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Technical Information about 6-CP-FAD

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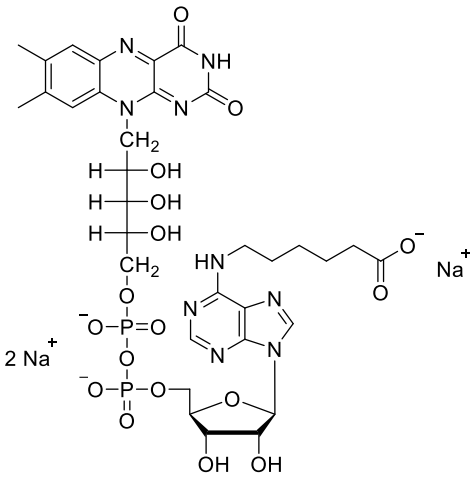

Abbreviation: **6-CP-FAD**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
$C_{33}H_{43}N_9O_{17}P_2$ (free acid)	[177718-13-7]	899.7 (free acid)	λ_{max} 450 nm / ε 11300 / pH 7	F 017

Name: Flavin- N^6- (5- carboxypentyl)adenine dinucleotide
Synonyms: Flavin-N^6-(6-carboxyhexyl)adenine dinucleotide or N6-(6-Carboxyhexyl)-FAD

Description: 6-CP-FAD is a functionalized analogue of the adenine-containing enzymatic redox cofactor flavin adenine dinucleotide (FAD), where a pentyl spacer with a terminal carboxy group has been attached to the amino group in position 6 of the adenine nucleobase.

Properties: The terminal carboxy group of 6-CP-FAD can be used for coupling of various labels, dyes or supports with free amino groups. Via its corresponding succinimidyl ester, 6-CP-FAD can also be coupled to FAD-binding apo-proteins.

Specification: Lyophilized or crystallized sodium salt. Other salt forms are available upon request. Equal concentrations of 6-CP-FAD 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/VIS at λ_{max}.

Purity: Typical analysis is better than 95% (HPLC / UV/VIS / 450 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: 6-CP-FAD is soluble in water (≥ 15 mM). 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-CP-FAD has limited stability at ambient temperature. The compound should be protected from light and stored in the freezer (-20° Celsius necessary, -70° Celsius recommended), for longer storage periods preferably in freeze-dried form.

Toxicity and Safety: Since FAD 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 6-CP-FAD:

Krzek, M.; van Beek, H. L.; Permentier, H. P.; Bischoff, R.; Fraaije, M. W., *Enzyme Microb. Technol.*, **82**, 138 - 143 (2016): "Covalent Immobilization of a Flavoprotein Monooxygenase via its Flavin Cofactor"

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Bückmann, A. F.; Wray, V.; Stocker, A., *Methods Enzymol.*, **280**, 360 - 374 (1997): "Synthesis of N6-(2-aminoethyl)-FAD, N6-(6-carboxyhexyl)-FAD, and Related Compounds"

Stocker, A.; Hecht, H. J.; Bückmann, A. F., *Eur. J. Biochem.*, **238**, 519 - 528 (1996): "Synthesis, Characterization and Preliminary Crystallographic Data of N6-(6-carbamoylhexyl)-FAD-D-Amino-Acid Oxidase from Pig Kidney, a Semi-Synthetic Oxidase"

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