Myristoleic Acid methyl ester

CAS Registry No.: 56219-06-8
Formal Name: 9-tetradecenoic acid, methyl ester
Synonyms: Methyl myristoleate, cis-9-
Tetradecenoate methyl ester
MF: C_{15}H_{28}O_{2}
FW: 240.4
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol

Laboratory Procedures

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

Myristoleic acid methyl ester is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of myristoleic acid methyl ester in these solvents is approximately 2.5 mg/ml.

Further dilutions of the stock 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. If an organic solvent-free solution of myristoleic acid methyl ester is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of myristoleic acid methyl ester in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Myristoleic acid is a cytotoxic component from the fruit extract of S. repens. It induces apoptosis and necrosis in human prostate cancer LNCaP cells at a rate of 8.8% and 8.1%, respectively.1 Furthermore, myristoleic acid found in the by-products for making cheese is one of three fatty acids that are most active at inhibiting C. albicans germination.2 It has a minimal inhibitory concentration (MIC) of 9 μM in vitro.2 Myristoleic acid methyl ester is a more hydrophobic form of the free acid.

References

1. Iguchi, K., Okumura, N., Usui, S., et al. Myristoleic acid, a cytotoxic component in the extract from Serenoa repens, induces apoptosis and necrosis in human prostate cancer LNCaP cells at a rate of 8.8% and 8.1%, respectively. FEMS Yeast Res. 47, 59-65 (2001).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/10008581

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 Safety Data Sheet, which has been sent via email to your institution.

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