

# PRODUCT INFORMATION



## Mn(III)TMPyP

Item No. 75852

**Formal Name:** Mn(III)tetrakis(1-methyl-4-pyridyl) porphyrin pentachloride

**MF:** C<sub>44</sub>H<sub>36</sub>MnN<sub>8</sub> • 5Cl

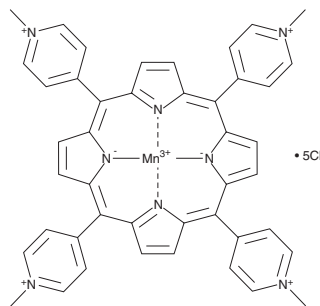
**FW:** 909.0

**UV/Vis.:** λ<sub>max</sub>: 469 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

Mn(III)TMPyP is supplied as a crystalline solid. Aqueous solutions of Mn(III)TMPyP can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of Mn(III)TMPyP in PBS (pH 7.2) is approximately 4 mg/ml. The solubility of Mn(III)TMPyP in aqueous buffers (pH 1-9) is approximately 50 mg/ml. The solubility of Mn(III)TMPyP in 0.1 M Tris-HCl, 1 mM EDTA, pH 9.0 is approximately 100 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Mn(III)TMPyP is a manganese-porphyrin which acts as a superoxide dismutase (SOD) mimetic and peroxynitrite decomposition catalyst.<sup>1</sup> SOD mimetics described to date are unstable and are capable of catalyzing undesired side-reactions in addition to the dismutation of the superoxide radical (O<sub>2</sub><sup>-</sup>). Mn(III)TMPyP is an SOD mimetic with increased stability to pH and hydrogen peroxide. The rate constant for superoxide dismutation and peroxynitrite decomposition are 3.9 x 10<sup>7</sup> M<sup>-1</sup>s<sup>-1</sup> and ~2 x 10<sup>6</sup> M<sup>-1</sup>s<sup>-1</sup>, respectively.<sup>1,2</sup> Mn(III)TMPyP protected and enhanced the growth of SOD null *E. coli* with a doubling time of 60 minutes (as compared to 240 minutes of the control) at 25 μM.<sup>2</sup>

### References

1. Hunt, J., Lee, J., and Groves, J.T. Amphiphilic peroxynitrite decomposition catalysts in liposomal assemblies. *Chem. Biol.* **4(11)**, 845-858 (1997).
2. Faulkner, K.M., Liochev, S.I., and Fridovich, I. Stable Mn(III) porphyrins mimic superoxide dismutase *in vitro* and substitute for it *in vivo*. *J. Biol. Chem.* **269(38)**, 23471-23476 (1994).

#### 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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