

Anti-Cystathionase Antibody
Catalog # ABO10874**Specification****Anti-Cystathionase Antibody - Product Information**

Application	WB, IHC
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.

Anti-Cystathionase Antibody - Additional Information

Gene ID 1491

Other Names

Cystathionine gamma-lyase, 4.4.1.1, Cysteine-protein sulfhydrylase, Gamma-cystathionase, CTH

Calculated MW

44508 MW KDa

Application Details

Immunohistochemistry(Paraffin-embedded Section), 0.5-1 µg/ml, Human, By Heat
Western blot, 0.1-0.5 µg/ml, Human, Rat, Mouse

Subcellular Localization

Cytoplasm.

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.

Anti-Cystathionase 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, 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 sulfhydrylase 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

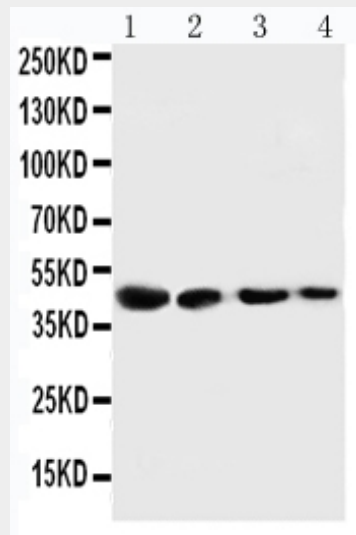
Highly expressed in liver (PubMed:10727430, PubMed:20305127). Also in muscle and lower expression in most tissues except heart, pituitary gland, spleen, thymus, and vascular tissue, where it is hardly detected (PubMed:20305127)

Anti-Cystathionase Antibody - Protocols

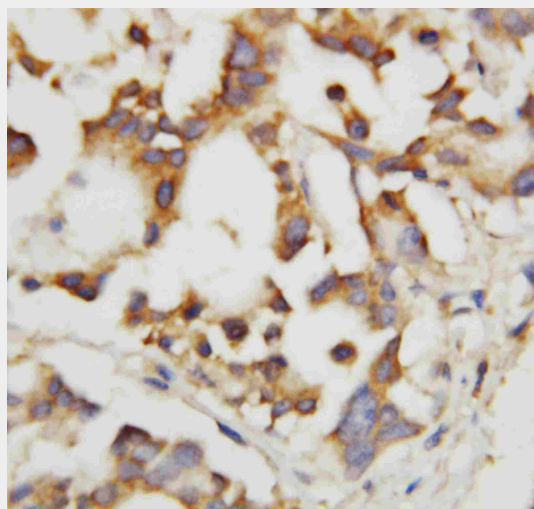
Provided below are standard protocols that you may find useful for product applications.

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

Anti-Cystathionase Antibody - Images



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



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

Anti-Cystathionase Antibody - 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.