

GSTM1 (U-21): sc-133641

BACKGROUND

Members of the Glutathione S-transferase (GST) family of proteins function in the detoxification of xenobiotics to protect cells against toxicant-induced damage. GSTs are differentially expressed in lung, liver and kidney tissue and, notably, three isoforms (GSTA1-1, GSTA1-4 and GSTM1) localize to the mitochondria in addition to the cytoplasm. In normal and transformed cells, the oncoprotein Myb transcriptionally upregulates GSTM1. This isoform shows high specific activity for Aflatoxin B1 epoxide conjugation, suggesting an important role for this interaction in the defense against both chemical and oxidative stress.

REFERENCES

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- Massey, T.E., et al. 2000. Mechanisms of Aflatoxin B1 lung tumorigenesis. *Exp. Lung Res.* 26: 673-683.
- Raza, H., et al. 2002. Multiple isoforms of mitochondrial Glutathione S-transferases and their differential induction under oxidative stress. *Biochem. J.* 366: 45-55.
- Bartley, P.A., et al. 2003. Regulation of the gene encoding Glutathione S-transferase M1 (GSTM1) by the Myb oncoprotein. *Oncogene* 22: 7570-7575.
- McCarty, K.M., et al. 2006. Arsenic methylation, GSTT1, GSTM1, GSTP1 polymorphisms, and skin lesions. *Environ. Health Perspect.* 115: 341-345.
- Spurdle, A.B., et al. 2007. A systematic approach to analysing gene-gene interactions: polymorphisms at the microsomal epoxide hydrolase EPHX and Glutathione S-transferase GSTM1, GSTT1, and GSTP1 loci and breast cancer risk. *Cancer Epidemiol. Biomarkers Prev.* 16: 769-774.

CHROMOSOMAL LOCATION

Genetic locus: GSTM1 (human) mapping to 1p13.3; Gstm1 (mouse) mapping to 3 F2.3.

SOURCE

GSTM1 (U-21) is an affinity purified rabbit polyclonal antibody raised against synthetic GSTM1 peptide of human origin.

PRODUCT

Each vial contains 50 μ g IgG in 500 μ l PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

APPLICATIONS

GSTM1 (U-21) is recommended for detection of GSTM1 of mouse, rat, human and canine origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GSTM1 siRNA (h): sc-44461, GSTM1 siRNA (m): sc-44462, GSTM1 shRNA Plasmid (h): sc-44461-SH, GSTM1 shRNA Plasmid (m): sc-44462-SH, GSTM1 shRNA (h) Lentiviral Particles: sc-44461-V and GSTM1 shRNA (m) Lentiviral Particles: sc-44462-V.

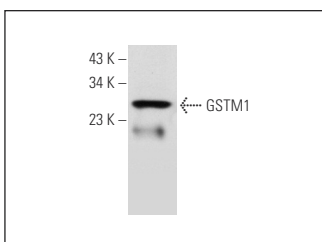
Molecular Weight of GSTM1 isoforms: 21/25 kDa.

Positive Controls: mouse liver extract: sc-2256 or Jurkat whole cell lysate: sc-2204.

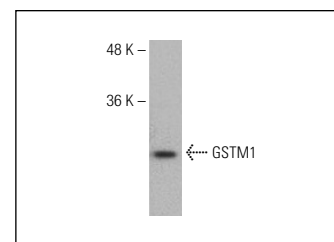
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



GSTM1 (U-21): sc-133641. Western blot analysis of GSTM1 expression in mouse liver tissue extract.



GSTM1 (U-21): sc-133641. Western blot analysis of GSTM1 expression in Jurkat whole cell lysate.

SELECT PRODUCT CITATIONS

- Kirpich, I.A., et al. 2011. Integrated hepatic transcriptome and proteome analysis of mice with high-fat diet-induced nonalcoholic fatty liver disease. *J. Nutr. Biochem.* 22: 38-45.

RESEARCH USE

For research use only, not for use in diagnostic procedures.


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Try **GSTM1 (1H4F2): sc-517197**, our highly recommended monoclonal alternative to GSTM1 (U-21).