

CBS (A-3): sc-515180

BACKGROUND

Strongly expressed in human liver and pancreas, as well as some expression in the heart and brain, the cytoplasmic protein cystathionine β -synthase (CBS), operates in the first step of homocysteine transsulfuration. CBS, which belongs to the cysteine synthase/cystathionine β -synthase family of proteins, catalyzes the formation of cystathionine from the thrombogenic amino acid homocysteine using pyridoxal phosphate cofactor. Allosteric activation by adenosyl-methionine regulates CBS activity. Deficiencies in CBS are associated with homocystinuria, a recessively inherited error in sulfur amino acid metabolism that affects many organs and tissues. Symptoms of homocystinuria include arteriosclerosis, thrombosis, dislocated optic lenses, mental retardation and skeletal abnormalities.

REFERENCES

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- Wu, J.M., et al. 2004. Genetic mutations of homocysteine metabolism related enzymes in patients with ischemic stroke. *Yi Chuan* 26: 298-302.
- Ayav, A., et al. 2005. Defective remethylation of homocysteine is related to decreased synthesis of coenzymes B2 in thyroidectomized rats. *Amino Acids* 28: 37-43.
- Shao, Y., et al. 2005 Association of plasma homocysteine and cystathionine β -synthase polymorphism with cerebral thrombosis. *Di Yi Jun Yi Da Xue Xue Bao* 25: 351-353.
- Bhatia, M., et al. 2005. Role of hydrogen sulfide in acute pancreatitis and associated lung injury. *FASEB J.* 19: 623-625.
- Pusch, M., et al. 2005. Unique structure and function of chloridetransporting CLC proteins. *IEEE Trans. Nanobioscience* 4: 49-57.
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CHROMOSOMAL LOCATION

Genetic locus: CBS (human) mapping to 21q22.3; Cbs (mouse) mapping to 17 B1.

SOURCE

CBS (A-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 137-154 near the N-terminus of CBS of human origin.

PRODUCT

Each vial contains 200 μ g IgG₃ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-515180 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

For research use only, not for use in diagnostic procedures.

APPLICATIONS

CBS (A-3) is recommended for detection of CBS of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CBS siRNA (h): sc-60335, CBS siRNA (m): sc-60336, CBS shRNA Plasmid (h): sc-60335-SH, CBS shRNA Plasmid (m): sc-60336-SH, CBS shRNA (h) Lentiviral Particles: sc-60335-V and CBS shRNA (m) Lentiviral Particles: sc-60336-V.

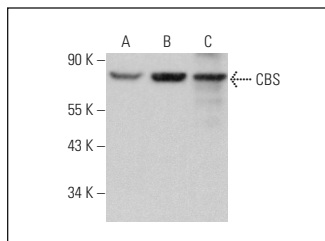
Molecular Weight of CBS: 63 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227, MCF7 whole cell lysate: sc-2206 or CBS (h2): 293 Lysate: sc-112304.

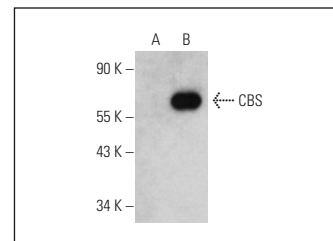
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA




CBS (A-3): sc-515180. Western blot analysis of CBS expression in Hep G2 (A) and MCF7 (B) whole cell lysates and mouse pancreas tissue extract (C).



CBS (A-3): sc-515180. Western blot analysis of CBS expression in non-transfected: sc-110760 (A) and human CBS transfected: sc-112304 (B) 293 whole cell lysates.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.



See **CBS (B-4): sc-133154** for CBS antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.