

79286 Atto 700 Phalloidin

Application

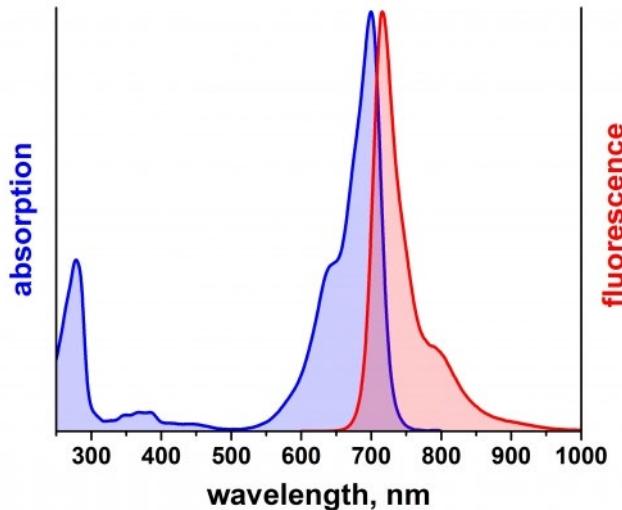
Atto 700 belongs to a new generation of fluorescent labels. The dye is designed for application in the area of life science, e.g. labeling of DNA, RNA or proteins. Characteristic features of the label are strong absorption, high fluorescence quantum yield, excellent thermal and photo-stability, very good water solubility and very little triplet formation. Atto 700 is a zwitterionic dye with a net electrical charge of zero. The fluorescence is efficiently quenched by electron donors like guanine, tryptophan, etc

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 3×10^{-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	1450 g/mol
λ_{abs}	700 nm
ε_{max}	$1.2 \times 10^5 \text{ M}^{-1} \text{ cm}^{-1}$
λ_{fl}	716 nm
η_{fl}	25 %
τ_{fl}	1.6 ns
CF_{260}	0.26
CF_{280}	0.41

Optical data of the carboxy derivative (in aqueous solution)

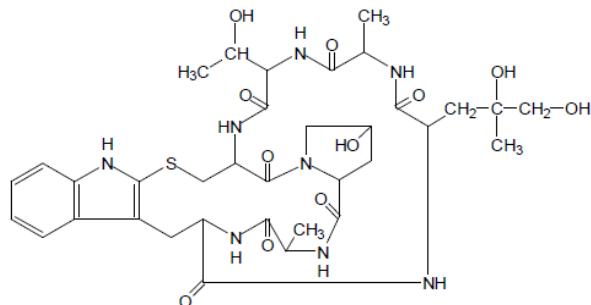


Properties of Phalloidin:

Molecular formula: C₃₅H₄₈N₈O₁₁S

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 µl methanol as a stock solution.

Store the stock solution at -20 C.

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

Storage of Atto 700 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.

The vibrant M and Sigma-Aldrich are trademarks of Merck KGaA, Darmstadt, Germany or its affiliates. Detailed information on trademarks is available via publicly accessible resources. © 2018 Merck KGaA, Darmstadt, Germany and/or its affiliates. All Rights Reserved.

The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada.

