

Product Specification Sheet

Glutathione Transferase-Mu (GST-mu) Antiserum

☐ # GSTM11-S	Rabbit Anti-Rat GST-mu antiserum	SIZE: 100 ul
☐ # GSTM11-C	Purified rat liver GST-mu (GST-M1) protein WB +ve control	Size: 100 ul

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 and Antibodies

Antigen	Full length rat GST-mu/GST M1-1 fusion protein with N-terminal His-tag (25 Kda) (Cat # GSTM11-C) was expressed in E. coli and purified to >95%.
Ab Host/type	Rabbit, Polyclonal antiserum Cat # GSTM11-S
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control

#GSTM11-S, rat GST-M protein Control

Rat GST-M1 protein was purified from rat liver. For Western blot +ve control (**Cat # GSTM11-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **GSTM11-C** for good visibility with antibody Cat # **GSTM11-S**. Store at –20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **GSTM11-C** solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly.

Form & Storage of Antibodies

Antiserum (unpurified, undiluted)

- ☐ 100 ul/vial
 - ☐ 50 ul/vial
 - ☐ solution
 - ☐ lyophilized powder
- contains 0.05% sodium azide

Reconstitute powder in the original vol. of water

Storage

Short-term: unopened, undiluted vials for less than a week at 4oC.

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

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

Shipping: 4oC for solutions and room temp for powder.

Recommended Usage

This antiserum has been tested by ELISA (suggested dilution 10-100K) using 50-100 ng/well GST-coated ELISA plates. Actual dilution of antibody will vary depending upon the type of technique used to detect primary antibody such calorimetric or chemiluminescence substrates. The nature and concentration of GST in samples may also affect antibody concentration.

Antiserum can be diluted 1:500-3K in most Western applications using ADI's chemiluminescent substrates.

Antibody concentration must be optimized for each application under defined experimental conditions.

Species Crossreactivity

Rabbit Anti-rat GST-mu, produced against native full-length proteins is likely to crossreact with GST-mu from other species (mouse, human, etc.). No crossreactivity is seen with other GST isoforms (alpha and pi). Rat GST-mu can be used as positive control in Western or ELISA. Antibodies to rat GST-mu are also available (Cat # GSTM11-S).

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

This product is for in vitro research use only.

Related material available from ADI

Anti-Rabbit HRP conjugates, Single solution, ready to use, TMB substrates for Blotting

GSTM11-S-C

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India Contact:

Life Technologies (India) Pvt. Ltd.

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com