SANTA CRUZ BIOTECHNOLOGY, INC.

pyridoxal kinase (E-2): sc-365173

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

Pyridoxal kinase belongs to the pyridoxine kinase family and phosphorylates vitamin B6, a step necessary for the conversion of vitamin B6 to pyridoxal 5' phosphate (PLP), the active form of vitamin B6. PLP acts as a coenzyme and functions to maintain homeostasis. Pyridoxal kinase is a 312 amino acid cytoplasmic protein that may act as a homodimer and is expressed ubiquitously. There are three known isoforms of pyridoxal kinase, and isoform 3 expression is observed in adult testis and spermatozoa. The optimum pH for pyridoxal kinase is between 5.5 and 6.0. PDXK, the gene that encodes the pyridoxal kinase protein, maps to chromosome 21q22.3 and may be a candidate gene for autoimmune polyglandular disease type 1, a genetic disorder that has been mapped to the same region on chromosome 21.

REFERENCES

1. Hanna, M.C., et al. 1997. Human pyridoxal kinase. cDNA cloning, expression, and modulation by ligands of the benzodiazepine receptor. J. Biol. Chem. 272: 10756-10760.
2. Lee, H.S., et al. 2000. Human pyridoxal kinase: overexpression and properties of the recombinant enzyme. Mol. Cells 10: 452-459.
3. Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 179020. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
4. Fang, X., et al. 2004. Expression of a novel pyridoxal kinase mRNA splice variant, PKH-T, in human testis. Asian J. Androl. 6: 83-91.

CHROMOSOMAL LOCATION

Genetic locus: PDXK (human) mapping to 21q22.3; Pdxk (mouse) mapping to 10 C1.

SOURCE

pyridoxal kinase (E-2) is a mouse monoclonal antibody raised against amino acids 221-312 mapping at the C-terminus of pyridoxal kinase of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

pyridoxal kinase (E-2) is available conjugated to agarose (sc-365173 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-365173 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365173 PE), fluorescein (sc-365173 FITC), Alexa Fluor® 488 (sc-365173 AF488), Alexa Fluor® 546 (sc-365173 AF546), Alexa Fluor® 594 (sc-365173 AF594) or Alexa Fluor® 647 (sc-365173 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365173 AF680) or Alexa Fluor® 790 (sc-365173 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

pyridoxal kinase (E-2) is recommended for detection of pyridoxal kinase 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 pyridoxal kinase siRNA (h): sc-61423, pyridoxal kinase siRNA (m): sc-61424, pyridoxal kinase shRNA Plasmid (h): sc-61423-SH, pyridoxal kinase shRNA Plasmid (m): sc-61424-SH, pyridoxal kinase shRNA (h) Lentiviral Particles: sc-61423-V and pyridoxal kinase shRNA (m) Lentiviral Particles: sc-61424-V.

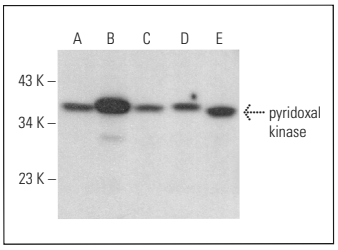
Molecular Weight of pyridoxal kinase: 40 kDa.

Positive Controls: Ca Ski whole cell lysate: sc-364360, SK-BR-3 cell lysate: sc-2218 or pyridoxal kinase (m): 293T Lysate: sc-122859.

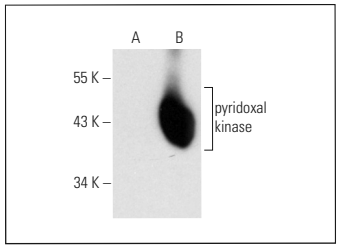
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



pyridoxal kinase (E-2): sc-365173. Western blot analysis of pyridoxal kinase expression in Ca Ski (**A**), Hs68 (**B**), RT-4 (**C**), M1 (**D**) and SK-BR-3 (**E**) whole cell lysates.



pyridoxal kinase (E-2): sc-365173. Western blot analysis of pyridoxal kinase expression in non-transfected: sc-117752 (**A**) and mouse pyridoxal kinase transfected: sc-122859 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Fux, A., et al. 2019. Customizing functionalized cofactor mimics to study the human pyridoxal 5'-phosphate-binding proteome. Cell Chem. Biol. 26: 1461-1468.e7.

RESEARCH USE

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