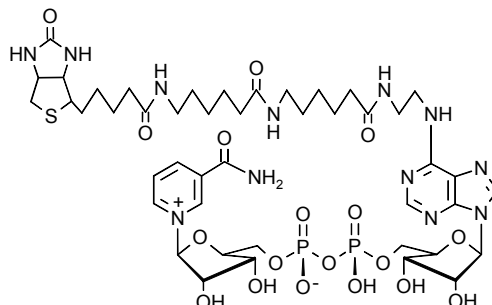


## Technical Information about 6-Biotin-17-NAD<sup>+</sup>

Update: September 2, 2011 AI



**Abbreviation:** **6-Biotin-17-NAD<sup>+</sup>**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C <sub>45</sub> H <sub>68</sub> N <sub>12</sub> O <sub>18</sub> P <sub>2</sub> S (free acid)	[pending]	1159.1 (free acid)	λ <sub>max</sub> 265 nm / ε 22000 / pH 7	N 012

**Name:** β- Nicotinamide- N<sup>6</sup>- (2- (6- [biotinyl]aminohexanoyl)aminoethyl)adenine dinucleotide

**Description:** In 6-Biotin-17-NAD<sup>+</sup> two nucleotides, one containing an adenine nucleobase and the other one containing nicotinamide, are connected through their phosphate groups. In addition, a biotin moiety with a 17 atom spacer unit has been attached to the amino group in position 6 of the adenine nucleobase.

**Properties:** 6-Biotin-17-NAD<sup>+</sup> is a biotinylated analogue of β-NAD<sup>+</sup> which can provide a non-radioactive alternative to radio-labelled β-NAD<sup>+</sup> for corresponding studies.

**Specification:** Lyophilized or crystallized sodium salt. The free acid or other salt forms are available upon request. **Equal concentrations of 6-Biotin-17-NAD<sup>+</sup> can appear very different in volume due to sensitivity of the lyophilized form to humidity. The compound can even contract to small volume droplets. Normally the product is located in the conical bottom of the tube.** Micromolar quantities are determined by UV at λ<sub>max</sub>.

**Purity:** Typical analysis is better than 95% (HPLC / UV / 265 nm). The product is not sterile and has not been tested for endotoxins.

**Solubility:** 6-Biotin-17-NAD<sup>+</sup> is soluble to ≥ 10 mM in water. Please rinse tube walls carefully and preferably use ultrasonic or vortex to achieve total and uniform mixing. When opening the tube please make sure that no substance is lost within the cap.

**Stability and Storage:** 6-Biotin-17-NAD<sup>+</sup> has limited stability at ambient temperature. We recommend to store the compound in the freezer (-20° Celsius necessary, -80° recommended), for longer storage periods preferably in freeze-dried form.

**Toxicity and Safety:** Since β-NAD<sup>+</sup> has multiple tasks in every organism, it is very likely that its analogues will interfere with many cell regulation processes *in vivo*. However, due to the rather small quantities to work with, no health hazards have been reported. Nevertheless please keep in mind, that the *in vivo* properties of this compound are not sufficiently characterized up to now. Avoid skin contact or ingestion and allow only trained personnel to handle the product.

Our products are designed, developed and sold for research purposes only! They are intended for *in vitro* and nonhuman *in vivo* laboratory applications. Any other use requires approval of health authorities.

**Not for drug, household or related uses!**

### Selected References for a Structurally Related 6-Biotin-17-NAD<sup>+</sup>:

Bakondi, E.; Bai, P.; Szabó, E.; Hunyadi, J.; Gergely, P.; Szabó, C.; Virág, L., *J. Histochem. Cytochem.*, **50**, 91 - 98 (2002): "Detection of Poly(ADP-ribose) Polymerase Activation in Oxidatively Stressed Cells and Tissues Using Biotinylated NAD Substrate"

Cheung, A.; Zhang, J, *Analytical Biochemistry*, **282**, 24 - 28 (2000): "A Scintillation Proximity Assay for Poly(ADP-Ribose) Polymerase"

Zhang, J.; Snyder, S.H., *Biochemistry*, **32**, 2228 - 2233 (1993): "Purification of a Nitric Oxide-stimulated ADP-ribosylated Protein Using Biotinylated  $\beta$ -Nicotinamide Adenine Dinucleotide"