

GGT1 (F-7): sc-374495

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.

REFERENCE

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.

CHROMOSOMAL LOCATION

Genetic locus: Ggt1 (mouse) mapping to 10 C1.

SOURCE

GGT1 (F-7) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 351-389 within an internal region of GGT1 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

apical mem is available conjugated to agarose (sc-374495 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374495 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374495 PE), fluorescein (sc-374495 FITC), Alexa Fluor® 488 (sc-374495 AF488), Alexa Fluor® 546 (sc-374495 AF546), Alexa Fluor® 594 (sc-374495 AF594) or Alexa Fluor® 647 (sc-374495 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374495 AF680) or Alexa Fluor® 790 (sc-374495 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374495 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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STORAGE

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

APPLICATIONS

apical mem is recommended for detection of GGT1 heavy chain of mouse and rat origin by Western Blotting (starting dilution 1:100, 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 (m): sc-35474, GGT1 shRNA Plasmid (m): sc-35474-SH and GGT1 shRNA (m) Lentiviral Particles: sc-35474-V.

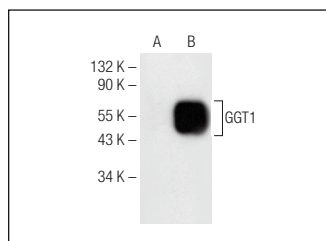
Molecular Weight of GGT1: 64 kDa.

Positive Controls: mouse kidney extract: sc-2255, NIH/3T3 whole cell lysate: sc-2210 or GGT1 (m): 293T Lysate: sc-120476.

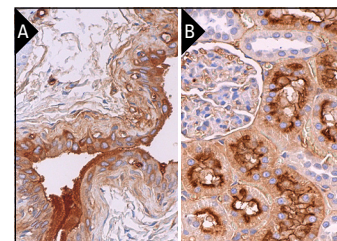
RECOMMENDED SUPPORT REAGENTS

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



GGT1 (F-7): sc-374495. Western blot analysis of GGT1 expression in non-transfected: sc-117752 (A) and mouse GGT1 transfected: sc-120476 (B) 293T whole cell lysates.



GGT1 (F-7): sc-374495. Immunoperoxidase staining of formalin fixed, paraffin-embedded rat urinary bladder tissue showing cytoplasmic staining of urothelial cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded rat kidney tissue showing apical membrane and cytoplasmic staining of cells in tubules (B).

SELECT PRODUCT CITATIONS

1. Wunsch, F.T., et al. 2023. Defects in glutathione system in an animal model of amyotrophic lateral sclerosis. *Antioxidants* 12: 1014.

RESEARCH USE

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