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CTH antibody - C-terminal region
Rabbit Polyclonal Antibody
Catalog # AI12652

Specification

CTH antibody - C-terminal region - Product Information

Application	**IHC, WB**
Primary Accession	P32929
Other Accession	NM_001902, NP_001893
Reactivity	**Human, Mouse, Rat, Rabbit, Zebrafish, Pig, Horse, Bovine, Guinea Pig, Dog**
Predicted	**Human, Rat, Rabbit, Zebrafish, Pig, Chicken, Bovine, Guinea Pig, Dog**
Host	**Rabbit**
Clonality	**Polyclonal**
Calculated MW	**44kDa KDa**

CTH antibody - C-terminal region - Additional Information

Gene ID 1491

Alias Symbol	**MGC9471**

Other Names
Cystathionine gamma-lyase, 4.4.1.1, Cysteine-protein sulfhydrase, Gamma-cystathionase, CTH

Format
Liquid. Purified antibody supplied in 1x PBS buffer with 0.09% (w/v) sodium azide and 2% sucrose.

Reconstitution & Storage
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.

Precautions
CTH antibody - C-terminal region is for research use only and not for use in diagnostic or therapeutic procedures.

CTH antibody - C-terminal region - 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:19261609, PubMed:19961860, PubMed:18476726). 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:19261609, PubMed:19961860, PubMed:19019829). 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)

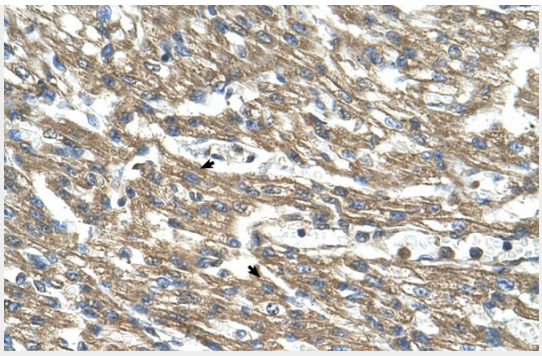
CTH antibody - C-terminal region - Protocols

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

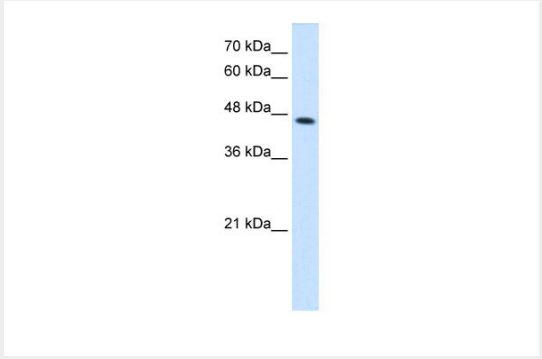
- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

CTH antibody - C-terminal region - Images

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Human Heart



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

CTH antibody - C-terminal region - References

Yang,G.,(2004)J.Biol.Chem.279(47),49199-49205ReconstitutionandStorage:Forshorttermuse,storeat2-8Cupto1week.Forlongtermstorage,storeat-20Cinsmallaliquotstopreventfreeze-thawcycles.Publications:Anti-CTHARP46068_T100hasrecentlybeenreferencedinthefollowingpublications:Fernandes,V.S.etal.Endogenoushydrogensulfidehasapowerfulroleininhibitoryneurotransmissiontothepigbladderneck.J.Urol.189,1567–73(2013).23063804