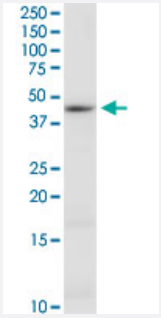
CTH monoclonal antibody (M03), clone S51

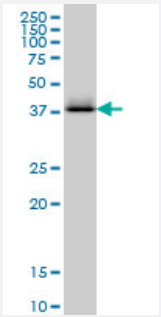
Catalog # H00001491-M03 Size 100 ug

Applications



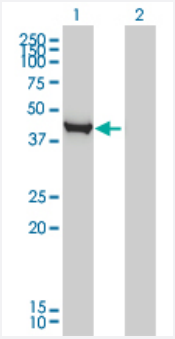
Western Blot (Tissue lysate)

CTH monoclonal antibody (M03), clone S51. Western Blot analysis of CTH expression in mouse kidney.



Western Blot (Cell lysate)

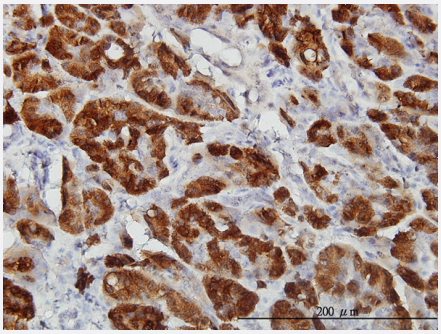
CTH monoclonal antibody (M03), clone S51 Western Blot analysis of CTH expression in K-562 (Cat # L009V1).



Western Blot (Transfected lysate)

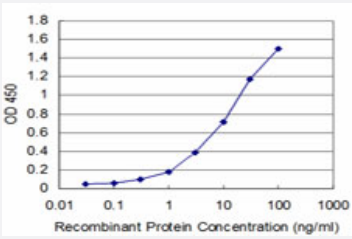
Western Blot analysis of CTH expression in transfected 293T cell line by CTH monoclonal antibody (M03), clone S51.

Lane 1: CTH transfected lysate(45 KDa).
Lane 2: Non-transfected lysate.



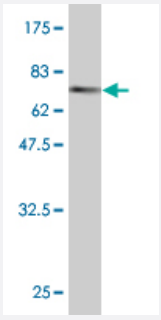
Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections)

Immunoperoxidase of monoclonal antibody to CTH on formalin-fixed paraffin-embedded human pancreas. [antibody concentration 3 ug/ml]



Sandwich ELISA (Recombinant protein)

Detection limit for recombinant GST tagged CTH is approximately 1ng/ml as a capture antibody.



Western Blot detection against Immunogen (70.07 KDa) .

Specification

Product Description	Mouse monoclonal antibody raised against a full length recombinant CTH.
Immunogen	CTH (AAH15807, 1 a.a. ~ 405 a.a) full-length recombinant protein with GST tag. MW of the GST tag alone is 26 KDa.
Sequence	MQEKDASSQGFLPHFQHFATQAIHVGQDPEQWTSRAVVPPISLSTTFKQGAPGQHSGFEYSRSG NPTRNCLEKAVAALDGAKYCLAFASGLAATVTITHLLKAGDQIICMDDVYGGTNRYFRQVASEFGL KISFVDCSKIKLLEAAITPETKLVWIETPTNPTQKVIDIEGCAHIVHKHGDIILVVDNTFMSPYFQRPLA LGADISMYSATKYMNGRSDVVMGLVSVNCESLHNRLRFLQNSLGAVPSPIDCYLCNRGLKTLHVR MEKHFKNGMAVAQFLESNPWVEKVIYPGLPSHPQHELVKRQCTGCTGMVTFYIKGTLQHAEIFLK NLKLFTLAESLGGFESLAELPAIMTHASVLKNDRDVLGISDTLIRLSVGLEDEEDLLEDLDQALKAA HPPSGSHS
Host	Mouse
Reactivity	Human, Mouse
Isotype	IgG1 Kappa
Quality Control Testing	Antibody Reactive Against Recombinant Protein. Western Blot detection against Immunogen (70.07 KDa) .
Storage Buffer	In 1x PBS, pH 7.4
Storage Instruction	Store at -20°C or lower. Aliquot to avoid repeated freezing and thawing.

Applications

- Western Blot (Tissue lysate)

  CTH monoclonal antibody (M03), clone S51. Western Blot analysis of CTH expression in mouse kidney.

  Protocol Download

- Western Blot (Cell lysate)

  CTH monoclonal antibody (M03), clone S51 Western Blot analysis of CTH expression in K-562 (Cat # L009V1).

  Protocol Download

- Western Blot (Transfected lysate)

  Western Blot analysis of CTH expression in transfected 293T cell line by CTH monoclonal antibody (M03), clone S51.

  Lane 1: CTH transfected lysate(45 KDa).
  Lane 2: Non-transfected lysate.

  Protocol Download

- Western Blot (Recombinant protein)

  Protocol Download

- Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections)

  Immunoperoxidase of monoclonal antibody to CTH on formalin-fixed paraffin-embedded human pancreas. [antibody concentration 3 ug/ml]

  Protocol Download

- Sandwich ELISA (Recombinant protein)

  Detection limit for recombinant GST tagged CTH is approximately 1ng/ml as a capture antibody.

  Protocol Download

- ELISA

Gene Info — CTH

Entrez GeneID	1491
GeneBank Accession#	BC015807

Protein Accession#	AAH15807
Gene Name	CTH
Gene Alias	MGC9471
Gene Description	cystathionase (cystathionine gamma-lyase)
Omim ID	219500 607657
Gene Ontology	Hyperlink
Gene Summary	This gene encodes a cytoplasmic enzyme in the trans-sulfuration pathway that converts cystathione derived from methionine into cysteine. Glutathione synthesis in the liver is dependent upon the availability of cysteine. Mutations in this gene cause cystathioninuria. Alternative splicing of this gene results in two transcript variants encoding different isoforms. [provided by RefSeq
Other Designations	OTTHUMP00000010945|OTTHUMP00000010946|cystathionase|cysteine desulfhydrase|gamma-cystathionase|homoserine deaminase|homoserine dehydratase

Publication Reference

- Dysregulation of cystathionine γ-lyase promotes prostate cancer progression and metastasis.

  Wang YH, Huang JT, Chen WL, Wang RH, Kao MC, Pan YR, Chan SH, Tsai KW, Kung HJ, Lin KT, Wang LH.

  EMBO reports 2019 Oct; 20(10):e45986.

  Application: IHC-P, WB-Ce, WB-Tr, Human, PC3, Bone metastasis-derived cells, Prostate tumor

- Cystathionine-γ-lyase expression is associated with mitochondrial respiration during sepsis-induced acute kidney injury in swine with atherosclerosis.

  Merz T, Wepler M, Nußbaum B, Vogt J, Calzia E, Wang R, Szabo C, Radermacher P, McCook O.

  Intensive Care Medicine Experimental 2018 Oct; 6(1):43.

  Application: IHC-P, Pig, Pig kidney

- Relationship between selenoprotein P and selenocysteine lyase: Insights into selenium metabolism.

  Seale LA, Ha HY, Hashimoto AC, Berry M.

  Free Radical Biology & Medicine 2018 Mar; [Epub].

  Application: WB, Human, Mouse, HepG2, Hepa1–6, Ht22 cells, brain, lungs, liver, kidneys, testes

- The viability of primary hepatocytes is maintained under a low cysteine-glutathione redox state with a marked elevation in ophthalmic acid production.

  Lee J, Sil Kang E, Kobayashi S, Homma T, Sato H, Geuk Seo H, Fujii J.

  Experimental Cell Research 2017 Dec; 361(1):178.

  Application: WB-Ce, Mouse, Mouse primary hepatocytes

- Increased ophthalmic acid production is supported by amino acid catabolism under fasting conditions in mice.

  Kobayashi S, Lee J, Takao T, Fujii J.

  Biochemical and Biophysical Research Communications 2017 Jul; 491(3):649.

  Application: WB-Ti, Mouse, Mouse liver

- Ascorbic acid prevents acetaminophen-induced hepatotoxicity in mice by ameliorating glutathione recovery and autophagy.

  Kurahashi T, Lee J, Nabeshima A, Homma T, Kang ES, Saito Y, Yamada S, Nakayama T, Yamada KI, Miyata S, Fujii J.

  Archives of Biochemistry and Biophysics 2016 Aug; 604:36.

  Application: WB-Ti, Mouse, Liver

- Impacts of CD44 knockdown in cancer cells on tumor and host metabolic systems revealed by quantitative imaging mass spectrometry.

  Ohmura M, Hishiki T, Yamamoto T, Nakanishi T, Kubo A, Tsuchihashi K, Tamada M, Toue S, Kabe Y, Saya H, Suematsu M.

  Nitric Oxide : Biology and Chemistry 2015 Apr; 46:102.

  Application: WB, Human, HCT116 cells

- cGMP-Dependent Protein Kinase Contributes to Hydrogen Sulfide-Stimulated Vasorelaxation.

  Bucci M, Papapetropoulos A, Vellecco V, Zhou Z, Zaid A, Giannogonas P, Cantalupo A, Dhayade S, Karalis KP, Wang R, Feil R, Cirino G.

  PLoS One 2012 Dec; 7(12):e53319.

  Application: WB-Ti, Mouse, Mouse aortas

- Hydrogen sulfide impairs glucose utilization and increases gluconeogenesis in hepatocytes.

  Zhang L, Yang G, Untereiner A, Ju Y, Wu L, Wang R.

  Endocrinology 2012 Nov; 154(1):114.

  Application: WB-Ce, Human, HepG2

- An investigation of the mechanisms of hydrogen sulfide-induced vasorelaxation in rat middle cerebral arteries.

  Streeter E, Hart J, Badoer E.

  Naunyn-Schmiedeberg's Archives of Pharmacology 2012 Oct; 385(10):991.

  Application: IF, IHC, Rat, Rat middle cerebral arteries

- Characterization of Hydrogen Sulfide and Its Synthases, Cystathionine β-Synthase and Cystathionine γ-Lyase, in Human Prostatic Tissue and Cells.

  Guo H, Gai JW, Wang Y, Jin HF, Du JB, Jin J.

  Urology 2012 Feb; 79(2):483.

  Application: IHC-Fr, WB-Ce, Human, Human prostate, LNCaP, PC-3, DU145, RWPE-2 cells

- Glucocorticoids suppress cystathionine gamma-lyase expression and H(2)S production in lipopolysaccharide-treated macrophages.

  Zhu XY, Liu SJ, Liu YJ, Wang S, Ni X.

  Cellular and Molecular Life Sciences 2010 Apr; 67(7):1119.

  Application: WB-Ce, WB-Tr, WB-Ti, Mouse, Macrophages, Brain, RAW 264.7 cells

- H2S contributes to the hepatic arterial buffer response and mediates vasorelaxation of the hepatic artery via activation of KATP channels.

  Siebert N, Cantre D, Eipel C, Vollmar B.

  American Journal of Physiology. Gastrointestinal and Liver Physiology 2008 Oct; 295(6):G1266.

  Application: IHC, WB-Ti, Rat, Rat liver and vascular

Pathway

- Cysteine and methionine metabolism
- Glycine
- Metabolic pathways
- Nitrogen metabolism
- Selenoamino acid metabolism

Disease

- Atherosclerosis
- Calcinosis
- Cardiovascular Diseases
- Carotid Stenosis

- Cleft Lip
- Cleft Palate
- Coronary Artery Disease
- Diabetes Mellitus
- Edema
- Genetic Predisposition to Disease
- Hypertension
- Infertility
- Lung Neoplasms
- Pulmonary Disease
- Spinal Dysraphism
- Urinary Bladder Neoplasms
- Werner syndrome