49429 Phalloidin-Atto 532

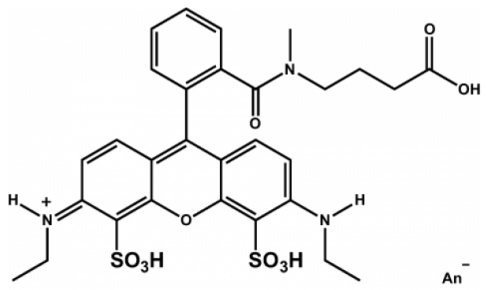
Application

Atto 532 is a fluorescent label related to the well-known dye Rhodamine 6G. Characteristic features of the label are strong absorption, high fluorescence quantum yield, high photostability, and excellent water solubility. Thus Atto 532 is highly suitable for single-molecule detection applications and high-resolution microscopy such as PALM, dSTORM, STED etc. Additionally the dye highly qualifies to be applied in flow cytometry (FACS), fluorescence in-situ hybridization (FISH) and many more. The fluorescence is excited most efficiently in the range 515 - 545 nm.
A suitable excitation source for Atto 532 is the 532 nm output of the frequency-doubled Nd:YAG laser.
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.

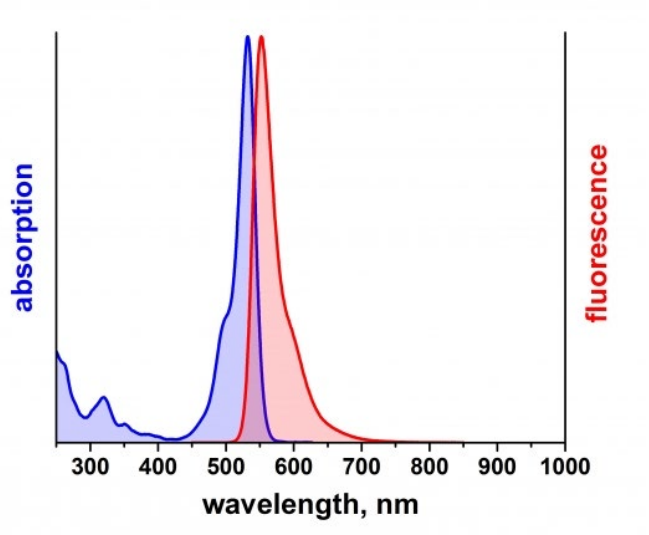
Product Description

MW	1530 g/mol
λ_{abs}	532 nm
ε_{max}	1.15 x 10^5 M^{-1} cm^{-1}
λ_{fl}	552 nm
η_{fl}	90 %
τ_{fl}	3.8 ns
CF_{260}	0.20
CF_{280}	0.09

Optical data of the carboxy derivative (in aqueous solution)

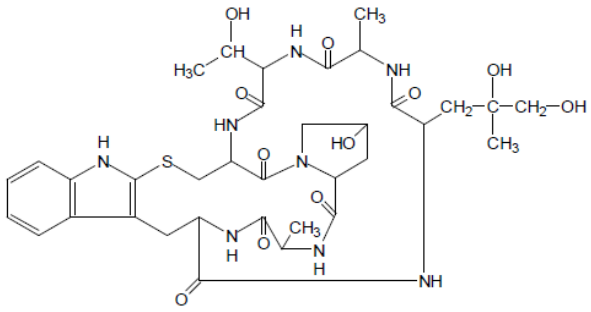


Structure of free acid



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: 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