

GSTA4 (P-13): sc-241483



The Power to Question

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. GSTA4 (glutathione S-transferase A4), also known as mGsta4 or GST5.7, is a member of the α family of GSTs that is expressed in intermediate cells of the stria vascularis and is upregulated during oxidative stress via the JNK pathway. Localizing to the cytoplasm, GSTA4 participates in detoxification processes of many tissues and may have a novel function for cochlear melanocytes.

REFERENCES

- Zimniak, P., et al. 1994. Estimation of genomic complexity, heterologous expression, and enzymatic characterization of mouse glutathione S-transferase mGSTA4-4 (GST 5.7). *J. Biol. Chem.* 269: 992-1000.
- Desmots, F., et al. 2005. Activation of c-Jun N-terminal kinase is required for glutathione transferase A4 induction during oxidative stress, not during cell proliferation, in mouse hepatocytes. *FEBS Lett.* 579: 5691-5696.
- Bakin, A.V., et al. 2005. Smad3-ATF3 signaling mediates TGF β suppression of genes encoding Phase II detoxifying proteins. *Free Radic. Biol. Med.* 38: 375-387.
- Björk, K., et al. 2006. Glutathione S-transferase expression in the brain: possible role in ethanol preference and longevity. *FASEB J.* 20: 1826-1835.
- Malone, P.E. and Hernandez, M.R. 2007. 4-Hydroxynonenal, a product of oxidative stress, leads to an antioxidant response in optic nerve head astrocytes. *Exp. Eye Res.* 84: 444-454.
- Gallagher, E.P., et al. 2007. Transfection of Hep G2 cells with hGSTA4 provides protection against 4-hydroxynonenal-mediated oxidative injury. *Toxicol. In Vitro* 21: 1365-1372.
- Black, A.T., et al. 2008. Distinct effects of ultraviolet B light on antioxidant expression in undifferentiated and differentiated mouse keratinocytes. *Carcinogenesis* 29: 219-225.
- Qian, J., et al. 2009. Association between polymorphisms in the GSTA4 gene and risk of lung cancer: a case-control study in a Southeastern Chinese population. *Mol. Carcinog.* 48: 253-259.

CHROMOSOMAL LOCATION

Genetic locus: GSTA4 (human) mapping to 6p12.2.

SOURCE

GSTA4 (P-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GSTA4 of human origin.

STORAGE

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

PRODUCT

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

Blocking peptide available for competition studies, sc-241483 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GSTA4 (P-13) is recommended for detection of GSTA4 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other GSTA family members.

GSTA4 (P-13) is also recommended for detection of GSTA4 in additional species, including bovine and porcine.

Suitable for use as control antibody for GSTA4 siRNA (h): sc-105424, GSTA4 shRNA Plasmid (h): sc-105424-SH and GSTA4 shRNA (h) Lentiviral Particles: sc-105424-V.

Molecular Weight of GSTA4: 25 kDa.

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) 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.

RESEARCH USE

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

PROTOCOLS

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