# **PRODUCT** INFORMATION



## N-methyl Protoporphyrin IX

Item No. 20846

CAS Registry No.:	79236-56-9	
Formal Name:	7,12-diethenyl-3,8,13,17,23-	
	pentamethyl-21H,23H-porphine-	
	2,18-dipropanoic acid	
Synonyms:	NMPP, N-methyl PPIX	Л Л СООН
MF:	C <sub>35</sub> H <sub>36</sub> N <sub>4</sub> O <sub>4</sub>	
FW:	576.7	
Purity:	≥95% (a mixture of isomers)	
UV/Vis.:	λ <sub>max</sub> : 211, 303, 401, 573 nm	
Supplied as:	A crystalline solid	$\gamma \sim \gamma$
Storage:	-20°C	
Stability:	≥4 years	

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

#### Laboratory Procedures

N-methyl Protoporphyrin IX (N-methyl PPIX) is supplied as a crystalline solid. A stock solution may be made by dissolving the N-methyl PPIX in the solvent of choice, which should be purged with an inert gas. N-methyl PPIX is soluble in organic solvents such as methanol and acetone.

#### Description

N-methyl PPIX is a transition state analog that potently inhibits protoporphyrin IX ferrochelatase ( $K_i = 10$  nM), blocking the terminal step of the heme biosynthetic pathway.<sup>1,2</sup> It is used to study the effect of heme synthesis blockade in cell systems.<sup>3,4</sup>

#### References

- 1. Ortiz de Montellano, P.R., Beilan, H.S., and Kunze, K.L. N-Methylprotoporphyrin IX: Chemical synthesis and identification as the green pigment produced by 3,5-diethoxycarbonyl-1,4-dihydrocollidine treatment. Proc. Natl. Acad. Sci. USA 78(3), 1490-1494 (1981).
- 2. Shi, Z. and Ferreira, G.C. Modulation of inhibition of ferrochelatase by N-methylprotoporphyrin. Biochem. J. 399(1) 21-28 (2006).
- 3. Atamna, H., Brahmbhatt, M., Atamna, W., et al. ApoHRP-based assay to measure intracellular regulatory heme. Metallomics. 7(2), 309-321 (2015).
- 4. Lämsä, V., Levonen, A.-L., Sormunen, R., et al. Heme and heme biosynthesis intermediates induce heme oxygenase-1 and cytochrome P450 2A5, enzymes with putative sequential roles in heme and bilirubin metabolism: Different requirement for transcription factor nuclear factor erythroid-derived 2-like 2. Toxicol. Sci. 130(1), 132-144 (2012).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFFTY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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