

## 51927 Atto 594 Phalloidin

### Application

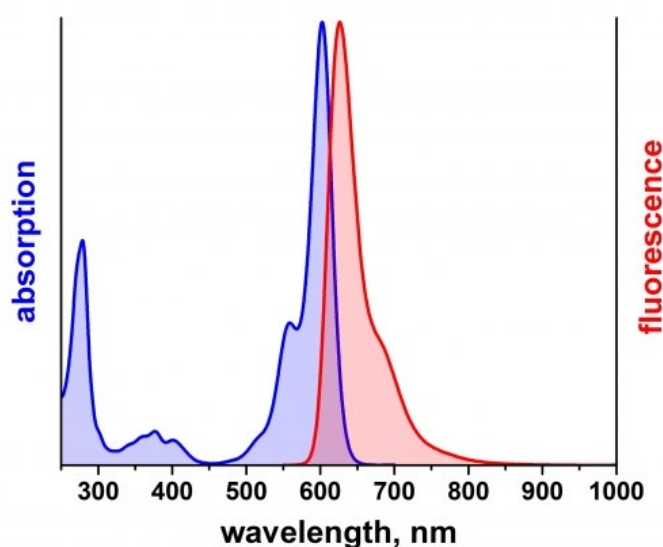
Atto 594 is a novel fluorescent label belonging to the class of Rhodamine dyes. The dye is designed for application in the area of life science, e.g. labeling of DNA, RNA or proteins. Characteristic features of the label are strong absorption, high fluorescence quantum yield, high thermal and photo-stability, excellent water solubility, and very little triplet formation. After coupling to a substrate Atto 594 carries a net electrical charge of -1.

Phalloidin is a fungal toxin isolated from the poisonous mushroom *Amanita phalloides*. Its toxicity is attributed to the ability to bind F actin in liver and muscle cells. As a result of binding phalloidin, actin filaments become strongly stabilized. Phalloidin has been found to bind only to polymeric and oligomeric forms of actin, and not to monomeric actin. The dissociation constant of the actin-phalloidin complex has been determined to be on the order of  $3 \times 10^{-8}$ . Phalloidin differs from amanitin in rapidity of action; at high dose levels, death of mice or rats occurs within 1 or 2 hours. Fluorescent conjugates of phalloidin are used to label actin filaments for histological applications. Some structural features of phalloidin are required for the binding to actin. However, the side chain of amino acid 7 (g-d-dihydroxyleucine) is accessible for chemical modifications without appreciable loss of affinity for actin.

### Product Description

|                         |                                                  |
|-------------------------|--------------------------------------------------|
| MW                      | 1688 g/mol                                       |
| $\lambda_{\text{abs}}$  | 603 nm                                           |
| $\epsilon_{\text{max}}$ | $1.2 \times 10^5 \text{ M}^{-1} \text{ cm}^{-1}$ |
| $\lambda_{\text{fl}}$   | 626 nm                                           |
| $\eta_{\text{fl}}$      | 85 %                                             |
| $\tau_{\text{fl}}$      | 3.9 ns                                           |
| $\text{CF}_{260}$       | 0.22                                             |
| $\text{CF}_{280}$       | 0.50                                             |

### Optical data of the carboxy derivative (in aqueous solution)

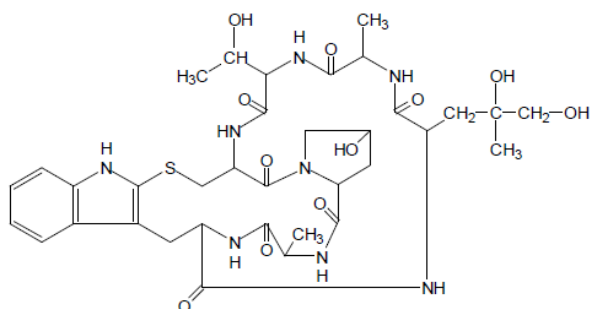


### Properties of Phalloidin:

Molecular formula:  $C_{35}H_{48}N_8O_{11}S$

Molecular weight: 788.9 (anhydrous)

Extinction Coefficient:  $E^{1\%} = 0.597$  (295 nm in water)



### Staining procedure:

We recommend solving the lyophilisate (10 nmol) in 500  $\mu$ l methanol as a stock solution.

Store the stock solution at -20 °C.

For F-actin staining add 20 - 30  $\mu$ l of the stock solution to 1 ml of the labeling buffer (PBS buffer).

**Storage of Atto 594 phalloidin:** protected from light at -20°C

### Precautions and Disclaimer:

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

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