

PRODUCT DATA SHEET

3-Hydroxyoctadecanoic acid

Catalog number: 1743

Common Name: 3-Hydroxy C18:0 acid

Source: synthetic

Solubility: ethanol, methanol

CAS number: 17773-30-7

Molecular Formula: C₁₈H₃₆O₃

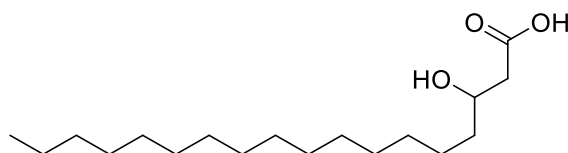
Molecular Weight: 300

Storage: -20°C

Purity: TLC >98%, GC >98%; identity confirmed by MS

TLC System: hexane/ethyl ether/acetic acid, (70:30:2 by vol.)

Appearance: solid



Application Notes:

This 3-hydroxyoctadecanoic acid is a high purity standard that is ideal for analysis and biological systems. 3-Hydroxyoctadecanoic acid is found in many plants and animals as well as in bacteria and other organisms. 3-Hydroxy fatty acids are intermediates in fatty acid biosynthesis and have been found to be converted to the ω -fatty acid by the enzyme CYP4F11 and then into dicarboxylic acids *in vivo*.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} 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. Medium chain-length polyhydroxyalkenoate monomers such as 3-hydroxyoctadecanoic acid may have pharmaceutical properties.

Selected References:

1. M. Dhar et al. "Omega oxidation of 3-hydroxy fatty acids by the human CYP4F gene subfamily enzyme CYP4F11" *Journal of Lipid Research*, vol. 49, pp. 612-624, 2008
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 β -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 1-3-hydroxyacyl-CoA dehydrogenase: a useful diagnostic aid" *Clinical Chemistry*, vol. 47(7) pp. 1190-1194, 2001

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