

Product Information

Methylene Blue (MB) Derivatives

Product List

| Cat. No. | Product | Unit Size | MW |
|----------|-----------------------|-----------|------|
| 40075 | MB Succinimidyl Ester | 5 mg | 533 |
| 40076 | MB Acid | 5 mg | 392 |
| 40114 | MB-DBCO | 1 mg | ~790 |
| 40115 | MB-Methyltetrazine | 1 mg | ~620 |
| 40116 | MB-TCO | 1 mg | ~650 |
| 40117 | MB-Azide | 1 mg | ~520 |
| 40118 | MB-Maleimide | 1 mg | ~560 |

Storage and Handling

Store MB Acid at 4°C and protected from light; store all other MB derivatives at -20°C and protected from light. Store MB Succinimidyl Ester and MB-Maleimide solids desiccated. Product is stable for at least 12 months from date of receipt when stored as recommended.

Prepare the stock solution in DMSO. The MB products are not soluble in other solvents. Solutions can be aliquoted and stored with desiccant and protected from light at -20°C, for up to 6 months.

Spectral Properties

Methylene Blue shows a primary absorption peak at 665 nm with a shoulder around 610 nm, and a small peak at around 293 nm [1].

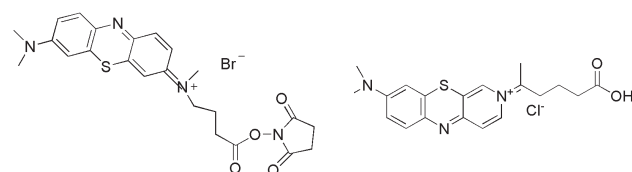


Figure 1. Left: MB Succinimidyl Ester, Right: MB Acid, (others proprietary).

Product Description

Methylene Blue (MB) is a commonly used redox indicator in nucleic acid research. It is also studied for its use in medical applications as well as being used as a general biological stain. We offer MB Free Acid and with a selection of six different chemically reactive groups for use in labeling biomolecules such as proteins and nucleic acids. For more conventional labeling chemistry, we offer MB Succinimidyl Ester, MB-Maleimide, and MB Acid (Figure 1). MB Succinimidyl Ester is reactive with primary amines and can be used to label proteins or other molecules with primary amine groups. MB Maleimide can be used to react with free thiol groups. The resulting conjugates will have a blue color and be able to complex with nucleic acids. MB Acid can be used as a non-reactive control dye for conjugates.

We offer four MB conjugates for bioorthogonal labeling reactions (precise structures proprietary). MB-dibenzocyclooctyne (DBCO) allows copper-free bioorthogonal conjugation to spontaneously label molecules containing azide groups. MB-methyltetrazine and MB-TCO (trans-cyclooctene) react with the corresponding TCO, tetrazine and methyltetrazine via a copper-free reaction. MB-Azide allows a copper-catalyzed bioorthogonal conjugation reaction with alkyne, copper-free reaction with BCN, or Staudinger ligation with phosphine. We do not provide a validated protocol for these products and ask that customers use the related literature to find appropriate guidance for their own application.

Biotium also offers reactive formats of fluorescent CF® Dyes for labeling proteins, nucleic acids, or other biomolecules (see Related Products).

References

1. J Clin Med, 9, 11, (2020).

Related Products

| Cat. No. | Product |
|---------------|---|
| 40020-1 | 5-Aminoallyl-dUTP (AA-dUTP), Lyophilized Powder |
| 40020 | 5-Aminoallyl-dUTP (AA-dUTP), 10 mM solution |
| 40021 | 5-Aminoallyl-UTP, Sodium Salt, 10 mM Solution |
| 40021-1 | 5-Aminoallyl-UTP, Sodium Salt, Lyophilized Powder |
| 90117-90119 | Cyanine NS Dye Succinimidyl Ester |
| 92080...96000 | CF® Dye Azide |
| 92187...96007 | CF® Dye Picolyl Azide |
| 92086-92090 | CF® Dye Alkyne |
| 92103...97502 | CF® Dye SE/TFP |
| 92020...96079 | CF® Dye Maleimides |
| 96028-96039 | CF® Dye Methyltetrazine |
| 96040-96051 | CF® Dye TCO |
| 92167 | Biotin Azide |
| 92168 | Biotin Alkyne |
| 92169 | Biotin BCN |
| 92186 | Biotin Picolyl Azide |
| 92100-92101 | Cyanine Dye Alkyne |
| 96023 | MTS-BCN |
| 96038 | Biotin Methyltetrazine |
| 96050 | Biotin TCO |

Please visit our website at www.biotium.com for information on our life science research products, including environmentally friendly EvaGreen® qPCR master mixes, fluorescent CF® Dye antibody conjugates and reactive dyes, apoptosis reagents, fluorescent probes, and kits for cell biology research.

CF® Dye technology is covered by U.S. and international patents

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