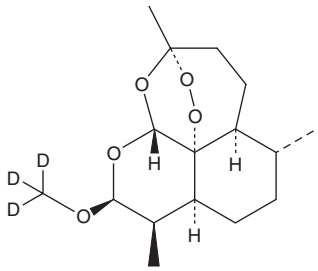
PRODUCT INFORMATION

Artemether-d_3

Item No. 28517

CAS Registry No.: 93787-85-0
Formal Name: 3R-(3α,5aβ,6β,8aβ,9α,10α,12β,12aR)-decahydro-10-(methoxy-d_3)-3,6,9-trimethyl-3,12-epoxy-12H-pyrano[4,3-j]-1,2-benzodioxepin
Synonym: (+)-Artemether-d_3
MF: $C_{16}H_{23}D_3O_5$
FW: 301.4
Chemical Purity: ≥98% (Artemether)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_3); ≤1% d_0
Supplied as: A 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

Artemether-d_3 is intended for use as an internal standard for the quantification of artemether (Item No. 11815) 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).

Artemether-d_3 is supplied as a solid. A stock solution may be made by dissolving the artemether-d_3 in the solvent of choice, which should be purged with an inert gas. Artemether-d_3 is soluble in chloroform and methanol.

Description

Artemether is an antiparasitic agent and a derivative of artemisinin (Item No. 11816).[1] It induces mortality in adult wild-type and *pfatp6*-mutant *P. falciparum* but the efficacy is decreased in the mutants (IC_{50}s = 8.2 and 13.5 nM, respectively).[2] Artemether reduces parasitemia in *P. falciparum*-infected monkeys and *P. berghei*-infected mice with 50% curative dose (CD_{50}) values of 7.1 and 55 mg/kg, respectively.[3] It also reduces the worm burden of *S. mansoni* trematodes in mice when used at doses ranging from 200 to 500 mg/kg.[1] Formulations containing artemether have been used in the treatment of malaria.

References

1. Xiao, S.H. and Catto, B.A. In vitro and in vivo studies of the effect of artemether on *Schistosoma mansoni*. *Antimicrob. Agents Chemother.* **33(9)**, 1557-1562 (1989).
2. Pillai, D.R., Lau, R., Khairnar, K., *et al.* Artemether resistance *in vitro* is linked to mutations in PfATP6 that also interact with mutations in PfMDR1 in travellers returning with *Plasmodium falciparum* infections. *Malar. J.* **11**, 131 (2012).
3. Shmuklarsky, M.J., Klayman, D.L., Milhous, W.K., *et al.* Comparison of β-artemether and β-arteether against malaria parasites in vitro and in vivo. *Am. J. Trop. Med. Hyg.* **48(3)**, 377-384 (1993).

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