ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Glutathione Transferase-Mu (GST-mu or GST M1-1**) Protein**

Cat. GSTM25-R-25	Recombinant purified Human GST-mu protein	Size:	25 ug
	FORM: Soln	Lyophilized	
Cat. GSTM25-R-100	Recombinant purified Human GST-mu protein	Size:	100 ug
	FORM: Soln	Lyophilized	

GST's are responsible for the metabolism of a broad range of xenobiotics and carcinogens. The enzyme catalyzes the reaction of glutathione with a wide variety of organic compounds to form thioethers, a reaction that is sometimes a first step in a detoxification process leading to mercapturic acid formation. GSTs play an important role defense against electrophilic chemicals generated by cellular oxidative reactions catalyzed by cytochrome P450 and other oxidases. GSTs are believed to defend against the highly reactive electrophiles that are formed as a result of cellular oxidative processes. Based on amino acid sequence similarities and antibody cross-reactivities, the mammalian cytosolic GSTs are divided into the following classes: alpha, mu, kappa, theta, pi, zeta, omega and sigma. GSTs exists as homodimers of ~25 kDa. GST A1-1 is mainly found in kidney, intestine, lung, and liver. GST M1-1 is restricted to liver and few other tissues. GST P1-1 has a widespread distribution in most tumor cells and tissues but it is absent in liver. The GST M1-1 is the type b allelic variant and corresponds to human GST Y.

The **GST M1** along with GST M2-GST M5 are mapped to Chrm 1, There is a close physical proximity between GSTM1 and GSTM2 loci, which shares 99% nucleotide sequence identity over 460 nucleotides of 3-prime untranslated mRNA. The 181aa long GST M1 is mainly expressed in liver, brain, testis, kidney and lung and show enzyme activity towards CDNB; AFB1 – epoxide; trans-4-phenyl-3buten-2-one.

Source of Antigen

Human GST-mu/GST M1-1 was expressed in E. coli and purified (>95%). Under native conditions, GST-mu is homodimeric protein of ~50 kda and under reducing conditions ~25 kda. It is supplied in 25 ug or 100 ug/vial in a buffer containing 50 mM Tris, pH 7.5, 50 mM NaCl; 1 mM DTT, 1 mM EDTA, 50% glycerol. Concentration is specified on the vial.

Specific activity: Approx. 50 units/mg. One unit will catalyze the conjugation of 1.0 micromole of 1-chloro-2-4-dinitrobenzene and reduced glutathione per min at pH 6.5 at 25oC.

Store at –20oC.

Stability: 6-12 months at –20oC or below.

Shipping: -20oC for solutions. Not shipped outside the USA.

Recommended Usage

Purified GST-mu protein can be used for biological activity determination, ELISA, and for standards or for positive control for Western. **Protein concentration must be optimized for each application under defined experimental conditions.**

This product is for in vitro research use only.

General References: Knapen MFCM (200) Lancet, 355, 1463-1464; Morel F et al (2002) Pharmacogenetics 12, 277-286; Suzuki T et al (1993) Genomics 18, 680-686

Related material available from ADI

Anti-Rabbit HRP conjugates	Single solution, ready to use, TMB substrates for Blotting
Chemiluminescence substrates and Western blot kits	
Western blots Recycling Kit; Strips antibodies in 5-10 min at room temp.	
GSTM15-R-25, -100	70305A

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