

# CTH antibody - C-terminal region

Rabbit Polyclonal Antibody

Catalog # AI12652

## Product Information

<b>Application</b>	WB, IHC
<b>Primary Accession</b>	<a href="#">P32929</a>
<b>Other Accession</b>	<a href="#">NM_001902</a> , <a href="#">NP_001893</a>
<b>Reactivity</b>	Human, Mouse, Rat, Rabbit, Zebrafish, Pig, Dog, Guinea Pig, Horse, Bovine
<b>Predicted</b>	Human, Rat, Rabbit, Zebrafish, Pig, Chicken, Dog, Guinea Pig, Bovine
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Calculated MW</b>	44508

## Additional Information

<b>Gene ID</b>	1491
<b>Alias Symbol</b>	MGC9471
<b>Other Names</b>	Cystathionine gamma-lyase, 4.4.1.1, Cysteine-protein sulfhydrase, Gamma-cystathionase, CTH
<b>Format</b>	Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.
<b>Reconstitution &amp; Storage</b>	Add 100 ul of distilled water. Final anti-CTH antibody concentration is 1 mg/ml in PBS buffer with 2% sucrose. For longer periods of storage, store at 20°C. Avoid repeat freeze-thaw cycles.
<b>Precautions</b>	CTH antibody - C-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

<b>Name</b>	CTH
<b>Function</b>	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: <a href="#">10212249</a> , PubMed: <a href="#">18476726</a> , PubMed: <a href="#">19261609</a> , PubMed: <a href="#">19961860</a> ). Part of the L- cysteine derived from the trans-sulfuration pathway is utilized for biosynthesis of the ubiquitous antioxidant glutathione (PubMed: <a href="#">18476726</a> ). 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](#), PubMed:[19019829](#), PubMed:[19261609](#), PubMed:[19961860](#)). In vitro, it converts two L-cysteine molecules into lanthionine and H<sub>2</sub>S, also two L-homocysteine molecules to homolanthionine and H<sub>2</sub>S, 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](#)). 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](#)). Acts as a cysteine-protein sulfhydrylase by mediating sulfhydrylation of target proteins: sulfhydrylation 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](#)). By generating the gasotransmitter H<sub>2</sub>S, it participates in a number of physiological processes such as vasodilation, bone protection, and inflammation (Probable) (PubMed:[29254196](#)). Plays an essential role in myogenesis by contributing to the biogenesis of H<sub>2</sub>S 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.

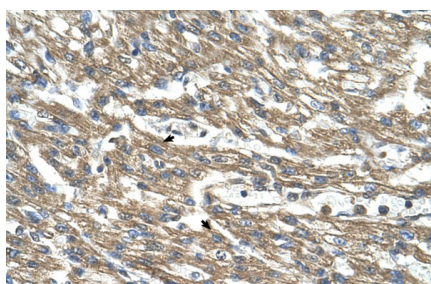
#### Tissue Location

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)

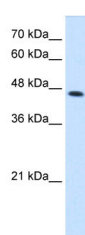
## References

Yang, G., (2004) J. Biol. Chem. 279(47), 49199-49205 Reconstitution and Storage: For short term use, store at 2-8°C up to 1 week. For long term storage, store at -20°C in small aliquots to prevent freeze-thaw cycles. Publications: Anti-CTH ARP4 6068\_T100 has recently been referenced in the following publications: Fernandes, V.S. et al. Endogenous hydrogen sulfide has a powerful role in inhibitory neurotransmission to the pig bladder neck. J. Urol. 189, 1567-73 (2013). 23063804

## Images



Human Heart



WB Suggested Anti-CTH Antibody Titration: 2.5 µg/ml  
Positive Control: HepG2 cell lysate

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.