

Product Specification Sheet

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

<b>Cat #</b> PKR12-P	Mouse PKLR Control/Blocking Peptide	<b>SIZE:</b> 100 µg
<b>Cat #</b> PKR12-A	Rabbit anti-Mouse PKLR IgG (affinity pure)	<b>SIZE:</b> 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. Additional 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 (CNHA or HNSHA).

**Source of Antigen and Antibodies**

<b>Antigen</b>	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
<b>Antibody host/type</b>	Rabbit, Polyclonal IgG (Cat # PKR12-A), purified over antigen-Agarose
<b>2-Ab</b>	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
<b>-ve control Ab</b>	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 Pyruvate Kinases

PKR12-A -P 80122A

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, San Antonio, TX 78244, USA; **Email:** [service@4adi.com](mailto:service@4adi.com)

India Contact:

**Life Technologies (India) Pvt. Ltd.**

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444  
Email: [customerservice@lifetechindia.com](mailto:customerservice@lifetechindia.com) Website: [www.lifetechindia.com](http://www.lifetechindia.com)