

## GSTA1 Protein, Human, Recombinant (His)

### General Information

Synonyms:	glutathione S-transferase alpha 1;GTH1;GST2;glutathione S-transferase $\alpha$ 1;GSTA1-1
Protein Construction:	A DNA sequence encoding the human GSTA1 (NP_665683.1) (Met1-Phe222) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Met
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P08263
Molecular Weight:	27.1 kDa (predicted)

### 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:	$\geq 90\%$ as determined by SDS-PAGE. $\geq 90\%$ as determined by SEC-HPLC.
Endotoxin:	$< 1.0$ EU/ $\mu$ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a $0.22\ \mu\text{m}$ filter, containing PBS, 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:**  
Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

**Stability & Storage:**

It is recommended to store recombinant proteins at  $-20^{\circ}\text{C}$  to  $-80^{\circ}\text{C}$  for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at  $-80^{\circ}\text{C}$ . For reconstituted protein solutions, the solution can be stored at  $-20^{\circ}\text{C}$  to  $-80^{\circ}\text{C}$  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

GSTA1 (Glutathione S-Transferase Alpha 1) is a Protein Coding gene. This gene encodes a member of a family of enzymes that function to add glutathione to target electrophilic compounds. Glutathione S-transferases (GSTs) are involved in the detoxification of carcinogens and may be linked to carcinogenesis. As a vital component of GSTs, GSTA1 plays an important role in carcinogenesis. GSTA1 expression may be a target molecule in the early diagnosis and treatment of lung cancer. Human colonic adenocarcinoma (Caco-2) cells in culture undergo

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spontaneous differentiation into mature enterocytes in association with progressive increases in expression of glutathione S-transferase alpha-1 (GSTA1). GSTA1 levels may play a role in modulating enterocyte proliferation but do not influence differentiation or apoptosis. GSTA1 may play a key role during pregnancy.

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