

Product Information

Filipin complex, ready made solution

from *Streptomyces filipinensis*

Catalog Number **SAE0088**

Storage Temperature $-20\text{ }^{\circ}\text{C}$

CAS RN 11078-21-0 (complex)

Product Description

Molecular Formula: $\text{C}_{35}\text{H}_{58}\text{O}_{11}$ (complex)

Molecular weight:

654.8 (Filipin III)

638.8 (Filipin II)

Filipin Complex is the collective name for the family of isomeric polyene macrolides isolated from cultures of *S. filipinensis*. The relative percentages of the principal components of filipin complex have been reported as follows:¹

Filipin I: 4%

Filipin II: 25%

Filipin III: 53%

Filipin IV: 18%

An HPLC analysis of filipin complex has been published.²

Filipin complex has antibiotic, antifungal, antitumor, and antiviral activities.³ Filipin complex has been found to alter cell membrane structure by interacting with the membrane sterols ergosterols and cholesterol. As such, filipin complex has become a useful tool for diagnosis of Niemann-Pick type C disease,⁴ and for detection and quantification of cholesterol in cell membranes.⁵ Filipin complex is used as a marker for cholesterol trafficking in subcellular membranes.⁶

Storage/Stability

This product is sold as a 5 mg/mL solution in DMSO. The Filipin Complex solution is very sensitive to air and light.³ Upon receipt, aliquot and store at $-20\text{ }^{\circ}\text{C}$ and avoid freeze-thaw cycles.

Procedure

Filipin complex is used at various concentrations depending on the specific protocol. The stock solution may be diluted with appropriate buffer according to the specific protocol.

Filipin interaction with cholesterol alters the absorption and fluorescence spectra. For visualization with a fluorescence microscope, use excitation at 340–380 nm and emission at 385–470 nm. Filipin fluorescent staining photobleaches very rapidly, and thus samples should be analyzed immediately.

Precautions and Disclaimer

This product is 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.

References

1. Bergy, M.E., and Eble, T. E., Filipin complex. *Biochemistry*, **7(2)**, 653-659 (1968).
2. Kelly, P.M., and Nabinger, K.A., Separation of the Filipin Complex by Gradient-Elution High Performance Liquid Chromatography. *J. Antibiot. (Tokyo)*, **42(2)**, 322-324 (1989).
3. Whitfield, G.B. *et al.*, Filipin, an Antifungal Antibiotic: Isolation and Properties. *J. Am. Chem. Soc.*, **77(18)**, 4799-4801 (1955).
4. Pipalia, N.H. *et al.*, Automated microscopy screening for compounds that partially revert cholesterol accumulation in Niemann-Pick C cells. *J. Lipid Res.*, **47(2)**, 284-301 (2006).
5. Castanho, M.A.R.B. *et al.*, Absorption and fluorescence spectra of polyene antibiotics in the presence of cholesterol. *J. Biol. Chem.*, **267(1)**, 204-209 (1992).
6. Maxfield, F.R., and Wüstner, D., Analysis of cholesterol trafficking with fluorescent probes. *Methods Cell Biol.*, **108**, 367-393 (2012).

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