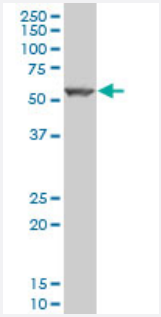
CBS polyclonal antibody (A01)

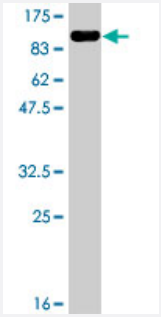
Catalog # H00000875-A01 Size 50 uL

Applications



Western Blot (Cell lysate)

CBS polyclonal antibody (A01), Lot # NUS1051025QCS1 Western Blot analysis of CBS expression in K-562 (Cat # L009V1).



Western Blot detection against Immunogen (86.72 KDa) .

Specification

Product Description	Mouse polyclonal antibody raised against a full-length recombinant CBS.
Immunogen	CBS (AAH11381.1, 1 a.a. ~ 551 a.a) full-length recombinant protein with GST tag.
Sequence	MPSETPQAEVGPTGCPHRSGPHSAKGSLEKGSPEDKEAKEPLWIRPDAPSRCTWQLGRPASE SPHHHTAPAKSPKILPDILKKIGDTPMVRINKIGKKFGLKCELLAKCEFFNAGGSVKDRISLRMIEDA ERDGTLKPGDTIIEPTSGNTGIGLALAAAVRGYRCIIVMPEKMSSEKVDVLRALGAEIVRTPTNARFD SPESHVGVAWRLKNEIPNSHILDQYRNASNPLAHYDTTADEILQQCDGKLDMLVASVGTGGTITGIA RKLKEKCPGCRIIGVDPEGSILAEPEELNQTEQTTYEVEGIGYDFIPTVLDRTVVDKWFKSNDEEAF TFARMLIAQEGLLCGGSAGSTVAVAVKAAQELQEGQRCVVILPDSVRNYMTKFLSDRWMLQKGF LKEEDLTEKKPWWWHLRVQELGLSAPLTVLPTITCGHTIEILREKGFDQAPVVDEAGVILGMVTLG NMLSSLLAGKVQPSDQVGKVIYKQFKQIRLTDTLGRLSHILEMDHFALVVHEQIQYHSTGKSSQRQ MVFGVVTAIDLLNFVAAQERDQK

Host	Mouse
Reactivity	Human
Interspecies Antigen Sequence	Mouse (84); Rat (84)
Quality Control Testing	Antibody Reactive Against Recombinant Protein. Western Blot detection against Immunogen (86.72 KDa) .
Storage Buffer	50 % glycerol
Storage Instruction	Store at -20°C or lower. Aliquot to avoid repeated freezing and thawing.

Applications

- Western Blot (Cell lysate)

  CBS polyclonal antibody (A01), Lot # NUS1051025QCS1 Western Blot analysis of CBS expression in K-562 (Cat # L009V1).

  Protocol Download

- Western Blot (Recombinant protein)

  Protocol Download

- ELISA

Gene Info — CBS

Entrez GeneID	875
GeneBank Accession#	BC011381
Protein Accession#	AAH11381.1
Gene Name	CBS
Gene Alias	HIP4
Gene Description	cystathionine-beta-synthase
Omim ID	236200
Gene Ontology	Hyperlink

Gene Summary	The protein encoded by this gene acts as a homotetramer to catalyze the conversion of homocyst eine to cystathionine, the first step in the transsulfuration pathway. The encoded protein is allosteri cally activated by adenosyl-methionine and uses pyridoxal phosphate as a cofactor. Defects in thi s gene can cause cystathionine beta-synthase deficiency (CBSD), which can lead to homocystinu ria. [provided by RefSeq
Other Designations	OTTHUMP00000109416|OTTHUMP00000109418|beta-thionase|cystathionine beta-synthase|me thylcysteine synthase|serine sulfhydrase

Publication Reference

- Betaine-homocysteine S-methyltransferase deficiency causes increased susceptibility to noise-induced hearing loss associated to plasma hyperhomocysteinemia.

  Partearroyo T, Murillo-Cuesta S, Vallecillo N, Bermúdez-Muñoz JM, Rodríguez-de la Rosa L, Mandruzzato G, Celaya AM, Zeisel SH, Pajares MA, Varela-Moreiras G, Varela-Nieto I.

  FASEB Journal 2019 May; 33(5):5942.

  Application: WB, Mouse, Mouse cochlear samples

- In silico and in vivo models for Qatari-Specific classical homocystinuria as basis for development of novel therapies.

  Ismail HM, Krishnamoorthy N, Al-Dewik N, Zayed H, Mohamed NA, Giacomo VD, Gupta S, Häberle J, Thöny B, Blom HJ, Kruger WD, Ben-Omran T, Nasrallah GK.

  Human Mutation 2019 Feb; 40(2):230.

  Application: WB, Human, Yeast, HEK 293T, HepG2, Yeast cell lysates

- CBS mutations are good predictors for B6-responsiveness: A study based on the analysis of 35 Brazilian Classical Homocystinuria patients.

  Poloni S, Sperb-Ludwig F, Borsatto T, Weber Hoss G, Doriqui MJR, Embirucu EK, Boa-Sorte N, Marques C, Kim CA, Fischinger Moura de Souza C, Rocha H, Ribeiro M, Steiner CE, Moreno CA, Bernardi P, Valadares E, Artigalas O, Carvalho G, Wanderley HYC, Kugele J, Walter M, Gallego-Villar L, Blom HJ, Schwartz IVD.

  Molecular Genetics & Genomic Medicine 2018 Jan; [Epub].

  Application: WB-Re, Recombinant protein

- Distinctive Expression Pattern of Cystathionine-β-Synthase and Cystathionine-γ-Lyase Identifies Mesenchymal Stromal Cells Transition to Mineralizing Osteoblasts.

  Gambari L, Lisignoli G, Gabusi E, Manferdini C, Paolella F, Piacentini A, Grassi F.

  Journal of Cellular Physiology 2017 Jan; [Epub].

  Application: ICC, IHC-P, WB, Human, Human bone, Human mesenchymal stromal cells, mature h-osteoblasts

- Hydrogen Sulfide Is a Novel Regulator of Bone Formation Implicated in the Bone Loss Induced by Estrogen Deficiency.

  Grassi F, Malik Tyagi A, Calvert JW, Gambari L, Walker LD, Yu M, Robinson J, Li JY, Lisignoli G, Vaccaro C, Adams J, Pacifici R.

  Journal of Bone and Mineral Research 2016 May; 31(5):949.

  Application: IHC-P, Human, Tibial plateau

- Cystathionine β-synthase regulates endothelial function via protein S-sulfhydration.

  Saha S, Chakraborty PK, Xiong X, Dwivedi SK, Mustafi SB, Leigh NR, Ramchandran R, Mukherjee P, Bhattacharya R.

  FASEB Journal 2016 Jan; 30(1):441.

  Application: IHC, Human, Ovary, Liver, Colon, Granulosa cell tumor, Lung adenocarcinoma

- Folic acid deficiency induces premature hearing loss through mechanisms involving cochlear oxidative stress and impairment of homocysteine metabolism.

  Martinez-Vega R, Garrido F, Partearroyo T, Cediel R, Zeisel SH, Martinez-Alvarez C, Varela-Moreiras G, Varela-Nieto I, Pajares MA.

  FASEB Journal 2015 Feb; 29(2):418.

  Application: WB, Mouse, Cochlear

- Arsenite-induced changes in hepatic protein abundance in cynomolgus monkeys (Macaca fascicularis).

  Kim S, Lee SH, Lee S, Park JD, Ryu DY.

  Proteomics 2014 Aug; 14(15):1833.

  Application: WB-Ce, WB-Ti, Human, Monkey, Liver, HepG2 cells

- Cystathionine Beta-Synthase (CBS) Contributes to Advanced Ovarian Cancer Progression and Drug Resistance.

  Bhattacharyya S, Saha S, Giri K, Lanza IR, Nair KS, Jennings NB, Rodriguez-Aguayo C, Lopez-Berestein G, Basal E, Weaver AL, Visscher DW, Cliby W, Sood AK, Bhattacharya R, Mukherjee P.

  PLoS One 2013 Nov; 8(11):e79167.

  Application: IF, IHC-P, WB-Ce, WB-Tr, Human, Epithelial ovarian cancer, OSE, OV167, OV202, SKOV3, SKOV3-ip, A2780, OVCAR-5 cells

- Correction of Cystathionine β-synthase Deficiency in Mice by Treatment with Proteasome Inhibitors.

  Gupta S, Wang L, Anderl J, Slifker MJ, Kirk C, Kruger WD.

  Human Mutation 2013 Aug; 34(8):1085.

  Application: IP, Mouse, Mouse livers

- Surrogate Genetics and Metabolic Profiling for Characterization of Human Disease Alleles.

  Mayfield JA, Davies MW, Dimster-Denk D, Pleskac N, McCarthy S, Boydston EA, Fink L, Lin XX, Narain AS, Meighan M, Rine J.

  Genetics 2012 Jan; 190(4):1309.

  Application: WB, Yeast, Yeast whole cell extracts

- Ischemia/reperfusion reduces transcription factor Sp1-mediated cystathionine beta-synthase expression in the kidney.

  Wu N, Siow YL, O K.

  The Journal of Biological Chemistry 2010 Jun; 285(24):18225.

  Application: WB, Human, Rat, Kidneys, Proximal tubular cells

- Activation of mutant enzyme function in vivo by proteasome inhibitors and treatments that induce Hsp70.

  Singh LR, Gupta S, Honig NH, Kraus JP, Kruger WD.

  PLoS Genetics 2010 Jan; 6(1):e1000807.

  Application: WB, Mouse, Yeast, Kidneys, Livers, Yeast extracts

- Hydrogen sulfide as a mediator of human corpus cavernosum smooth-muscle relaxation.

  d'Emmanuele di Villa Bianca R, Sorrentino R, Maffia P, Mirone V, Imbimbo C, Fusco F, De Palma R, Ignarro LJ, Cirino G.

  PNAS 2009 Mar; 106(11):4513.

  Application: IHC-P, WB-Ti, Human, Penile tissue, Corpus cavernosum

- Functional rescue of mutant human cystathionine beta -synthase by manipulation of Hsp26 and Hsp70 levels in saccharomyces cerevisiae.

  Singh LR, Kruger WD.

  The Journal of Biological Chemistry 2008 Dec; 284(7):4238.

  Application: IP-WB, Yeast, I278T, LS3 cells

- Hydrogen sulphide reduces insulin secretion from HIT-T15 cells by a KATP channel-dependent pathway.

  Ali MY, Whiteman M, Low CM, Moore PK.

  The Journal of Endocrinology 2007 Oct; 195(1):105.

  Application: WB-Tr, Mouse, HIT-T15 cells

Pathway

- Cysteine and methionine metabolism
- Glycine

- Metabolic pathways
- Selenoamino acid metabolism

Disease

- Abnormalities
- Adenocarcinoma
- Alzheimer disease
- Aortic Aneurysm
- Arterial Occlusive Diseases
- Arteriosclerosis
- Atherosclerosis
- Attention
- Brain Infarction
- Brain Ischemia
- Brain Neoplasms
- Breast cancer
- Breast Neoplasms
- Calcinosis
- Carcinoma
- Cardiovascular Diseases
- Carotid Artery
- Cerebral Palsy
- Cerebrovascular Accident
- Cerebrovascular Disorders
- Cleft Lip
- Cleft Palate

- Cognition
- Cognition Disorders
- Colorectal Neoplasms
- Connective Tissue Diseases
- Constriction
- Coronary Artery Disease
- Coronary Disease
- Coronary Stenosis
- Data Display
- Diabetes Complications
- Diabetes Mellitus
- Down Syndrome
- Edema
- Esophageal Neoplasms
- Exfoliation Syndrome
- Fetal Diseases
- Gastrointestinal Neoplasms
- Genetic Predisposition to Disease
- Glaucoma
- Heart Defects
- Heart Diseases
- Heart Septal Defects
- Homocystinuria
- Huntington disease
- Hyperhomocysteinemia
- Hypertension

- Infection
- Inflammation
- Intelligence Tests
- Intracranial Aneurysm
- Intracranial Thrombosis
- Kidney Failure
- Leukemia
- Liver Cirrhosis
- Lung Neoplasms
- Lupus Erythematosus
- Lymphoma
- Malnutrition
- Meningioma
- Mental Retardation
- Mental Status Schedule
- Metabolic Diseases
- Metabolic Syndrome X
- Microsatellite Instability
- Migraine Disorders
- Musculoskeletal Diseases
- Myocardial Infarction
- Myocardial Ischemia
- Neoplasms
- Neural Tube Defects
- Neuropsychological Tests
- Obesity

- Osteoporosis
- Parkinson disease
- Pregnancy Complications
- Premature Birth
- Prostate cancer
- Prostatic Neoplasms
- Psychotic Disorders
- Pulmonary Disease
- Recurrence
- Schizophrenia
- Schizophrenic Psychology
- Skin Diseases
- Spinal Dysraphism
- Stomach Neoplasms
- Stroke
- Tobacco Use Disorder
- Urinary Bladder Neoplasms
- Vascular Diseases
- Venous Thrombosis
- Vertebral Artery Dissection
- Werner syndrome