

## NAD Synthetase from *B. subtilis*, Recombinant

Cat. No. NATE-1244

Lot. No. (See product label)

### Introduction

#### Description

In enzymology, a NAD<sup>+</sup> synthase (EC 6.3.1.5) is an enzyme that catalyzes the chemical reaction: ATP + deamido-NAD<sup>+</sup> + NH<sub>3</sub> ↔ AMP + diphosphate + NAD<sup>+</sup>. The 3 substrates of this enzyme are ATP, deamido-NAD<sup>+</sup>, and NH<sub>3</sub>, whereas its 3 products are AMP, diphosphate, and NAD<sup>+</sup>. This enzyme belongs to the family of ligases, specifically those forming carbon-nitrogen bonds as acid-D-ammonia (or amine) ligases (amide synthases). This enzyme participates in nicotinate and nicotinamide metabolism and nitrogen metabolism.

#### Synonyms

EC 6.3.1.5; 9032-69-3; NAD<sup>+</sup> synthetase; NAD<sup>+</sup> synthase; nicotinamide adenine dinucleotide synthetase; diphosphopyridine nucleotide synthetase

### Product Information

#### Species

*B. subtilis*

#### Source

*E. coli*

#### Form

Liquid. In 50mM TRIS-HCl, pH 8, containing 75mM sodium chloride, 5% glycerol and 5mM DTT.

#### Molecular Weight

~30.4kDa

#### Purity

> 98% (SDS-PAGE)

#### Activity

~0.3 U/mg protein

#### Concentration

0.5mg/ml (Lot specific)

#### Unit Definition

One unit is defined as the amount of enzyme that synthesizes 1μmol NAD per min.

### Storage and Shipping Information

#### Storage

Store at -20°C. After opening, prepare aliquots and store at -80°C. Avoid freeze/thaw cycles.

#### Stability

Stable for at least 6 months after receipt when stored at -80°C.