

**Anti-CTH Antibody**  
**Catalog # AP53807****Specification**

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**Anti-CTH Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">P32929</a>
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Calculated MW	44508

**Anti-CTH Antibody - Additional Information****Gene ID** 1491**Other Names**

Cystathionine gamma-lyase; Cysteine-protein sulfhydrase; Gamma-cystathionase

**Target/Specificity**

KLH-conjugated synthetic peptide encompassing a sequence within the C-term region of human CTH. The exact sequence is proprietary.

**Dilution**

WB~~1/500 - 1/1000

**Format**

Liquid in 0.42% Potassium phosphate, 0.87% Sodium chloride, pH 7.3, 30% glycerol, and 0.09% (W/V) sodium azide.

**Storage**

Store at -20 °C.Stable for 12 months from date of receipt

**Anti-CTH 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:<a href="http://www.uniprot.org/citations/10212249" target="\_blank">10212249</a>, PubMed:<a href="http://www.uniprot.org/citations/18476726" target="\_blank">18476726</a>, PubMed:<a href="http://www.uniprot.org/citations/19261609" target="\_blank">19261609</a>, PubMed:<a href="http://www.uniprot.org/citations/19961860" target="\_blank">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="http://www.uniprot.org/citations/18476726" target="\_blank">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 (H<sub>2</sub>S) (PubMed:<a href="http://www.uniprot.org/citations/10212249" target="\_blank">10212249</a>, PubMed:<a href="http://www.uniprot.org/citations/19019829" target="\_blank">19019829</a>, PubMed:<a href="http://www.uniprot.org/citations/19261609" target="\_blank">19261609</a>, PubMed:<a href="http://www.uniprot.org/citations/19961860" target="\_blank">19961860</a>). 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:<a href="http://www.uniprot.org/citations/19261609" target="\_blank">19261609</a>). Lanthionine and homolanthionine are structural homologs of L,L-cystathionine that differ by the absence or presence of an extra methylene group, respectively (PubMed:<a href="http://www.uniprot.org/citations/19261609" target="\_blank">19261609</a>). 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:<a href="http://www.uniprot.org/citations/22169477" target="\_blank">22169477</a>). 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:<a href="http://www.uniprot.org/citations/29254196" target="\_blank">29254196</a>). 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**

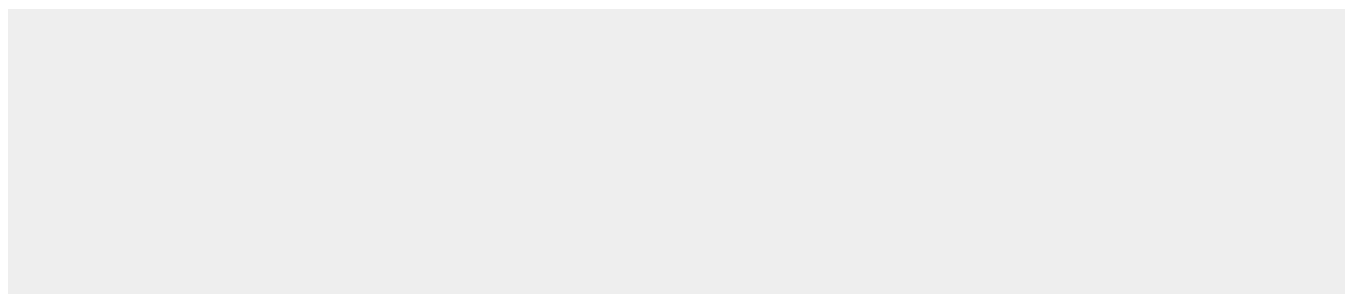
Highly expressed in liver (PubMed:10727430, PubMed:20305127). Also in muscle and lower expression in most tissues except heart, pituitary gland, spleen, thymus, and vascular tissue, where it is hardly detected (PubMed:20305127)

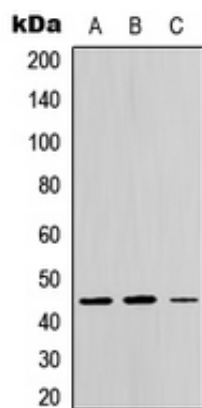
### **Anti-CTH Antibody - Protocols**

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](#)

### **Anti-CTH Antibody - Images**





Western blot analysis of CTH expression in HEK293T (A), Raw264.7 (B), PC12 (C) whole cell lysates.

#### **Anti-CTH Antibody - Background**

Rabbit polyclonal antibody to CTH