SANTA CRUZ BIOTECHNOLOGY, INC.

CBS (h2): 293 Lysate: sc-112304

BACKGROUND

Strongly expressed in human liver and pancreas, with weaker expression in heart and brain, the cytoplasmic protein cystathionine β-synthase (CBS) operates in the first step of homocysteine transulfuration. 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

1. Persa, C., et al. 2004. The presence of a transsulfuration pathway in the lens: a new oxidative stress defense system. Exp. Eye Res. 79: 875-886.
2. Wu, J.M., et al. 2004. Genetic mutations of homocysteine metabolism related enzymes in patients with ischemic stroke. Yi Chuan 26: 298-302.
3. Yang, F., Tan, H.M. and Wang, H. 2005. Hyperhomocysteinemia and atherosclerosis. Sheng Li Xue Bao 57: 103-114.
4. Pusch, M. and Jentsch, T.J. 2005. Unique structure and function of chloride transporting CLC proteins. IEEE Trans. Nanobioscience 4: 49-57.
5. Bar-Or, D., et al. 2005. Inhibitory effect of copper on cystathionine β-synthase activity: protective effect of an analog of the human albumin N-terminus. Protein Pept. Lett. 12: 271-273.
6. 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.
7. Bhatia, M., et al. 2005. Role of hydrogen sulfide in acute pancreatitis and associated lung injury. FASEB J. 19: 623-625.
8. 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.

CHROMOSOMAL LOCATION

Genetic locus: CBS (human) mapping to 21q22.3.

PRODUCT

CBS (h2): 293 Lysate represents a lysate of human CBS transfected 293 cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

CBS (h2): 293 Lysate is suitable as a Western Blotting positive control for human reactive CBS antibodies. Recommended use: 10-20 µl per lane.

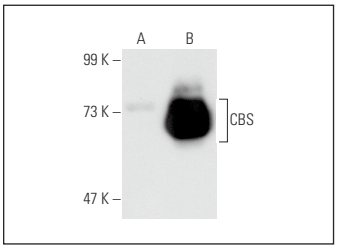
Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-tranfected 293 cells.

CBS (A-2): sc-133208 is recommended as a positive control antibody for Western Blot analysis of enhanced human CBS expression in CBS transfected 293 cells (starting dilution 1:100, dilution range 1:100-1:1,000).

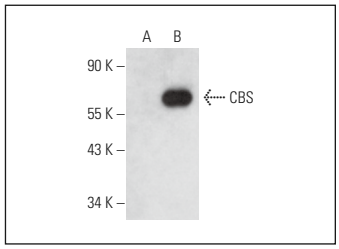
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



CBS (A-2): sc-133208. Western blot analysis of CBS expression in non-transfected: sc-110760 (**A**) and human CBS transfected: sc-112304 (**B**) 293 whole cell lysates.



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.

RESEARCH USE

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