

GSTP1 (F-6): sc-376481

BACKGROUND

Glutathione S-transferases (GSTs) function in the metabolic detoxification of various environmental carcinogens and lipid hydroperoxides. In response to oxidative stress, upregulation of the GST family member GSTP1 occurs, consistent with this function. Furthermore, the GSTP1 gene is subject to CpG island hypermethylation, a state that correlates with human prostatic carcinogenesis. GSTP1 gene hypermethylation can be detected in urine, ejaculate and plasma from men with prostate cancer, potentially making GSTP1 a useful biomarker for prostate cancer screening.

REFERENCES

1. Board, P.G., et al. 1992. The human Pi class glutathione transferase sequence at 12q13-q14 is a reverse-transcribed pseudogene. *Genomics* 14: 470-473.
2. Klinga-Levan, K., et al. 1993. Mapping of glutathione transferase (GST) genes in the rat. *Hereditas* 119: 285-296.
3. Xia, C., et al. 1993. The human glutathione S-transferase P1-1 gene: modulation of expression by retinoic acid and Insulin. *Biochem. J.* 292: 845-850.
4. Simula, T.P., et al. 1993. Human glutathione S-transferase-expressing *Salmonella typhimurium* tester strains to study the activation/detoxification of mutagenic compounds: studies with halogenated compounds, aromatic amines and Aflatoxin B1. *Carcinogenesis* 14: 1371-1376.

CHROMOSOMAL LOCATION

Genetic locus: GSTP1 (human) mapping to 11q13.2.

SOURCE

GSTP1 (F-6) is a mouse monoclonal antibody raised against amino acids 1-210 representing full length Glutathione S-transferase Pi of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

GSTP1 (F-6) is recommended for detection of GSTP1 of human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for GSTP1 siRNA (h): sc-72091, GSTP1 shRNA Plasmid (h): sc-72091-SH and GSTP1 shRNA (h) Lentiviral Particles: sc-72091-V.

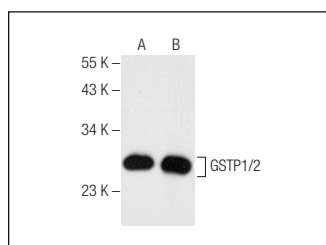
Molecular Weight of GSTP1: 23 kDa.

Positive Controls: JAR cell lysate: sc-2276, PC-3 cell lysate: sc-2220 or K-562 whole cell lysate: sc-2203.

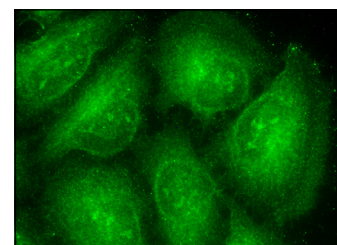
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



GSTP1/2 (F-6): sc-376481. Western blot analysis of GSTP1/2 expression in PC-3 (A) and K-562 (B) whole cell lysates.



GSTP1/2 (F-6): sc-376481. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Salgado-Somoza, A., et al. 2012. Changes in lipid transport-involved proteins of epicardial adipose tissue associated with coronary artery disease. *Atherosclerosis* 224: 492-499.
2. Liu, G., et al. 2013. Ethacrynic acid oxadiazole analogs induce apoptosis in malignant hematologic cells through downregulation of Mcl-1 and c-FLIP, which was attenuated by GSTP1-1. *Mol. Cancer Ther.* 12: 1837-1847.
3. Zhou, W., et al. 2017. Oxidative stress induced autophagy in cancer associated fibroblast enhances proliferation and metabolism of colorectal cancer cells. *Cell Cycle* 16: 73-81.
4. Bossio, S., et al. 2023. α-lipoic acid reduces cell growth, inhibits autophagy, and counteracts prostate cancer cell migration and invasion: evidence from *in vitro* studies. *Int. J. Mol. Sci.* 24: 17111.

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.

PROTOCOLS

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