SANTA CRUZ BIOTECHNOLOGY, INC.

GSTM5 (M-12): sc-160416

SANTA CRUZ BIOTECHNOLOGY

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 α, ζ, τ, κ, μ, π, σ and ω, 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 μ class of enzymes that conjugate with glutathione and function in the detoxification of carcinogens, environmental toxins and products of oxidative stress. GSTM5 (glutathione S-transferase μ 5), also designated GTM5, is a 218 amino acid cytoplasmic protein belonging to the μ family and GST superfamily. Expressed in brain, lung and testis, GSTM5 is found at low levels in heart, and contains single N- and C-terminal GST domains.

REFERENCES

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2. Pearson, W.R., Vorachek, W.R., Xu, S.J., Berger, R., Hart, I., Vannais, D. and Patterson, D. 1993. Identification of class-μ glutathione transferase genes GSTM1-GSTM5 on human chromosome 1p13. Am. J. Hum. Genet. 53: 220-233.
3. Takahashi, Y., Campbell, E.A., Hirata, Y., Takayama, T. and Listowsky, I. 1993. A basis for differentiating among the multiple human μ-glutathione S-transferases and molecular cloning of brain GSTM5. J. Biol. Chem. 268: 8893-8898.
4. Xu, S., Wang, Y., Roe, B. and Pearson, W.R. 1998. Characterization of the human class μ glutathione S-transferase gene cluster and the GSTM1 deletion. J. Biol. Chem. 273: 3517-3527.
5. Delles, C., Padmanabhan, S., Lee, W.K., Miller, W.H., McBride, M.W., McClure, J.D., Brain, N.J., Wallace, C., Marçano, A.C., Schmieder, R.E., Brown, M.J., Caulfield, M.J., Munroe, P.B., Farrall, M., Webster, J., et al. 2008. Glutathione S-transferase variants and hypertension. J. Hypertens. 26: 1343-1352.

CHROMOSOMAL LOCATION

Genetic locus: Gstm5 (mouse) mapping to 3 F2.3.

SOURCE

GSTM5 (M-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of GSTM5 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-160416 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GSTM5 (M-12) is recommended for detection of GSTM5 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other GSTM family members.

Suitable for use as control antibody for Gstm5 siRNA (m): sc-145813, Gstm5 shRNA Plasmid (m): sc-145813-SH and Gstm5 shRNA (m) Lentiviral Particles: sc-145813-V.

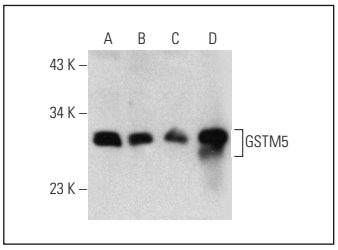
Molecular Weight of GSTM5: 26 kDa.

Positive Controls: B16-F0 cell lysate: sc-2298, MM-142 cell lysate: sc-2246 or F9 cell lysate: sc-2245.

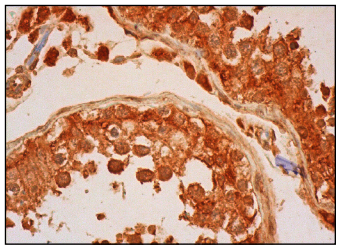
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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). 3) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



GSTM5 (M-12): sc-160416. Western blot analysis of GSTM5 expression in B16-F0 (**A**), MM-142 (**B**) and F9 (**C**) whole cell lysates and mouse testis tissue extract (**D**).



GSTM5 (M-12): sc-160416. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing cytoplasmic and nuclear staining of cells in seminiferous ducts and Leydig cells.

STORAGE

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

RESEARCH USE

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