

GGTLC1 (O-23): sc-133618

BACKGROUND

γ -glutamyltranspeptidase (GGT) 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. Belonging to the γ -glutamyltranspeptidase family, GGTLC1 (γ -glutamyltransferase light chain 1), also known as GGT6 (γ -glutamyltransferase-like protein 6) and GGTLA4 (γ -glutamyltransferase-like activity 4), is a 225 amino acid protein that unlike other family members does not have catalytic activity.

REFERENCES

1. Tate, S.S. and Meister, A. 1981. γ -Glutamyl transpeptidase: catalytic, structural and functional aspects. *Mol. Cell. Biochem.* 39: 357-368.
2. Welbourne, T.C. and Dass, P.D. 1982. Function of renal γ -glutamyltransferase: significance of glutathione and glutamine interactions. *Life Sci.* 30: 793-801.
3. Wetmore, L.A., Gerard, C. and Drazen, J.M. 1993. Human lung expresses unique γ -glutamyl transpeptidase transcripts. *Proc. Natl. Acad. Sci. USA* 90: 7461-7465.
4. Taniguchi, N. and Ikeda, Y. 1998. γ -Glutamyl transpeptidase: catalytic mechanism and gene expression. *Adv. Enzymol. Relat. Areas Mol. Biol.* 72: 239-278.
5. Ohkama-Ohtsu, N., Radwan, S., Peterson, A., Zhao, P., Badr, A.F., Xiang, C. and Oliver, D.J. 2007. Characterization of the extracellular γ -glutamyl transpeptidases, GGT1 and GGT2, in *Arabidopsis*. *Plant J.* 49: 865-877.

CHROMOSOMAL LOCATION

Genetic locus: GGTLC1 (human) mapping to 20p11.21; Ggt1 (mouse) mapping to 10 C1.

SOURCE

GGTLC1 (O-23) is a Protein A purified rabbit polyclonal antibody raised against synthetic GGTLC1 peptide of human origin.

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

STORAGE

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

APPLICATIONS

GGTLC1 (O-23) is recommended for detection of GGTLC1 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 GGTLC1 siRNA (h): sc-105395, GGT1 siRNA (m): sc-35474, GGTLC1 shRNA Plasmid (h): sc-105395-SH, GGT1 shRNA Plasmid (m): sc-35474-SH, GGTLC1 shRNA (h) Lentiviral Particles: sc-105395-V and GGT1 shRNA (m) Lentiviral Particles: sc-35474-V.

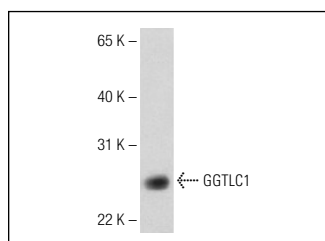
Molecular Weight of GGTLC1: 24 kDa.

Positive Controls: human fetal kidney whole cell lysate.

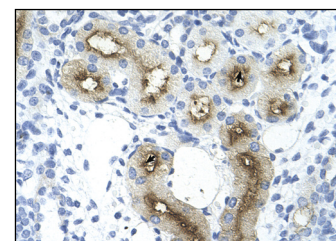
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

DATA



GGTLC1 (O-23): sc-133618. Western blot analysis of GGTLC1 expression in human fetal kidney whole cell lysate.



GGTLC1 (O-23): sc-133618. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human kidney tissue showing cytoplasmic localization.

RESEARCH USE

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

MONOS
Satisfaction
Guaranteed

Try **GGT1/2 (A-4): sc-393706**, our highly recommended monoclonal alternative to GGTLC1 (O-23).