10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

GGT1 Polyclonal Antibody

Catalog # AP73449

Product Information

Application	WB, IHC-P
Primary Accession	P19440
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Calculated MW	61410

Additional Information

Gene ID	2678
Other Names	GGT1; GGT; Gamma-glutamyltranspeptidase 1; GGT 1; Gamma-glutamyltransferase 1; Glutathione hydrolase 1; Leukotriene-C4 hydrolase; CD224
Dilution	WB~~Western Blot: 1/500 - 1/2000. IHC-p: 1:100-300 ELISA: 1/20000. Not yet tested in other applications. IHC-P~~N/A
Format	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.09% (W/V) sodium azide.
Storage Conditions	-20℃

Protein Information

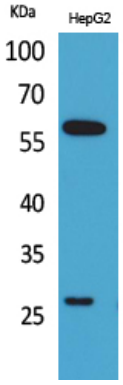
Name	GGT1
Synonyms	GGT
Function	Cleaves the gamma-glutamyl bond of extracellular glutathione (gamma-Glu-Cys-Gly), glutathione conjugates (such as maresin conjugate (13R)-S-glutathionyl-(14S)-hydroxy-(4Z,7Z,9E,11E,16Z,19Z)- docosahexaenoate, MCTR1) and other gamma-glutamyl compounds (such as leukotriene C4, LTC4) (PubMed:17924658, PubMed:21447318, PubMed:27791009). The metabolism of glutathione by GGT1 releases free glutamate and the dipeptide cysteinyl-glycine, which is hydrolyzed to cysteine and glycine by dipeptidases (PubMed:27791009). In the presence of high concentrations of dipeptides and some amino acids, can also catalyze a transpeptidation reaction, transferring the gamma-glutamyl moiety to an acceptor amino acid to form a new gamma-glutamyl compound (PubMed:17924658, PubMed:21447318, PubMed:7673200, PubMed:7759490, PubMed:8095045, PubMed:8827453). Contributes to cysteine homeostasis, glutathione homeostasis and in the conversion of the leukotriene LTC4 to LTD4.

Cellular Location	Cell membrane; Single-pass type II membrane protein {ECO:0000250|UniProtKB:P07314}
Tissue Location	Detected in fetal and adult kidney and liver, adult pancreas, stomach, intestine, placenta and lung. There are several other tissue-specific forms that arise from alternative promoter usage but that produce the same protein

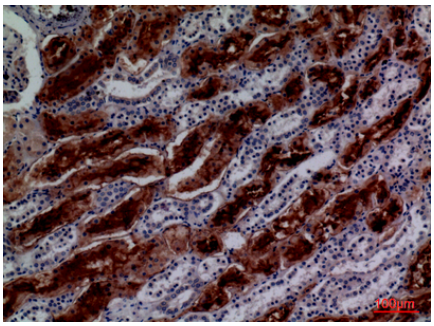
Background

Cleaves the gamma-glutamyl bond of extracellular glutathione (gamma-Glu-Cys-Gly), glutathione conjugates, and other gamma-glutamyl compounds. The metabolism of glutathione releases free glutamate and the dipeptide cysteinyl-glycine, which is hydrolyzed to cysteine and glycine by dipeptidases. In the presence of high concentrations of dipeptides and some amino acids, can also catalyze a transpeptidation reaction, transferring the gamma-glutamyl moiety to an acceptor amino acid to form a new gamma-glutamyl compound. Initiates extracellular glutathione (GSH) breakdown, provides cells with a local cysteine supply and contributes to maintain intracellular GSH level. It is part of the cell antioxidant defense mechanism. Isoform 3 seems to be inactive.

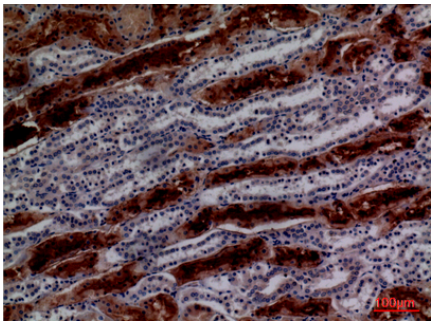
Images



Western Blot analysis of HepG2 cells using GGT1 Polyclonal Antibody.. Secondary antibody was diluted at 1:20000



Immunohistochemical analysis of paraffin-embedded human-kidney, antibody was diluted at 1:100



Immunohistochemical analysis of paraffin-embedded human-kidney, antibody was diluted at 1:100