

## Methylene Blue Maleimide

Catalog Number: 831  
Unit Size: 1 mg

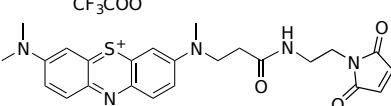
### Product Details

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Storage Conditions	Freeze (< -15 °C), Minimize light exposure
Expiration Date	12 months upon receiving

### Chemical Properties

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Appearance	Solid blue
Molecular Weight	577.58
Soluble In	DMSO
Chemical Structure	 The chemical structure shows a cationic methylene blue core (a bis(4-aminophenyl)benzothiophene derivative with a quaternary nitrogen and a sulfonate group) linked via an amide group to a maleimide-modified ethylendiamine side chain. The side chain consists of a terminal maleimide group attached to a nitrogen atom, which is further linked to a 2-hydroxyethyl group.

### Spectral Properties

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Excitation Wavelength	N/A
Emission Wavelength	N/A

### Applications

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Methylene Blue (MB) is widely used as a redox indicator in nucleic acid research. Methylene Blue maleimide is an excellent building block for preparing MB-labeled nucleic acid probes from thiol-modified oligonucleotides. MB is also a well-known photosensitizer used in photodynamic therapy (PDT) and investigated for the topical treatment of various skin infections via PDT modality. It is a common biological stain, commonly used in medical laboratories to stain cells and tissues for microscopic examination. It can help visualize cellular structures and identify abnormalities. In addition, MB has been studied for its potential role in treating neurodegenerative diseases, such as Alzheimer's and Parkinson's disease. Some research suggests it might have a protective effect on neurons and mitochondrial function.