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Product Information: **Cyan 500 NHS-Ester**



Cyan 500 NHS-Ester is an amine-reactive fluorescent label. It is designed and recommended by **Roche** for application in LightCycler® instruments. Characteristic features of the label are strong absorption and high fluorescence quantum yield. The dye is used to label amino-modified oligonucleotides which after conjugation can be detected in **Roche** LightCycler® instruments with excitation at 430 nm.

In addition **Cyan 500 NHS-Ester** can be used as a label for other bio-molecules such as proteins, etc. **Cyan 500 NHS-Ester** is moderately hydrophilic. For details of coupling see our recommended labeling procedures at www.atto-tec.com - Support - Downloads - [General Procedures](#).

Optical data (in PBS, pH 7.4):

$$\lambda_{\text{abs}} = 450 \text{ nm}$$

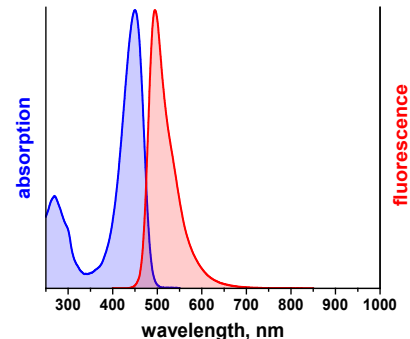
$$\epsilon_{\text{max}} = 4.5 \times 10^4 \text{ M}^{-1} \text{ cm}^{-1}$$

$$\lambda_{\text{fl}} = 495 \text{ nm}$$

$$\eta_{\text{fl}} = 85 \%$$

$$\text{CF}_{260} = 0.31$$

$$\text{CF}_{280} = 0.30$$



Spectra available in digitized form (excel file) on

<http://www.atto-tec.com>

Modification	MW, g/mol	Order Code	
		Unit (1 mg)	Unit (5 mg)
NHS-ester	580	Cyan 500-31	Cyan 500-35

General Information

Storage: The product is shipped solvent-free at ambient temperature. Upon receipt store at -20 °C. To avoid moisture condensation onto the product, vial must be equilibrated to room temperature before opening. When stored properly, protected from moisture and light, ATTO-TEC products are stable for at least three years.

Risk and safety: A material safety data sheet (MSDS) can be downloaded from our website at www.atto-tec.com.

Solutions: The product is soluble in polar solvents, e.g. dimethylformamide (DMF), dimethylsulfoxide (DMSO), or acetonitrile. However, due to their inherent reactivity, NHS-esters must be well protected from OH-containing solvents like ethanol and, in particular, water. Prepare labeling solutions of NHS-esters immediately before use by dissolving the vial content in anhydrous and amine-free DMF or DMSO. Depending on the quality of the solvent used, such solutions may be of limited stability.

The dye reacts easily with amino-groups of oligonucleotides, proteins and other bio-molecules. Since the amino-group must be non-protonated to be reactive, the pH of the reaction medium has to be adjusted sufficiently high. As with all NHS-esters unavoidable hydrolysis takes place at high pH and competes with the desired labeling. Therefore the solution has to be buffered carefully. For details see the Labeling Protocol on www.atto-tec.com.

Further Notes:

- ATTO-TEC products are high-quality reagents intended for research purposes only.
- The use of ATTO-TEC products must be supervised by technically qualified personnel experienced in handling potentially hazardous chemicals. For safety instructions please read the corresponding Material Safety Data Sheet.
- Most ATTO-TEC products and product applications are covered by European and foreign patents.
- Commercial use of ATTO-TEC products is not permitted without written agreement by ATTO-TEC GmbH. Inquiries for licensing may be directed to info@atto-tec.com.