

GGT1/2 (H-170): sc-20639

BACKGROUND

GGT (γ -glutamyltranspeptidase) acts as a glutathionease and catalyzes the transfer of the glutamyl moiety of glutathione to a variety of amino acids and dipeptide acceptors. This enzyme is located on the outer surface of the cell membrane and is widely distributed in mammalian tissues involved in absorption and secretion. In humans, hepatic GGT activity is elevated in some liver diseases. GGT1 is released into the bloodstream after liver damage, and an elevated level of the enzyme may be a useful early sign of hepatocellular carcinoma. GGT5 converts leukotriene C4 to leukotriene D4; it does not, however, convert synthetic substrates that are commonly used to assay GGT. In human serum and in human tissues, there is a marked heterogeneity in GGT, but this heterogeneity can be attributed to different glycosylation of the same peptide rather than to the products of different genes.

REFERENCES

1. Bulle, F., et al. 1987. Assignment of the human γ -glutamyl transferase gene to the long arm of chromosome 22. *Hum. Genet.* 76: 283-286.
2. Heisterkamp, N., et al. 1991. Identification of a human γ -glutamyl cleaving enzyme related to, but distinct from, γ -glutamyl transpeptidase. *Proc. Natl. Acad. Sci. USA* 88: 6303-6307.
3. Visvikis, A., et al. 1991. High-level expression of enzymatically active mature human γ -glutamyltransferase in transgenic V79 Chinese hamster cells. *Proc. Natl. Acad. Sci. USA* 88: 7361-7365.

SOURCE

GGT1/2 (H-170) is a rabbit polyclonal antibody raised against amino acids 406-569 of GGT1/2 of human origin.

PRODUCT

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

APPLICATIONS

GGT1/2 (H-170) is recommended for detection of GGT1 of mouse, rat, and human origin, and GGT2, GGTL1, GGTL2, and GGTL3 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

GGT1/2 (H-170) is also recommended for detection of GGT1, GGT2, GGTL1, GGTL2 and GGTL3 in additional species, including equine and canine.

Suitable for use as control antibody for GGT1/2 siRNA (h): sc-43802, GGT1/2 shRNA Plasmid (h): sc-43802-SH and GGT1/2 shRNA (h) Lentiviral Particles: sc-43802-V.

Molecular Weight of GGT1 isoforms: 61/39/24 kDa.

Molecular Weight of GGT2 isoforms: 62/61 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Zheng, M.Q., et al. 2009. Role of γ -glutamyl transpeptidase in redox regulation of K⁺ channel remodeling in postmyocardial infarction rat hearts. *Am. J. Physiol., Cell Physiol.* 297: C253-C262.
2. Omenetti, A., et al. 2010. Paracrine modulation of cholangiocyte serotonin synthesis orchestrates biliary remodeling in adults. *Am. J. Physiol. Gastrointest. Liver Physiol.* 300: G303-G315.
3. Zhou, J., et al. 2010. Epimorphin regulates bile duct formation via effects on mitosis orientation in rat liver epithelial stem-like cells. *PLoS ONE* 5: e9732.
4. West, M.B. and Hanigan, M.H. 2010. γ -Glutamyl transpeptidase is a heavily N-glycosylated heterodimer in HepG2 cells. *Arch. Biochem. Biophys.* 504: 177-181.

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 or our catalog for detailed protocols and support products.



Try **GGT1/2 (A-4): sc-393706** or **GGT1 (E-5): sc-166908**, our highly recommended monoclonal alternatives to GGT1/2 (H-170).