## SANTA CRUZ BIOTECHNOLOGY, INC.

# HPPD (B-11): sc-390279



## BACKGROUND

HPPD (4-hydroxyphenylpyruvate dioxygenase), also known as PPD, GLOD3 or HPD, is a 393 amino acid protein that belongs to the 4HPPD family and is involved in amino acid degradation. Existing as a homodimer, HPPD uses zinc as a cofactor to catalyze the third step in the conversion of L-phenylalanine to fumarate and acetoacetic acid. Defects in the gene encoding HPPD are the cause of tyrosinemia type 3 (TYRO3) and hawkinsinuria (HAWK), both of which are inborn errors of metabolism that are associated with a variety of symptoms, including mental retardation and seizures (associated with TYRO3) and hair and urine abnormalities (associated with HAWK). The gene encoding HPPD maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome.

## REFERENCES

- Rüetschi, U., et al. 1993. Human 4-hydroxyphenylpyruvate dioxygenase. Primary structure and chromosomal localization of the gene. Eur. J. Biochem. 213: 1081-1089.
- Awata, H., et al. 1994. Structure of the human 4-hydroxyphenylpyruvic acid dioxygenase gene (HPD). Genomics 23: 534-539.
- 3. Stenman, G., et al. 1995. Regional assignment of the human 4-hydroxyphenylpyruvate dioxygenase gene (HPD) to 12q24→qter by fluorescence *in situ* hybridization. Cytogenet. Cell Genet. 71: 374-376.
- 4. Rüetschi, U., et al. 1997. Human 4-hydroxyphenylpyruvate dioxygenase gene (HPD). Genomics 44: 292-299.

### **CHROMOSOMAL LOCATION**

Genetic locus: HPD (human) mapping to 12q24.31; Hpd (mouse) mapping to 5 F.

## SOURCE

HPPD (B-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 339-375 near the C-terminus of HPPD of human origin.

## PRODUCT

Each vial contains 200  $\mu g$  lgG\_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

HPPD (B-11) is available conjugated to agarose (sc-390279 AC), 500  $\mu$ g/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390279 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390279 PE), fluorescein (sc-390279 FITC), Alexa Fluor<sup>®</sup> 488 (sc-390279 AF488), Alexa Fluor<sup>®</sup> 546 (sc-390279 AF546), Alexa Fluor<sup>®</sup> 594 (sc-390279 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-390279 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-390279 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-390279 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390279 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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#### APPLICATIONS

HPPD (B-11) is recommended for detection of HPPD 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).

HPPD (B-11) is also recommended for detection of HPPD in additional species, including canine and bovine.

Suitable for use as control antibody for HPPD siRNA (h): sc-75297, HPPD siRNA (m): sc-75298, HPPD shRNA Plasmid (h): sc-75297-SH, HPPD shRNA Plasmid (m): sc-75298-SH, HPPD shRNA (h) Lentiviral Particles: sc-75297-V and HPPD shRNA (m) Lentiviral Particles: sc-75298-V.

Molecular Weight of HPPD: 45 kDa.

Positive Controls: HPPD (h): 293 Lysate: sc-159724, HeLa whole cell lysate: sc-2200 or Hep G2 cell lysate: sc-2227.

## DATA





HPPD (B-11): sc-390279. Western blot analysis of HPPD expression in non-transfected 293: sc-110760 (A), human HPPD transfected 293: sc-159724 (B), HeLa (C) and Hep G2 (D) whole cell lysates.

HPPD (B-11): sc-390279. Immunoperoxidase staining of formalin fixed, paraffin-embedded human liver tissue showing cytoplasmic and nuclear staining of hepatocytes (**A**), and of human kidney tissue showing cytoplasmic staining of cells in tubules (**B**). Blocked with 0.25X UltraCruz<sup>®</sup> Blocking Reagent: sc-516142 and ImmunoCruz<sup>®</sup> ABC Kit: sc-516216.

## **SELECT PRODUCT CITATIONS**

 Li, Z., et al. 2024. Engineering a transposon-associated TnpB-ωRNA system for efficient gene editing and phenotypic correction of a tyrosinaemia mouse model. Nat. Commun. 15: 831.

#### **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.

## **PROTOCOLS**

See our web site at www.scbt.com for detailed protocols and support products.