SANTA CRUZ BIOTECHNOLOGY, INC.

# GGT1/2 (A-4): sc-393706

## 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.

## SOURCE

GGT1/2 (A-4) is a mouse monoclonal antibody raised against amino acids 406-569 of GGT1/2 of human origin.

## PRODUCT

Each vial contains 200 µg $IgG_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

GGT1/2 (A-4) is available conjugated to agarose (sc-393706 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393706 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393706 PE), fluorescein (sc-393706 FITC), Alexa Fluor® 488 (sc-393706 AF488), Alexa Fluor® 546 (sc-393706 AF546), Alexa Fluor® 594 (sc-393706 AF594) or Alexa Fluor® 647 (sc-393706 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393706 AF680) or Alexa Fluor® 790 (sc-393706 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## STORAGE

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

## APPLICATIONS

GGT1/2 (A-4) is recommended for detection of GGT1 of mouse, rat and human origin, and GGT2, GGTLC1, GGTLC2 and GGTLC3 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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 isoforms: 61/39/24 kDa.

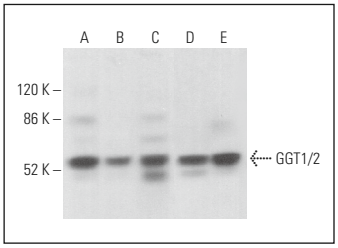
Molecular Weight of GGT2 isoforms: 62/61 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, SUP-T1 whole cell lysate: sc-364796 or c4 whole cell lysate: sc-364186.

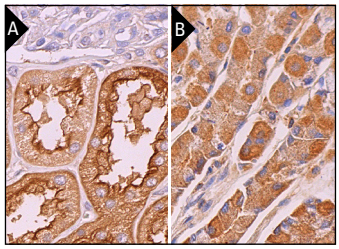
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA




GGT1/2 (A-4): sc-393706. Western blot analysis of GGT1/2 expression in Hep G2 (**A**), WI-38 (**B**), SUP-T1 (**C**), AMJ2-C8 (**D**) and c4 (**E**) whole cell lysates.




GGT1/2 (A-4): sc-393706. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing apical membrane and cytoplasmic staining of cells in tubules (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded upper stomach tissue showing cytoplasmic staining of glandular cells (**B**).

## SELECT PRODUCT CITATIONS


1. Batsios, G., et al. 2020. *In vivo* detection of γ-glutamyl-transferase up-regulation in glioma using hyperpolarized γ-glutamyl-[1-$^{13}$C]glycine. Sci. Rep. 10: 6244.
2. Hayashima, K., et al. 2022. Expression of γ-glutamyltransferase 1 in glioblastoma cells confers resistance to cystine deprivation-induced ferroptosis. J. Biol. Chem. 298: 101703.


## RESEARCH USE

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

## PROTOCOLS

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