



## Acetyl-coenzyme A Synthetase from *Bacillus subtilis* (Lot 30803)

**Recombinant**

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E-ACSBS

### PROPERTIES

#### 1. ELECTROPHORETIC PURITY

- Single band on SDS-gel electrophoresis (MW = 66,000)

#### 2. SPECIFIC ACTIVITY AND LEVEL OF OTHER ACTIVITIES

7.6 U/mg protein at pH 7.5 and 37°C; 39 U/mg protein at pH 8.4 and 37°C.

One Unit of acetyl-coenzyme A synthetase enzyme activity is the amount of enzyme required to produce one  $\mu$ mole of acetyl-CoA from CoA under the following assay conditions:

Triethanolamine buffer	132 mM (pH 7.5 or 8.4)
L-Malate	9.93 mM
NAD <sup>+</sup>	1.1 mM
MgCl <sub>2</sub>	3.3 mM
BSA	0.5 mg/ml
ATP	2.78 mM
Coenzyme A	0.19 mM
Sodium acetate	3.3 mM
L-Malate Dehydrogenase	25 U
Citrate synthase	1.0 U

#### 3. OTHER ACTIVITIES (as a percentage of Acetyl Coenzyme A Synthetase)

Enzyme measured	Substrate	Activity, %
NADH Oxidase	NADH	0.003.
Malate Dehydrogenase	Oxaloacetate	0.13

All activities were measured at 340 nm in 132 mM triethanolamine buffer (pH 8.4) containing 0.5 mg/ml BSA, at 25°C. n.d. = not detected.

#### 4. PHYSICOCHEMICAL PROPERTIES

Recommended conditions of use are at pH 8.4 and up to 37°C.

#### 5. STORAGE AND USE CONDITIONS/RECOMMENDATIONS

The enzyme is supplied as an ammonium sulphate suspension and should be stored at 4°C.

**Figure 1. SDS-PAGE analysis of acetyl-coenzyme A synthetase (*B. subtilis*)**

Electrophoresis was performed using a 10% acrylamide gel. Lane 1, low molecular weight markers (Sigma cat. no. M-3918 ); lane 2, 5 $\mu$ g acetyl-coenzyme A synthetase; lane 3, high molecular weight markers (Sigma cat. no. M-3788).

