

# CTH (P-15): sc-131905

## BACKGROUND

CTH (cystathionine  $\gamma$ -lyase), also known as CSE or  $\gamma$ -cystathionase, is a member of the transsulfuration enzyme family and participates in the transsulfuration pathway. CTH is a cytoplasmic enzyme produced in the cytosol and is responsible for catalyzing the pyridoxal phosphate-dependent  $\beta$ -disulfide elimination reaction resulting in ammonium, pyruvate and thiocysteine. The thiocysteine that is produced may then react with other thiols (or cysteine) and form hydrogen sulfide ( $H_2S$ ). Thus, CTH is the major  $H_2S$ -producing enzyme in kidney, liver, vascular smooth muscle cells and enterocytes. The endogenous production of  $H_2S$  plays a significant role in the regulation of cellular functions, including cell growth, hyperpolarization of cell membranes, modulation of neuronal excitability and relaxation of smooth muscle cells. Mutations in the gene encoding CTH can result in the autosomal recessive disease cystathioninuria; a disorder characterized by the unusual accumulation of plasma cystathionine causing increased urinary excretion.

## CHROMOSOMAL LOCATION

Genetic locus: CTH (human) mapping to 1p31.1; Cth (mouse) mapping to 3 H4.

## SOURCE

CTH (P-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of CTH of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-131905 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.

## APPLICATIONS

CTH (P-15) is recommended for detection of CTH isoforms 1 and 2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

CTH (P-15) is also recommended for detection of CTH isoforms 1 and 2 in additional species, including equine, canine, bovine and porcine.

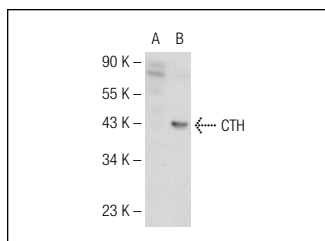
Suitable for use as control antibody for CTH siRNA (h): sc-78973, CTH siRNA (m): sc-142618, CTH siRNA (r): sc-270000, CTH shRNA Plasmid (h): sc-78973-SH, CTH shRNA Plasmid (m): sc-142618-SH, CTH shRNA Plasmid (r): sc-270000-SH, CTH shRNA (h) Lentiviral Particles: sc-78973-V, CTH shRNA (m) Lentiviral Particles: sc-142618-V and CTH shRNA (r) Lentiviral Particles: sc-270000-V.

Positive Controls: CTH (m): 293T Lysate: sc-119499, Hep G2 cell lysate: sc-2227 or K-562 whole cell lysate: sc-2203.

## 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.

## DATA



CTH (P-15): sc-131905. Western blot analysis of CTH expression in non-transfected: sc-117752 (A) and mouse CTH transfected: sc-119499 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Fiorucci, S., et al. 2011. Activation of the bile acid sensor FXR protects against gastrointestinal injury caused by ASA and NSAIDs in mice. *Br. J. Pharmacol.* 164: 1929-1938.
- Kan, J., et al. 2014. S-propargyl-cysteine, a novel water-soluble modulator of endogenous hydrogen sulfide, promotes angiogenesis through activation of signal transducer and activator of transcription 3. *Antioxid. Redox Signal.* 20: 2303-2316.
- 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.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.



Try **CTH (F-1): sc-374249** or **CTH (A-2): sc-365381**, our highly recommended monoclonal alternatives to CTH (P-15). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **CTH (F-1): sc-374249**.