

GGTLA1 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab) Catalog # AP7392a

Specification

GGTLA1 Antibody (N-term) - Product Information

Application Primary Accession Other Accession Reactivity Host Clonality Isotype Calculated MW Antigen Region FC, IHC-P, WB,E <u>P36269</u> <u>O972A9</u> Human, Mouse Rabbit Polyclonal Rabbit IgG 62261 130-156

GGTLA1 Antibody (N-term) - Additional Information

Gene ID 2687

Other Names

Gamma-glutamyltransferase 5, GGT 5, Gamma-glutamyl transpeptidase-related enzyme, GGT-rel, Gamma-glutamyltransferase-like activity 1, Gamma-glutamyltranspeptidase 5, Glutathione hydrolase 5, Leukotriene-C4 hydrolase, Gamma-glutamyltransferase 5 heavy chain, Gamma-glutamyltransferase 5 light chain, GGT5, GGTLA1

Target/Specificity

This GGTLA1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 130-156 amino acids from the N-terminal region of human GGTLA1.

Dilution FC~~1:10~50 IHC-P~~1:50~100 WB~~1:1000 E~~Use at an assay dependent concentration.

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

GGTLA1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

GGTLA1 Antibody (N-term) - Protein Information



Name GGT5

Synonyms GGTLA1

Function Cleaves the gamma-glutamyl bond of extracellular glutathione tripeptide (gamma-Glu-Cys-Gly) and certain glutathione conjugates (PubMed:<u>1676842</u>, PubMed:<u>21447318</u>). Hydrolyzes glutathione releasing L- Glu and Cys-Gly dipeptide which is further metabolized to maintain extracellular cysteine levels but also to provide cysteine necessary for intracellular glutathione synthesis (PubMed:<u>1676842</u>, PubMed:<u>21447318</u>). Among glutathione-S-conjugates metabolizes leukotriene C4 (LTC4) and S-geranylgeranyl-glutathione (GGG), but is inactive toward gamma-glutamyl leucine. Converts extracellular LTC4 to LTD4 during acute inflammatory response. Acts as a negative regulator of GGG bioactivity. GGT5 (via GGG catabolism) and ABCC1 (via extracellular transport) establish GGG gradients within lymphoid tissues to position P2RY8-positive lymphocytes at germinal centers in lymphoid follicles and restrict their chemotactic transmigration from blood vessels to bone marrow parenchyma (By similarity). The transpeptidation reaction, i.e. the transfer of gamma-glutamyl moiety to an acceptor molecule to yield a new gamma-glutamyl compound requires high concentration of dipeptide acceptor and is considered nonphysiological (PubMed:<u>21447318</u>, PubMed:<u>29667297</u>).

Cellular Location

Membrane {ECO:0000250|UniProtKB:Q9Z2A9}; Single- pass type II membrane protein {ECO:0000250|UniProtKB:Q9Z2A9}

Tissue Location Expressed in follicular dendritic cells in lymphoid follicles (at protein level).

GGTLA1 Antibody (N-term) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- <u>Western Blot</u>
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- <u>Cell Culture</u>

GGTLA1 Antibody (N-term) - Images





Western blot analysis of GGTLA1 antibody (N-term) (Cat.# AP7392a) in Y79 cell line lysates (35ug/lane). GGTLA1 (arrow) was detected using the purified Pab.



Western blot analysis of GGTLA1 antibody (N-term) (Cat.# AP7392a) in mouse heart tissue lysates (35ug/lane). GGTLA1 (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human brain reacted with GGTLA1 Antibody (N-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.





GGTLA1 Antibody (N-term) (Cat.#AP7392a) flow cytometry analysis of HepG2 cells (bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

GGTLA1 Antibody (N-term) - Background

This gene is a member of gamma-glutamyl transpeptidase enzymes. This enzyme consists of a heavy and a light chain, and is able to hydrolyze the gamma-glutamyl moiety of glutathione. It converts leukotriene C4 to leukotriene D4, however, it doesn't convert synthetic substrates that are commonly used to assay gamma-glutamyl transpeptidase.

GGTLA1 Antibody (N-term) - References

Heisterkamp, N., Hum. Genet. 123 (4), 321-332 (2008) Enoiu, M., Free Radic. Biol. Med. 29 (9), 825-833 (2000)