

9,10-Dihydroxystearic acid

Chemical Properties

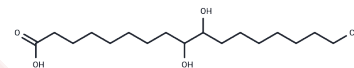
CAS No. : 120-87-6

Formula: C₁₈H₃₆O₄

Molecular Weight: 316.48

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

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| Description | 9,10-Dihydroxystearic acid (DHSA) is an oxidation product of oleic acid. Research indicates that DHSA can improve glucose tolerance and insulin sensitivity in KKAY mice (a diabetic model). At higher concentrations, DHSA exhibits dose-dependent activation of PPAR-gamma, which is closely linked to its role in regulating glucose metabolism. |
| Targets(IC50) | Others |
| In vitro | In vitro studies using CV-1 cells demonstrate that 9,10-Dihydroxystearic acid (DHSA) does not activate PPAR-gamma at concentrations of 5-20 µmol/L. However, at 50-100 µmol/L, DHSA activates PPAR-gamma in a dose-dependent manner. Additionally, DHSA does not exhibit activation of PPAR-alpha at the tested concentrations [1]. |
| In vivo | In vivo, treatment with a high-fat diet containing 4% 9,10-Dihydroxystearic acid for 5-6 weeks significantly improves glucose tolerance and insulin sensitivity in KKAY mice, demonstrating potent glucose-lowering and metabolic regulatory potential [1]. |

Solubility Information

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| Solubility | DMSO: 100 mg/mL (315.98 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble) |
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Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|-------|------------|------------|-------------|
| 1 mM | 3.1598 mL | 15.7988 mL | 31.5976 mL |
| 5 mM | 0.632 mL | 3.1598 mL | 6.3195 mL |
| 10 mM | 0.316 mL | 1.5799 mL | 3.1598 mL |
| 50 mM | 0.0632 mL | 0.316 mL | 0.632 mL |

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Xiaoming Yu, et al. Effects of 9,10-dihydroxystearic acid on glucose metabolism in KKAY mice. *Wei Sheng Yan Jiu*. 2010 Jul;39(4):423-5.

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