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# Anti-Cystathionase Antibody

Catalog # ABO10874

## Product Information

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| **Application** | WB, IHC-P |
| **Primary Accession** | P32929 |
| **Host** | Rabbit |
| **Reactivity** | Human, Mouse, Rat |
| **Clonality** | Polyclonal |
| **Format** | Lyophilized |
| **Description** | Rabbit IgG polyclonal antibody for Cystathionine gamma-lyase(CTH) detection. Tested with WB, IHC-P in Human;Mouse;Rat. |
| **Reconstitution** | Add 0.2ml of distilled water will yield a concentration of 500ug/ml. |

## Additional Information

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| **Gene ID** | 1491 |
| **Other Names** | Cystathionine gamma-lyase, 4.4.1.1, Cysteine-protein sulfhydrase, Gamma-cystathionase, CTH |
| **Calculated MW** | 44508 |
| **Application Details** | Immunohistochemistry(Paraffin-embedded Section), 0.5-1 □g/ml, Human, By Heat<br>Western blot, 0.1-0.5 □g/ml, Human, Rat, Mouse |
| **Subcellular Localization** | Cytoplasm. |
| **Source** | Eukaryota |
| **Protein Name** | Cystathionine gamma-lyase |
| **Contents** | Each vial contains 5mg BSA, 0.9mg NaCl, 0.2mg Na2HPO4, 0.05mg Thimerosal, 0.05mg NaN3. |
| **Immunogen** | A synthetic peptide corresponding to a sequence at the C-terminus of human Cystathionase(316-331aa FYIKGTLQHAEIFLKN), different from the related mouse and rat sequences by two amino acids. |
| **Purification** | Immunogen affinity purified. |
| **Cross Reactivity** | No cross reactivity with other proteins |
| **Storage** | At -20˚C for one year. After r˚Constitution, at 4˚C for one month. It˚Can also be aliquotted and stored frozen at -20˚C for a longer time.Avoid repeated |

freezing and thawing.

## Protein Information

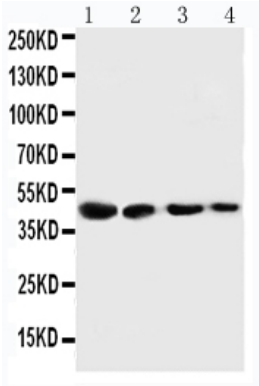
| | |
|---|---|
| **Name** | CTH |
| **Function** | Catalyzes the last step in the trans-sulfuration pathway from L-methionine to L-cysteine in a pyridoxal-5'-phosphate (PLP)-dependent manner, which consists on cleaving the L,L-cystathionine molecule into L-cysteine, ammonia and 2-oxobutanoate (PubMed:10212249, 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, PubMed:19019829, PubMed:19261609, PubMed: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). 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 sulfhydrase by mediating sulfhydration of target proteins: sulfhydration 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 H2S, 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 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) |

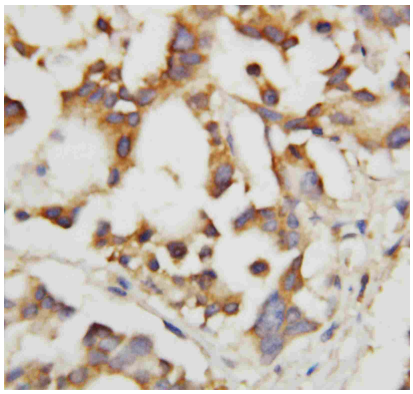
## Background

Cystathionine gamma-lyase(or cystathionase) is an enzyme which breaks down cystathionine into cysteine and alpha-ketobutyrate. The International Radiation Hybrid Mapping Consortium mapped the CTH gene to chromosome 1. The CTH gene had earlier been assigned to chromosome 16 by study of somatic cell hybrids. It is demonstrated that hydrogen sulfide(H2S) is physiologically generated by CTH.

## Images

Anti-Cystathionase antibody, ABO10874, Western blottingLane 1: SMMC Cell LysateLane 2: HT180 Cell LysateLane 3: HELA Cell LysateLane 4: U87 Cell Lysate



Anti-Cystathionase antibody, ABO10874, IHC(P)IHC(P): Human Liver Tissue

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