Product Information

# Phalloidin, Fluorescein Isothiocyanate Labeled

Sequence from *Amanita phalloides* (synthetic peptide sequence)

**P5282**

## Product Description

Molecular Formula: $C_{56}H_{60}N_{10}O_{15}S_2$

Molecular Weight: 1177.26

Synonyms: Phalloidin-FITC, FITC-Phalloidin

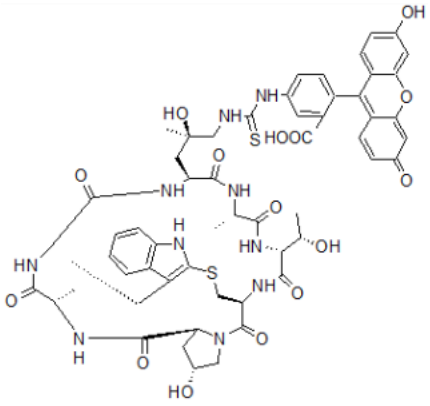
Molar Extinction Coefficient:[1] 70,000 (495 nm)

Excitation wavelength:[1] 495 nm

Emission wavelength:[1] 513 nm

Storage temperature: –20 °C

Structure:



Phalloidin is a fungal toxin that occurs naturally in the poisonous mushroom *Amanita phalloides*.[2] Phalloidin toxicity is attributed to the ability to bind F actin in liver and muscle cells. As a result of binding phalloidin, actin filamentsbecome strongly stabilized. Phalloidin has been found to bind only to polymeric and oligomeric forms of actin, and not to monomeric actin.[3] The dissociation constant of the actin-phalloidin complex has been determined to be on the order of $3 \times 10^{-8}$ M.[4]

Fluorescent conjugates of phalloidin, such as FITC (fluorescein isothiocyanate) or TRITC (tetramethylrhodamine B isothiocyanate) conjugates, have been used to label actin filaments for histological applications,[3-7] such as flow cytometry analysis of actin polymerization.[8-10] Some structural features of phalloidin are required for the binding to actin.[3] However, the side chain of amino acid 7 (γ-δ-dihydroxyleucine) is accessible for chemical modifications without appreciable loss of affinity for actin. TRITC-phalloidin is considered to be less susceptible to photobleaching than FITC-phalloidin.[6]

## Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

## Storage/Stability

It is recommended to store this product at –20 °C.

## Preparation Instructions

This product is tested for solubility in methanol at 2 mg/mL. In general, solutions of phalloidin compounds should be prepared fresh and protected from light whenever possible. Several publications have reported preparation of stock solutions of FITC-phalloidin in organic solvents besides methanol, although we have not tested any of the following situations ourselves:

- 0.08% (0.8 mg/mL, or 800 µg/mL) stock solution of FITC-phalloidin in ethanol[11]
- 6.6 µM stock solution of FITC-phalloidin in ethanol[12]
- 0.1 mg/mL stock solution of FITC-phalloidin in DMSO[13]

## Procedure

The following procedure may serve as a general guideline for staining cells.[14] Final staining solutions in aqueous physiological buffers have a phalloidin concentration range of 0.1-100 µM, with corresponding incubation times of 15 minutes to 72 hours.

1. Cells are washed with phosphate buffered saline (PBS).
2. Cells are fixed for 5 minutes in 3.7% formaldehyde solution in PBS, then washed extensively in PBS.
3. Cells may be dehydrated with acetone, permeabilized with 0.1% TRITON™ X-100 in PBS and washed again in PBS.
4. Cells are stained with a 50 µg/mL fluorescent phalloidin conjugate solution in PBS (containing 1% DMSO from the original stock solution) for 40 minutes at room temperature.
5. Wash several times with PBS to remove unbound phalloidin conjugate.

## References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