

# GSTP1 (H-11): sc-376013

## 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

- 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.
- Klinga-Levan, K., et al. 1993. Mapping of glutathione transferase (GST) genes in the rat. *Hereditas* 119: 285-296.
- 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.
- Katagiri, A., et al. 1993. Immunohistochemical detection of P-glycoprotein and GSTP1-1 in testis cancer. *Br. J. Cancer* 68: 125-129.
- 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.
- Morceau, F., et al. 2004. Regulation of glutathione S-transferase P1-1 gene expression by NFκB in tumor necrosis factor α-treated K562 leukemia cells. *Biochem. Pharmacol.* 67: 1227-1238.
- Nagai, F., et al. 2004. Oxidative stress induces GSTP1 and CYP3A4 expression in the human erythroleukemia cell line, K562. *Biol. Pharm. Bull.* 27: 492-495.
- Nakayama, M., et al. 2004. GSTP1 CpG island hypermethylation as a molecular biomarker for prostate cancer. *J. Cell. Biochem.* 91: 540-552.
- 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: GSTP1 (human) mapping to 11q13.2.

## SOURCE

GSTP1 (H-11) is a mouse monoclonal antibody raised against amino acids 1-210 representing full length GSTP1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

GSTP1 (H-11) 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.

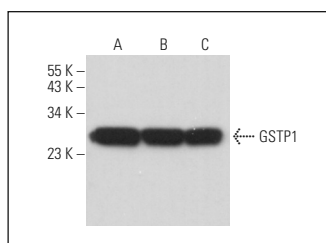
Molecular Weight of GSTP1: 23 kDa.

Positive Controls: PC-3 cell lysate: sc-2220, K-562 whole cell lysate: sc-2203 or HeLa whole cell lysate: sc-2200.

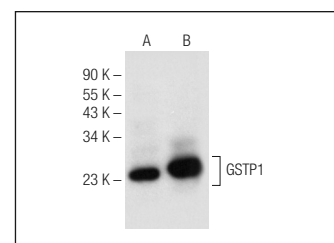
## RECOMMENDED SUPPORT REAGENTS

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 (H-11): sc-376013. Western blot analysis of GSTP1 expression in HeLa (A), Jurkat (B) and MOLT-4 (C) whole cell lysates.



GSTP1 (H-11): sc-376013. Western blot analysis of GSTP1 expression in PC-3 (A) and K-562 (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

- Zhang, W., et al. 2015. Correlation between the expression of DNMT1, and GSTP1 and APC, and the methylation status of GSTP1 and APC in association with their clinical significance in prostate cancer. *Mol. Med. Rep.* 12: 141-146.

## 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.