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Product Information

Filipin III, ready made solution
from *Streptomyces filipinesis*

Catalog Number **SAE0087**
Storage Temperature –20 °C

CAS RN 480-49-9

Product Description

Molecular Formula: $C_{35}H_{58}O_{11}$
Molecular Weight: 654.8

Filipin III is a polyene macrolide antibiotic and the major component of the filipin class of compounds that have been isolated from cultures of *S. filipinensis*. The name of this class of compounds derives from their initial isolation from a soil sample from the Philippines.[1] The NMR structure of filipin III has been reported.[2]

Because of its ability to fluoresce and bind to cholesterol, filipin has been widely used as a probe for sterol location in biological membranes.[3] Filipin has been used in a double staining procedure as a probe for the detection of lipoproteins in polyacrylamide gel and immobilized on nitrocellulose membranes. It is also widely used to localize and quantitate unesterified cholesterol by virtue of a specific fluorescent complex. It has been used as a stain for free cholesterol in studies of Type C Niemann-Pick disease.[4]

Filipin inhibits prion protein (PrP) endocytosis and causes the release of PrP from the plasma membrane.[5] Filipin III was found to trigger signaling responses in tobacco cells, including NADPH oxidase-dependent production.[6]

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.

Storage/Stability

This product is sold as a 1 mg/mL solution in DMSO. Filipin III solution is very sensitive to air and light. Upon receipt, aliquot and store at –20 °C, and avoid freeze/thaw cycles.

Procedure

Filipin III is used at various concentrations depending on the specific protocol. An aliquot of the stock solution may be diluted with appropriate buffer according to the specific protocol.

Filipin III interaction with cholesterol alters the absorption and fluorescence spectra.[3] 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.

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References

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3. 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).
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. Marella, M. *et al.*, Filipin Prevents Pathological Prion Protein Accumulation by Reducing Endocytosis and Inducing Cellular PrP Release. *J. Biol. Chem.*, **277(28)**, 25457-25464 (2002).
6. Bonneau, L. *et al.*, Plasma membrane sterol complexation, generated by filipin, triggers signaling responses in tobacco cells. *Biochim. Biophys. Acta*, **1798(11)**, 2150-2159 (2010).

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