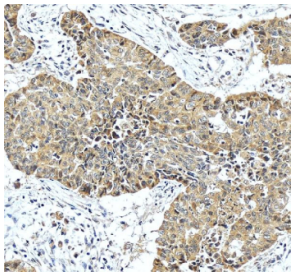
HPD Antibody / 4HPPD / 4-hydroxyphenylpyruvate dioxygenase (RQ8924)

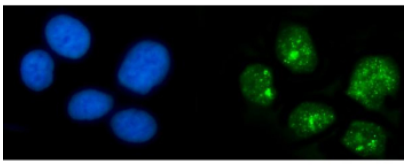
Catalog No.	Formulation	Size
RQ8924	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

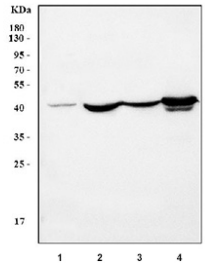
Availability	1-2 business days
Species Reactivity	Human, Mouse, Rat
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity purified
Buffer	Lyophilized from 1X PBS with 2% Trehalose
UniProt	P32754
Localization	Cytoplasmic, nuclear speckles
Applications	Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 2-5ug/ml Flow Cytometry : 1-3ug/million cells Immunofluorescence : 5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This HPD antibody is available for research use only.



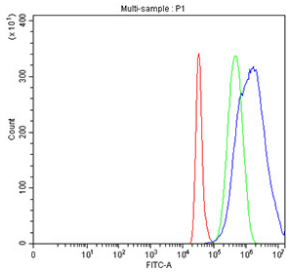
IHC staining of FFPE human liver cancer tissue with HPD antibody, HRP-secondary and DAB substrate. HIER: boil tissue sections in pH8 EDTA for 20 min and allow to cool before testing.



Immunofluorescent staining of FFPE human HeLa cells with HPD antibody (green) and DAPI nuclear stain (blue). HIER: steam section in pH6 citrate buffer for 20 min.



Western blot testing of 1) human HepG2, 2) rat liver, 3) rat kidney and 4) mouse liver tissue lysate with HPD antibody. Predicted molecular weight ~45 kDa.



Flow cytometry testing of fixed and permeabilized human HepG2 cells with HPD antibody at 1ug/million cells (blocked with goat sera); Red=cells alone, Green=isotype control, Blue= HPD antibody.

Description

HPD (4-hydroxyphenylpyruvate dioxygenase) is a key enzyme in the catabolism of the amino acid tyrosine. It catalyzes the conversion of 4-hydroxyphenylpyruvate to homogentisate, an essential step in the tyrosine degradation pathway. By facilitating this reaction, HPD plays an important role in energy metabolism and the production of downstream metabolites. A HPD antibody is widely used in studies of amino acid metabolism and inherited metabolic disorders.

HPD is highly expressed in the liver and kidneys, organs that are central to amino acid catabolism. Its activity ensures that tyrosine is efficiently broken down, preventing the accumulation of toxic intermediates. Mutations in the HPD gene are associated with tyrosinemia type III, a rare metabolic disorder characterized by elevated levels of tyrosine in the blood and neurological symptoms. Researchers employ a HPD antibody to investigate enzyme function, tissue distribution, and the molecular basis of metabolic diseases.

Beyond its role in metabolism, HPD has clinical importance as a therapeutic target. Small-molecule inhibitors of HPD are being explored to reduce toxic metabolite accumulation in tyrosinemia type I, where blocking this enzyme helps redirect metabolic flux. Using a HPD antibody supports translational research into such therapies by enabling detailed study of enzyme expression and regulation.

NSJ Bioreagents offers a high-quality HPD antibody validated for applications such as western blot, immunohistochemistry, and immunofluorescence. Choosing a HPD antibody from NSJ Bioreagents ensures accurate detection and reproducibility in studies of amino acid metabolism, metabolic disorders, and therapeutic development.

Application Notes

Optimal dilution of the HPD antibody should be determined by the researcher.

Immunogen

A human recombinant partial protein (amino acids E12-Q357) was used as the immunogen for the HPD antibody.

Storage

After reconstitution, the HPD antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.