

Active Native *Bacillus stearothermophilus* Acetate Kinase

Cat. No. Acetate Kinase-22B **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Native <i>Bacillus stearothermophilus</i> Acetate Kinase was purified from <i>Bacillus stearothermophilus</i> .
Species	<i>Bacillus stearothermophilus</i>
Source	<i>Bacillus stearothermophilus</i>
Description	Acetate kinase plays an important role in glycolysis. Acetate kinase phosphorylates acetate in the presence of ATP and a divalent cation, which ultimately results in the production of acetyl-CoA. Acetate kinase is also involved in the metabolism of propanoate, pyruvate and taurine. Acetate Kinase from <i>Bacillus stearothermophilus</i> is a thermostable tetramer of identical subunits with molecular weight of 40,000 Da each. The enzyme does not have a -SH group and is composed of 36% β -structure, 21 α -helix and 43 % unordered structure.
Form	Lyophilized powder containing potassium phosphate.
Bio-activity	Involved in the metabolism of propanoate, pyruvate and taurine. 400-1,200 units/mg solid.
Unit Definition	One unit will phosphorylate 1.0 μ mole of acetate to acetyl phosphate per min at pH 7.2 at 30 °C.
Applications	Acetate kinase is used to phosphorylate acetate to acetyl phosphate. Acetate Kinase from <i>Bacillus stearothermophilus</i> has been used to study allosteric activation. [32P]-

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acetyl phosphate was generated by incubating potassium acetate in the reaction mixture with acetate kinase from Sigma. This [32P]-acetyl phosphate was used to label BldM, BldM D-54N or BldM D-54A loci during the study of the effect of bldM gene on *Streptomyces coelicolor* development.

Storage	2-8°C.
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