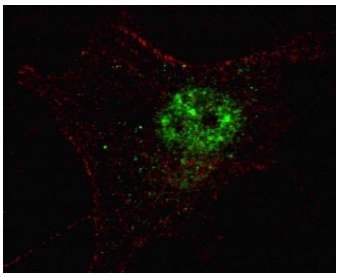
PDHX Antibody / Pyruvate Dehydrogenase Protein X Antibody (F47892)

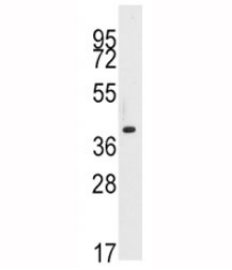
Catalog No.	Formulation	Size
F47892-0.4ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.4 ml
F47892-0.08ML	In 1X PBS, pH 7.4, with 0.09% sodium azide	0.08 ml

Bulk quote request

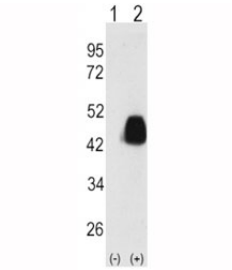
Availability	1-3 business days
Species Reactivity	Human
Predicted Reactivity	Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit Ig
Purity	Antigen affinity
UniProt	O00330
Applications	Immunofluorescence: 1:100 Western blot: 1:1000 IHC (Paraffin): 1:10-1:50
Limitations	This PDHX Antibody / Pyruvate Dehydrogenase Protein X Antibody is available for research use only.



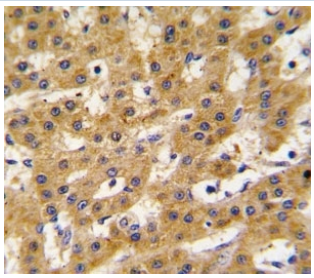
PDHX Antibody Detection in Human SH-SY5Y Neuroblastoma Cells by IF. Immunofluorescence staining of human SH-SY5Y neuroblastoma cells with PDHX Antibody shows green immunoreactivity concentrated in a punctate and perinuclear cytoplasmic distribution. This pattern is consistent with the mitochondrial localization of pyruvate dehydrogenase protein X rather than the nuclear localization stated in the previous figure description. The fluorescence demonstrates cellular detection of PDHX, also known as E3-binding protein, using this Pyruvate Dehydrogenase Protein X Antibody.



PDHX Antibody Detection in Human NCI-H460 Lung Cancer Cells by WB. Western blot testing of human NCI-H460 lung cancer cell lysate with PDHX Antibody shows a prominent discrete band migrating at approximately 40-42 kDa. This is below the approximately 54 kDa calculated molecular weight of canonical human PDHX. Because the observed migration differs substantially from the calculated mass, I would not describe this band as the expected full-length protein without additional supporting evidence. The experiment demonstrates antibody reactivity with a discrete protein in NCI-H460 lysate using this Pyruvate Dehydrogenase Protein X Antibody.



PDHX Antibody Detection of Transfected Human HEK293 Cells by WB. Western blot analysis of human HEK293 cells with PDHX Antibody shows little or no corresponding signal in non-transfected cells (lane 1) and a strong band at approximately 42-45 kDa following PDHX transfection (lane 2). The marked increase in signal in the transfected sample provides useful support for recognition of the PDHX gene product, historically also called PDX1. The observed band migrates below the approximately 54 kDa calculated mass of canonical PDHX, so the figure should not be described as showing the expected molecular weight without further characterization.



PDHX Antibody Staining in Human Hepatocellular Carcinoma by IHC. Immunohistochemistry staining of FFPE human hepatocellular carcinoma tissue with PDHX Antibody shows widespread granular brown cytoplasmic immunoreactivity within tumor cells, while nuclei are predominantly unstained. The cytoplasmic staining pattern is compatible with the mitochondrial localization of pyruvate dehydrogenase protein X and contrasts with the nuclear localization expected for the unrelated pancreatic transcription factor that also uses the PDX1 designation. The staining demonstrates detection of PDHX in human hepatocellular carcinoma tissue using this Pyruvate Dehydrogenase Protein X Antibody.

Description

PDHX Antibody recognizes pyruvate dehydrogenase protein X (PDHX), a mitochondrial component of the pyruvate dehydrogenase complex that links glycolysis with the citric acid cycle by facilitating conversion of pyruvate to acetyl-CoA. PDHX is also known as E3-binding protein (E3BP) and functions as a structural component of the complex rather than as one of its principal catalytic enzymes. PDHX anchors dihydrolipoamide dehydrogenase (E3) to the dihydrolipoamide acetyltransferase (E2) core, helping organize the multienzyme complex required for efficient oxidative metabolism.

The pyruvate dehydrogenase complex is located in the mitochondrial matrix and contains multiple catalytic and regulatory components. Within this assembly, PDHX associates with the E2 core and provides binding sites for E3, positioning the enzyme within the complex for electron transfer during pyruvate oxidation. This organization supports production of acetyl-CoA, which can enter the citric acid cycle for subsequent energy metabolism. PDHX therefore contributes to the coordination of carbohydrate metabolism and mitochondrial energy production.

Pathogenic variants in PDHX can cause pyruvate dehydrogenase E3-binding protein deficiency, a form of pyruvate dehydrogenase complex deficiency associated with impaired oxidative metabolism and accumulation of lactate. PDHX is consequently studied in mitochondrial disease, metabolic disorders, pyruvate metabolism, and cellular bioenergetics. The protein has also been described as an antigen recognized by antimitochondrial antibodies, further connecting PDHX with research into mitochondrial proteins and disease biology.

This Pyruvate Dehydrogenase Protein X Antibody is a rabbit polyclonal generated against a peptide corresponding to amino acids 1-30 of human PDHX. PDHX has historically also been designated PDX1, although PDX1 is now the official gene symbol for an unrelated pancreatic homeobox transcription factor. Using PDHX as the primary designation helps distinguish this mitochondrial E3-binding protein from that separate protein. NSJ Bioreagents supplies this antibody for research use only.

A PDHX Antibody can be used to investigate pyruvate dehydrogenase complex biology, mitochondrial metabolism, E3 recruitment, pyruvate oxidation, acetyl-CoA production, and metabolic disease.

Explore our Mitochondria Marker Antibody page for additional antibodies targeting proteins involved in mitochondrial structure, metabolism, and function.

Application Notes

Titration of the PDHX Antibody / Pyruvate Dehydrogenase Protein X Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

A portion of amino acids 1-30 from the human protein was used as the immunogen for this PDHX Antibody.

Storage

Aliquot the PDHX Antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

pyruvate dehydrogenase protein X antibody, E3-binding protein antibody, E3BP antibody, dihydrolipoamide dehydrogenase-binding protein antibody, PDX1 antibody, proX antibody

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