SANTA CRUZ BIOTECHNOLOGY, INC.

GSTM1 (1H4F2): sc-517262

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, θ, 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.

CHROMOSOMAL LOCATION

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

SOURCE

GSTM1 (1H4F2) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 23-181 of GSTM1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GSTM1 (1H4F2) is available conjugated to agarose (sc-517262 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-517262 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-517262 PE), fluorescein (sc-517262 FITC), Alexa Fluor® 488 (sc-517262 AF488), Alexa Fluor® 546 (sc-517262 AF546), Alexa Fluor® 594 (sc-517262 AF594) or Alexa Fluor® 647 (sc-517262 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-517262 AF680) or Alexa Fluor® 790 (sc-517262 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

GSTM1 (1H4F2) is recommended for detection of GSTM1 of mouse, rat and human 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), flow cytometry (1 µg per 1 x 10^6 cells) 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: MCF7 whole cell lysate: sc-2206, A-673 cell lysate: sc-2414 or WI-38 whole cell lysate: sc-364260.

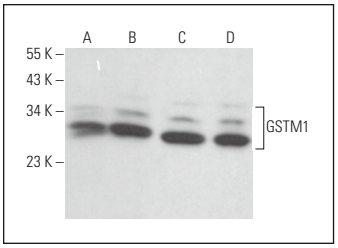
STORAGE

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

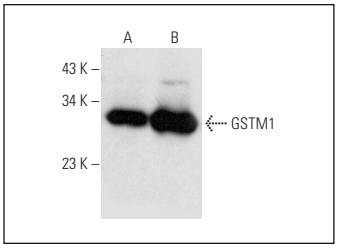
RESEARCH USE

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

DATA



GSTM1 (1H4F2): sc-517262. Western blot analysis of GSTM1 expression in WI-38 (**A**), NCI-H460 (**B**), HeLa (**C**) and MCF7 (**D**) whole cell lysates.



GSTM1 (1H4F2): sc-517262. Western blot analysis of GSTM1 expression in WI-38 (**A**) and A-673 (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Zajda, K., et al. 2019. Compounds of PAH mixtures dependent interaction between multiple signaling pathways in granulosa tumour cells. Toxicol. Lett. 310: 14-22.
2. Tiwari, S., et al. 2020. Gender-specific changes in energy metabolism and protein degradation as major pathways affected in livers of mice treated with ibuprofen. Sci. Rep. 10: 3386.
3. Wang, Y., et al. 2020. Decreased expression of the host long-noncoding RNA-GM facilitates viral escape by inhibiting the kinase activity TBK1 via S-glutathionylation. Immunity 53: 1168-1181.e7.
4. Cheng, S.Y., et al. 2021. Glutathione S-transferase M3 is associated with glycolysis in intrinsic temozolomide-resistant glioblastoma multiforme cells. Int. J. Mol. Sci. 22: 7080.
5. Shan, B., et al. 2022. Multilayered omics reveal sex- and depot-dependent adipose progenitor cell heterogeneity. Cell Metab. 34: 783-799.e7.
6. Yamada, M., et al. 2023. Muscle p62 stimulates the expression of antioxidant proteins alleviating cancer cachexia. FASEB J. 37: e23156.
7. Zinflou, C., et al. 2023. Indenopyrene and blue-light co-exposure impairs the tightly controlled activation of xenobiotic metabolism in retinal pigment epithelial cells: a mechanism for synergistic toxicity. Int. J. Mol. Sci. 24: 17385.
8. Yamada, M., et al. 2024. Muscle-derived IL-1β regulates EcSOD expression via the NBR1-p62-Nrf2 pathway in muscle during cancer cachexia. J. Physiol. 602: 4215-4235.

PROTOCOLS

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