SANTA CRUZ BIOTECHNOLOGY, INC.

selenocysteine lyase (H-155): sc-33812

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 β-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 β-lyase. Arch. Biochem. Biophys. 238: 418-423.
2. Daher, R. and 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.
3. 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.
4. 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. 127: 559-567.
5. Mihara, H., et al. 2002. Selenocysteine lyase from mouse liver. Methods Enzymol. 347: 198-203.
6. Pilon, M., et al. 2003. Enhanced selenium tolerance and accumulation in transgenic *Arabidopsis* expressing a mouse selenocysteine lyase. Plant Physiol. 131: 1250-1257.
7. 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.

CHROMOSOMAL LOCATION

Genetic locus: SCLY (human) mapping to 2q37.3; Scly (mouse) mapping to 1 D.

SOURCE

selenocysteine lyase (H-155) is a rabbit polyclonal antibody raised against amino acids 291-368 mapping within an internal region of selenocysteine lyase 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.

STORAGE

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

APPLICATIONS

selenocysteine lyase (H-155) 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), 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).

selenocysteine lyase (H-155) is also recommended for detection of selenocysteine lyase in additional species, including equine, canine and bovine.

Suitable for use as control antibody for selenocysteine lyase siRNA (h): sc-44717, selenocysteine lyase siRNA (m): sc-44718, selenocysteine lyase shRNA Plasmid (h): sc-44717-SH, selenocysteine lyase shRNA Plasmid (m): sc-44718-SH, selenocysteine lyase shRNA (h) Lentiviral Particles: sc-44717-V and selenocysteine lyase shRNA (m) Lentiviral Particles: sc-44718-V.

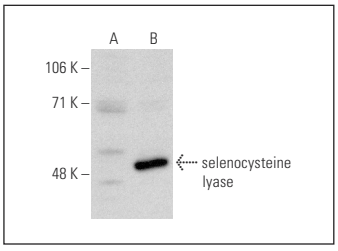
Molecular Weight of selenocysteine lyase isoforms: 47/31 kDa.

Positive Controls: selenocysteine lyase (m): 293T Lysate: sc-123439, mouse liver extract: sc-2256 or selenocysteine lyase (h): 293T Lysate: sc-159970.

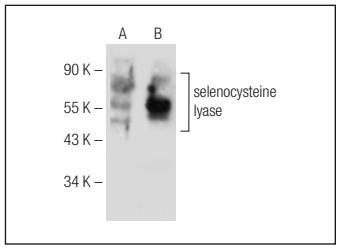
RECOMMENDED SECONDARY REAGENTS

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



selenocysteine lyase (H-155): sc-33812. Western blot analysis of selenocysteine lyase expression in non-transfected: sc-117752 (**A**) and mouse selenocysteine lyase transfected: sc-123439 (**B**) 293T whole cell lysates.



selenocysteine lyase (H-155): sc-33812. Western blot analysis of selenocysteine lyase expression in non-transfected: sc-117752 (**A**) and human selenocysteine lyase transfected: sc-159970 (**B**) 293T whole cell lysates.

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.