04497 Atto 665 Phalloidin

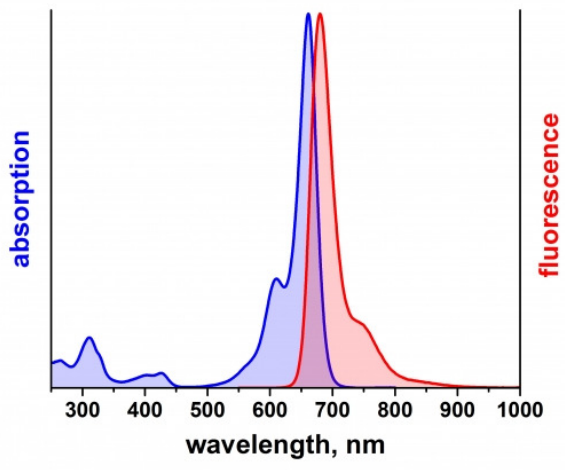
Application

Atto 665 Phalloidin is a new fluorescent label closely related to Atto 647N. As such the dye shows an extraordinarily high fluorescence quantum yield, excellent thermal and photo-stability, outstanding ozone resistance, and very little triplet formation. Atto 665 Phalloidin is a cationic dye (charge +1). In common with most Atto-labels, absorption and fluorescence are independent of pH in the range of 2 to 11, used in typical applications.
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

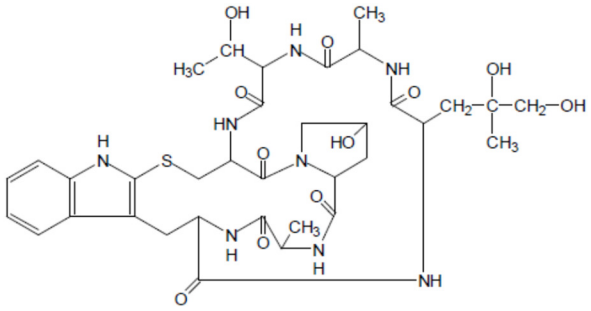
MW	1507 g/mol
λabs	662 nm
ε_{max}	1.60×10^5 M^{-1} cm^{-1}
λ_{fl}	680 nm
η_{fl}	60 %
t_{Fl}	2.9 ns
CF_{260}	0.07
CF_{280}	0.06

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 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 665 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.