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ProductInformation

Pyruvate Kinase preparation from rabbit muscle

Product Number **P 1506**
Storage Temperature 2-8 °C

Product Description

Molecular Weight: 237 kDa[1]
CAS Number: 9001-59-6
Enzyme Commission (EC) Number: 2.7.1.40
Molecular Weight: 237 kDa[1]
Extinction Coefficient: $E^{0.1\%} = 0.54$[1]

Pyruvate kinase from rabbit muscle is a tetramer consisting of four equal subunits of molecular weight 57 kDa.[1]

Pyruvate kinase catalyzes the following reaction:

ATP + Pyruvate $\rightarrow$ ADP + Phophoenolpuruvate

Reported K_M values are ATP (0.86 mM), pyruvate (10 mM), ADP (0.3 mM), and PEP (0.07 mM).[2] Pyruvate kinase can also utilize other dinucleotide phosphates as substrates including GDP, IDP, dADP, UDP, CDP, dCDP.[1] The pH optimum for pyruvate kinase is 7.5[3] and the mechanism of the reaction catalyzed by pyruvate kinase has been described in the literature.[4]

Both Mg^{2+} and K^+ are required metal cofactors for optimal activity and the enzyme is inhibited by Ca^{2+}.[1]

Pyruvate kinase is often used as a coupling enzyme in conjunction with lactic dehydrogenase in quantifying ADP and the activity of enzymes that catalyze the formation of ADP.

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Storage/Stability

This enzyme is offered as a crystalline suspension in 3.2 M ammonium sulfate, pH 6.0. Dilute solutions should not be stored.

References

1. Kayne, F. J., in The Enzymes, 3rd ed., Vol. 8, pt. A, Boyer, P. D., ed., Academic press (New York, NY: 1973), pp. 353-382.
2. Methods of Enzymatic Analysis, 2nd English ed., Vol. 1, Bergmeyer, H. U., ed., Academic Press (New York, NY: 1974), pp. 509-511.
3. Bucher, T., and Pfleiderer, G., Pyruvate kinase from muscle. Meth. Enzymol., **1**, 435-440 (1955).
4. Ainsworth, S., et al., The regulatory properties of rabbit muscle pyruvate kinase. The influence of substrate concentrations. Biochem. J., **209(2)**, 401-411 (1983).

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