Human Pyridoxal Kinase

Human, PDXK
Expressed in *E.Coli*
Cat. No. CBCRY19
Lot. No. (See product label)

BACKGROUND

Pyridoxal kinase, a member of the ribokinase superfamily, catalyzes the ATP-dependent phosphorylation reaction of vitamin B6 and is an essential enzyme in the formation of pyridoxal-5'-phosphate, a key cofactor for over 100 enzymes. Pyridoxal kinase is thus regarded as a potential target for pharmacological agents. Structure comparison reveals that the key 12-residue peptide over the active site in HPLK is a beta-strand/loop/beta-strand flap, while the corresponding peptide in sheep brain enzyme adopts a loop conformation. Moreover, HPLK possesses a more hydrophobic ATP-binding pocket.

CRYSTAL STRUCTURE

MOLECULAR DESCRIPTION

Protein classification: Transferase

Structure Weight: 74135.20 Da

Polymer: 1

Molecule: Pyridoxal kinase

Chains: A, B

Type: polypeptide (L)

CRYSTAL INFORMATION

PDB ID: 2F7K

MMDB ID: 39840

Source: E.Coli

Method: X-Ray Diffraction

Resolution: 2.8 Å

GENE INFORMATION

Gene Name: PDXK

Synonyms: C21orf124; C21orf97; EC 2.7.1.35; DKFZp566A071; FLJ31940; FLJ37311; FLJ21324; MGC15873; MGC31754; MGC52346; PKH; PNK; PRED79; pyridoxal kinase; pyridoxamine kinase; pyridoxine kinase; vitamin B6 kinase; chromosome 21 open reading reame 124; chromosome 21 open reading frame 97

UniProt ID: O00764

GeneID: 8566

Chromosome Location: 21q22.3

Function: ATP binding; lithium ion binding; magnesium ion binding; nucleotide binding; potassium ion binding; protein homodimerization activity; pyridoxal kinase activity; sodium ion binding; transferase activity; zinc ion binding

PRIMARY CITATION

Cao, P., Gong, Y., Tang, L., Leung, Y.C., Jiang, T. (2006) Crystal structure of human pyridoxal kinase. J.Struct.Biol. 154: 327-332

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