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**HRP-labeled Antibody to Glutathione-S-Transferase**  
**MOUSE MONOCLONAL**

**Catalog Number:** AB-461  
**Quantity:** 100 microliters, 200 microliters, 500 microliters  
**Format:** PBS with 50% glycerol  
**Host:** Mouse  
**Isotype:** IgG<sub>2b</sub>  
**Clone:** PGSTHRPSHG  
**Immunogen:** GST protein

**Background:**

GST family of enzymes comprises a long list of cytosolic, mitochondrial, and microsomal proteins that are 45-55 kDa (dimer form) size and are capable of multiple reactions with a multitude of substrates, both endogenous and xenobiotic. GST catalyses the conjugation of reduced glutathione meaning the sulfhydryl group, to electrophilic centers on a wide variety of substrates. This activity is useful in the detoxification of endogenous compounds such as peroxidised lipids, as well as the metabolism of xenobiotics. GST binds toxins and function as transport protein. Glutathione S-transferase is used to create the so-called 'GST gene fusion system'. The GST is used to purify and detect proteins of interest. In a GST gene fusion system, the GST sequence is incorporated into an expression vector alongside the gene sequence encoding the protein of interest. Induction of protein expression from the vector's multiple cloning sites results in expression of a fusion protein - the protein of interest fused to the GST protein. This GST-fusion protein can then be purified from cells via its high affinity for glutathione. Fusion proteins offer an important biological assay for direct protein-to-protein interactions. The GST tag has the size of 220 amino acids, which, compared to other tags like the myc- or the FLAG-tag, is quite big. It is fused to the N-terminus of a protein. However, many commercially-available sources of GST-tagged plasmids include a thrombin domain for cleavage of the GST tag during protein purification. A GST-tag is often used to separate and purify proteins that contain the GST-fusion. GST-fusion proteins can be produced in Escherichia coli, as recombinant proteins.

**Specificity and Preparation:**

GST HRP monoclonal antibodies are produced by immunizing mouse with GST protein.

**Usage and Storage:**

Applications include western blot (1:1,000).

Antibody is stable for two years at -20°C, one month at 4°C.