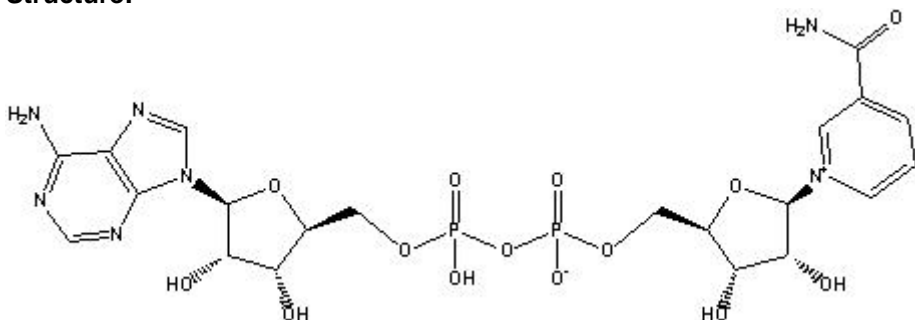


## TECHNICAL INFORMATION

Catalog Number: 100319, 100499, 100591, 160047, 194026, 194714, 194778  
**beta-Nicotinamide adenine dinucleotide, oxidized form, free acid**

**Structure:**



**Molecular Formula:** C<sub>21</sub>H<sub>27</sub>N<sub>7</sub>O<sub>14</sub>P<sub>2</sub> · xH<sub>2</sub>O

**Molecular Weight:** 663.4 (anhyd)

**CAS #:** 53-84-9

**Synonyms:** b-NAD; Diphosphopyridine nucleotide; DPN; b-DPN; Coenzyme 1; Cozymase; Nadide; Adenosine 5'-(trihydrogen diphosphate) P<sup>1</sup>->5'-ester with 3-(aminocarbonyl)-1-b-D-ribofuranosylpyridinium inner salt; 3-carbamoyl-1-b-D-ribofuranosylpyridinium hydroxide 5'->5'- ester with adenosine 5'-(trihydrogen pyrophosphate) inner salt

**Physical Description:** White to yellow lyophilized powder

**Solubility:** Soluble in water (200 mg/ml). Solutions should be aliquoted and stored at -20°C for up to one week.

**Description:** b-NAD is one of the biologically active forms of nicotinic acid.<sup>1</sup> It occurs in living cells primarily in the oxidized state.<sup>1</sup> Serves as a coenzyme of the dehydrogenases, especially in the dehydrogenation of primary and secondary alcohols. NAD usually acts as a hydrogen acceptor, forming NADH which then serves as a hydrogen donor in the respiratory chain.<sup>1</sup>

**Availability:**

Catalog Number	Description	Size
100319	b-NAD, purity approximately 93-96%	500 mg 1g 5 g 10 g 25 g 100 g
100499	b-NAD, purity approximately 98%	100 mg 250 mg 500 mg 1 g 5 g 10 g
100591	b-NAD, purity approximately 98%, Prepared to be ethanol free	500 mg 1 g 5 g 10 g
160047	b-NAD, purity approximately 99%	100 mg 250 mg 500 mg 1 g 5 g
194714	b-NAD, cell culture reagent, purity approximately 98%	100 mg 250 mg 500 mg 1 g 5 g 10 g

194778	b-NAD, ultra pure, purity approximately 99%, Chromatographically purified to remove trace inhibitors	25 mg 100 mg 250 mg 500 mg 1 g
194026	b-NAD, Molecular Biology Reagent, purity approximately 99%	500 mg 1 g

#### References:

- *Merck Index*, **12th Ed.**, No.6429
- *Coenzymes and Cofactors*, **v. 2**: "Pyridine Nucleoside Coenzymes: Chemical, Biochemical and Medical Aspects" (D. Dolphin, R. Poulson, O. Avramovic, eds., p. 759 & 776 (1987), John Wiley and Sons, New York.
- O. Warburg, W. Christian, *Biochem. Z.*, **v. 287**, 291 (1936)
- S. Ochoa, *Biochem. Z.*, **v. 292**, 68 (1937)
- H. V. Euler, F. Schlenk, Z., *Physiol. Chem.*, **v. 246**, 64 (1937)
- G. A. LePage, *J. Biol. Chem.*, **v. 168**, 623 (1947);
- R. U. Lumieux, J. W. Lown, *Can. J. Chem.*, **v. 41**, 889 (1963).
- M. T. Karp, P. I. Vuorinen, *Methods Enzymol.*, **v. 122**, 147 (1986).