

Product Specification Sheet

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

Cat. GSTA11-S

Rabbit Anti-Rat GST-alpha antiserum

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 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	Purified rat GST-alpha protein
Ab Host/type	Rabbit, Polyclonal antiserum (Cat # GSTA11-S)
2-Ab	Goat Anti-rabbit IgG-HRP cat # 20320 (AP, biotin, FITC conjugates also available)
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies

Antiserum (unpurified, undiluted)

100 ul/vial solution contains 0.05% sodium azide	50 ul/vial lyophilized powder
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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 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-rat GST- α , produced against native full-length proteins is likely to crossreact with GST- α from other species (mouse, human, etc.). No crossreactivity is seen with other GST isoforms (mu and pi). Rat GST-alpha protein or tissues containing GST-alpha can be used as positive control in Western or ELISA. Antibodies to human GST-alpha are also available (Cat # GSTA12-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

Recombinant purified GST-alpha, mu, and Pi and antibodies

GSTA11-S 80129A

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