

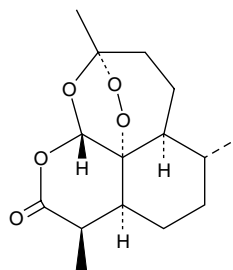
Product Information



Artemisinin

Item No. 11816

CAS Registry No.: 63968-64-9
Formal Name: (3R,5aS,6R,8aS,9R,12S,12aR)-octahydro-3,6,9-trimethyl-3,12-epoxy-12H-pyrano[4,3-j]-1,2-benzodioxepin-10(3H)-one
Synonym: NSC 369397
MF: C₁₅H₂₂O₅
FW: 282.3
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that artemisinin be stored as supplied at -20°C. It should be stable for at least two years.

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

Artemisinin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, artemisinin should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Artemisinin 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.

Artemisinin is a natural product originally isolated from plants of the genus *Artemisia*. It effectively kills malarial parasites of the genus *Plasmodium* (IC₅₀ = 4.0 nM).^{1,2} It is usually used in combination therapy for the treatment of malaria.³ Artemisinin is also used against a wide range of trematodes, including *Schistosoma*.^{3,4} Sesquiterpene lactones like artemisinin, artemether (Item No. 11815), and artesunate (Item No. 11817) have potential applications in certain types of cancer and inflammatory conditions.⁵

References

1. Pandey, A.V., Tekwani, B.L., Singh, R.L., *et al.* Artemisinin, an endoperoxide antimalarial, disrupts the hemoglobin catabolism and heme detoxification systems in malarial parasite. *J. Biol. Chem.* **274**, 19383-19388 (1999).
2. Akoachere, M., Buchholz, K., Fischer, E., *et al.* *In vitro* assessment of methylene blue on chloroquine-sensitive and -resistant *Plasmodium falciparum* strains reveals synergistic action with artemisinins. *Antimicrob. Agents Chemother.* **49**(11), 4592-4597 (2005).
3. Meshnick, S.R., Taylor, T.E., and Kamchonwongpaisan, S. Artemisinin and the antimalarial endoperoxides: From herbal remedy to targeted chemotherapy. *Microbiol. Rev.* **60**, 301-315 (1996).
4. Liu, R., Dong, H.-F., Guo, Y., *et al.* Efficacy of praziquantel and artemisinin derivatives for the treatment and prevention of human schistosomiasis: A systematic review and meta-analysis. *Parasit. Vectors* **4**, 1-17 (2011).
5. Ghantous, A., Gali-Muhtasib, H., Saliba, N.A., *et al.* What made sesquiterpene lactones reach cancer clinical trials? *Drug Discov. Today* **15**(15-16), 668-678 (2010).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/11816

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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