used for protein-protein interactions assay and protein-DNA interactions assay.

### ➤ **Presentation:**

100 $\mu$ l purified Glutathione S-Transferase protein at 0.1mg/ml in 50mM Tris-Acetate, pH7.5, 1mM EDTA, 20% Glycerol without BSA and Sodium Azide.

### ➤ **Application And Suggested Dilutions:**

- ELISA
- Inhibition Assays
- Western Blotting

### ➤ **Unit Definition:**

100 units (100 ng) are sufficient for a protein-protein interaction assay.

➤ **Purity:**

Greater than 90% by SDS-PAGE.

➤ **Storage & Stability:**

Store vial at  $-20^{\circ}\text{C}$  to  $-80^{\circ}\text{C}$ . When stored at the recommended temperature, this protein is stable for 12 months.

➤ **Legal Consideration:**

This material is offered for research, laboratory or further manufacturing purposes.