SANTA CRUZ BIOTECHNOLOGY, INC.

SLA/LP (E-11): sc-514729

SANTA CRUZ BIOTECHNOLOGY

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

1. 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 withtype-1 autoimmune hepatitis. Clin. Exp. Immunol. 121: 364-374.
2. Volkmann, M., et al. 2001. Soluble liver antigen: isolation of a 35-kd recombinant protein (SLA-p35) specifically recognizing sera from patients with autoimmune hepatitis. Hepatology 33: 591-596.
3. 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.

CHROMOSOMAL LOCATION

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

SOURCE

SLA/LP (E-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 360-374 within an internal region of SLA/LP of human origin.

PRODUCT

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

SLA/LP (E-11) is available conjugated to agarose (sc-514729 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-514729 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-514729 PE), fluorescein (sc-514729 FITC), Alexa Fluor® 488 (sc-514729 AF488), Alexa Fluor® 546 (sc-514729 AF546), Alexa Fluor® 594 (sc-514729 AF594) or Alexa Fluor® 647 (sc-514729 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-514729 AF680) or Alexa Fluor® 790 (sc-514729 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-514729 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

SLA/LP (E-11) is recommended for detection of SLA/LP isoforms 1 and 2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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.

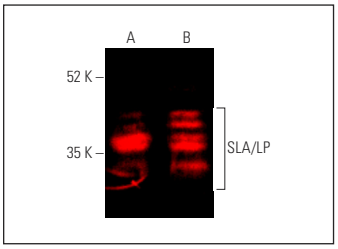
Molecular Weight of SLA/LP: 56 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204 or F9 cell lysate: sc-2245.

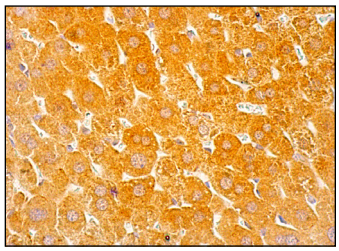
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



SLA/LP (E-11): sc-514729. Near-Infrared western blot analysis of SLA/LP expression in Jurkat (**A**) and F9 (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



SLA/LP (E-11): sc-514729. Immunoperoxidase staining of formalin fixed, paraffin-embedded mouse liver tissue showing cytoplasmic staining of hepatocytes. Blocked with 0.25X UltraCruz® Blocking Reagent: sc-516214. Detected with m-IgGκ BP-B: sc-516142 and ImmunoCruz® ABC Kit: sc-516216.

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.