SANTA CRUZ BIOTECHNOLOGY, INC.

pyridoxal phosphatase (F-2): sc-271379

BACKGROUND

Pyridoxal phosphatase (PLPase) is an autoantigen comprising 296 amino acids. PLPase catalyzes the dephosphorylation of pyridoxal 5'-phosphate (the active form of vitamin B6) and exhibits a high level of expression various parts of the central nervous system, especially the brain. PLPase activity is catalyzed by haloacid dehalogenase (HAD), and it is is the cofactor of both aromatic L-amino acid decarboxylase and glutamate decarboxylase. Autoantibodies against pyridoxal phosphatase show a strong correlation with certain types of cancer.

REFERENCES

1. Choi, S.Y., et al. 1987. Brain pyridoxine-5-phosphate oxidase. Modulation of its by reaction with pyridoxal 5-phosphate and analogs. J. Biol. Chem. 262: 12013-12017.
2. Jang, Y.M., et al. 2003. Human pyridoxal phosphatase. Molecular cloning, functional expression, and tissue distribution. J. Biol. Chem. 278: 50040-50046.
3. Kawai, S., et al. 2004. Cytosolic NADP phosphatases I and II from *Arthrobacter sp.* strain KM: implication in regulation of $NAD^+/NADP^+$ balance. J. Basic Microbiol. 44: 185-196.

CHROMOSOMAL LOCATION

Genetic locus: PDXP (human) mapping to 22q13.1; Pdxp (mouse) mapping to 15 E1.

SOURCE

pyridoxal phosphatase (F-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 254-286 at the C-terminus of pyridoxal phosphatase of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 lambda light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

pyridoxal phosphatase (F-2) is available conjugated to agarose (sc-271379 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271379 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271379 PE), fluorescein (sc-271379 FITC), Alexa Fluor® 488 (sc-271379 AF488), Alexa Fluor® 546 (sc-271379 AF546), Alexa Fluor® 594 (sc-271379 AF594) or Alexa Fluor® 647 (sc-271379 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271379 AF680) or Alexa Fluor® 790 (sc-271379 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271379 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

pyridoxal phosphatase (F-2) is recommended for detection of pyridoxal phosphatase 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).

pyridoxal phosphatase (F-2) is also recommended for detection of pyridoxal phosphatase in additional species, including canine and bovine.

Suitable for use as control antibody for pyridoxal phosphatase siRNA (h): sc-61425, pyridoxal phosphatase siRNA (m): sc-61426, pyridoxal phosphatase shRNA Plasmid (h): sc-61425-SH, pyridoxal phosphatase shRNA Plasmid (m): sc-61426-SH, pyridoxal phosphatase shRNA (h) Lentiviral Particles: sc-61425-V and pyridoxal phosphatase shRNA (m) Lentiviral Particles: sc-61426-V.

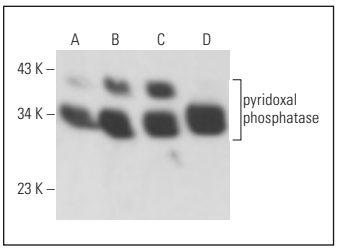
Molecular Weight of pyridoxal phosphatase: 32 kDa.

Positive Controls: SH-SY5Y cell lysate: sc-3812, KNRK whole cell lysate: sc-2214 or Hep G2 cell lysate: sc-2227.

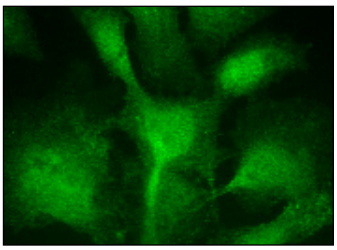
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGλ BP-HRP: sc-516132 or m-IgGλ BP-HRP (Cruz Marker): sc-516132-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGλ BP-FITC: sc-516185 or m-IgGλ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



pyridoxal phosphatase (F-2): sc-271379. Western blot analysis of pyridoxal phosphatase expression in Hep G2 (**A**), KNRK (**B**), SH-SY5Y (**C**) and IMR-32 (**D**) whole cell lysates. Detection reagent used: m-IgGλ BP-HRP (Cruz Marker): sc-516132-CM.



pyridoxal phosphatase (F-2): sc-271379. Immunofluorescence staining of formalin-fixed Hep G2 cells showing membrane localization.

SELECT PRODUCT CITATIONS

1. Park, D.H., et al. 1988. Possible mechanism of action of SKF 64139 *in vivo* on rat adrenal and brain phenylethanolamine N-methyltransferase activity. Biochem. Pharmacol. 37: 313-318.

RESEARCH USE

For research use only, not for use in diagnostic procedures.