SANTA CRUZ BIOTECHNOLOGY, INC.

PNPO (D-18): sc-82319

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

PNPO (pyridoxamine 5'-phosphate oxidase), also known as PDXPO, FLJ10535 or pyridoxine-5'-phosphate oxidase, is a 261 amino acid protein belonging to the pyridoxamine 5'-phosphate oxidase family. Encoded by a gene that maps to human chromosome 17q21.32, PNPO catalyzes the oxidation of either pyridoxine 5'-phosphate (PNP) or pyridoxamine 5'-phosphate (PMP) into pyridoxal 5'-phosphate (PLP). PNPO is composed of seven exons and six introns, with all exon/intron junctions containing the GT/AG consensus splicing site. Characteristic of housekeeping genes, PNPO contains Sp1-binding sites and CpG islands in its regulatory region and lacks TATA-like sequences. PNPO binds a single FMN per subunit. Developmentally regulated in both liver and brain, PNPO is also found in skeletal muscle and kidney, with very weak expression detected in lung. Mutations in PNPO may cause PNPO-related neonatal epileptic encephalopathy and may be associated with schizophrenia.

REFERENCES

1. Ngo, E.O., et al. 1998. Absence of pyridoxine-5'-phosphate oxidase (PNPO) activity in neoplastic cells: isolation, characterization, and expression of PNPO cDNA. Biochemistry 37: 7741-7748.
2. Bräutigam, C., et al. 2002. Clinical and laboratory findings in twins with neonatal epileptic encephalopathy mimicking aromatic L-amino acid decarboxylase deficiency. Neuropediatrics 33: 113-117.
3. Musayev, F.N., et al. 2003. Structure and properties of recombinant human pyridoxine 5'-phosphate oxidase. Protein Sci. 12: 1455-1463.
4. Kang, J.H., et al. 2004. Genomic organization, tissue distribution and deletion mutation of human pyridoxine 5'-phosphate oxidase. Eur. J. Biochem. 271: 2452-2461.
5. Mills, P.B., et al. 2005. Neonatal epileptic encephalopathy caused by mutations in the PNPO gene encoding pyridox(am)ine 5'-phosphate oxidase. Hum. Mol. Genet. 14: 1077-1086.

CHROMOSOMAL LOCATION

Genetic locus: PNPO (human) mapping to 17q21.32; Pnpo (mouse) mapping to 11 D.

SOURCE

PNPO (D-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of PNPO of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-82319 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

PNPO (D-18) is recommended for detection of PNPO of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 PNPO siRNA (h): sc-76182, PNPO siRNA (m): sc-76183, PNPO shRNA Plasmid (h): sc-76182-SH, PNPO shRNA Plasmid (m): sc-76183-SH, PNPO shRNA (h) Lentiviral Particles: sc-76182-V and PNPO shRNA (m) Lentiviral Particles: sc-76183-V.

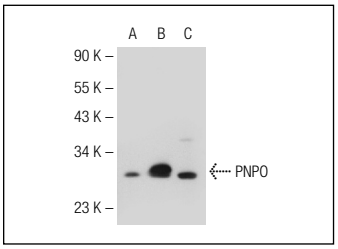
Molecular Weight of PNPO: 30 kDa.

Positive Controls: PNPO (m): 293T Lysate: sc-125840 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PNPO (D-18): sc-82319. Western blot analysis of PNPO expression in non-transfected 293T: sc-117752 (**A**), mouse PNPO transfected 293T: sc-125840 (**B**) and HeLa (**C**) whole cell lysates.

RESEARCH USE

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

MONOS Satisfaction Guaranteed

Try **PNPO (E-8): sc-393561**, our highly recommended monoclonal alternative to PNPO (D-18).