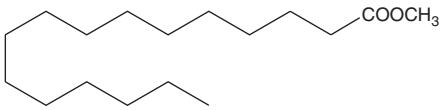
Product Information

Palmitic Acid methyl ester

Catalog No. 10007358

CAS Registry No.: 112-39-0
Formal Name: hexadecanoic acid, methyl ester
Synonyms: Methyl Palmitate, MP
MF: $C_{17}H_{34}O_2$
FW: 270.5
Purity: ≥99%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that palmitic acid methyl ester (MP) be stored as supplied at -20°C. It should be stable for at least two years.

MP is supplied as a crystalline solid. A stock solution may be made by dissolving the MP in an organic solvent purged with an inert gas. MP is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of MP in these solvents is approximately 20 mg/ml

MP is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, MP should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. MP has a solubility of approximately 0.2 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Saturated fatty acids are synthesized by both plants and animals from acetyl coenzyme A as a form of long-term energy storage. Palmitic acid is a common 16-carbon saturated fat that represents 10-20% of the normal human dietary fat intake, and approximately 25% of the total plasma fatty acids in plasma lipoproteins.[1] Saturated free fatty acids induce the expression of cyclooxygenase-2.[2] MP is a fatty acid ester whose concentration in cells is modulated by methanol. In studies with isolated Kupffer cells, MP inhibits phagocytosis and decreases cell viability. In cells treated with lipopolysaccharide, it also decreases secretion of interleukin-10, TNF-α, nitric oxide, and prostaglandin E_2. This effect is thought to occur by the inhibition of NF-κB.[3]

References

1. Santos, M.J., López-Jurado, M., Llopis, J., *et al.* Influence of dietary supplementation with fish oil on plasma fatty acid composition in coronary heart disease patients. *Ann. Nutr. Metab.* **39**, 52-62 (1995).
2. Lee, J.Y., Sohn, K.H., Rhee, S.H., *et al.* Saturated fatty acids, but not unsaturated fatty acids, induced the expression of cycloozygenase-2 mediated through toll-like receptor 4. *J. Biol. Chem.* **276(20)**, 16683-16689 (2001).
3. Cai, P., Kaphalia, B.S., and Ansari, G.A.S. Methyl palmitate: Inhibitor of phagocytosis in primary rat Kupffer cells. *Toxicology* **210**, 197-204 (2005).

Related Products

Arachidonic Acid methyl ester - Cat. No. 90014 • Stearidonic Acid methyl ester - Cat. No. 10005000 • Methyl Pentacosanoate - Cat. No. 10006451 • ω-3 Arachidonic Acid methyl ester - Cat. No. 10006454 • Methyl γ-Linolenate - Cat. No. 10006579 • Dihomo-γ-Linolenic Acid methyl ester - Cat. No. 10006580 • Palmitic Acid - Cat. No. 10006627 • Docosahexaenoic Acid methyl ester - Cat. No. 10006865

Cayman Chemical

Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com