

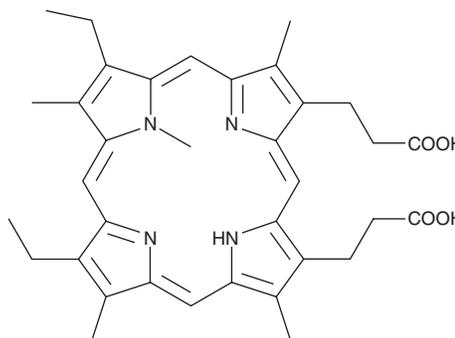
PRODUCT INFORMATION



N-methyl Mesoporphyrin IX

Item No. 27210

CAS Registry No.: 142234-85-3
Formal Name: 8,13-diethyl-3,7,12,17,23-pentamethyl-21H,23H-porphine-2,18-dipropanoic acid
MF: C₃₅H₄₀N₄O₄
FW: 580.7
Purity: ≥95% (mixture of isomers)
UV/Vis.: λ_{max}: 299, 395, 564 nm
Ex./Em. Max: 399/610 nm
Supplied as: A crystalline solid
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 Mesoporphyrin IX is supplied as a crystalline solid. A stock solution may be made by dissolving the N-methyl mesoporphyrin IX in the solvent of choice, which should be purged with an inert gas. N-methyl Mesoporphyrin IX is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of N-methyl mesoporphyrin IX in these solvents is approximately 15 and 20 mg/ml, respectively.

N-methyl Mesoporphyrin IX is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, N-methyl mesoporphyrin IX should first be dissolved in DMF and then diluted with the aqueous buffer of choice. N-methyl Mesoporphyrin IX has a solubility of approximately 0.17 mg/ml in a 1:5 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

N-methyl Mesoporphyrin IX is a transition state analog of porphyrin and an inhibitor of ferrochelatase.¹ It inhibits ferrochelatase in mouse liver mitochondria *in vitro* and *in vivo*, leading to an accumulation of porphyrin in isolated liver mitochondria following administration of an intravenous dose of 80 nmol. N-methyl Mesoporphyrin IX has been used as a turn-on biosensor for target DNA sequences when used in complex with a G-quadruplex-forming sequence fused to a DNA sequence complementary to the target sequence.² It has also been used to detect amyloid-β (1-40) (Aβ40) fibrils *in vitro* and in live PC12 cells overexpressing Aβ.³ N-methyl Mesoporphyrin displays excitation/emission maxima of 399/610 nm, respectively.⁴

References

1. de Matteis, F., Gibbs, A.H., and Smith, A.G. Inhibition of protohaem ferro-lyase by N-substituted porphyrins. Structural requirements for the inhibitory effect. *Biochem. J.* **189**(3), 645-648 (1980).
2. Ren, J., Qin, H., Wang, J., *et al.* Label-free detection of nucleic acids by turn-on and turn-off G-quadruplex-mediated fluorescence. *Anal. Bioanal. Chem.* **399**(8), 2763-2770 (2011).
3. Li, M., Zhao, A., Ren, J., *et al.* N-Methyl mesoporphyrin IX as an effective probe for monitoring Alzheimer's disease β-amyloid aggregation in living cells. *ACS Chem. Neurosci.* **8**(6), 1299-1304 (2017).
4. Paramasivan, S. and Bolton, P.H. Mix and measure fluorescence screening for selective quadruplex binders. *Nucleic Acids Res.* **36**(17), e106 (2008).

WARNING

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

SAFETY 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.

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