ALPHA DIAGNOSTIC INTERNATIONAL

Product Specification Sheet

Pyruvate Kinase L/R (PKLR; PK1; PKL) Antibodies

Cat # PKR12-P	Mouse PKLR Control/Blocking Peptide	**SIZE**: 100 µg
Cat # PKR12-A	Rabbit anti-Mouse PKLR IgG (affinity pure)	**SIZE**: 100 µg

Pyruvate kinase is an enzyme involved in glycolysis. It catalyzes the transfer of a phosphoryl group from phosphoenolpyruvate to ADP, yielding a pyruvate molecule. There are 4 isozymes of pyruvate kinase in mammals: L, R, M1 and M2. L type is major isozyme in the liver, R is found in red cells, M1 is the main form in muscle, heart and brain, and M2 is found in early fetal tissues

PYRUVATE KINASE, LIVER AND RED BLOOD CELL; PKLR
Alternative titles; symbols
PKRL; PYRUVATE KINASE, LIVER TYPE; PKL; PYRUVATE KINASE, RED CELL TYPE; PKR; PYRUVATE KINASE 1; PK1
Gene map locus 1q21

PKLR: rat, mouse, human: 574 aa each – 62.3 kDa; Mouse chromosome: 3F1 . Highly expressed in liver and RBCs. The PKLR gene codes for both the liver and red blood cell isozymes. The PKM2 gene, located on chromosome 15q22, encodes 2 muscle-specific isoforms, M1 and M2. The PK enzyme functions as a homotetramer. Studies with the rat enzyme suggested that the red cell type is longer than the liver type in the 5-prime terminal end, but the rest of the sequence is very similar. deduced protein sequence was similar to that of L-type PK, with an additional 31 amino acids at the N terminus. Addiitonal studies demonstrated that the difference between the L- and R-type pyruvate kinases is due to tissue-specific mRNAs, likely resulting from differential processing of a common nuclear RNA precursor. Defects in this enzyme, due to gene mutations or genetic variations, are the common cause of chronic hereditary nonspherocytic hemolytic anemia (CNSHA or HNSHA).

Source of Antigen and Antibodies

Antigen	19-aa peptide of Mouse PKLR (Protein accession # (P53657); ref. 1); designated as PKR12-P control/blocking peptide conjugated to KLH; epitope location ~ N-terminus
Antibody host/type	Rabbit, Polyclonal IgG (Cat # PKR12-A), purified over antigen-Agarose
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control Ab	Non-immune rabbit IgG (Cat # 20009-1) to be used as –ve control for ELISA, WB, IHC etc.

Form & Storage of Antibodies/Peptide Control

Affinity pure IgG
(100 ug/100ul (solution (lyophilized powder
Supplied in **Buffer**: PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide
(100 ug/100 ul (solution (lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage
Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for powder.

Recommended Usage

Western Blotting: 1-10 µg/ml; using affinity pure antibody (chemiluminescence technique).

ELISA: 1:100K; using 50-100 ng control peptide/well.

Histochemistry & Immunofluorescence: Not tested; we recommend the use of affinity purified antibody at 2-10 µg/ml.

Specificity & Cross-reactivity

Mouse PKR12-P peptide sequence is 55% and 89% conserved in human and rat PKRL proteins respectively. We recommend using Cat # PKR11-A against human PKLR protein. Antibody cross-reactivity in various species is not known. The control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-30 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at the web site).

General References: (1) Tani K, et al., (1988) Proc. Natl. Acad. Sci. U.S.A. 85:1792-1795; Kanno H. et al., (1993) Biochem. Biophys. Res. Commun. 192:46-52

*This product is for in vitro research use only.

Related material available from ADI

Antibodies to all forms of Pyruate Kinases

PKR12-A -P 80122A

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