Product Data Sheet

Methyl-3-hydroxytridecanoate

Catalog number: 1734
Synonyms: 3-Hydroxy C13:0 methyl ester
Source: synthetic
Solubility: chloroform, ethyl ether
CAS number: N/A

Molecular Formula: C\textsubscript{14}H\textsubscript{28}O\textsubscript{3}
Molecular Weight: 244
Storage: -20\(^\circ\)C
Purity: TLC: >98\%, GC: >98\%
TLC System: hexane/ethyl ether (70:30)
Appearance: liquid

Application Notes:
This 3-hydroxytridecanoic acid methyl ester is a high purity standard that is ideal for analysis and biological systems. 3-Hydroxytridecanoic acid is unusual in many biological systems and is therefore useful as an internal standard.\(^1\) However 3-hydroxytridecanoic acid is a major constituent of some organisms such as in the anaerobic bacterium *Veillonella*.\(^2\) 3-Hydroxy fatty acids are intermediates in fatty acid biosynthesis and have been found to be converted to the \textit{omega}-fatty acid by the enzyme CYP4F11 and then into dicarboxylic acids \textit{in vivo}.\(^3\) 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.\(^4\) 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 and are used as biodegradable plastics.\(^5\) Medium chain-length polyhydroxyalkenoate monomers may have pharmaceutical properties.

Selected References:
1. L Larsson and A. Saraf “Use of gas chromatography-ion trap tandem mass spectrometry for the detection and characterization of microorganisms in complex samples” \textit{Molecular Biotechnology}, vol. 7 pp. 279-287, 1997

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