

# SLA/LP (W-23): sc-102105



The Power to Question

## BACKGROUND

The fidelity of protein synthesis requires efficient discrimination of amino acid substrates by aminoacyl-tRNA synthetases. Aminoacyl-tRNA synthetases function to catalyze the aminoacylation of tRNAs by their corresponding amino acids, thus linking amino acids with tRNA-contained nucleotide triplets. SLA/LP (soluble liver antigen/liver-pancreas antigen), also known as SEPSECS (Sep (O-phosphoserine) tRNA:Sec (selenocysteine) tRNA synthase) or SLA-p35, is a 501 amino acid cytoplasmic protein that belongs to a diverse family of pyridoxal phosphate-dependent enzymes. Expressed predominantly in liver, lung, kidney and pancreas, SLA/LP plays a role in aminoacyl-tRNA synthesis and, more specifically, selenoprotein biosynthesis. Using PLP as a cofactor, SLA/LP specifically converts O-phosphoseryl-tRNA(Sec) to Sec-tRNA(Sec) by exchanging the phosphate group for a selenol moiety. Due to alternative splicing events, two SLA/LP isoforms exist.

## REFERENCES

- Costa, M., et al. 2000. Isolation and characterization of cDNA encoding the antigenic protein of the human tRNP(Ser)Sec complex recognized by autoantibodies from patients with type-1 autoimmune hepatitis. *Clin. Exp. Immunol.* 121: 364-374.
- Volkman, M., et al 2001. Soluble liver antigen: isolation of a 35 kDa recombinant protein (SLA-p35) specifically recognizing sera from patients with autoimmune hepatitis. *Hepatology* 33: 591-596.
- Xu, X.M., et al. 2005. Evidence for direct roles of two additional factors, SECp43 and soluble liver antigen, in the selenoprotein synthesis machinery. *J. Biol. Chem.* 280: 41568-41575.
- Yuan, J., et al. 2006. RNA-dependent conversion of phosphoserine forms selenocysteine in eukaryotes and archaea. *Proc. Natl. Acad. Sci. USA* 103: 18923-18927.
- Xu, X.M., et al. 2007. Biosynthesis of selenocysteine on its tRNA in eukaryotes. *PLoS Biol.* 5: e4.

## CHROMOSOMAL LOCATION

Genetic locus: SEPSECS (human) mapping to 4p15.2; Sepsecs (mouse) mapping to 5 C1.

## SOURCE

SLA/LP (W-23) is a purified rabbit polyclonal antibody raised against SLA/LP of human origin.

## PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

## 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.

## APPLICATIONS

SLA/LP (W-23) is recommended for detection of SLA/LP of mouse, rat, human and dog 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), 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 SLA/LP siRNA (h): sc-89108, SLA/LP siRNA (m): sc-153479, SLA/LP shRNA Plasmid (h): sc-89108-SH, SLA/LP shRNA Plasmid (m): sc-153479-SH, SLA/LP shRNA (h) Lentiviral Particles: sc-89108-V and SLA/LP shRNA (m) Lentiviral Particles: sc-153479-V.

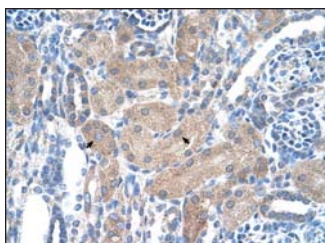
Molecular Weight of SLA/LP: 56 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or human kidney tissue.

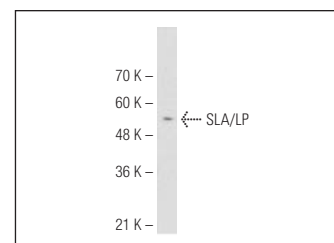
## RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



SLA/LP (W-23): sc-102105. Immuno-peroxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining.



SLA/LP (W-23): sc-102105. Western blot analysis of SLA/LP expression in Jurkat whole cell lysate.

## PROTOCOLS

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