

# CBS (K-14): sc-46830

## BACKGROUND

Strongly expressed in human liver and pancreas, as well as some expression in the heart and brain, the cytoplasmic protein cystathionine  $\beta$ -synthase (CBS), operates in the first step of homocysteine transulfuration. CBS, which belongs to the cysteine synthase/cystathionine  $\beta$ -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.

## CHROMOSOMAL LOCATION

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

## SOURCE

CBS (K-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CBS of human origin.

## PRODUCT

Each vial contains 100  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-46830 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## 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.

## APPLICATIONS

CBS (K-14) is recommended for detection of CBS of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

CBS (K-14) is also recommended for detection of CBS in additional species, including equine, canine, bovine and avian.

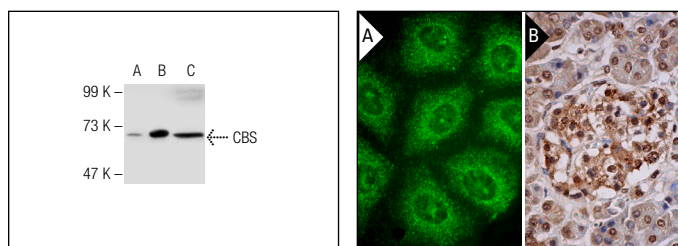
Suitable for use as control antibody for CBS siRNA (h): sc-60335, CBS siRNA (m): sc-60336, CBS shRNA Plasmid (h): sc-60335-SH, CBS shRNA Plasmid (m): sc-60336-SH, CBS shRNA (h) Lentiviral Particles: sc-60335-V and CBS shRNA (m) Lentiviral Particles: sc-60336-V.

Molecular Weight of CBS: 63 kDa.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

## DATA



CBS (K-14): sc-46830. 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 (K-14): sc-46830. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic and nuclear staining of exocrine glandular cells and Islets of Langerhans (B).

## SELECT PRODUCT CITATIONS

- Talaei, F., et al. 2012. The role of endogenous H<sub>2</sub>S formation in reversible remodeling of lung tissue during hibernation in the Syrian hamster. *J. Exp. Biol.* 215: 2912-2919.
- Talaei, F., et al. 2012. Induction of VMAT-1 and TPH-1 expression induces vesicular accumulation of serotonin and protects cells and tissue from cooling/rewarming injury. *PLoS ONE* 7: e30400.
- Talaei, F., et al. 2013. Hydrogen sulfide restores a normal morphological phenotype in Werner syndrome fibroblasts, attenuates oxidative damage and modulates mTOR pathway. *Pharmacol. Res.* 74C: 34-44.
- Wang, C.N., et al. 2014. CBS and CSE are critical for maintenance of mitochondrial function and glucocorticoid production in adrenal cortex. *Antioxid. Redox Signal.* 21: 2192-2207.

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Try **CBS (B-4): sc-133154** or **CBS (A-2): sc-133208**, our highly recommended monoclonal alternatives to CBS (K-14). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **CBS (B-4): sc-133154**.