

Product Specification Sheet

Glutathione Transferase-Alpha (GST- α or GST A1-1) Antibodies

Cat. GSTA12-S	Rabbit Anti-Human GST-alpha antiserum	SIZE: 100 ul
Cat. GSTA12-C	Human GST-alpha 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. 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 exist 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.

GSTA1: The alpha gene cluster consists of 5 genes GSTA1-GSTA5; the GSTA1 contains 222aa (chr 6p12), widely expressed in human tissues of liver, kidney, testis, adrenal and pancreas. GST alpha 1-1 concentration as a marker for hepatocellular impairment, GSTA1 concentration in blood is a more specific marker than AST or ALT, and has a shorter half-life than ALT. The GSTA1 shows enzyme activity towards CDNR; NBD-Cl; $\Delta 5$ AD, PGE₂ AND PGF_{2a} synthase.

Source of Antigen and Antibodies

Antigen	Human GST-alpha/GST A1-1 fusion protein with N-terminal His-tag (25 Kda) (Cat # GSTA12-C) was expressed in E. coli and purified to >95%.
Ab Host/type	Rabbit, Polyclonal antiserum Cat # GSTA12-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

Human GST-alpha/GST A1-1 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 # GSTA12-C)** in SDS-PAGE sample buffer (reduced; 100 ul/vial) to visualize (load 10 ul/lane) with antibodies (**Cat# GSTA12-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 # GSTA15-R-25) that can be used for activity determination, ELISA, standards and other applications.

Form & Storage of Antibodies

Antiserum (unpurified)

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

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 as 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-human GST- α , produced against native full-length proteins is likely to crossreact with GST- α from other species (mouse, rat, etc.). No crossreactivity is seen with other GST isoforms (mu and pi). Human GST-alpha can be used positive control in Western or ELISA. Antibodies to rat GST-alpha are also available (Cat # GSTA11-S).

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

GSTA12-S-C 71215J

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