

KD-Validated Anti-Cystathionine Gamma-Lyase Mouse Monoclonal Antibody
Mouse monoclonal antibody
Catalog # AGI1904**Specification****KD-Validated Anti-Cystathionine Gamma-Lyase Mouse Monoclonal Antibody - Product Information**

Application	WB, FC
Primary Accession	P32929
Reactivity	Rat, Human
Clonality	Monoclonal
Isotype	Mouse IgG1
Calculated MW	Predicted, 45 kDa, Observed, 45 kDa kDa
Gene Name	CTH
Aliases	CTH; Cystathionine Gamma-Lyase; CSE; Cystathionase (Cystathionine Gamma-Lyase); Cysteine-Protein Sulfhydrase; Homocysteine Desulfhydrase; Cysteine Desulfhydrase; Gamma-Cystathionase; EC 4.4.1.1; CGL; Homoserine Dehydratase; Homoserine Deaminase; EC 4.4.1.2; EC 4.4.1
Immunogen	Recombinant protein of human CTH

KD-Validated Anti-Cystathionine Gamma-Lyase Mouse Monoclonal Antibody - Additional Information

Gene ID	1491
Other Names	
Cystathionine gamma-lyase, CGL, CSE, 4.4.1.1, Cysteine desulfhydrase, Cysteine-protein sulfhydrase, Gamma-cystathionase, Homocysteine desulfhydrase, 4.4.1.2, CTH	

KD-Validated Anti-Cystathionine Gamma-Lyase Mouse Monoclonal Antibody - Protein Information**Name** CTH**Function**

Catalyzes the last step in the trans-sulfuration pathway from L-methionine to L-cysteine in a pyridoxal-5'-phosphate (PLP)-dependent manner, which consists on cleaving the L,L-cystathionine molecule into L-cysteine, ammonia and 2-oxobutanoate (PubMed:10212249, PubMed:18476726, PubMed:19261609, PubMed:19961860). Part of the L-cysteine derived from the trans-sulfuration pathway is utilized for biosynthesis of the ubiquitous antioxidant glutathione (PubMed:18476726). Besides its role in the conversion of L- cystathionine into

L-cysteine, it utilizes L-cysteine and L-homocysteine as substrates (at much lower rates than L,L-cystathionine) to produce the endogenous gaseous signaling molecule hydrogen sulfide (H₂S) (PubMed:[10212249](http://www.uniprot.org/citations/10212249), PubMed:[19019829](http://www.uniprot.org/citations/19019829), PubMed:[19261609](http://www.uniprot.org/citations/19261609), PubMed:[19961860](http://www.uniprot.org/citations/19961860)). In vitro, it converts two L-cysteine molecules into lanthionine and H₂S, also two L-homocysteine molecules to homolanthionine and H₂S, which can be particularly relevant under conditions of severe hyperhomocysteinemia (which is a risk factor for cardiovascular disease, diabetes, and Alzheimer's disease) (PubMed:[19261609](http://www.uniprot.org/citations/19261609)). Lanthionine and homolanthionine are structural homologs of L,L-cystathionine that differ by the absence or presence of an extra methylene group, respectively (PubMed:[19261609](http://www.uniprot.org/citations/19261609)). Acts as a cysteine-protein sulphydrase by mediating sulphydration of target proteins: sulphydration consists of converting -SH groups into -SSH on specific cysteine residues of target proteins such as GAPDH, PTPN1 and NF-kappa-B subunit RELA, thereby regulating their function (PubMed:[22169477](http://www.uniprot.org/citations/22169477)). By generating the gasotransmitter H₂S, it participates in a number of physiological processes such as vasodilation, bone protection, and inflammation (Probable) (PubMed:[29254196](http://www.uniprot.org/citations/29254196)). Plays an essential role in myogenesis by contributing to the biogenesis of H₂S in skeletal muscle tissue (By similarity). Can also accept homoserine as substrate (By similarity). Catalyzes the elimination of selenocystathionine (which can be derived from the diet) to yield selenocysteine, ammonia and 2-oxobutanoate (By similarity).

Cellular Location

Cytoplasm.

Tissue Location

Highly expressed in liver (PubMed:10727430, PubMed:20305127). Also in muscle and lower expression in most tissues except heart, pituitary gland, spleen, thymus, and vascular tissue, where it is hardly detected (PubMed:20305127)

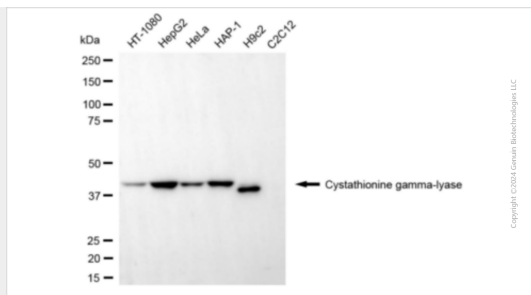
KD-Validated Anti-Cystathionine Gamma-Lyase Mouse Monoclonal Antibody - Protocols

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

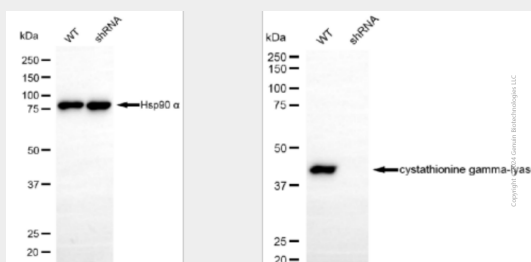
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

KD-Validated Anti-Cystathionine Gamma-Lyase Mouse Monoclonal Antibody - Images

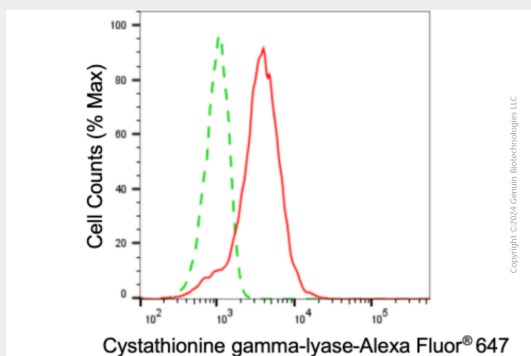




Western blotting analysis using anti-cystathionine gamma-lyase antibody (Cat#AGI1904). Total cell lysates (30 µg) from various cell lines were loaded and separated by SDS-PAGE. The blot was incubated with anti-cystathionine gamma-lyase antibody (Cat#AGI1904, 1:2,500) and HRP-conjugated goat anti-mouse secondary antibody respectively.



Western blotting analysis using anti-cystathionine gamma-lyase antibody (Cat#AGI1904). Cystathionine gamma-lyase expression in wild type (WT) and cystathionine gamma-lyase (CTH) shRNA knockdown (KD) HeLa cells with 20 µg of total cell lysates. Hsp90 α serves as a loading control. The blot was incubated with anti-cystathionine gamma-lyase antibody (Cat#AGI1904, 1:2,500) and HRP-conjugated goat anti-mouse secondary antibody respectively.



Flow cytometric analysis of Cystathionine gamma-lyase expression in HepG2 cells using anti-Cystathionine gamma-lyase antibody (Cat#AGI1904, 1:2,000). Green, isotype control; red, Cystathionine gamma-lyase.