

## Filipin III (Cholesterol fluorescent probe)

equivalent to MCE Cat: HY-N6718

Cat #: BGT-CHM-00101

Size: 1mg

### Product specifications

Cas No: 480-49-9

MF: C<sub>35</sub>H<sub>58</sub>O<sub>11</sub>

FW: 654.8

Purity: ≥90%

UV/Vis.: λ<sub>max</sub>: 323, 339, 357 nm; Em:480nm

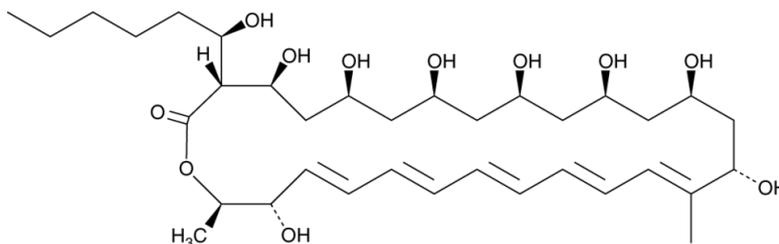
Supplied as: A crystalline solid

Storage/stability: protect from light(light sensitive)

Solid	-20°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month
In aqueous buffers		1 day

Solvent & Solubility: DMF: 5 mg/ml(≈ 7.65 mM)

DMSO: 10 mg/ml(≈ 15.3 mM)



Mass Concentration	1mg	5mg	10mg
1mM	1.527 ml	7.636 ml	15.271 ml
5mM	0.305 ml	1.527 ml	3.054 ml
10mM	0.153 ml	0.764 ml	1.527 ml

Please refer to the solubility information to select the appropriate solvent.

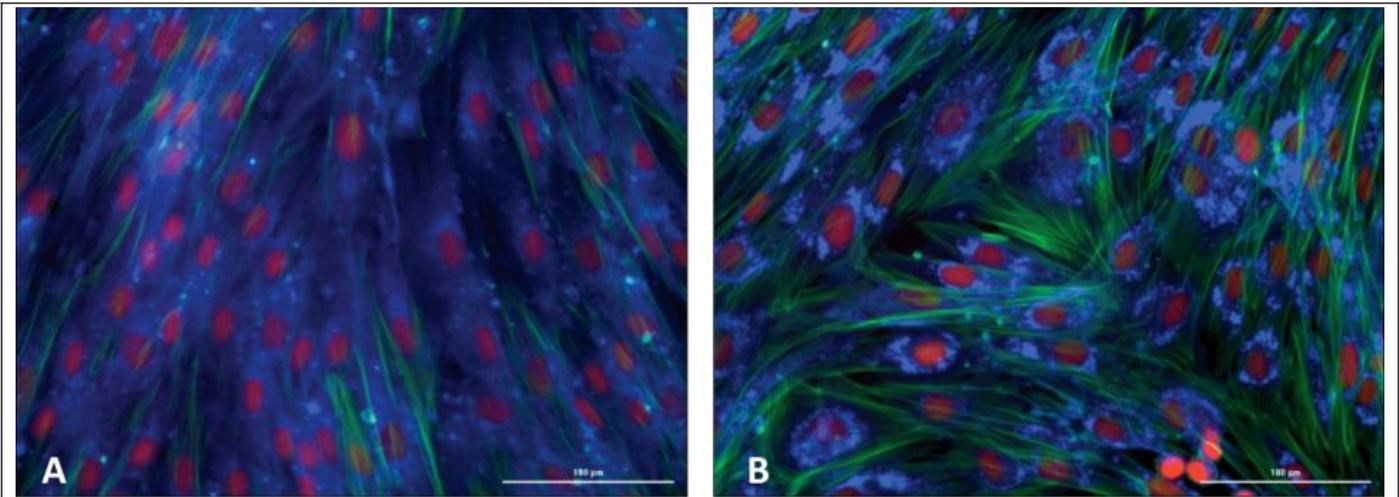
## Description

Filipin III is a polyene compound and an active component of the polyene antibiotic filipin complex. It exhibits potent biological activities, including antifungal properties, hemolytic effects, and the ability to induce apoptosis in specific cell types. Notably, it binds to cholesterol, making it a valuable tool for fluorescent labeling of sterols in biological structures. With high stability and well-characterized spectroscopic properties, it is widely used in molecular biology and biomedical research.

## Applications & Biological Activities

### Key Biological Activities

- **Antifungal Activity:** Active against a range of fungi, including *Blastomyces dermatitidis*, *Cryptococcus neoformans*, *Histoplasma capsulatum*, *Candida albicans*, and *Trichophyton mentagrophytes* (MICs = 1-10 µg/ml)<sup>[2]</sup>.
- **Hemolytic Activity:** Induces hemolysis of isolated rabbit erythrocytes (EC<sub>50</sub> = 0.8 µg/ml)<sup>[2]</sup>.
- **Apoptosis Induction:** Triggers apoptosis in HaCaT keratinocytes in a concentration-dependent manner<sup>[3]</sup>.
- **Cholesterol Labeling:** Binds specifically to cholesterol, enabling fluorescent labeling of sterols in biological structures (e.g., cell membranes, organelles)<sup>[4][5]</sup>. The filipin complex has excitation maxima of 338 and 357 nm and an emission maxima of 480 nm<sup>[6]</sup>.

**Application example for Cholesterol Labeling:**

**Cholesterol transport inhibitor U-18666A changes the localization of Filipin III staining in fibroblasts.** BJ human fibroblast were plated at  $1 \times 10^4$  cells/well in a 96 well plate and treated with vehicle (Panel A) or 0.6  $\mu$ M U-18666A (Panel B) for 48 hours. Cells were fixed with 3.7% formaldehyde and stained with Filipin III solution (**50  $\mu$ g/ml**), Phalloidin-iFluor 488, and 7-AAD in Cholesterol Detection Assay buffer plus 1% BSA. Images were captured by Biotek's Cytation™ 5 Cell Imaging Multi-ModeReader. Filipin III (blue) stains cholesterol, Phalloidin-iFluor 488 (green) labels F-actin, and 7-AAD (red) detects nuclei

**References**

- [1] Bergy, M.E. and Eble, T.E. *Biochemistry* 7(2), 653-659 (1968).
- [2] Sessa, G. and Weissmann, G. *J. Biol. Chem.* 243(16), 4364-4371 (1968).
- [3] Gniadecki, R. *Biochem. Biophys. Res. Commun.* 320(1), 165-169 (2004).
- [4] Bittman, R. and Fischkoff, S.A. *Proc. Natl. Acad. Sci. USA* 69(12), 3795-3799 (1972).
- [5] Boutté, Y., Men, S., and Grebe, M. *Nat. Protoc.* 6(4), 446-456 (2011).
- [6] Drabikowski, W., Lagwinska, E., and Sarzala, M.G. *Biochim. Biophys. Acta* 291, 61-70 (1973).

**Note:**

The product listed herein is for research use only and is not intended for use in human or clinical diagnosis.