

Recombinant Human Glutathione S-transferase Alpha 1

Cat. No. GSTA1-489H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human GSTA1 protein was expressed in <i>E.coli</i> and purified by using conventional chromatography techniques.
Species	Human
Source	<i>E.coli</i>
Description	GSTA1, also known as Glutathione S-transferase alpha 1, belongs to a glutathione S-transferase alpha class and is the most abundantly expressed in liver. This protein functions in the detoxification of electrophilic compounds, including carcinogens, therapeutic drugs, environmental toxins and products of oxidative stress, by conjugation with glutathione.
Sequences of amino acids	MAEKPKLHYF NARGRMESTR WLLAAAGVEF EEKFIKSAED LDKLRNDGYL MFQQVPMVEI DGMKLVQTRA ILNYIASKYN LYGKDIKERA LIDMYIEGIA DLGEMILLLP VCPPEEKDAK LALIKEKIKN RYFPAFEKVL KSHGQDYLVG NKLSRADIHL VELLYYVEEL DSSLISSFPL LKALKTRISN LPTVKKFLQP GSPRKPPMDE KSLEEARKIF RF
Form	Liquid. In 20 mM Tris-HCl buffer (pH8.0) containing 1mM DTT 10% glycerol
Molecular Weight	25.6 kDa (222aa)
Purity	> 90% by SDS - PAGE

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Concentration	1 mg/ml (determined by Bradford assay)
Biological activity	Specific activity is 5-8 units/mg, and is defined as the amount of enzyme that conjugate 1.0 u mole of 1-chloro-2,4-dinitrobenzene (CDNB) with reduced glutathione per minute at pH 6.5 at 25°C.
Activity Assay	1.Prepare a 1.mll reaction mix into a suitable container: The final concentrations are 97 mM potassium phosphate, 0.97 mM EDTA, 2.5 mM glutathione, reduced, 1.0 mM 1-chloro-2,4-dinitrobenzene (CDNB), 3.2% (v/v) ethanol.2.Equilibrate to 25°C and monitor the A340nm until the value is constant using a spectrophotometer. 3.Add 50ul of recombinant GSTA1 protein with various concentrations (1ug, 2ug, 5ug) in 950ul reaction buffer. 4.Mix by inversion and record the increase in A340nm for 5 minutes.
Storage	Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.
GeneID	2938
Pathways	Drug metabolism - cytochrome P450; Glutathione metabolism; Metabolism of xenobiotics by cytochrome P450; Biological oxidations.

GENE INFORMATION

Gene Name	
Synonyms	GSTA1; GST2; GSTA1-1; GTH1; MGC131939; glutathione S-transferase alpha 1; GST-epsilon; GST, class alpha, 1; glutathione S-transferase 2; glutathione S-transferase A1; glutathione S-aryltransferase A1; glutathione S-alkyltransferase A1; S-(hydroxyalkyl)glutathione lyase A1; glutathione S-transferase Ha subunit 1; EC 2.5.1.18; GST-epsilon; OTTHUMP00000016611; GST class-alpha member 1; HA subunit 1;

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mRNA Refseq	NM_145740
Protein Refseq	NP_665683
MIM	138359
UniProt ID	P08263
Chromosome Location	6p12.1
Function	glutathione transferase activity; glutathione transferase activity; transferase activity.
PDB rendering based on 1ags. Available structures 1ags, 1gsd, 1gse, 1gsf, 1guh, 1k3l, 1k3o, 1k3y, 1pkw, 1pkz, 1pl1, 1pl2, 1tdi, 1usb, 1xwg, 1ydk 	