

Recombinant Human PKLR, His-tagged

Cat. No. PKLR-1517H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant human PKLR protein, fused to His-tag at N-terminus, was expressed in E.coli and purified by using conventional chromatography techniques (47-574 aa).
Species	Human
Source	Human
Description	PKLR is a pyruvate kinase that catalyzes the transphosphorylation of phosphoenolpyruvate into pyruvate and ATP, which is the rate-limiting step of glycolysis. The PKLR gene encodes the L- and R-type isoenzymes through alternative splicing events under the control of different promoters.
Form	Liquid. In 20 mM Tris-HCl buffer (pH8.0) containing 0.2M NaCl, 1mM DTT, 10% glycerol
Molecular Weight	59.2 kDa (549aa), confirmed by MALDI-TOF
Purity	> 90% by SDS - PAGE
Concentration	1 mg/ml (determined by Bradford assay)
Biological activity	Specific activity: >0.1 unit/mg. One unit will form 1.0 umol of phospho(enol)pyruvate to pyruvate per minute at pH 7.5 at 37°C
Activity Assay	1. Prepare a 1.45 ml reaction mixture into a suitable container. - Reaction mixture:

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100mM Tris-HCl pH 7.5, 7.6 mM ADP, 15 mM MgCl₂, 74 mM KCl, 0.2 mM Beta-NADH μ 5.2 mM PEP, 0.025 units Recombinant LDHA protein. 2. Add 50ul of recombinant PKLR protein solution with various concentrations (0.5ug, 1ug). 3. Read the decrease in A340nm in kinetic mode for 10 minutes.

Sequences of amino acids

MGSSHHHHHH SSGLVPRGSH MLTQELGTAF FQQQQLPAAM ADTFLEHLCL
LDIDSEPVA RSTSIATIG PASRSVERLK EMIKAGMNIA RLNFSGHSHE
YHAESIANVR EAVESFAGSP LSYPVAIAL DTKGPEIRTG ILQGGPESEV
ELVKGSQVLV TVDPAFRTRG NANTVWVDYP NIVRVVPVGG RIYIDDGLIS
LVVQKIGPEG LVTQVENGGV LGSRKGVNLP GAQVDLPGLS EQDVRDLRFG
VEHGVDIVFA SFVRKASDVA AVRAALGPEG HGIKIISKIE NHEGVKRFDE
ILEVSDGIMV ARGDLGIEIP AEKVFLAQKM MIGRCNLAGK PVVCATQMLE
SMITKPRPTR AETSDVANAV LDGADCIMLS GETAKGNFPV EAVKMQHAIA
REAEAAVYHR QLFEELRRAA PLSRDPTEVT AIGAVEAAFK CCAAIIIVLT
TTGRSAQLLS RYRPRAAVIA VTRSAQAARQ VHLCRGVFPL LYREPPEAIW
ADDVDRRVQF GIESGKLGRF LRVGDLVIVV TGWRPGSGYT NIMRVLSIS

Storage

Can be stored at +4°C short term (1-2 weeks). For long term storage, aliquot and store at -20°C or -70°C. Avoid repeated freezing and thawing cycles.

Pathways

Glycolysis / Gluconeogenesis; Insulin signaling pathway; Maturity onset diabetes of the young; Metabolic pathways; Purine metabolism; Pyruvate metabolism; Type II diabetes mellitus

GENE INFORMATION

Gene Name PKLR pyruvate kinase, liver and RBC [Homo sapiens]

Official Symbol PKLR

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Synonyms	PKLR; pyruvate kinase, liver and RBC; PK1; PKL; PKR; RPK; PKRL; pyruvate kinase isozymes R/L; pyruvate kinase 1; OTTHUMP00000034069; pyruvate kinase type L; pyruvate kinase isozyme R/L; R-type/L-type pyruvate kinase; red cell/liver pyruvate kinase; pyruvate kinase, liver and blood cell; EC 2.7.1.40
Gene ID	5313
mRNA Refseq	NM_000298
Protein Refseq	NP_000289
MIM	609712
UniProt ID	P30613
Chromosome Location	1q21
Function	ATP binding; magnesium ion binding; nucleotide binding; potassium ion binding; pyruvate kinase activity; transferase activity
PDB rendering based on 1liu.	