

# selenocysteine lyase (B-8): sc-374391

## 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.
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.

## CHROMOSOMAL LOCATION

Genetic locus: SCLY (human) mapping to 2q37.3.

## SOURCE

selenocysteine lyase (B-8) is a mouse monoclonal antibody raised against amino acids 291-368 mapping within an internal region of selenocysteine lyase of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

selenocysteine lyase (B-8) is available conjugated to agarose (sc-374391 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374391 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374391 PE), fluorescein (sc-374391 FITC), Alexa Fluor<sup>®</sup> 488 (sc-374391 AF488), Alexa Fluor<sup>®</sup> 546 (sc-374391 AF546), Alexa Fluor<sup>®</sup> 594 (sc-374391 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-374391 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-374391 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-374391 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

selenocysteine lyase (B-8) is recommended for detection of selenocysteine lyase of human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

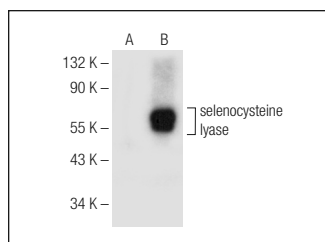
Molecular Weight of selenocysteine lyase isoforms: 47/31 kDa.

Positive Controls: selenocysteine lyase (h): 293T Lysate: sc-159970, human liver extract: sc-363766 or human kidney extract: sc-363764.

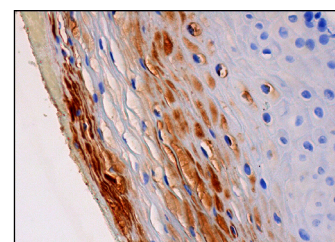
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG $\kappa$  BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



selenocysteine lyase (B-8): sc-374391. 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.



selenocysteine lyase (B-8): sc-374391. Immunoperoxidase staining of formalin fixed, paraffin-embedded human uterine cervix tissue showing cytoplasmic staining of squamous epithelial cells.

## 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.