SANTA CRUZ BIOTECHNOLOGY, INC.

LHPP (B-2): sc-376648

BACKGROUND

LHPP (phospholysine phosphohistidine inorganic pyrophosphate phosphatase), also known as HDHD2B, is a 270 amino acid protein that exists as a homodimer and is a member of the HAD-like hydrolase superfamily. Expressed in liver, kidney and moderately in brain, LHPP is encoded by a gene located on 10, which houses over 1,200 genes and comprises nearly 4.5% of the human genome. Defects in some of the genes that map to chromosome 10 are associated with Charcot-Marie Tooth disease, Jackson-Weiss syndrome, Usher syndrome, nonsyndromatic deafness, Wolman's syndrome, Cowden syndrome, multiple endocrine neoplasia type 2 and porphyria.

REFERENCES

1. Jabs, E.W., et al. 1994. Jackson-Weiss and Crouzon syndromes are allelic with mutations in fibroblast growth factor receptor 2. Nat. Genet. 8: 275-279.
2. Deloukas, P., et al. 2000. Report of the third international workshop on human chromosome 10 mapping and sequencing 1999. Cytogenet. Cell Genet. 90: 1-12.
3. Gilbert, F. 2001. Chromosome 10. Genet. Test. 5: 69-82.
4. Berger, P., et al. 2002. Molecular cell biology of Charcot-Marie-Tooth disease. Neurogenetics 4: 1-15.
5. Nonneman, D., et al. 2004. Comparative mapping of human chromosome 10 to pig chromosomes 10 and 14. Anim. Genet. 35: 338-343.
6. Deloukas, P., et al. 2004. The DNA sequence and comparative analysis of human chromosome 10. Nature 429: 375-381.
7. Chen, L., et al. 2005. Roles of FGF signaling in skeletal development and human genetic diseases. Front. Biosci. 10: 1961-1976.

CHROMOSOMAL LOCATION

Genetic locus: LHPP (human) mapping to 10q26.13; Lhpp (mouse) mapping to 7 F3.

SOURCE

LHPP (B-2) is a mouse monoclonal antibody raised against amino acids 74-159 mapping within an internal region of LHPP 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.

LHPP (B-2) is available conjugated to agarose (sc-376648 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376648 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376648 PE), fluorescein (sc-376648 FITC), Alexa Fluor® 488 (sc-376648 AF488), Alexa Fluor® 546 (sc-376648 AF546), Alexa Fluor® 594 (sc-376648 AF594) or Alexa Fluor® 647 (sc-376648 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376648 AF680) or Alexa Fluor® 790 (sc-376648 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

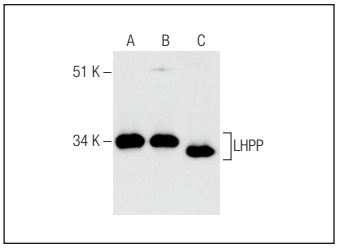
LHPP (B-2) is recommended for detection of LHPP of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for LHPP siRNA (h): sc-90377, LHPP siRNA (m): sc-108656, LHPP shRNA Plasmid (h): sc-90377-SH, LHPP shRNA Plasmid (m): sc-108656-SH, LHPP shRNA (h) Lentiviral Particles: sc-90377-V and LHPP shRNA (m) Lentiviral Particles: sc-108656-V.

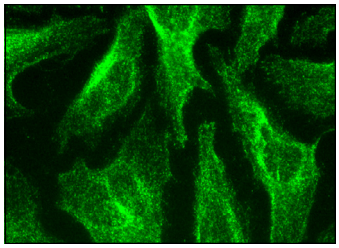
Molecular Weight of LHPP: 29 kDa.

Positive Controls: A549 cell lysate: sc-2413, SW480 cell lysate: sc-2219 or mouse brain extract: sc-2253.

DATA



LHPP (B-2): sc-376648. Western blot analysis of LHPP expression in SW480 (**A**) and A549 (**B**) whole cell lysates and mouse brain tissue extract (**C**).



LHPP (B-2): sc-376648. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Xia, R.M., et al. 2021. LHPP-mediated histidine dephosphorylation suppresses the self-renewal of mouse embryonic stem cells. Front. Cell Dev. Biol. 9: 638815.
2. Chen, W.J., et al. 2021. LHPP impedes energy metabolism by inducing ubiquitin-mediated degradation of PKM2 in glioblastoma. Am. J. Cancer Res. 11: 1369-1390.
3. Sun, X., et al. 2023. HDAC4 mediated LHPP deacetylation enhances its destabilization and promotes the proliferation and metastasis of nasopharyngeal carcinoma. Cancer Lett. 562: 216158.
4. Sha, L., et al. 2023. LHPP-mediated inorganic pyrophosphate hydrolysis-driven lysosomal acidification in astrocytes regulates adult neurogenesis. Cell Rep. 42: 112975.

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.