

# MFP488-C5-maleimide (Peptide Labeling)

Product Information Sheet  
# MFP-A1254



## SUMMARY

shipped at room temperature; store at -20 °C

Unit: 1 mg

**Stock Solution:** at least 1 mM in DMSO, dH<sub>2</sub>O or buffer (pH 7.4)

**Abs./Em.max.:** 501/523 nm

**For research use only**

## Preparation of the Stock Solution

Recommended solvents for preparing stock solutions of at least 1 mM are DMSO, dH<sub>2</sub>O or a suitable buffer (pH 7.4). Aqueous stock solutions should be used within 24 hours; long-term storage is NOT recommended.

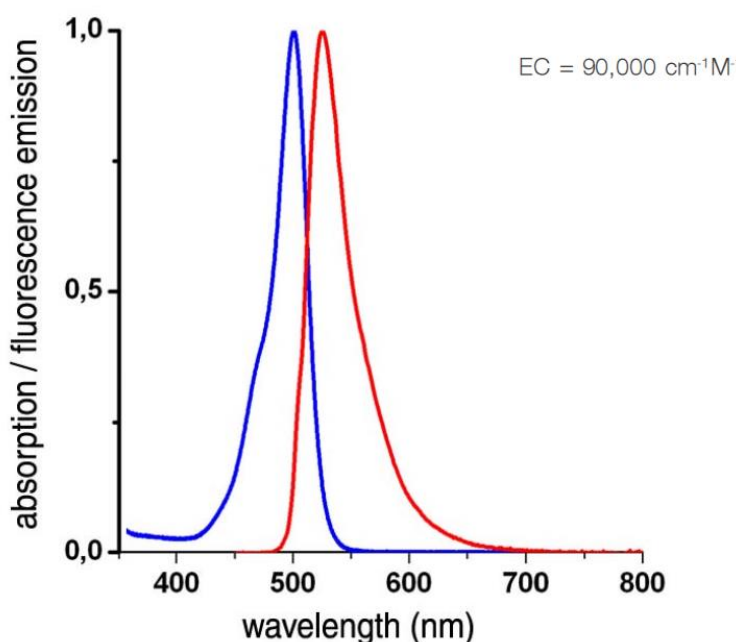
## Absorption / Emission Maxima

**Absorption maximum:** 501 nm +/- 5 nm

**Emission maximum:** 523 nm +/- 5 nm

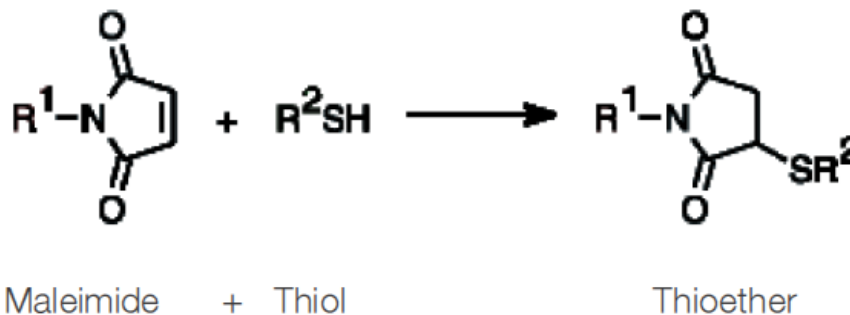
**Molecular Weight:** 712 g/mol

## Spectra MFP488



## Coupling Mechanism

Maleimides are reagents for thiol-selective modification, quantitation and analysis. The reaction involves addition of the thiol across the double bond of the maleimide to yield a thioether.



## Protocol

This protocol is suitable for conjugation of maleimides to proteins.

1. Dissolve the protein at 50 - 100  $\mu\text{M}$  in a suitable buffer (e.g. 10 - 100 mM phosphate or Tris buffer, pH 7.0 - 7.5) at room temperature.
2. Reduction of disulfide bonds in the protein is best carried out at this stage. A 10-fold molar excess of a reducing agent such as dithiothreitol (DTT) or tris-(2-carboxyethyl)phosphine, hydrochloride (TCEP) is usually sufficient. If DTT is used, then dialysis is required to remove the excess DTT prior to introducing the reactive dye. It is not necessary to remove excess TCEP during conjugation.

**Note:** Please carry out thiol modifications in an oxygen-free environment because thiols can be oxidized to disulfides. All buffers should be deoxygenated and the reactions carried out under an inert atmosphere to prevent reformation of disulfides.

3. Prepare a 1 - 10 mM stock solution of the reactive dye in a suitable solvent immediately prior to use. Protect all stock solutions from light as much as possible by wrapping containers in aluminium foil.
4. Add sufficient protein-modification reagent from a stock solution to give approximately 10 - 20 moles of reagent for each mole of protein. Add the reagent dropwise to the protein solution as it is stirring.
5. Incubate for 2 hours at room temperature or overnight at 4 °C. Please protect the mixture from light!
6. Add an excess of low molecular weight thiol such as glutathione, mercaptoethanol in order to consume excess thiol-reactive reagent, thus ensuring that no reactive substances are present during the purification step.
7. Separate the conjugate on a gel filtration column (e.g. Sephadex G-25 column), or by extensive dialysis at 4 °C in an appropriate buffer.

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## Order Information, Shipping and Storage

Order#	Product	Quantity
MFP-A1254	MFP488-C5-maleimide (Peptide Labeling)	1 mg
shipped at room temperature; store at -20 °C		

## Storage Conditions

Upon receipt, the product should be stored frozen at -20 °C, desiccated and protected from light. The product is stable for at least one year when stored frozen at -20 °C. Aqueous stock solutions should be used within 24 hours; long-term storage is NOT recommended.

## Contact and Support

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### Customer Service – General inquiries & orders information

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### Technical Service – Product

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**MoBiTec in your area:** Find your local distributor at

[www.mobitec.com](http://www.mobitec.com)