

## Pyruvate kinase

**Cat. No.** PKLR-1544    **Lot. No.** (See product label)

### SPECIFICATION

| Product Overview        |                                                                                                                                                                                                       |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Species                 | Microorganism                                                                                                                                                                                         |
| Source                  | Microorganism                                                                                                                                                                                         |
| Description             | Pyruvate kinase is an enzyme involved in glycolysis. It catalyzes the transfer of a phosphate group from phosphoenolpyruvate (PEP) to ADP, yielding one molecule of pyruvate and one molecule of ATP. |
| Predicted MolecularMass | 68kDa                                                                                                                                                                                                 |
| Isoelectric point       | 5.2                                                                                                                                                                                                   |
| Michaelis constant      | 1.1mM (ADP); 2.2mM(PEP)                                                                                                                                                                               |
| Optimum pH              | 7.5                                                                                                                                                                                                   |
| Optimum temperature     | 80°C                                                                                                                                                                                                  |
| pH Stability            | 5.0~10.0 (37°C, 20hr)                                                                                                                                                                                 |
| Thermal Stability       | < 60°C (pH8.5, 20min)                                                                                                                                                                                 |
| Inhibitors              | Ag <sup>+</sup> , Hg <sup>2+</sup>                                                                                                                                                                    |

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| <b>Specific Activity</b>       | ≥ 300U/mg protein                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Unit definition</b>         | One unit will convert one micromole of phosphoenolpyruvate to pyruvate per min at pH 7.2 at 30°C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Storage</b>                 | -20°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>PreparationInstructions</b> | The enzyme is reconstituted in 50mM Tris-HCl buffer, pH 8.5 for activity assay.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Background</b>              | <p><b>Introduction</b></p> <p>The protein is a pyruvate kinase that catalyzes the transphosphorylation of phosphoenolpyruvate into pyruvate and ATP, which is the rate-limiting step of glycolysis. Defects in this enzyme, due to gene mutations or genetic variations, are the common cause of chronic hereditary nonspherocytic hemolytic anemia (CNSHA or HNSHA).</p> <p><b>Keywords</b></p> <p>Pyruvate kinase; EC: 2.7.1.40; CTHBP; Cytosolic thyroid hormone binding protein; MGC3932; OIP 3; Oip3; OPA interacting protein 3; Opa interactivity protein; PK 1; PK 2; PK 3; PK Muscle type; PK1; PK2; Pk3; PKL; PKLR; PKM 2; Pyruvate kinase 1; Pyruvate kinase 2/3; Pyruvate kinase isozyme R/L; Pyruvate kinase liver and RBC; Pyruvate kinase muscle isozyme; R type/L type pyruvate kinase; RPK; THBP 1; Thyroid hormone binding protein cytosolic</p> |