Amersham Cy3 and Cy5™ Maleimide Mono-Reactive Dye Packs

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Overview

Cy3 and Cy5 maleimide mono functional dyes are especially suitable for highly selective peptide, oligonucleotide and protein labeling via thiol maleimide coupling.

Selectivity and irreversible linkage stabilize crosslinked proteins

- **Highly selective antibody labeling:** reduces the probability of the label interfering with subsequent antibody-antigen reactions
- **Irreversible linkage:** stabilizes crosslinked proteins
- **Provides an alternative when CyDye NHS esters are unsuitable:** such as antibodies where amine labeling might impact antibody-antigen binding affinity

Thiol groups are useful targets for protein labeling. Because they are present in most proteins, but less common than primary amines, crosslinking is more selective and precise. Crosslinking at these sites typically does not significantly modify the underlying protein structure or block binding sites. Maleimides react specifically with thiol groups such as cysteine residues in peptides, proteins, and oligonucleotides. This yields an irreversible thioether linkage, stabilizing crosslinked proteins for protein-protein interaction studies.

Cy3 and Cy5 labeled maleimides are used to create fluor-labeled protein conjugates. They are often used in steady-state fluorescence, fluorescence polarization (FP) and fluorescence resonance energy transfer (FRET) applications to study protein-protein, protein-peptide, and protein-nucleic acid interactions.

CyDye labeled maleimides are also used for antibody labeling since the dye molecules are introduced away from the antibody binding site. This increases the likelihood that functionality of the labeled molecule will be unimpaired.

The protocol is simple and robust. This offers an alternative chemistry when either greater selectivity of labeling is required or amine labeling with Cy3 and Cy5 NHS esters is not desirable or appropriate.

Each kit contains five vials of dye, each sufficient for labeling 1 mg of protein. Dyes are packaged in premeasured amounts and foil-sealed to ensure consistent labeling.

Product specifications
Amersham Cy3 Maleimide Mono-Reactive Dye 5-Pack

Catalog code	PA23031
Absorbance	Max. 550 nm
Application	For the labelling of biological compounds with Cy3 monofunctional dye
Color	Red
Components	Five foil packs: each containing dried dye to label 1 mg of protein.
Estimated shelf life from manufacture date	See outer packaging.
Lifetime	<0.3 ns
Molar Extinction Coefficient	150000 M^{-1} cm^{-1}
Molecular Weight (Mr)	791
Quantum Yield	>0.15
Solubility	Soluble in cold water and hot water

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Storage conditions	2 - 8°C, protected from light. Reconstituted material may be stored for up to 2 weeks at -20°C in aliquots to avoid repeat freeze thaw cycles.
Reagent type	Fluorescent Labeling Reagents

Amersham Cy5 Maleimide Mono-Reactive Dye 5-Pack

Catalog code	PA25031
Absorbance	Max. 649 nm
Application	For the labelling of biological compounds with CyTM5 monofunctional dye
Color	Blue
Components	Five foil packs: each containing dried dye to label 1 mg of protein.
Estimated shelf life from manufacture date	See outer packaging.
Lifetime	1.0 ns
Molar Extinction Coefficient	250000 M^{-1} cm^{-1}
Molecular Weight (Mr)	817
Quantum Yield	>0.28
Solubility	Soluble in cold water and hot water
Storage conditions	2 - 8°C, protected from light. Reconstituted material may be stored for up to 2 weeks at -20°C in aliquots to avoid repeat freeze thaw cycles.
Reagent type	Fluorescent Labeling Reagents

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