

GGT1 (3E6): sc-100746

BACKGROUND

GGT (γ -glutamyltranspeptidase) acts as a glutathionase 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 -glutamyltransferase 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 -glutamyltranspeptidase. *Proc. Natl. Acad. Sci. USA* 88: 6303-6307.

CHROMOSOMAL LOCATION

Genetic locus: GGT1 (human) mapping to 22q11.23; Ggt1 (mouse) mapping to 10 C1.

SOURCE

GGT1 (3E6) is a mouse monoclonal antibody raised against recombinant GGT1 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.

APPLICATIONS

GGT1 (3E6) is recommended for detection of GGT1 of mouse, rat and 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 GGT1 siRNA (h): sc-35473, GGT1 siRNA (m): sc-35474, GGT1 shRNA Plasmid (h): sc-35473-SH, GGT1 shRNA Plasmid (m): sc-35474-SH, GGT1 shRNA (h) Lentiviral Particles: sc-35473-V and GGT1 shRNA (m) Lentiviral Particles: sc-35474-V.

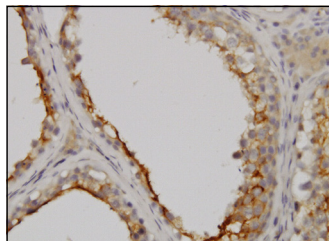
Molecular Weight of GGT1: 64 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or mouse kidney extract: sc-2255.

STORAGE

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

DATA



GGT1 (3E6): sc-100746. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human testis tissue showing membrane localization.

SELECT PRODUCT CITATIONS

1. Yosef, N. and Ubogu, E.E. 2013. An immortalized human blood-nerve barrier endothelial cell line for *in vitro* permeability studies. *Cell. Mol. Neurobiol.* 33: 175-186.
2. Ueo, H., et al. 2015. Rapid intraoperative visualization of breast lesions with γ -glutamyl hydroxymethyl rhodamine green. *Sci. Rep.* 5: 12080.
3. Shukuya, K., et al. 2016. Novel round cells in urine sediment and their clinical implications. *Clin. Chim. Acta* 457: 142-149.
4. Piotrowska, H., et al. 2017. Effect of resveratrol analogue, DMU-212, on antioxidant status and apoptosis-related genes in rat model of hepatocarcinogenesis. *Hum. Exp. Toxicol.* 36: 160-175.
5. Chen, M.F., et al. 2019. Preventive effect of YGDEY from tilapia fish skin gelatin hydrolysates against alcohol-induced damage in Hep G2 cells through ROS-mediated signaling pathways. *Nutrients* 11: 392.
6. Chen, J., et al. 2020. Mechanism analysis of a novel ACE-inhibitory peptide from *Isochrysis zhanjiangensis* microalgae for suppressing vascular injury in HUVEC. *J. Agric. Food Chem.* 68: 4411-4423.
7. Qian, Z.J., et al. 2021. Intracellular ethanol-mediated oxidation and apoptosis in Hep G2/CYP2E1 cells impaired by two active peptides from seahorse (*Hippocampus kuda* bleeler) protein hydrolysates via the Nrf2/HO-1 and akt pathways. *Food Sci. Nutr.* 9: 1584-1602.
8. Lin, L., et al. 2021. The inhibition effect of the seaweed polyphenol, 7-phloro-eckol from *Ecklonia cava* on alcohol-induced oxidative stress in Hep G2/CYP2E1 cells. *Mar. Drugs* 19: 158.
9. Lin, L., et al. 2022. Mechanism analysis of octapeptide from *microalgae*, *Isochrysis zhanjiangensis* for suppressing vascular injury and angiogenesis in human umbilical vein endothelial cell. *Int. Immunopharmacol.* 111: 109149.

RESEARCH USE

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