

CPS2 (H-180): sc-30061

BACKGROUND

The multicomplex protein, carbamoyl-phosphate synthetase-aspartate carbamoyl transferase-dihydro-ototase (CAD), consists of three distinct proteins, carbamoyl phosphate synthetase 2 (CPS2), aspartate transcarbamylase, and dihydro-ototase, which catalyze the second and third steps of pyrimidine biosynthesis. CAD is allosterically regulated by the phosphorylation of CPS2 by cyclic AMP-dependent protein kinase, and this activation enables CPS2 to catalyze the rate-limiting step of pyrimidine synthesis. CAD is expressed in brain and skeletal muscle. A related protein, carbamoyl phosphate synthetase 1 (CPS1) is expressed in liver. CPS1 catalyzes the rate-limiting step in the urea cycle, and deficiency of CPS1 is an autosomal recessive disorder that causes hyperammonemia.

REFERENCES

1. Otsuki, T., et al. 1981. Phosphorylation and dephosphorylation of carbamoyl-phosphate synthetase II complex of rat ascites hepatoma cells. *J. Biochem.* 89: 1367-1374.
2. Carrey, E.A., et al. 1985. Phosphorylation and activation of hamster carbamyl-phosphate synthetase II by cAMP-dependent protein kinase. A novel mechanism for regulation of pyrimidine nucleotide biosynthesis. *EMBO J.* 4: 3735-3742.

CHROMOSOMAL LOCATION

Genetic locus: CAD (human) mapping to 2p23.3; Cad (mouse) mapping to 5 B1.

SOURCE

CPS2 (H-180) is a rabbit polyclonal antibody raised against amino acids 1311-1490 mapping within an internal region of CPS2 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CPS2 (H-180) is recommended for detection of CPS2 of mouse, rat 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CPS2 (H-180) is also recommended for detection of CPS2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for CPS2 siRNA (h): sc-41457, CPS2 siRNA (m): sc-41458, CPS2 shRNA Plasmid (h): sc-41457-SH, CPS2 shRNA Plasmid (m): sc-41458-SH, CPS2 shRNA (h) Lentiviral Particles: sc-41457-V and CPS2 shRNA (m) Lentiviral Particles: sc-41458-V.

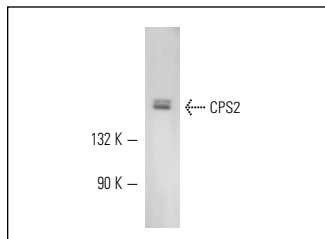
Molecular Weight of CPS2: 243 kDa.

Positive Controls: mouse liver extract: sc-2256 or rat brain extract: sc-2392.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



CPS2 (H-180): sc-30061. Western blot analysis of CPS2 expression in Y79 nuclear extract.

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.

MONOS
Satisfaction
Guaranteed

Try **CPS2 (F-6): sc-376072**, our highly recommended monoclonal alternative to CPS2 (H-180).