

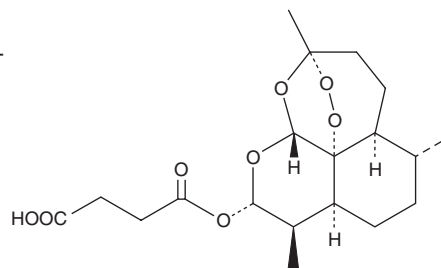
PRODUCT INFORMATION



Artesunate

Item No. 11817

CAS Registry No.: 88495-63-0
Formal Name: butanedioic acid, 1-[(3R,5aS,6R,8aS,9R,10S,12R,12aR)-decahydro-3,6,9-trimethyl-3,12-epoxy-12H-pyrano[4,3-j]-1,2-benzodioxepin-10-yl] ester
Synonyms: Artesunic Acid, NSC 712571, WR 256283
MF: C₁₉H₂₈O₈
FW: 384.4
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

Artesunate is supplied as a crystalline solid. A stock solution may be made by dissolving the artesunate in the solvent of choice, which should be purged with an inert gas. Artesunate is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of artesunate in these solvents is approximately 20, 14, and 11 mg/ml, respectively.

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

Description

Artesunate is a derivative of artemisinin (Item No. 11816) that is active against *P. falciparum* *in vitro* (IC₅₀ = 1.28 nM).¹ It is an iron(II) oxide-reactive endoperoxide that generates reactive oxygen species (ROS) upon cleavage of its endoperoxide bridge.² It inhibits the activity of the *P. falciparum* EXP1, a glutathione S-transferase (GST) that degrades hemozoin, with an IC₅₀ value of 2.05 nM.³ Artesunate inhibits proliferation of germinal center B cells *in vitro* and prevents development of arthritis *via* inhibition of germinal center formation and autoantibody production in the K/BxN mouse model of rheumatoid arthritis when administered at a dose of 100 mg/kg twice per day.⁴ It also inhibits alveolitis and pulmonary fibrosis induced by bleomycin (Item No. 13877) in rats.⁵ Artesunate increases the activity of GST in mice infected with *P. berghei* compared to uninfected and infected control animals.⁶

References

1. Akoachere, M., Buchholz, K., Fischer, E., *et al.* *Antimicrob. Agents Chemother.* **49**(11), 4592-4597 (2005).
2. Ooko, E., Saeed, M.E.M., Kadioglu, O., *et al.* *Phytomedicine* **22**(11), 1045-1054 (2015).
3. Lisewski, A.M., Quiros, J.P., Ng, C.L., *et al.* *Cell* **158**(4), 916-928 (2014).
4. Hou, L., Block, K.E., and Huang, H. *PLoS One* **9**(8), e104762 (2014).
5. Wang, Y., Huang, G., Mo, B., *et al.* *Genet. Mol. Res.* **15**(2), (2016).
6. Olanlokun, J.O., Balogun, F.A., and Olorunsogo, O.O. *Drug Chem. Toxicol.* **44**(1), 47-57 (2021).

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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