

GSTA3 (L89): sc-100547

BACKGROUND

Members of the glutathione S-transferase (GST) family of proteins function in the detoxification of toxins such as carcinogens, environmental toxins, products of oxidative stress and therapeutic drugs and protect cells against toxicant-induced damage. GSTs are divided into different classes/families based on their primary structures. GSTA3 (glutathione S-transferase A3), also known as GTA3 or GSTA3-3, is a member of the α family of GSTs that is specifically expressed in steroidogenic tissues such as placenta, ovary, adrenal gland and testis. Localizing to the cytoplasm, GSTA3 contains one GST domain at its N-terminus and one at its C-terminus. In addition to its role in the metabolism of some xenobiotics, GSTA3 participates in the biosynthesis of steroids, efficiently catalyzing the isomerization of endogenous D5-3-ketosteroids.

REFERENCES

1. Board, P.G. 1998. Identification of cDNAs encoding two human α class glutathione transferases (GSTA3 and GSTA4) and the heterologous expression of GSTA4-4. *Biochem. J.* 330: 827-831.
2. McDonagh, P.D., et al. 1999. Determinants of specificity for aflatoxin B1-8,9-epoxide in α -class glutathione S-transferases. *Biochem. J.* 339: 95-101.
3. Johansson, A.S. and Mannervik, B. 2001. Human glutathione transferase A3-3, a highly efficient catalyst of double-bond isomerization in the biosynthetic pathway of steroid hormones. *J. Biol. Chem.* 276: 33061-33065.
4. Gaté, L. and Tew, K.D. 2001. Glutathione S-transferases as emerging therapeutic targets. *Expert Opin. Ther. Targets* 5: 477-489.
5. Wang, C., et al. 2002. Complementary DNA cloning, protein expression, and characterization of α -class GSTs from *Macaca fascicularis* liver. *Toxicol. Sci.* 70: 20-26.
6. Yang, Y., et al. 2002. Role of α class glutathione S-transferases as antioxidant enzymes in rodent tissues. *Toxicol. Appl. Pharmacol.* 182: 105-115.
7. Dreij, K., et al. 2002. Catalytic activities of human α class glutathione transferases toward carcinogenic dibenzo[a,l]pyrene diol epoxides. *Chem. Res. Toxicol.* 15: 825-831.

CHROMOSOMAL LOCATION

Genetic locus: GSTA3 (human) mapping to 6p12.2.

SOURCE

GSTA3 (L89) is a mouse monoclonal antibody raised against recombinant GSTA3 of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

GSTA3 (L89) is recommended for detection of GSTA3 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

Suitable for use as control antibody for GSTA3 siRNA (h): sc-105423, GSTA3 shRNA Plasmid (h): sc-105423-SH and GSTA3 shRNA (h) Lentiviral Particles: sc-105423-V.

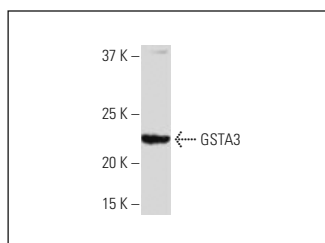
Molecular Weight of GSTA3: 25 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

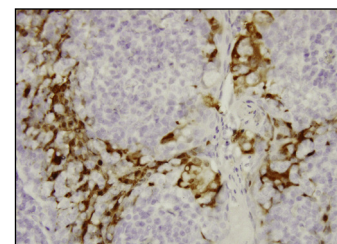
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



GSTA3 (L89): sc-100547. Western blot analysis of GSTA3 expression in Hep G2 whole cell lysate.



GSTA3 (L89): sc-100547. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human tonsil tissue showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Dai, J.P., et al. 2017. Emodin inhibition of influenza A virus replication and influenza viral pneumonia via the Nrf2, TLR4, p38/JNK and NF κ B pathways. *Molecules* 22 pii: E1754.
2. Dai, J., et al. 2018. Inhibition of curcumin on influenza A virus infection and influenzal pneumonia via oxidative stress, TLR2/4, p38/JNK MAPK and NF κ B pathways. *Int. Immunopharmacol.* 54: 177-187.

RESEARCH USE

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