

Gamma Cystathionase Polyclonal antibody

Catalog Number: 12217-1-AP

Featured Product

217 Publications

Basic Information

Catalog Number:

12217-1-AP

Source:

Rabbit

Isotype:

IgG

Immunogen Catalog Number:

AG2872

GenBank Accession Number:

BC015807

GeneID (NCBI):

1491

UNIPROT ID:

P32929

Full Name:

cystathionase (cystathionine gamma-lyase)

Calculated MW:

405 aa, 45 kDa

Observed MW:

40-45 kDa

Purification Method:

Antigen affinity purification

Recommended Dilutions:

WB: 1:5000-1:20000

IP: 0.5-4.0 ug for 1.0-3.0 mg of total protein lysate

IHC: 1:100-1:500

IF-P: 1:200-1:800

IF/ICC: 1:200-1:800

FC (Intra): 0.80 ug per 10⁶ cells in a 100 µl suspension

Applications

Tested Applications:

WB, IHC, IF/ICC, IF-P, FC (Intra), IP, ELISA

Cited Applications:

WB, IHC, IF, IP, CoIP

Species Specificity:

human, mouse, rat, pig, canine

Cited Species:

human, mouse, rat, pig, rabbit

Note-IHC: suggested antigen retrieval with TE buffer pH 9.0; (*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0

Positive Controls:

WB: HEK-293 cells, HeLa cells, HepG2 cells, mouse heart tissue, mouse kidney tissue, rat heart tissue, MDCK cells, pig kidney tissue, pig liver tissue, mouse liver tissue, rat liver tissue, rat kidney tissue

IP: mouse liver tissue,

IHC: human liver cancer tissue, human breast cancer tissue, human kidney tissue

IF-P: human liver cancer tissue,

IF/ICC: HepG2 cells,

FC (Intra): MCF-7 cells,

Background Information

CTH, also named as Gamma-cystathionase and CSE, belongs to the transsulfuration enzymes family. It catalyzes the last step in the transsulfuration pathway from methionine to cysteine. CTH converts two cysteine molecules to lanthionine and hydrogen sulfide. CTH can also accept homocysteine as substrate. It specificity depends on the levels of the endogenous substrates. CTH is the major H₂S-producing enzyme in kidney, liver, vascular smooth muscle cells and enterocytes. The endogenous production of H₂S plays a significant role in the regulation of cellular functions, including cell growth, hyperpolarization of cell membranes, modulation of neuronal excitability and relaxation of smooth muscle cells. The CSE/H₂S pathway is upregulated in the heart in a murine model of CVB3-induced myocarditis and that inhibition of endogenous H₂S is beneficial to treatment early in the disease while administration of exogenous H₂S is protective to infected myocardium during the later stage. Mutations in the gene encoding CTH can result in the autosomal recessive disease cystathioninuria; a disorder characterized by the unusual accumulation of plasma cystathionine causing increased urinary excretion. Both male and female CTH-null mice showed hypercystathioninemia and hyperhomocysteinemia, but not hypermethioninemia. CSE has also been reported to be expressed in endothelial cells and contribute to endothelium-dependent vasorelaxation. It can be detected a minor 36 kDa band probably representing a degradative intermediate except the major 43 kDa band in vitamin B6-deficient rat liver (PMID:8660672). CTH also can be detected as ~70kD in rat liver (PMID: 18974309). This antibody is a rabbit polyclonal antibody raised against residues near the C terminus of human CTH.

Notable Publications

Author	Pubmed ID	Journal	Application
Yu Sun	34562065	J Cell Mol Med	WB
Lisette Carolina Sanchez-Aranguren	32978411	Sci Rep	WB
Pilar González-García	32975579	Hum Mol Genet	WB

Storage

Storage:

Store at -20°C. Stable for one year after shipment.

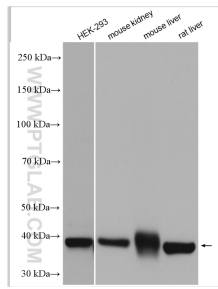
Storage Buffer:

PBS with 0.02% sodium azide and 50% glycerol, pH7.3

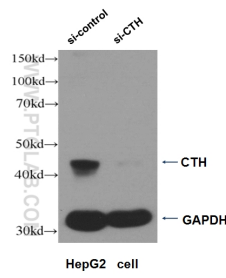
Aliquoting is unnecessary for -20°C storage

other manufacturer.

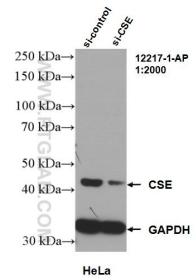
Selected Validation Data



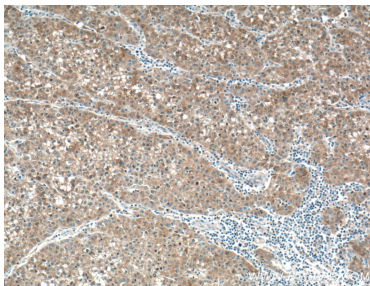
Various lysates were subjected to SDS PAGE followed by western blot with 12217-1-AP (Gamma Cystathionase antibody) at dilution of 1:10000 incubated at room temperature for 1.5 hours.



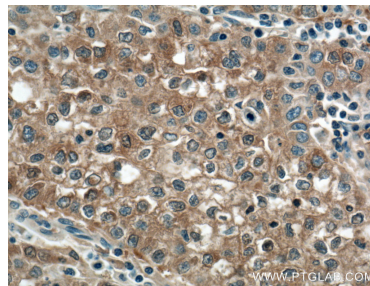
WB result of CTH antibody (12217-1-AP, 1:500) with si-control and si-CTH transfected HepG2 cell.



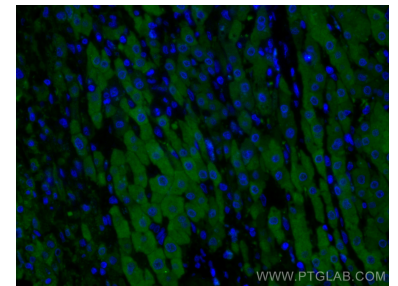
WB result of Gamma cystathionase antibody (12217-1-AP; 1:2000; incubated at room temperature for 1.5 hours) with sh-Control and sh-Gamma cystathionase transfected HeLa cells.



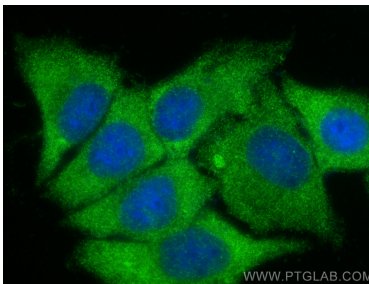
Immunohistochemical analysis of paraffin-embedded human liver cancer tissue slide using 12217-1-AP (Gamma cystathionase antibody at dilution of 1:200 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



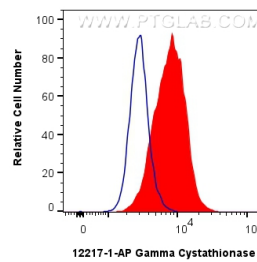
Immunohistochemical analysis of paraffin-embedded human liver cancer tissue slide using 12217-1-AP (Gamma cystathionase antibody at dilution of 1:200 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



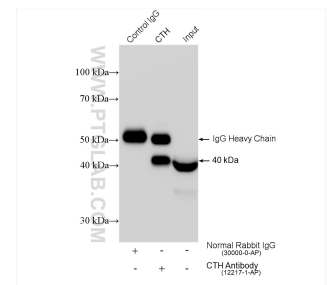
Immunofluorescent analysis of (4% PFA) fixed human liver cancer tissue using Gamma Cystathionase antibody (12217-1-AP) at dilution of 1:400 and CoraLite@488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L).



Immunofluorescent analysis of (-20°C Ethanol) fixed HepG2 cells using Gamma Cystathionase antibody (12217-1-AP) at dilution of 1:400 and CoraLite@488-Conjugated Goat Anti-Rabbit IgG(H+L) (SA00013-2).



1×10^6 MCF-7 cells were intracellularly stained with 0.8 ug Gamma Cystathionase Polyclonal antibody (12217-1-AP) and CoraLite@488-Conjugated Goat Anti-Rabbit IgG(H+L) (SA00013-2) (red), or 0.8 ug rabbit IgG isotype control (blue). Cells were fixed with 4% PFA and permeabilized with Flow Cytometry Perm Buffer.



IP result of anti-Gamma Cystathionase (IP:12217-1-AP, 4ug; Detection:12217-1-AP 1:8000) with mouse liver tissue lysate 1840 ug.