54367 Phalloidin-Atto 520

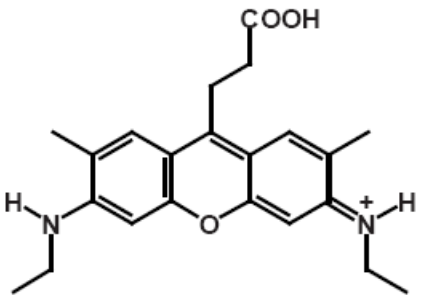
Application

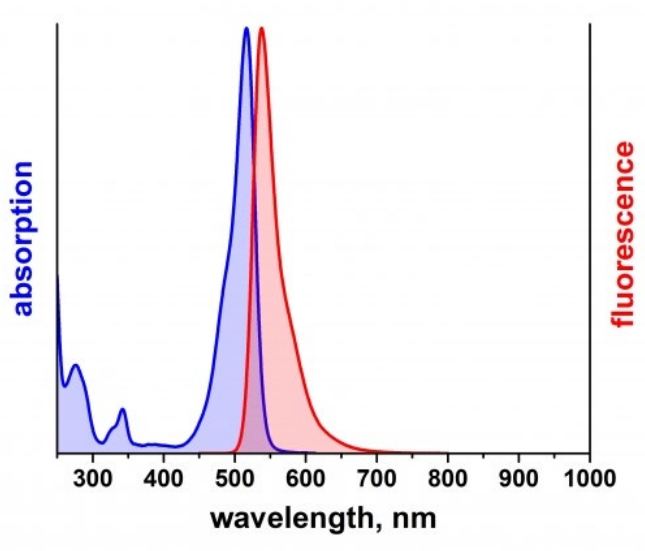
Atto 520 is a novel fluorescent label related to the well-known dye Rhodamine 6G. The dye is intended for application in the area of life science, e.g. labeling of DNA, RNA or proteins. Characteristic features of the label are strong absorption, high fluorescence quantum yield, high thermal and photo-stability, and very little triplet formation. At pH > 7 Atto 520 shows reversible formation of a colorless pseudobase.
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 x 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	1250 g/mol
λ_{abs}	517 nm
ε_{max}	1.1 x 10^5 M^{-1} cm^{-1}
λ_{fl}	538 nm
η_{fl}	90 %
τ_{fl}	3.7 ns
CF_{260}	0.16
CF_{280}	0.20

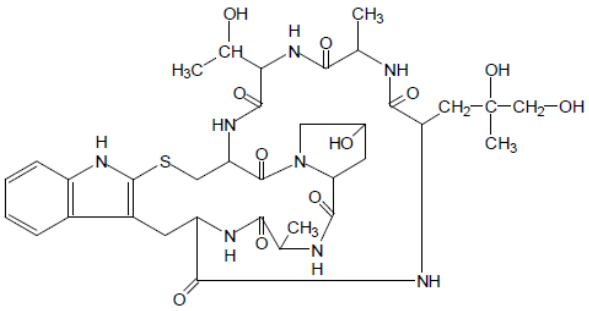
Optical data of the carboxy derivative (in aqueous solution)





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:

To prepare a stock solution of the phalloidin-conjugate it is recommended dissolving the sample in 1 ml of methanol.

Storage: store at ≤ -20°C. Protect from long-term exposure to moisture and light.

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.