

CBS (h2): 293T Lysate: sc-170537

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 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

1. Persa, C., Pierce, A., Ma, Z., Kabil, O. and Lou, M.F. 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., Wang, T.G., Li, Y.Q., Song, X.W., Liu, Y.Y., Yun, H.R., Zhong, Z.Y. and Zhou, T.H. 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., Rael, L.T., Thomas, G.W. and Kraus, J.P. 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., Zhang, C.G. and Cui, J.H. 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., Wong, F.L., Fu, D., Lau, H.Y., Moolchala, S.M. and Moore, P.K. 2005. Role of hydrogen sulfide in acute pancreatitis and associated lung injury. *FASEB J.* 19: 623-625.
8. Ayav, A., Alberto, J.M., Barbe, F., Brunaud, L., Gerard, P., Merten, M. and Gueant, J.L. 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): 293T Lysate represents a lysate of human CBS transfected 293T cells and is provided as 100 μ g protein in 200 μ l 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.

APPLICATIONS

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

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

RESEARCH USE

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

PROTOCOLS

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