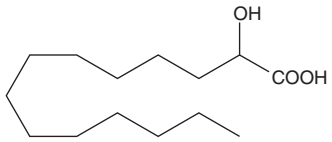
PRODUCT INFORMATION

2-hydroxy Myristic Acid

Item No. 90390

CAS Registry No.: 2507-55-3
Formal Name: 2-hydroxytetradecanoic acid
Synonym: FA 14:0;O, 2-hydroxy Tetradecanoic Acid
MF: $C_{14}H_{28}O_3$
FW: 244.4
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

2-hydroxy Myristic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the 2-hydroxy myristic acid in the solvent of choice. 2-hydroxy Myristic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of 2-hydroxy myristic acid in these solvents is approximately 37, 27, and 30 mg/ml, respectively.

2-hydroxy Myristic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 2-hydroxy myristic acid should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. 2-hydroxy Myristic acid has a solubility of approximately 0.35 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.

Description

2-hydroxy Myristic acid is a hydroxy fatty acid that has been found in bovine, human, and horse milk, cow and buffalo cheeses, sea bass filet, seal oil, human vernix caseosa, and wool wax.[1] It inhibits cleavage between the enterovirus capsid proteins VP4 and VP2, a process required for enterovirus infectivity, as well as Junin and Tacaribe viral replication (IC_{50}s = 20.1 and 14.2 µM, respectively).[2,3] 2-hydroxy Myristic acid was previously characterized as a weak inhibitor of peptide myristoylation (K_i = 200 µM) but has been shown to be inactive in ARL1 cells when used at 100 µM.[4,5]

References

1. Jenske, R. and Vetter, W. Concentrations of medium-chain 2- and 3-hydroxy fatty acids in foodstuffs. *Food Chem.* **114(3)**, 1122-1129 (2009).
2. Tan, Y.W., Hong, W.J., and Chu, J.J. Inhibition of enterovirus VP4 myristoylation is a potential antiviral strategy for hand, foot and mouth disease. *Antiviral Res.* **133**, 191-195 (2016).
3. Cordo, S.M., Candurra, N.A., and Damonte, E.B. Myristic acid analogs are inhibitors of Junin virus replication. *Microbes Infect.* **1(8)**, 609-614 (1999).
4. Paige, L.A., Zheng, G.-Q., DeFrees, S.A., *et al.* Metabolic activation of 2-substituted derivatives of myristic acid to form potent inhibitors of myristoyl CoA:protein *N*-myristoyltransferase. *Biochemistry* **29(46)**, 10566-10573 (1990).
5. Kallemeijn, W.W., Lueg, G.A., Faronato, M., *et al.* Validation and invalidation of chemical probes for the human *N*-myristoyltransferases. *Cell. Chem. Biol.* **26** (2019).

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