

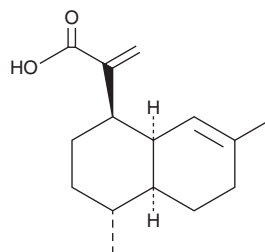
PRODUCT INFORMATION



Artemisinic Acid

Item No. 25059

CAS Registry No.: 80286-58-4
Formal Name: 1R,2,3,4R,4aS,5,6,8aR-octahydro-4,7-dimethyl- α -methylene-1-naphthaleneacetic acid
Synonym: Artemisic Acid
MF: C₁₅H₂₂O₂
FW: 234.3
Purity: \geq 98%
UV/Vis.: λ_{max} : 333 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: \geq 4 years



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

Laboratory Procedures

Artemisinic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the artemisinic acid in the solvent of choice, which should be purged with an inert gas. Artemisinic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of artemisinic acid in these solvents is approximately 16, 10, and 20 mg/ml, respectively.

Artemisinic acid is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, artemisinic acid should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Artemisinic acid has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Artemisinic acid is a sesquiterpene that has been isolated from *A. annua*.¹ It has been used in the synthesis of the antimalarial agent artemisinin (Item No. 11816).² Artemisinic acid (50-400 μ M) decreases triglyceride levels and glycerol-3-phosphate dehydrogenase (GPDH) activity in human adipose tissue-derived mesenchymal stem cells (hAMSCs) in a dose-dependent manner and inhibits adipocyte differentiation when used at a concentration of 200 μ M.³ It reduces mRNA expression and protein levels of C/EBP α , C/EBP δ , and PPAR γ as well as the ratio of phosphorylated JNK to JNK in hAMSCs. Artemisinic acid also decreases C/EBP α and HMG-CoA reductase mRNA expression and inhibits cholesterol synthesis and melanogenesis in human epidermal melanocytes.⁴

References

1. Misra, L.N., Ahmad, A., and Thakur, R.S. Crystal structure of artemisinic acid: A possible biogenetic precursor of antimalarial artemisinin from *Artemisia annua*. *J. Nat. Prod.* **56**(2), 215-219 (1993).
2. Turconi, J., Griolet, F., Guevel, R., et al. Semisynthetic artemisinin, the chemical path to industrial production. *Org. Process Res. Dev.* **18**(3), 417-422 (2014).
3. Lee, J., Kim, M.-H., Lee, J.-H., et al. Artemisinic acid is a regulator of adipocyte differentiation and C/EBP δ expression. *J. Cell. Biochem.* **113**(7), 2488-2499 (2012).
4. Lee, J., Lee, J., Jung, E., et al. Artemisinic acid inhibits melanogenesis through downregulation of C/EBP α -dependent expression of HMG-CoA reductase gene. *Food Chem. Toxicol.* **51**, 225-230 (2013).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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