SANTA CRUZ BIOTECHNOLOGY, INC.

CBS (15X): sc-100519

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 adenosylmethionine 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 homocytinuria 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., et al. 2005. Hyperhomocysteinemia and atherosclerosis. Sheng Li Xue Bao 57: 103-114.

CHROMOSOMAL LOCATION

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

SOURCE

CBS (15X) is a mouse monoclonal antibody raised against recombinant CBS of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CBS (15X) is recommended for detection of CBS of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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.

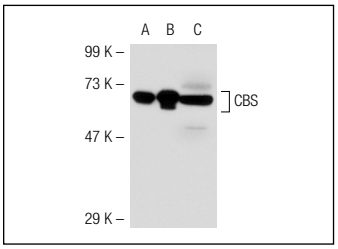
Molecular Weight of CBS: 63 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, CBS (h2): 293T Lysate: sc-170537 or CBS (m): 293T Lysate: sc-119049.

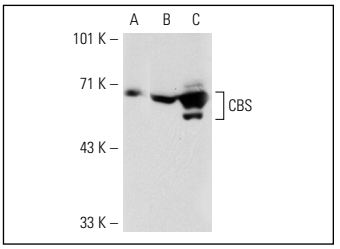
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), 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 goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

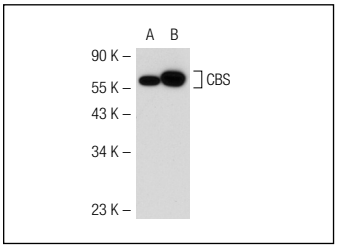
DATA



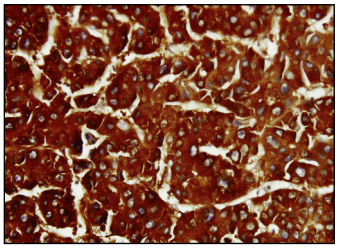
CBS (15X): sc-100519. Western blot analysis of CBS expression in non-transfected: sc-117752 (**A**) and mouse CBS transfected: sc-119049 (**B**) 293T whole cell lysates and mouse pancreas tissue extract (**C**).



CBS (15X): sc-100519. Western blot analysis of CBS expression in non-transfected 293: sc-110760 (**A**), MIA PaCa-2 (**B**) and human CBS transfected 293: sc-111129 (**C**) whole cell lysates.



CBS (15X): sc-100519. Western blot analysis of CBS expression in non-transfected: sc-117752 (**A**) and human CBS transfected: sc-170537 (**B**) 293T whole cell lysates.



CBS (15X): sc-100519. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human hepatocellular carcinoma tissue showing cytoplasmic localization.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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