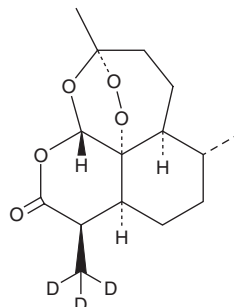


PRODUCT INFORMATION



Artemisinin-d₃ Item No. 25359

CAS Registry No.: 176652-07-6
Formal Name: [3R-(3 α ,5 α β ,6 β ,8 α β ,9 α ,12 β ,12 α R*)]-octahydro-3,6-dimethyl-9-(methyl-d₃)-3,12-epoxy-12H-pyrano[4,3-j]-1,2-benzodioxepin-10(3H)-one
MF: C₁₅H₁₉D₃O₅
FW: 285.4
Chemical Purity: \geq 98% (Artemisinin)
Deuterium Incorporation: \geq 99% deuterated forms (d₁-d₃); \leq 1% d₀
Supplied as: A 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

Artemisinin-d₃ is intended for use as an internal standard for the quantification of artemisinin (Item No. 11816) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Artemisinin-d₃ is supplied as a solid. A stock solution may be made by dissolving the artemisinin-d₃ in the solvent of choice, which should be purged with an inert gas. Artemisinin-d₃ is slightly soluble in methanol and DMSO.

Description

Artemisinin is an endoperoxide antimalarial agent with anticancer activity.^{1,2} It reduces the growth of various *P. falciparum* strains *in vitro* (IC₅₀s = 3.98-20.36 nM) and reduces parasitemia in mice infected with *P. falciparum* with a curative dose (CD₅₀) value of 140 mg/kg.^{1,3} It also reduces *P. berghei* infection in mice (ED₅₀ = 5.6 mg/kg per day).⁴ Artemisinin (100-400 μ M) induces cell cycle arrest in the G₀/G₁ phase and apoptosis and inhibits growth of SK-N-AS, BE(2)-C, SK-N-DZ, and SHEP1 neuroblastoma cells in a time- and concentration-dependent manner.² It also suppresses BE(2)-C cell colony formation in a soft agar assay and reduces tumor growth in a BE(2)-C mouse xenograft model. Formulations containing artemisinin have been used in combination therapies for the treatment of malaria.

References

1. Akoachere, M., Buchholz, K., Fischer, E., *et al.* *Antimicrob. Agents Chemother.* **49(11)**, 4592-4597 (2005).
2. Zhu, S., Liu, W., Ke, X., *et al.* *Oncol. Rep.* **32(3)**, 1094-1100 (2014).
3. Robert, A., Benoit-Vical, F., Claparols, C., *et al.* *Proc. Natl. Acad. Sci. U.S.A.* **102(38)**, 13676-13680 (2005).
4. Chawira, A.N., Warhurst, D.C., Robinson, B.L., *et al.* *Trans. R. Soc. Trop. Med. Hyg.* **81(4)**, 554-558 (1987).

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.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/15/2022

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM