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Anti-GSTM1 Antibody Picoband™ (monoclonal, 11F2)

Catalog # ABO14784

Product Information

Application	WB, IHC, ICC, FC
Primary Accession	P09488
Host	Mouse
Isotype	Mouse IgG1
Reactivity	Rat, Human, Mouse
Clonality	Monoclonal
Format	Lyophilized
Description	Anti-GSTM1 Antibody Picoband™ (monoclonal, 11F2) . Tested in Flow Cytometry, IHC, ICC, WB applications. This antibody reacts with Human, Mouse, Rat.
Reconstitution	Add 0.2ml of distilled water will yield a concentration of 500ug/ml.

Additional Information

Gene ID	2944
Other Names	Glutathione S-transferase Mu 1, 2.5.1.18, GST HB subunit 4, GST class-mu 1, GSTM1-1, GSTM1a-1a, GSTM1b-1b, GTH4, GSTM1 (HGNC:4632), GST1
Calculated MW	25712
Application Details	Western blot, 0.1-0.5 □g/ml Immunohistochemistry (Paraffin-embedded Section), 0.5-1 □g/ml Immunohistochemistry (Frozen Section), 0.5-1 □g/ml Immunocytochemistry, 0.5-1 □g/ml Flow Cytometry, 1-3 □g/1x106 cells
Subcellular Localization	Cytoplasm.
Tissue Specificity	Liver (at protein level).
Source	Eukaryota
Contents	Each vial contains 4mg Trehalose, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg NaN3.
Clone Names	Clone: 11F2
Immunogen	A synthetic peptide corresponding to a sequence in the middle region of human GSTM1, which shares 70.6% and 73.5% amino acid (aa) sequence identity with mouse and rat GSTM1, respectively.
Cross Reactivity	No cross-reactivity with other proteins.

Storage	Store at -20˚C for one year from date of receipt. After reconstitution, at 4˚C for one month. It can also be aliquotted and stored frozen at -20˚C for six months. Avoid repeated freeze-thaw cycles.

Protein Information

Name	GSTM1 (HGNC:4632)
Synonyms	GST1
Function	Conjugation of reduced glutathione to a wide number of exogenous and endogenous hydrophobic electrophiles. Involved in the formation of glutathione conjugates of both prostaglandin A2 (PGA2) and prostaglandin J2 (PGJ2) (PubMed:9084911). Participates in the formation of novel hepoxilin regioisomers (PubMed:21046276).
Cellular Location	Cytoplasm.
Tissue Location	Liver (at protein level).

Background

Glutathione S-transferase Mu 1 (gene name GSTM1) is a human glutathione S-transferase. Cytosolic and membrane-bound forms of glutathione S-transferase are encoded by two distinct supergene families. At present, eight distinct classes of the soluble cytoplasmic mammalian glutathione S-transferases have been identified: alpha, kappa, mu, omega, pi, sigma, theta and zeta. This gene encodes a glutathione S-transferase that belongs to the mu class. The mu class of enzymes functions in the detoxification of electrophilic compounds, including carcinogens, therapeutic drugs, environmental toxins and products of oxidative stress, by conjugation with glutathione. The genes encoding the mu class of enzymes are organized in a gene cluster on chromosome 1p13.3 and are known to be highly polymorphic. These genetic variations can change an individual's susceptibility to carcinogens and toxins as well as affect the toxicity and efficacy of certain drugs. Null mutations of this class mu gene have been linked with an increase in a number of cancers, likely due to an increased susceptibility to environmental toxins and carcinogens. Multiple protein isoforms are encoded by transcript variants of this gene.

Images

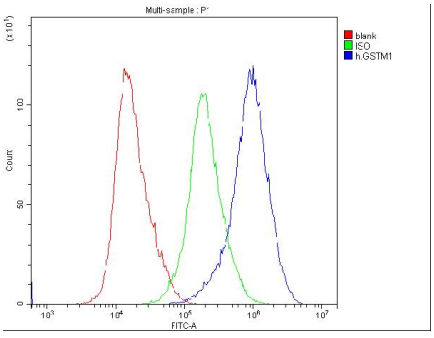
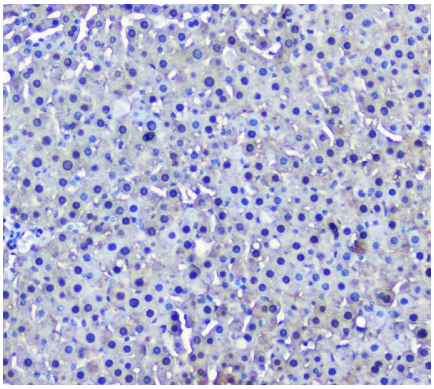


Figure 2. Flow Cytometry analysis of HELA cells using anti-GSTM1 antibody (M00569).
Overlay histogram showing HELA cells stained with M00569 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-GSTM1 Antibody (M00569,1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

Figure 3. IHC analysis of GSTM1 using anti-GSTM1 antibody (M00569).
GSTM1 was detected in paraffin-embedded section of rat liver tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with



10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-GSTM1 Antibody (M00569) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1021) with DAB as the chromogen.

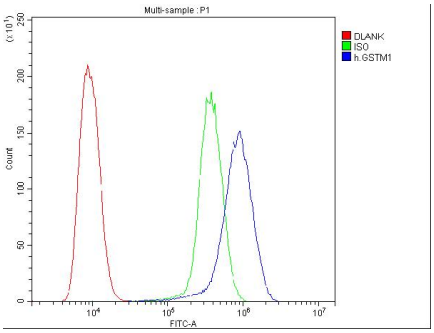


Figure 1. Flow Cytometry analysis of U20S cells using anti-GSTM1 antibody (M00569).
Overlay histogram showing U20S cells stained with M00569 (Blue line).The cells were blocked with 10% normal goat serum. And then incubated with mouse anti-GSTM1 Antibody (M00569,1 µg/1x10^6 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-mouse IgG (BA1126, 5-10 µg/1x10^6 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was mouse IgG (1 µg/1x10^6) used under the same conditions. Unlabelled sample (Red line) was also used as a control.

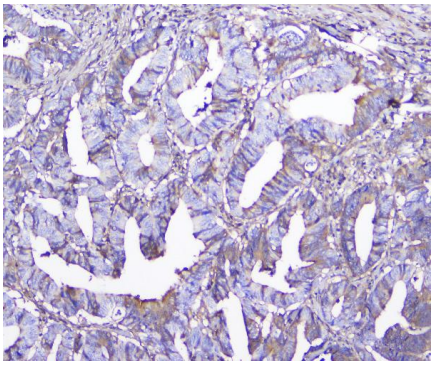


Figure 4. IHC analysis of GSTM1 using anti-GSTM1 antibody (M00569).
GSTM1 was detected in paraffin-embedded section of human colon cancer tissue. Heat mediated antigen retrieval was performed in citrate buffer (pH6, epitope retrieval solution) for 20 mins. The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 µg/ml mouse anti-GSTM1 Antibody (M00569) overnight at 4°C. Biotinylated goat anti-mouse IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using Strepavidin-Biotin-Complex (SABC)(Catalog # SA1021) with DAB as the chromogen.

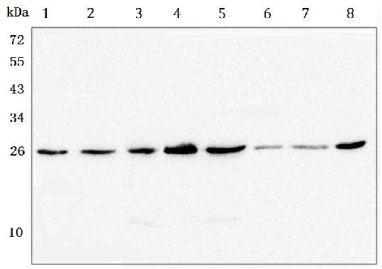


Figure 5. Western blot analysis of GSTM1 using anti-GSTM1 antibody (M00569).
Electrophoresis was performed on a 5-20% SDS-PAGE gel at 70V (Stacking gel) / 90V (Resolving gel) for 2-3 hours. The sample well of each lane was loaded with 50ug of sample under reducing conditions.
Lane 1: human Hela, whole cell lysate,
Lane 2: human T-47D whole cell lysate,
Lane 3: rat brain tissue lysate,
Lane 4: rat lung tissue lysate,
Lane 5: rat stomach tissue lysate,
Lane 6: mouse lung tissue lysate,
Lane 7: mouse stomach tissue lysate,
Lane 8: mouse kidney tissue lysate.
After Electrophoresis, proteins were transferred to a Nitrocellulose membrane at 150mA for 50-90 minutes. Blocked the membrane with 5% Non-fat Milk/ TBS for 1.5 hour at RT. The membrane was incubated with mouse anti-GSTM1 antigen affinity purified monoclonal antibody (Catalog # M00569) at 0.5 µg/mL overnight at 4°C, then

washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-mouse IgG-HRP secondary antibody at a dilution of 1:10000 for 1.5 hour at RT. The signal is developed using an Enhanced Chemiluminescent detection (ECL) kit (Catalog # EK1001) with Tanon 5200 system. A specific band was detected for GSTM1 at approximately 26KD. The expected band size for GSTM1 is at 26KD.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.