# GSTM3 (U-22): sc-133642



The Power to Question

#### **BACKGROUND**

Members of the glutathione S-transferase (GST) family of proteins function in the detoxification of xenobiotics to protect cells against toxicant-induced damage. There are eight families of GST proteins, namely  $\alpha, \kappa, \mu, \omega, \pi, \sigma, \theta$  and  $\zeta$ , each of which are composed of proteins that have a variety of functions throughout the cell. The GSTM proteins (GSTM1-GSTM5 in human and GSTM1-GSTM7 in mouse) are members of the  $\mu$  class of enzymes that conjugate with glutathione and function in the detoxification of carcinogens, environmental toxins and products of oxidative stress. GSTM3 is a 225 amino acid protein that is expressed in the testis and brain. Localized to the cytoplasm, GSTM3 exists as a homodimer.

#### REFERENCES

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- 2. Patskovsky, Y.V., et al. 1999. An asparagine-phenylalanine substitution accounts for catalytic differences between hGSTM3-3 and other human class  $\mu$  glutathione S-transferases. Biochemistry 38: 16187-16194.
- 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 Stransferases and their differential induction under oxidative stress. Biochem. J. 366: 45-55.
- 5. Breton, C.V., et al. 2007. GSTM1 and APE1 genotypes affect arsenic-induced oxidative stress: a repeated measures study. Environ. Health. 6: 39.
- 6. Shang, W., et al. 2008. Expressions of glutathione S-transferase  $\alpha$ ,  $\mu$ , and  $\pi$  in brains of medically intractable epileptic patients. BMC Neurosci. 9: 67.
- 7. Lucena, M.I., et al. 2008. Glutathione S-transferase m1 and t1 null genotypes increase susceptibility to idiosyncratic drug-induced liver injury. Hepatology 48: 588-596.
- Fukino, K., et al. 2008. Effects of N-acetyltransferase 2 (NAT2), CYP2E1 and glutathione-S-transferase (GST) genotypes on the serum concentrations of isoniazid and metabolites in tuberculosis patients. J. Toxicol. Sci. 33: 187-195.
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### **CHROMOSOMAL LOCATION**

Genetic locus: GSTM3 (human) mapping to 1p13.3.

#### **SOURCE**

GSTM3 (U-22) is an affinity purified rabbit polyclonal antibody raised against synthetic GSTM3 peptide of human origin.

#### **RESEARCH USE**

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

#### **PRODUCT**

Each vial contains 50  $\mu g$  lgG in 500  $\mu l$  PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

#### **APPLICATIONS**

GSTM3 (U-22) is recommended for detection of GSTM3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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 GSTM3 siRNA (h): sc-88688, GSTM3 shRNA Plasmid (h): sc-88688-SH and GSTM3 shRNA (h) Lentiviral Particles: sc-88688-V.

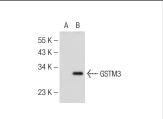
Molecular Weight of GSTM3: 27 kDa.

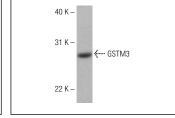
Positive Controls: Hep G2 cell lysate: sc-2227 or GSTM3 (h2): 293T Lysate: sc-173322.

#### **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





GSTM3 (U-22): sc-133642. Western blot analysis of GSTM3 expression in non-transfected: sc-117752 (**A**) and human GSTM3 transfected: sc-173322 (**B**) 293T whole cell lysates.

GSTM3 (U-22): sc-133642. Western blot analysis of GSTM3 expression in Hep G2 whole cell lysate.

#### **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.