PA1267

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Polyphosphate Glucokinase - Purified

Catalog No.: PA1267

Quantity: 100

Background: Polyphosphate Glucokinase catalyzes the phosphorylation of glucose using either inorganic polyphosphate or ATP as the phosphoryl donor. The phosphorylation of glucose plays a significant role in the creation of intermediates for oligosaccharide synthesis

Source: P. shermanii, Propionibacterium shermanii

Format: **State:** Sterile filtered white lyophilized (freeze-dried) powder.
Buffer System: Contains 100 mM potassium phosphate, pH 6.8, and 25 mM sodium polyphosphate (Graham's salt)
Reconstitution: Reconstitute the lyophilized PPGK in 1-10 ml deionized water.

Description: Polyphosphate Glucokinase purified circa 100 fold. Free of all polyphosphate kinase activity. Isoelectric point = 5.8.
Biological Activity: The specific activity is 3.6 U/mg.
Unit definition:
1 Unit of activity = the amount of PPGK required to convert 1 µmol glucose to glucose-6 phosphate per minute at 30°C and pH 7.4, in phosphate buffer using polyphosphate as phosphate donor.
Specific Activity: 3.6 U/mg
Molecular weight: 63 kDa Native MW = 63 kD, subunit MW = 30kD

Storage: One year from despatch when stored at -20°C, three weeks at room temperature. Please avoid freeze-thaw cycles.

General Readings:

1. Polyphosphate glucokinase. Prog Mol Subcell Biol 1999;23:101-25
2. Hsieh PC, Kowalczyk TH, Phillips NF. Kinetic mechanisms of polyphosphate glucokinase from Mycobacterium tuberculosis. Biochemistry. 1996 Jul 30;35(30):9772-81. PubMed PMID: 8703950.
3. Kowalczyk TH, Horn PJ, Pan WH, Phillips NF. Initial rate and equilibrium isotope exchange studies on the ATP-dependent activity of polyphosphate Glucokinase from Propionibacterium shermanii. Biochemistry. 1996 May 28;35(21):6777-85. PubMed PMID: 8639629.
4. Hsieh PC, Shenoy BC, Samols D, Phillips NF. Cloning, expression, and characterization of polyphosphate glucokinase from Mycobacterium tuberculosis. J Biol Chem. 1996 Mar 1;271(9):4909-15. PubMed PMID: 8617763.
5. Kowalczyk TH, Phillips NF. Determination of endopolyphosphatase using polyphosphate glucokinase. Anal Biochem. 1993 Jul;212(1):194-205. PubMed PMID: 8396361.
6. Kowalczyk TH, Szymona O. Glucose determination using immobilized polyphosphate glucokinase. Anal Biochem. 1991 Sep 2;197(2):326-32. PubMed PMID: 1664665.