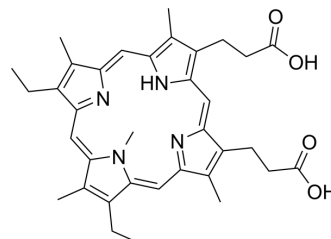


N-Methylmesoporphyrin IX

| | |
|--------------------|---|
| Cat. No.: | HY-133821 |
| CAS No.: | 142234-85-3 |
| Molecular Formula: | C ₃₅ H ₄₀ N ₄ O ₄ |
| Molecular Weight: | 580.72 |
| Target: | G-quadruplex |
| Pathway: | Cell Cycle/DNA Damage |
| Storage: | -20°C, protect from light |

* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 15 mg/mL (25.83 mM; Need ultrasonic and warming)

| Concentration | Solvent | Mass | | |
|---------------------------|---------|-----------|-----------|------------|
| | | 1 mg | 5 mg | 10 mg |
| Preparing Stock Solutions | 1 mM | 1.7220 mL | 8.6100 mL | 17.2200 mL |
| | 5 mM | 0.3444 mL | 1.7220 mL | 3.4440 mL |
| | 10 mM | 0.1722 mL | 0.8610 mL | 1.7220 mL |

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

N-Methylmesoporphyrin IX (NMM), a widely used G-quadruplex DNA specific fluorescent binder, is an efficient probe for monitoring A β fibrillation. N-Methylmesoporphyrin IX is an in situ inhibitor and an ex situ monitor for A β amyloidogenesis both in vitro and in cells. N-Methylmesoporphyrin IX is sensitive to G-quadruplexes DNA but has no response to duplexes, triplexes and single-stranded forms DNA. N-Methylmesoporphyrin IX is nonfluorescent alone or in monomeric A β environments, but emits strong fluorescence through stacking with the A β assemblies^[1].

In Vitro

By use of N-Methylmesoporphyrin IX (NMM) as an ex situ probe, NMM is added into the incubated A β 40 solution. The concentration of NMM is fixed at 1 μ M. To examine the influence of Rhodamine B, 1 μ M NMM with 0.1 μ M or 0.5 μ M Rhodamine B along with 10 μ M A β 40 are measured. In the study of using NMM as an in situ inhibitor, NMM (10 μ M) is co-incubated with A β 40 (50 μ M) for 7 days at 37 °C. Additional NMM is added before PL measurement to make the concentration of NMM constant (1 μ M). The fluorescence spectra of NMM are collected from 550 to 700 nm with an excitation wavelength of 399 nm^[1].

N-Methylmesoporphyrin IX (NMM) is sensitive to G-quadruplexes DNA but has no response to duplexes, triplexes and single-stranded forms DNA. Upon binding to quadruplex DNA, for efficient π - π stacking, NMM can adjust its macrocycle geometry to match the terminal face of a G-quadruplex, leading to an enhancement in its fluorescence^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Meng Li, et al. N-Methyl Mesoporphyrin IX as an Effective Probe for Monitoring Alzheimer's Disease β -Amyloid Aggregation in Living Cells. ACS Chem Neurosci. 2017 Jun 21;8(6):1299-1304.

Caution: Product has not been fully validated for medical applications. For research use only.

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