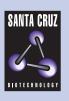
# SANTA CRUZ BIOTECHNOLOGY, INC.

# selenocysteine lyase (C-15): sc-27693



The Power to Question

# BACKGROUND

Selenocysteine lyase (SCL) catalyzes the decomposition of L-selenocysteine to L-alanine and elemental selenium. The reaction depends on the presence of pyridoxal 5'-phosphate as a cofactor, and occurs in liver, kidney, heart, adrenal, and muscle tissue. This regulation by the 5' phosphate resembles the regulatory mechanisms for other enzymes, including aspartate beta-decarboxylase, arginine racemase, and kynureninase. SCL potentially functions as a selenium delivery protein to selenophosphate synthetase, facilitating selenoprotein biosynthesis.

#### REFERENCES

- 1. Esaki, N., et al. 1985. Mechanism of reactions catalyzed by selenocysteine beta-lyase. Arch. Biochem. Biophys. 238: 418-423.
- Daher, R., Van Lente, F. 1992. Characterization of selenocysteine lyase in human tissues and its relationship to tissue selenium concentrations. J. Trace Elem. Electrolytes Health Dis. 6: 189-194.
- Mihara, H., et al. 2000. cDNA cloning, purification, and characterization of mouse liver selenocysteine lyase. Candidate for selenium delivery protein in selenoprotein synthesis. J. Biol. Chem. 275: 6195-6200.
- Mihara, H., et al. 2000. Kinetic and mutational studies of three NifS homologs from *Escherichia coli*: mechanistic difference between L-cysteine desulfurase and L-selenocysteine lyase reactions. J. Biochem. (Tokyo). 127: 559-567.
- Mihara, H., et al. 2002. Selenocysteine lyase from mouse liver. Methods Enzymol. 347: 198-203.
- Pilon, M., et al. 2003. Enhanced selenium tolerance and accumulation in transgenic *Arabidopsis* expressing a mouse selenocysteine lyase. Plant Physiol. 131: 1250-1257. Erratum in: Plant Physiol. 132: 400.
- Stadtman, T. 2004. *Methanococcus vannielii* selenium metabolism: purification and N-terminal amino acid sequences of a novel selenium-binding protein and selenocysteine lyase. IUBMB Life 56: 427-431.

#### SOURCE

selenocysteine lyase (C-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of selenocysteine lyase 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-27693 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

#### **STORAGE**

Store at 4° C, \*\*D0 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

selenocysteine lyase (C-15) is recommended for detection of selenocysteine lyase of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

Positive Controls: human liver tissue, human kidney tissue or human heart tissue.

## **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<sup>™</sup> compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluores-cence: 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<sup>™</sup> Mounting Medium: sc-24941.

## PROTOCOLS

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