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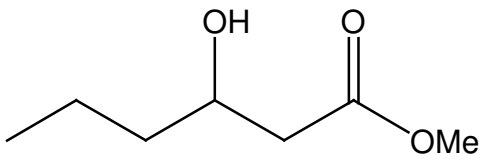
PRODUCT DATA SHEET

Methyl-3-hydroxyhexanoate

Catalog number: 1748
Synonyms: 3-Hydroxy C6:0 methyl ester
Source: synthetic
Solubility: chloroform, ethanol, methanol
CAS number: 21188-58-9
Molecular Formula: $C_7H_{14}O_3$

Molecular Weight: 146
Storage: -20˚C
Purity: TLC: >98%, GC: >98%; identity confirmed by MS
TLC System: hexane/ethyl ether (70:30)
Appearance: liquid



Application Notes:

This 3-hydroxyhexanoic acid methyl ester is a high purity standard that is ideal for analysis and biological systems. Polyhydroxyalkenoates, polyesters produced by bacteria fermentation, are used for carbon and energy storage and are of interest in studies regarding their synthesis, properties and mechanisms. Short chain-length polyhydroxyalkenoate monomers such as 3-hydroxyhexanoic acid may have pharmaceutical properties. The biologically natural chiral (R)-3-hydroxyhexcanoic acid is an intermediate in fatty acid biosynthesis. 3-hydroxyhexanoic acid has been found in patients with ketoacidosis.[1] 3-hydroxy fatty acids are used as biomarkers for fatty acid oxidative disorders of both the long- and short-chain 3-hydroxy-acyl-CoA dehydrogenases.[2,3]

Selected References:

1. T. Niwa, K. Yamada, T. Ohki, H. Furukawa "3-Hydroxyhexanoic acid: an abnormal metabolite in urine and serum of diabetic ketoacidotic patients" *Journal of Chromatography*, vol. 337 pp. 1-7, *1985*
2. P. Jones et al. "Improved Stable Isotope Dilution-Gas Chromatography-Mass Spectrometry Method for Serum or Plasma Free 3-Hydroxy-Fatty Acids and Its Utility for the Study of Disorders of Mitochondrial Fatty Acid *beta*-Oxidation" *Clinical Chemistry*, vol. 46, pp. 149-155, *2000*
3. P. Jones et al. "Accumulation of free 3-hydroxy fatty acids in the culture media of fibroblasts from patients deficient in long-chain l-3-hydroxyacyl-CoA dehydrogenase: a useful diagnostic aid" *Clinical Chemistry*, vol. 47(7) pp. 1190-1194, *2001*