

Product Specification Sheet

Glutathione Transferase-Pi (GST-pi) Antibodies

Cat. GSTP12-S	Rabbit Anti-Human GST-pi antiserum	SIZE: 100 ul
Cat. GSTP12-C	Human GST-pi 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.

GST Pi/ GST P1/ GST3, a 210aa protein (chrM 11q13) is present in all tissues and cells, with the exception of red cells, in which only erythrocyte GST (GSTe) is observed. Its expression was increased in many tumors relative to matched normal tissue and abundantly expressed in human skin. The protein shares 86% sequence identity with GSTP. GST Pi show enzyme activity towards CDNB; acrolein; adenine propenal; BDPE; benzyl isothiocyanate; EA; 4-vinylpyridine.

Source of Antigen and Antibodies

Recombinant, purified human GST-Pi protein was used to raise polyclonal antibodies in **rabbits (cat #GSTP12-S)**.

Human GST-pi/GST P1-1 was expressed in E. coli and purified (>95%). Under native conditions, GST-alpha is homodimeric protein of ~50 kda and under reducing conditions ~25 kda. It is supplied as **Western Blot +ve control (cat # GSTP12-C)** in SDS-PAGE sample buffer (reduced; 100 ul/vial) to visualize (load 10 ul/lane) with antibodies (**Cat# GSTP12-S**). This preparation is not biologically inactive. Store frozen in suitable aliquots. Avoid repeated heating or freeze and thaw. Heat once prior to loading on gels (10 ul/lane). The loading volume may be adjusted if necessary.

We also supply the protein in biologically active formulation (Cat # GSTP35-R-25) that can be used for activity determination, ELISA, standards and other applications.

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)

00ul solution lyophilized powder
Supplied in Buffer: 0.05% azide
Reconstitute powder in 100 ul PBS

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS, pH 7.5 ,
Reconstitute powder in PBS at 1 mg/ml

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 may also affect antibody concentration.

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

Species Crossreactivity

Rabbit Anti-human GST-pi, produced against native full-length proteins is likely crossreact with GST-pi from other species (mouse, rat, etc.). Purified human GST-pi can be used as positive control. Antibodies to rat GST-pi are also available (cat #GSTP11-S).

General references: Ali-Osman, F (1997). J. Biol. Chem. 272: 10004-10012; Board, P.; (1993) J. Biol. Chem. 268: 15655-15658; Henderson, C. J (200) Proc. Nat. Acad. Sci. 97: 12741-12745; Konohana, A (1990) J. Invest. Derm. 95: 119-126;

This product is for in vitro research use only.

Related material available from ADI

Purified GST, Monoclonal anti-GST, GST Coated ELISA plates
Anti-Rabbit HRP conjugates Single solution, ready to use, TMB substrates for Blotting

Western blots Recycling Kit: Strips antibodies in 5-10 min at room temp.

GSTP12-S-C 150929SV

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