SANTA CRUZ BIOTECHNOLOGY, INC.

PDC-E2 (H-160): sc-32925

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Primary biliary cirrhosis (PBC) is a chronic, destructive autoimmune liver disease characterized by the presence of antimitochondrial autoantibodies in patient's serum and T cell-mediated destruction of the biliary epithelial cells lining the small intrahepatic bile ducts. Patient sera are characterized by a high frequency (greater than 95%) of autoantibodies directed to a mitochondrial antigen, identified as the E2 component of the pyruvate dehydrogenase multienzyme complex (PDC-E2). PDC-E2 contains both an amino-terminal lipoyl-bearing domain and a carboxy-terminal catalytic domain. The human sequence preserves the Glu-Thr-Asp-Lys-Ala motif of the lipoyl-bearing site. Two conformationally alternative forms of the PDC-E2 protein have been revealed by immunoblotting. The immunodominant autoepitopes of the autoantigens correspond to the inner lipoyl domain. A significant number of asymptomatic patients found to have antibodies to PDC-E2 are at high risk of developing primary biliary cirrhosis.

REFERENCES

1. Coppel, R.L., et al. 1988. Primary structure of the human M2 mitochondrial autoantigen of primary biliary cirrhosis: dihydrolipoamide acetyltransferase. Proc. Natl. Acad. Sci. USA 85: 7317-7321.
2. Thekkumkara, T.J., et al. 1988. Nucelotide sequence of a cDNA for the dihydrolipoamide acetyltransferase component of human pyruvate dehydrogenase complex. FEBS Lett. 240: 45-48.
3. Klein, R., et al. 1993. Sera from patients with tuberculosis recognize the M2a-epitope (E2 subunit of pyruvate dehydrogenase) specific for primary biliary cirrhosis. Clin. Exp. Immunol. 92: 308-316.
4. Chen, Q.Y., et al. 1993. Antibody to two forms of dihydrolipoamide acetyltransferase (PDC-E2) in primary biliary cirrhosis. Liver 13: 130-135.
5. Howard, M.J., et al. 1998. Three-dimensional structure of the major autoantigen in primary biliary cirrhosis. Gastroenterology 115: 139-146.
6. Palmer, J.M., et al. 1999. T cell responses to the putative dominant autoepitope in primary biliary cirrhosis (PBC). Clin. Exp. Immunol. 116: 133-139.

CHOMOSOMAL LOCATION

Genetic locus: DLAT (human) mapping to 11q23.1; Dlat (mouse) mapping to 9 A5.3.

SOURCE

PDC-E2 (H-160) is a rabbit polyclonal antibody raised against amino acids 231-390 mapping within an internal region of PDC-E2 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

PDC-E2 (H-160) is recommended for detection of PDC-E2 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), 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).

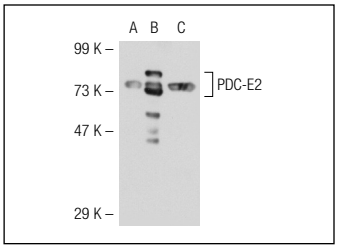
PDC-E2 (H-160) is also recommended for detection of PDC-E2 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for PDC-E2 siRNA (h): sc-40813, PDC-E2 siRNA (m): sc-40814, PDC-E2 shRNA Plasmid (h): sc-40813-SH, PDC-E2 shRNA Plasmid (m): sc-40814-SH, PDC-E2 shRNA (h) Lentiviral Particles: sc-40813-V and PDC-E2 shRNA (m) Lentiviral Particles: sc-40814-V.

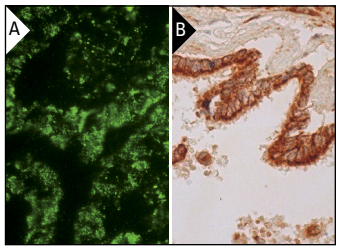
Molecular Weight of PDC-E2: 70 kDa.

Positive Controls: PDC-E2 (m): 293T Lysate: sc-122447, rat kidney extract: sc-2394 or HeLa whole cell lysate: sc-2200.

DATA



PDC-E2 (H-160): sc-32925. Western blot analysis of PDC-E2 expression in non-transfected 293T: sc-117752 (**A**), mouse PDC-E2 transfected 293T: sc-122447 (**B**) and HeLa (**C**) whole cell lysates.



PDC-E2 (H-160): sc-32925. Immunofluorescence staining of normal mouse intestine frozen section showing cytoplasmic staining (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human bronchus tissue showing cytoplasmic staining of respiratory epithelial cells and smooth muscle cells (**B**).

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.