

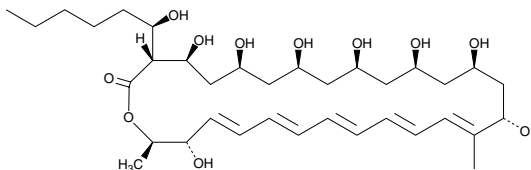
Product Information



Filipin III

Item No. 70440

CAS Registry No.: 480-49-9
Formal Name: 4S,6S,8S,10R,12R,14R,16S,27S-octahydroxy-3R-(1R-hydroxy-hexyl)17,28R-dimethyl-oxacyclooctacosone
MF: $C_{35}H_{58}O_{11}$
FW: 654.8
Purity: $\geq 85\%$
Stability: ≥ 1 year at -20°C
Supplied as: A crystalline solid
UV/Vis.: λ_{max} : 323, 339, 357 nm



Laboratory Procedures

For long term storage, we suggest that Filipin III be stored as supplied at -20°C . It should be stable for at least one year.

Filipin III is supplied as a crystalline solid. A stock solution may be made by dissolving the Filipin III in an organic solvent purged with an inert gas. Filipin III is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of Filipin III in these solvents is approximately 2, 5, and 10 mg/ml, respectively. We recommend using the stock solution within 24 hours or it may result in reduced activity.

Filipin III is sparingly soluble in aqueous buffers. Therefore, further dilutions of the organic solvent solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. For maximum solubility in aqueous buffers, Filipin III should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Filipin III has a solubility of approximately 0.4 mg/ml in a 1:4 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Cholesterol is both an important structural component of cell membranes and an early intermediate in hormone and bile acid biosynthesis. The localization and measurement of cholesterol in cells is therefore of great interest. Filipin is the collective name given to four isomeric polyene macrolides isolated from cultures of *S. filipinensis*; Filipin III is the predominant isomer and the one used in most studies. Filipin binds to cholesterol in membranes, forming ultrastructural aggregates and complexes which can be visualized by freeze-fracture electron microscopy.^{1,2} The binding of cholesterol also decreases the intrinsic fluorescence of Filipin, and this property has also been used to detect cholesterol in membrane fractions.³

References

1. Castanho, M.A.R.B., Coutinho, A., and Prieto, M.J.E. Absorption and fluorescence spectra of polyene antibiotics in the presence of cholesterol. *J. Biol. Chem.* **267**, 204-209 (1992).
2. Miller, R.G. Mini Review. The use and abuse of filipin to localize cholesterol in membranes. *Cell Biology International Reports* **8**(7), 519-535 (1984).
3. Severs, N.J. and Robenek, H. Detection of microdomains in biomembranes. An appraisal of recent developments in freeze-fracture cytochemistry. *Biochim. Biophys. Acta* **737**, 373-408 (1983).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/70440

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman warrants only to the original customer that the material will meet our specifications at the time of delivery.

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