

14479 Phalloidin Atto 490LS

Application

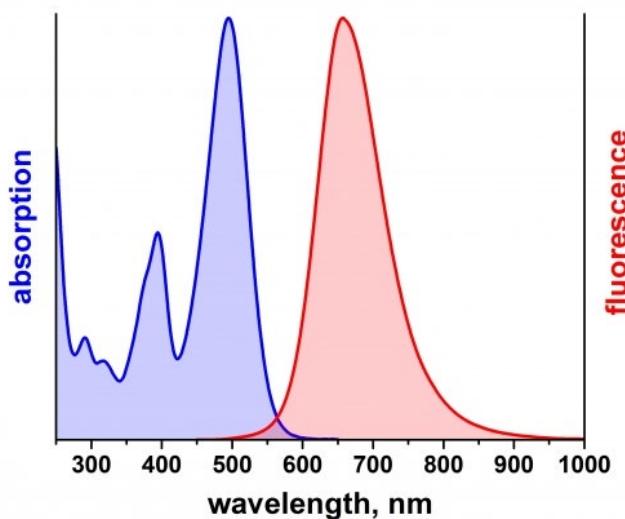
Atto 490LS is a new fluorescent label featuring an extraordinary large Stokes-Shift of 165 nm. Thus the emission spectrum is almost completely separated from its absorption spectrum, making the dye highly suitable for multiplexing experiments, in particular in combination with Atto 488 and Atto 514. Atto 490LS is very hydrophilic and shows excellent water solubility. The dye exhibits a relatively high fluorescence quantum yield, which is only slightly reduced after conjugation to biomolecules, e.g. proteins, even at high degrees of labeling (DOL). Atto 490LS is an anionic dye. After conjugation to a substrate the dye 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 3×10^{-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	1466 g/mol
λ_{abs}	495 nm
ϵ_{max}	$4.0 \times 10^4 \text{ M}^{-1} \text{ cm}^{-1}$
λ_{fl}	658 nm
η_{fl}	30%
τ_{fl}	2.6 ns
CF ₂₆₀	0.39
CF ₂₈₀	0.21

Optical data of the carboxy derivative (in PBS pH 7.4)

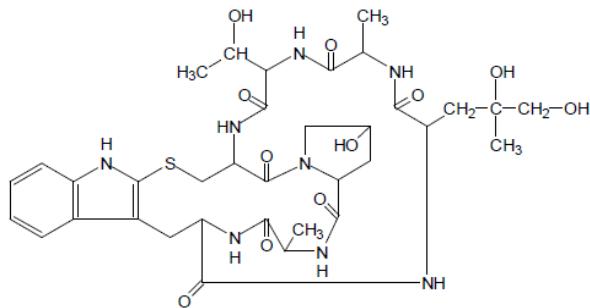


Properties of Phalloidin:

Molecular formula: C₃₅H₄₈N₈O₁₁S

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.

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