

selenocysteine lyase (32): sc-136394

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., et al. 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: Scl_y (mouse) mapping to 1 D.

SOURCE

selenocysteine lyase (32) is a mouse monoclonal antibody raised against amino acids 276-380 corresponding to isoform 1 of selenocysteine lyase of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

selenocysteine lyase (32) is available conjugated to agarose (sc-136394 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; and to HRP (sc-136394 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA.

RESEARCH USE

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

APPLICATIONS

selenocysteine lyase (32) is recommended for detection of selenocysteine lyase isoform 1 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)].

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

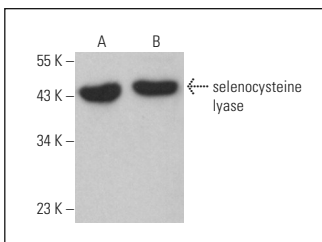
Molecular Weight of selenocysteine lyase isoforms: 47/31 kDa.

Positive Controls: mouse kidney extract: sc-2255, c4 whole cell lysate: sc-364186 or PC-12 cell lysate: sc-2250.

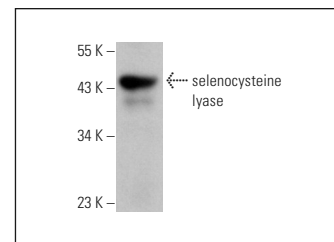
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



selenocysteine lyase (32): sc-136394. Western blot analysis of selenocysteine lyase expression in c4 (A) and PC-12 (B) whole cell lysates.



selenocysteine lyase (32): sc-136394. Western blot analysis of selenocysteine lyase expression in mouse kidney tissue extract.

SELECT PRODUCT CITATIONS

1. Seale, L.A., et al. 2018. Relationship between selenoprotein P and selenocysteine lyase: insights into selenium metabolism. Free Radic. Biol. Med. pii: S0891-5849(18)30140-0.

STORAGE

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

PROTOCOLS

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